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Proposed Gypsy and Traveller Site - Bradbury Farm, Crick

Land Contamination Assessment

February 2024

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Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
P01	February 2024	A Packman	N Cummins	C Williams	First Issue

Document reference: 100115516 | LQ002 | P01 |

Information class: Standard

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1 Introduction

1.1 Details of Scheme

Monmouthshire County Council (MCC) has a legal and moral duty to ensure everyone has access to good quality homes. MCC recognises that safe, culturally appropriate accommodation is necessary for individuals to flourish in other parts of their lives. In accordance with the Housing (Wales) Act, 2014, MCC has identified a need for additional sites to house the Gypsy and Traveller families already living in Monmouthshire. Three Council-owned sites in Monmouthshire have been identified as potentially suitable to meet the current needs for the Gypsy and Traveller community.

Mott MacDonald has been appointed by MCC to provide a land contamination report as part of MCC's Gypsy and Traveller Accommodation Assessment (GTAA) identification study for Bradbury Farm, Crick, Monmouthshire (hereafter referred to as "the proposed Gypsy & Traveller site" or simply "the site"), one of the three identified sites for potential development. The proposed Gypsy & Traveller site is understood to comprise the construction of up to six pitches that will include parking and a collective utility block. The site is accessed from Crick Road.

The site is located in Monmouthshire, south-east Wales, some 370m to the south of the village of Crick and some 1.8km to the north-east of the town of Caldicot. The site is roughly rectangular in shape and centred at National Grid Reference (NGR) ST 48987 89858. For the purpose of this report a reporting buffer of 500m has been identified around the site to identify features within the surrounding area which may impact upon the site.

1.2 Report scope

The scope of this desk study is to:

- Review freely available information, and client supplied data, for an understanding of the proposed development
- Review and summarise site-specific information
- Develop a preliminary ground model for the site
- Identify ground related risks which may impact future ground investigations (GI)
- Develop a conceptual site model and identify potential contaminant linkages present at the site
- Undertake a Preliminary Contaminated Land Risk Assessment (CLRA), and
- Provide recommendations (if necessary) for further assessments, including project specific investigations.

1.3 Report Objectives

The key objective of this report is to provide a high-level assessment of the likely ground conditions underlying the site and their potential geo-environmental impact upon the scheme and make recommendations on how these risks can be managed.

1.4 Methodology

This desk-based review and report have been completed in accordance with the with the following guidance documents and standards:

- Development of Land Affected by Contamination: A Guide for Developers. Welsh Government Ver 4, September 2023
- BS10175:2011+A2:2017, Investigation of Potentially Contaminated Sites, Code of Practice, December 2017
- CIRIA C552, Contaminated Land Risk Assessment - A Guide to Good Practice, January 2001.

1.5 Limitations

This report has been prepared for the titled project or named part thereof and should not be relied upon or used for any other project without an independent check being carried out for the suitability and written authority from Mott MacDonald Ltd being obtained.

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Mott MacDonald Ltd is not insured for, and therefore will not undertake surveys to identify any asbestos or provide guidance on the treatment of asbestos, or similarly for toxic mould. Should the presence of asbestos or toxic mould be suspected during the course of the study, Mott MacDonald Ltd would recommend the appointment of a specialist contractor to address the issue and would not provide advice on the risk or remedial measures.

This review considers the risks associated with the proposed use of the site only. This report should not be relied upon by any other third party.

2 Sources of information

2.1 Historical Ordnance Survey Maps

The following sources of information have been used as part of the historical map review process:

- Groundsure Environmental and Geo Insight Report (Appendix A)
- National Library of Scotland Side-by-Side Map Viewer¹
- Google Earth Pro²

2.2 British Geological Survey (BGS)

The following sources of information have been used to determine the geological conditions underlying the site:

- British Geological Society GeoIndex Onshore³
- British Geological Survey Sheet 250 Chepstow (1:50,000) Bedrock and Drift⁴
- British Geological Survey National Grid Series Sheet ST48NE(1:10,560) Bedrock and Drift⁵
- BGS Lexicon of Named Rock Units⁶

2.3 Previous Desk Studies and Ground Investigations

Mott MacDonald are not aware of any previous desk studies or ground investigations having been carried out on the site previously. However historic ground investigation information from works carried out in the vicinity of the site was reviewed using the BGS GeoIndex³ online viewer.

2.4 Mining quarrying and mineral deposits

The BGS GeoIndex³ online map viewer and Coal Authority Interactive Online Map Viewer⁷ were reviewed as part of this study and are discussed in Section 4.6.

2.5 Land mass movement

Land mass movement was reviewed as part of this study using the BGS GeoIndex³ online map viewer.

2.6 Hydrology and hydrogeology

Long term flood risk for the site has been obtained from Natural Resource Wales (NRW) Flood Maps⁸ for the scheme area. Flood risk is discussed in Section 4.8 of this report.

¹ [Side by side georeferenced maps viewer - Map images - National Library of Scotland \(nls.uk\)](#) – Accessed December 2023

² [Earth Versions – Google Earth](#) – accessed December 2023

³ [GeoIndex \(onshore\) - British Geological Survey \(bgs.ac.uk\)](#) – Accessed December 2023

⁴ British Geological Survey (2011). 1:63,360/1:50,000 geological map series, sheet number 250, solid and drift. Chepstow.

⁵ British Geological Survey (1980). 1:10,560/1:10,000 geological map series. Sheet ST48NE. Solid and drift.

⁶ British Geological Survey (2023). Lexicon of Named Rock Units (<https://www.bgs.ac.uk/Lexicon/>).

⁷ [Interactive Map Viewer | Coal Authority \(bgs.ac.uk\)](#) – Accessed December 2023

⁸ [Flood and Coastal Erosion Risk Maps \(naturalresources.wales\)](#) – Accessed December 2023

Hydrogeology has been reviewed using the BGS GeoIndex³ online map viewer.

2.7 Unexploded ordnance

A preliminary UXO threat assessment for the site has been made using the Zetica UXO⁹ online risk mapping.

2.8 Radon

UK Health Security Agency's (UKHSA) interactive radon map¹⁰ and Groundsure Report were reviewed as part of this scheme to assess radon risk at the site and in the surrounding area.

⁹ [Risk Maps | Zetica UXO](#) – Accessed December 2023

¹⁰ [UKradon - UK maps of radon](#) – Accessed December 2023

3 Site Description

3.1 General

The site is a green space comprising open grassland centred at UK National Grid Reference ST 48986 89851. It is approximately 180m in length and 100m wide and is approximately rectangular in shape. The site has a perimeter length of 610m and an approximate area of 1.74 hectares.

The site is bounded by the M48 motorway to the north, beyond which is the village of Crick, to the east by open fields, a linear woodland running in a north-south orientation and a solar farm, to the south by open fields and to the west by Crick Road beyond which are open fields and a pair of residential properties. The location of the site both regionally and locally can be found in Figure 3.1 and Figure 3.2.

Figure 3.1: Regional Site Location Plan



Source: Mott MacDonald/ArcGIS, 2023

Figure 3.2: Local Site Location Plan



Source: Mott MacDonald/ArcGIS, 2023

The site itself comprises open grassland used for the grazing of sheep with overhead power lines running north to south through the approximate centre of the site.

3.2 Topography

The topography of the site has been assessed from Google Earth² and verified by a site visit on 12th January 2024. The site topography is relatively flat and level being located at between 12m and 14m Above Ordnance Datum (mAOD) with the lowest part of the site being in the south-west corner of the site, coincident with the access point off Crick Road.

3.3 Geomorphology

BGS 1:10,000 geological map Sheet ST48NE⁵ does not indicate any geomorphological features on the site with the only feature recorded comprising a geological boundary within the superficial deposits showing 'Gravel Flat' in the west and 'Red Loam' in the east.

3.4 Historic development and current land use

A review of the historical development of the site has been undertaken using historical and current Ordnance Survey (OS) mapping and historical aerial imagery, the results of which are presented in Table 3.1.

For some map dates only partial site coverage is available and other maps span a range of dates (1887 for example). The dates shown in Table 3.1 are representative of the features on and off site at stages in the past. The descriptions are based on correlations between features on and/or off site from overlapping map date ranges.

Table 3.1: Historical development and current land use of the site and surrounding area.

Map Date (Scale)	On-site	Off-site
1881 (1:2,500)	The site comprises an undeveloped field	The surrounding area is generally undeveloped comprising a series of open fields. The village of Crick can be seen to the north of the site and properties labelled as 'Ballan' and 'Little Ballan' are located to the west, their purpose unknown. A woodland is located some 100m to the east running in a north-south orientation. A quarry is located 250m to the north-east and within the woodland. A potential track or road labelled 'traces of paving' is located some 100m to the west.
1881 (1:10,560)	No significant change.	No significant change. The larger scale shows the wider area to comprise open fields with woodlands to the north, east, and south
1887 (1:10,560) Partial Coverage	Site not covered in the mapping	Partial coverage only shows the land to the east of the site. No significant change, land uses comprise open fields and farm buildings 500m to the east.
1901 (1:2,500)	No significant change.	No significant change. The linear wood to the east is now recorded as 'Ballan Wood' and the quarry within the wood is no longer recorded.
1902 (1:10,560)	No significant change.	No significant change.
1903 (1:10,560)	No significant change.	No significant change.
1919 (1:10,560)	No significant change.	No significant change.
1903 (1:10,560)	No significant change.	No significant change.
1921 (1:2,500)	No significant change.	No significant change.
1924 (1:10,560)	Site not covered in the mapping	Only partial coverage to the east of the site, no significant change
1949 (1:10,560)	No significant change.	No significant change.
1964-1965 (1:2,500)	No significant change.	A new railway line and associated cutting is now present running north to south circa 200m to the west.
1967 (1:2,500)	No significant change.	The M4 has been constructed immediately to the north of the site running in a north-east to south-west orientation. Additionally, a road now traces the western boundary of the site, this is unlabelled but follows the line of Crick Road shown on modern maps.
1967 (1:10,560) Partial coverage	Site not covered in the mapping.	Partial coverage only shows the land to the north of the site. As shown in the 1:2,500 scale map a motorway has been constructed.
1968 (1:2,500)	No significant change.	No significant change.
1968-69 (1:10,560)	No significant change.	No significant change. Assumed residential properties are labelled within woodland between 400m and 600m to the northeast of the site including 'West View', 'Sunny Bank' and 'Woodside'.
1968-69 (1:10,560) Partial coverage	No significant change.	Partial coverage only shows the land south and north-east of the site. No significant change.
1988-90 (1:2,500) Partial Coverage	No significant change.	No significant change.
1994 (1:2,500) Partial Coverage	No significant change.	No significant change.

Map Date (Scale)	On-site	Off-site
2000 (Aerial Image)	No significant change. The site is shown to comprise open grassland only.	No significant change. The site is shown to be surrounded by open fields with the original M4 now labelled as the M48 motorway to the north and Crick Road running along the site's western boundary.
2001 (1:10,000)	No significant change.	No significant change. A poultry farm is shown some 800m to the north of the site and the railway line to the west now extends beyond Crick travels towards the north-west
2003 (1:1,250) Partial Coverage	No significant change.	No significant change.
2008 (Aerial Image)	The photo shows a linear feature connecting the north-western corner to the south-eastern corner. This is potentially a path worn into the ground by the movement of sheep. There is also a light brown oval shape adjacent to the sites eastern boundary details of which are unknown.	No significant change.
2009 (Aerial Image)	The linear feature and oval shape are no longer apparent, the site is once again shown to just be laid to grass.	No significant change.
2010 (1:10,000)	No significant change.	No significant change. The poultry farm previously identified is no longer labelled however the associated buildings are still present.
2017 (Aerial Image)	No significant change.	No significant change.
2020 (Aerial Image)	No significant change.	No significant change.

3.5 Unexploded ordnance

The Zetica Risk Map shows that the site is located within a Low Risk area defined as an area having '15 bombs per 1000 acres or less'.

However it should be noted that there is a known Luftwaffe target, the Caerwent Training Area, which is located 2km to the north-east of the site. , Caerwent Training Area was formerly known as the 'Royal Navy Propellant Factory' which was used to manufacture and store munitions for the Royal Navy between 1939 and 1992¹¹. As such it cannot be discounted that the site may have been struck by UXOs dropped from aircraft targeting this nearby facility.

3.6 Other information

3.6.1 Radon hazards

According to the Groundsure Report³, the highest band of radon risk on site is 3-5%, indicating that there is a 3-5% likelihood of any building on site exceeding the radon action level of 200Bq/m³. As the proposed development is not expected to comprise any below ground structures or significant enclosed and unventilated spaces, the risk from radon is considered to be low. However, due to the brick-and-mortar utility blocks, it is recommended that a Radon

¹¹ The Caerwent Community Web Site - Caerwent Historic Trust Report (archive.org) – Accessed December 2023

Search Address Report is obtained to determine the exact radon potential of the site, and appropriate protection put into place based on the results.

Should the proposed development change this risk should be reassessed.

3.6.2 Services and Utilities

At the time of writing this report, Mott MacDonald has not been provided with any service or utility plans for the site. Given the undeveloped nature of the site, it is considered unlikely that significant buried services are present beneath the site.

However, it should be noted that during the walkover overhead power lines were noted to be present traversing the site north to south which should be considered when planning any investigation or construction works. Additionally, animal water troughs and a manhole cover labelled 'Water' were noted to be present on site which will have buried pipes associated with them, the alignment of which should be determined prior to breaking ground.

3.6.3 Regulatory Information

Information on the site and surrounding area's land use, pollution incidents, and designations is presented in Table 3.2.

Table 3.2: Land Use, Designated Sites and Pollution Incidents

Aspect	Detail
Agency and Hydrological	
Discharge Consents	There are no discharge consents associated with the site. There are a total of 33 discharge consents within 420m of the site and all comprise the discharge of treated sewerage to groundwater or minor watercourses via an infiltration system.
Local Authority Pollution Prevention Controls	There are no local authority Pollution Prevention and Controls permits on or within 500m of the site
Pollution Incidents	There are no pollution incidents associated with the site however there are 6 within 500m with the nearest being located 205m to the north-west. This occurred in 2012 and comprised the release of sewage materials (grey water) and was noted to have had a significant impact on water but no impact on land or air quality.
Waste	
Registered Landfill Sites	There are no registered landfills on, or within 500m of the site.
Waste Sites	There are no records of any waste activities being carried out on site. The nearest such activity comprises a 'Waste Transfer Station' located 294m to the north with activities including <i>'screening, sorting, crushing and grading of material brought on to site, the product of these processes will be sold on.'</i>
Waste Exemptions	There are 7 waste exemptions recorded within 500m of the site. The nearest 5 of which are all located 196m to the north-west and is associated with the storage of waste in a secure place and the use of waste in construction by MCC. The remaining two are located 463m to the north-west and are for the disposal of waste through burning in the open.
Potentially Infilled Land (Non-Water)	There are no records of infilled land on, or within 500m of the site.
Hazardous Substances	
Control of Major Accident Hazards Sites (COMAH)	There are no recorded COMAH sites on, or within 500m of the site.
Planning Hazardous Substance Consents	There are no recorded Hazardous Substance Consents on, or within 500m of the site.
Historic Land Uses	
Industrial land uses	There are no recorded historical industrial land uses registered for the site. There are 14 located within 500m of the site with the nearest being located 181m to the

Aspect	Detail
	north-east and comprising 'cuttings', potentially associated with the quarry identified on the historical mapping.
Energy Features	There are no energy features recorded on the site. There are two electrical substations located within 500m of the site with the nearest being located 411m to the north-west
Petrol Stations and garages	There are no petrol stations or garages recorded on the site. There are two historic garages recorded within 500m of the site with the nearest being 311m to the north-west however this is recorded as being closed since 1967. The second is 313m to the north-west and is likely the same site that has been re-registered at a later date.
Storage tanks	There are no records of storage tanks on, or within 500m of the site.
Military Land	There are no records of military on, or within 500m of the site. The nearest such site is the Caerwent Training Area located some 2km to the north-west
Current Industrial Land Uses	
Industrial land uses	There are no records of current industrial land use for the site. The nearest industrial land use is the Celtic Fuel Oils Ltd facility 208m to the north
Petrol Stations and garages	There are no records of current or recent petrol stations on or within 500m of the site. There is a second-hand car dealer located in Crick some 326m to the north of the site that utilises a former petrol station forecourt as a vehicle storage area.
Electricity Cables	There are no records of underground high voltage electricity transmission cables on or within 500m of the site.
Gas Pipelines	There are no records of underground high pressure gas main on or within 500m of the site.
Contaminated Land	There are no records of land requiring remediation under Part 2a of the Environmental Protection Act 1990 on, or within 500m of the site.
Regulated explosive sites	There are no records sites registered and licensed to manufacture and store explosives on or within 500m of the site.
Radioactive substances	There are no records of the use or storage of radioactive substances on, or within 500m of the site.
Hazardous Substances	There are no records of sites licensed to store hazardous substances on or within 500m of the site.
Sensitive Land Use	
Ancient Woodland	There are no registered ancient woodlands recorded on site. The nearest such area comprised the Ballan Wood some 180m to the east.
Local Nature Reserves	The Saltings Local Nature Reserve is located circa 926m west of the site.
Listed buildings	There are no listed buildings within 500m of the site.
World Heritage Sites	There are two world heritage sites associated with the Antonine Wall recorded circa 47 – 233m north of the site.

3.7 Site reconnaissance

A walkover of the site was carried out on the 12th January 2024 during which the weather was cool and dry. The following observations were made:

- The site is generally flat and level and is covered in close grazed grass.
- Access to the site could be obtained by metal five-bar gates in the south-western and north-western corners, both of which open onto Crick Road to the west of the site.
- Aggregates were placed in the south-western site entrance, likely to consolidate the soils in an area of high traffic and prevent the tracking of mud onto the highways.
- The field was seen to have been actively grazed by sheep who had moved into the adjacent field during the walkover however access to the field remained available to them.
- The field boundaries adjacent to the road and M48 comprised wooden post and rail fencing with a wire stock fence also attached.

- Internal boundaries between fields comprised a wire stock fence only.
- Hedges were also present on all boundaries and comprised blackthorn, hawthorn and holly.
- A water utility man-hole cover was noted within 10m of the north-western entrance with its condition suggesting it had been constructed recently (little rust on the steel and almost not staining or algal growth on the concrete).
- Although closely grazed the grass all appeared to be healthy and of a uniform colour indicating consistent soil chemistry across the site.
- There were no areas of disturbed ground or debris that might indicate historic land uses outside of animal agriculture.
- Two animal water troughs were noted, one adjacent to the south-western site entrance and a second in the south-eastern corner adjacent to the gate connecting to an adjacent field, both of which were fed by a blue polythene water pipe, and
- The overhead lines noted on the aerial photography previously were confirmed to cross the site in a north-south orientation.

Based on the above observations, no specific sources of contamination were identified. The only evidence of land disturbance was the identified water utility manhole in the north-west, and the animal water troughs which are fed by a water supply pipe however the route of these supply pipes is not currently known.

The manhole lid was not lifted during the walkover; the depth and alignment of the utility as well as those of the water feed pipes for the troughs remains unknown. A photographic record from the walkover can be found in Appendix C.

4 Ground Conditions

4.1 Topsoil

Given the undeveloped nature of the site, and the lack of known historical developments within the site boundary, it is likely that topsoil is present across the whole site area.

4.2 Artificial ground

Made Ground has not been mapped in or in close proximity to the site. Given the current and historical land uses of the site, significant thicknesses of Made Ground at the site are not anticipated. However, localised Made Ground may be present along the northern boundary associated with the construction of the M4 motorway (now called the M48 motorway) and in the vicinity of the water main depending on how the trench was backfilled, however this is highly unlikely to represent a contaminant source.

4.3 Superficial deposits

The BGS GeoIndex indicates that superficial deposits are absent within the eastern part of the site. The western part of the site is shown to be underlain by River Terrace Deposits. These are described by the BGS Lexicon⁶ as comprising '*Sand and gravel, locally with lenses of silt, clay or peat*'

In areas where no superficial deposits are recorded as being present it is highly likely that a thickness of completely weathered bedrock would be present overlying more competent rock at depth.

4.4 Bedrock geology

The BGS GeoIndex³ shows that the site is completely underlain by bedrock comprising the Mercia Mudstone Group – Mudstone beneath the entirety of the site.

The Mercia Mudstone Group – Mudstone is described by the BGS Lexicon⁶ as consisting of '*Dominantly red, less commonly green-grey, mudstones and subordinate siltstones with thick halite-bearing units in some basinal areas. Thin beds of gypsum/anhydrite are widespread; thin sandstones are also present*' these were formed during the mid to late Triassic.

4.5 Land mass movement

GeoIndex³ does not identify land mass movement events on site, with no mass movement deposits within 500m.

4.6 Mining and quarrying

4.6.1 Coal Mining

The Coal Authority Interactive Map Viewer⁷ indicates that the site is not located within a Coal Mining Reporting Area.

4.6.2 Non-coal Mining

The Groundsure report indicates that there are no known non-coal mining features on site. The following non-coal mining features have been recorded within 500m of the site.

- One ‘BritPit’ located 253m to the north-west comprising a ‘surface mineral working, sometimes termed a quarry, sand pit, clay pit, or opencast coal site’;
- 14 surface ground workings the closest of which is located 181m to the north-east and described as a ‘cutting’.

4.7 BGS Ground Stability Hazards

Potential BGS Ground Stability Hazards highlighted within the Envirocheck Report are presented in Table 4.1.

Table 4.1: BGS Ground Stability Hazards

Ground Stability Hazard	Hazard Potential on Site
Collapsible Ground	Very Low
Compressible Ground	Negligible
Ground Dissolution	Negligible
Landslides	Low
Running Sands	Very Low
Shrinking or Swelling Clay	Very Low

4.8 Hydrology and flooding

The nearest watercourse is an unnamed drainage channel located some 130m to the north-west of the site. This drains into the Nedern Brook designated by DataMap Wales¹² as a Main River (Water body ID: GB109056026880), located some 400m to the east which flows to the south before ultimately discharging into the Severn Estuary. There are no other surface water features in the vicinity of the site.

The Nedern Brook was last classified under the Water Framework Directive in 2016 and was classified as having a chemical rating of ‘Good’ and an ecological rating of ‘Poor’.

The Groundsure Report indicates that the site is not at risk from groundwater flooding, however a very limited area in the north of the site has a 1 in 1000 year risk of surface water flooding to a depth of between 0.1m and 0.3m. The land immediately to the west of the site is shown to be at a risk of surface water flooding with a 1 in 100 year period to a depth of greater than 1.0m.

4.9 Hydrogeology

The superficial deposits, which are only present beneath the western half of the site, are categorised as a Secondary A aquifer. This is classified by the BGS 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’*.

The bedrock geology underlying the site is classified as a Secondary B aquifer, described by the BGS as *‘Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers’*.

According to the Groundsure Report, the superficial and bedrock aquifers have been classified as high vulnerability aquifers, defined as comprising *‘Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits’*.

¹² Home | DataMapWales (gov.wales) – Accessed December 2023

The site is located within a Source Protection Zone 4 (Zone of Special Interest) and although there are no groundwater abstractions on site, there is a single groundwater abstraction recorded some 400m to the south. This abstraction has an annual abstraction volume of 10,454m³ from the Mercia Mudstone Group and is recorded as being for ‘general farming and domestic purposes’.

4.10 Historical Ground Investigations

Mott MacDonald is not aware of any historical ground investigations having been carried out within the site boundaries.

4.10.1 BGS Borehole Records

There are no BGS boreholes recorded within the site extent, however there are 9 exploratory hole locations recorded within approximately 500m of the site boundary.

A summary of relevant BGS boreholes located within approximately 500m of the site is presented below in Table 4.2 and the logs are provided in Appendix B.

Table 4.2: Summary of BGS Borehole Records

BGS Reference	Name	Year	Depth (m)	Approximate Distance (m) and Direction	Easting	Northing
ST48NE165	LONDON-SOUTH WALES MOTORWAY 95	1962	6.24	30m North	348927	189943
ST49SE36	LONDON-SOUTH WALES MOTORWAY 96	1962	6.24	168m North	349029	190100
ST48NE164	LONDON-SOUTH WALES MOTORWAY 94	1962	9.29	245m South- West	348712	189737
ST48NE163	LONDON-SOUTH WALES MOTORWAY 93	1962	9.14	254m West	348698	189774
ST49SE9	SEVEN BRIDGE APPROACH M37	None provided	6.10	310m North	349096	190233
ST48NE161	LONDON-SOUTH WALES MOTORWAY 92	1962	7.62	340m West	348626	189723
ST48NE162	LONDON-SOUTH WALES MOTORWAY 92A	1962	2.28	350m West	348620	189711
ST49SE8	SEVEN BRIDGE APPROACH M36	None provided	9.14	405m North	349135	190336
ST48NE160	LONDON-SOUTH WALES MOTORWAY 91	1962	3.42	495m South-West	348482	189655
ST48NE159	LONDON-SOUTH WALES MOTORWAY 90	1962	9.14	495m South-West	348475	189680

The available BGS boreholes indicate that the ground conditions within the wider area generally comprise Topsoil to a depth of up to 0.45m bgl, underlain by superficial deposits comprising brown and red-brown silts, clays and sands with occasional gravels and cobbles of sandstone considered by Mott MacDonald to represent the River Terrace Deposits. Bedrock was only encountered in four boreholes (ST49SE8, ST49SE9, ST48NE161 and ST48NE159) and comprised limestone, sandstone and mudstone, considered to be representative of the Mercia Mudstone Group underlying the site.

Given these historical boreholes would have been advanced on land of a similar use and geographic location to the site (prior to development) it is likely that the ground conditions recorded in the boreholes will be similar to those encountered on this site.

4.11 Ground Gas Generation Potential

Based on the available information it is not considered likely that the soils underlying the site have the potential to produce significant concentrations or quantities of ground gas that could pose a risk to the site's end users. As such the risk from ground gas is not considered further.

Should significant deposits of organic materials, whether natural or anthropogenic in nature, be encountered during any future development work this assumption should be reconsidered.

5 Preliminary Ground Model

5.1.1 Ground Model

The historical site information and BGS Geological Mapping have been used to infer the potential ground conditions beneath the site, and a preliminary ground model is presented in Table 5.1.

Table 5.1: Preliminary Ground Model

Strata	Depth to Top (m)	Anticipated Thickness (m)	Typical Description
Topsoil	0.00	0.00 – 0.30	Anticipated to comprise brown sands silts, and clays with minor gravel content and rootlets.
River Terrace Deposits	0.00	0.00 – 4.60	Brown sandy clay or clayey sand with medium to fine gravels of sandstone, likely only present beneath the western half of the site.
Completely Weathered Mercia Mudstone Formation	0.00	0.00 – 8.50	Red-brown sandy gravelly clay. Gravels are fine to coarse sandstone fragments.
Mercia Mudstone Formation	2.30	>9.14 – Base unproven	Hard red white and grey marl, sandstone and dolomitic limestone.

Note: Depths have been assumed, based on near-by BGS boreholes, and as such may not accurately represent the conditions beneath the site.

5.2 Groundwater

There is no current information available to inform the groundwater conditions beneath the site area. Historical BGS boreholes do not record any groundwater strikes in any of the boreholes in the vicinity of the site to their maximum depth of 9.30m bgl.

Although unlikely to be encountered during the works groundwater, if encountered, would be expected to be flowing towards the south-west and the Nedern Brook.

5.3 Obstructions

Natural obstructions, such as cobbles or boulders, may also be present within the River Terrace Gravels and completely weather bedrock.

Buried water pipes are present within the central part of the site, the alignment of which is currently known.

6 Preliminary Contamination Risk Assessment

6.1 Preliminary Conceptual Model Methodology

Historical contaminated land is managed in the UK through Part 2A of the Environmental Protection Act (EPA) 1990¹³ or, where development of a site is to take place, through the Town and Country Planning Act 1990¹⁴. The Town and Country Planning Act¹⁴ requires that a site must be suitable for its intended use and that there are no significant risks to the environment following development. A developed site must be left in a condition that it cannot be determined as contaminated land under Part 2A.

This report adopts a strategy for the assessment of potential land contamination based on current government guidance contained in Land Contamination Risk Management (LCRM)¹⁵ and CIRIA Report C552¹⁶.

A key element in the risk assessment for land contamination is the development of a Conceptual Site Model (CSM) which may be refined or revised as more information and understanding is obtained through the risk assessment process. The CSM is described in terms of the contaminant 'Source', transport 'Pathways' and possible 'Receptors' that may be present. These are defined as:

- Sources (S) are potential or known contaminant sources e.g. arising from a former land use.
- Pathways (P) are environmental systems through which a contaminant could migrate e.g. air, groundwater or direct contact; and
- Receptors (R) are sensitive environmental or human receptors that could be adversely affected by a contaminant e.g. site occupiers, groundwater resources.

Where a source, relevant pathway and receptor are present, a contaminant linkage is present which requires further investigation and risk assessment.

The conceptual model and qualitative risk assessment are presented in Table 6.1. The risk assessment process is described in Section 6.2.

It is anticipated that, as part of any future ground investigation works, geoenvironmental laboratory testing will be undertaken on samples of soil, rock and water recovered as during the intrusive ground investigation, to inform further development of the potential risks at the site.

6.2 Preliminary Risk Assessment Methodology

For each potential contaminant linkage identified within the conceptual model presented in this report, the potential risk has been evaluated for ecological receptors, buildings and construction/maintenance workers and the final end users. A Preliminary Qualitative Risk Assessment has been prepared, based on the probability of the pollution event, and the severity it may have on site users and the environment. R&D Publication 66¹⁷ (NHBC, ES, CIEH, 2008) sets out the classification used in the Preliminary Qualitative Risk Assessment. The

¹³ [Environmental Protection Act 1990 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukpga/1990/42). Accessed February 2024

¹⁴ [Town and Country Planning Act 1990 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukpga/1990/23). Accessed February 2024

¹⁵ [Land contamination risk management \(LCRM\) - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/land-contamination-risk-management). Accessed February 2024

¹⁶ CIRIA. Contaminated land risk assessment. A guide to good practice (C552). Accessed February 2024

¹⁷ [R&D66 VOL 1 Guidance for the Safe Development of Housing on Land Affected by Contamination \(nhbc.co.uk\)](https://www.nhbc.co.uk/publications/r&d66-vol-1-guidance-for-the-safe-development-of-housing-on-land-affected-by-contamination). Accessed February 2024

classification has been developed from DOE Guide to Risk Assessment and Risk Management for Environmental Protection and the Statutory Guidance on Contaminated Land (Welsh Government 2012¹⁸). The key to the classification is that the designation of risk is based upon the consideration of both:

- The magnitude of the potential consequence (i.e. severity); and
 - Takes into account both the potential severity of the hazard and the sensitivity of the receptor
- The magnitude of probability (i.e. likelihood)

Table 6.1: Classification of consequence

Classification	Definition of Consequence
Severe	Highly elevated concentrations likely to result in 'significant harm' to human health as defined by the EPA 1990, Part 2A, if exposure occurs. Equivalent to EA Category 1 pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce. Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long - term maintenance of the population. Catastrophic damage to crops, buildings or property.
Medium	Elevated concentrations which could result in 'significant harm' to human health as defined by the EPA 1990, Part 2A if exposure occurs. Equivalent to EA Category 2 pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce. Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long - term maintenance of the population. Significant damage to crops, buildings or property.
Mild	Exposure to human health unlikely to lead to 'significant harm'. Equivalent to EA Category 3 pollution incident including minimal or short-lived effect on water quality; marginal effect on amenity value, agriculture or commerce. Minor or short-lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long - term maintenance of the population. Minor damage to crops, buildings or property.
Minor	No measurable effect on humans. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Repairable effects of damage to buildings, structures and services.

The probability of contamination risks occurring is classified in accordance with Table 6.2. A contaminant linkage must first be established before probability is classified. If there is no contaminant linkage, then there is no potential risk and therefore no requirement to apply tests for probability and consequence.

Table 6.2: Classification of probability

Classification	Definition
High Likelihood	There is contaminant linkage and an event would appear very likely in the short - term and almost inevitable over the long - term, or there is evidence at the receptor of harm or pollution.
Likely	There is contaminant linkage and all the elements are present and in the right place which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short - term and likely over the long - term.
Low Likelihood	There is contaminant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a long period such an event would take place and is less likely in the shorter term.
Unlikely	There is contaminant linkage, but circumstances are such that it is improbable that an event would occur even in the very long - term.

¹⁸ [Contaminated Land Statutory Guidance – 2011 version \(gov.wales\)](#) – Accessed February 2024

For each possible contaminant linkage (source – pathway – receptor) identified, the potential risk can be evaluated based upon the following probability x consequence matrix shown in Table 6.3.

Table 6.3: Overall Contamination Risk Matrix

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very high risk	High risk	Moderate risk	Moderate / low risk
	Likely	High risk	Moderate risk	Moderate / low risk	Low risk
	Low Likelihood	Moderate risk	Moderate / low risk	Low risk	Very low risk
	Unlikely	Moderate / low risk	Low risk	Very low risk	Very low risk

R&D 66:2008 presents definitions of the risk categories, together with the investigatory and remedial actions that are likely to be necessary in each case. These definitions are reproduced in Table 6.4. These risk categories apply to each contaminant linkage, not simply to each hazard or receptor.

Table 6.4: Definition of Risk Categories and Likely Action Required

Risk Category	Definition and Likely Actions
Very high	There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short - term.
High	Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short - term and are likely over the longer term.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.
Low	It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.
Very low	It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that this harm if realised would normally be mild or minor.

6.3 Preliminary Conceptual Site Model

The following sources, pathways and receptors have been considered based on the available information for this site.

Potential Sources

S1: Sources associated with potential Made Ground on site associated with the site entrance and installation of water utility pipes.

S2: Sources associated with offsite activities in the vicinity of the site including the construction and use of the M48 motorway.

Potential Pathways

P1: Human uptake pathways including ingestion, inhalation and direct contact.

P2: Man-made pathways – e.g., excavations, buried foundations

P3: Vertical and horizontal migration of contaminants in the subsurface.

P4: Overland flow - surface runoff.

Potential Receptors

R1: Human receptors – site end users.

R2: Construction and maintenance worker.

R3: Groundwater – Superficial Secondary A and Bedrock Secondary B aquifers.

R4: Environmental receptors - including Nedern Brook and associated tributaries.

Table 6.5: Preliminary Conceptual Site Model

Potential Sources	Potential Pathways	Potential Receptors	Consequence	Likelihood	Risk Classification
S1: Sources associated with potential Made Ground on site associated with the site entrance and installation of water utility pipes.	P1: Human uptake pathways Ingestion Inhalation Direct contact	R1: End users – future site users	Mild – Contaminants present in the soil could pose a health risk to site users. Any contaminants present are unlikely to be present in sufficiently high concentrations as to pose a risk of significant harm.	Unlikely – There is no current evidence that significant contaminant sources exist, and the site will have a transient population so the likelihood of residents growing produce on site is low. Extent of Made Ground is expected to be highly limited in extent.	Very Low
		R2: Construction and maintenance workers.			Low Likelihood – Although limited in extent, construction and maintenance workers are likely come into contact with any impacted soil during any construction or maintenance works. However, if present this will be mitigated by the Contractor though appropriate and safe working methodology.
	P2: Man-made pathways P3: Vertical and horizontal migration of contaminants in the subsurface	R3: Groundwater – Secondary A and B Aquifers	Minor – Contaminants on site are unlikely to be present in sufficiently high volumes or concentrations so as to pose a risk to the underlying aquifers.	Unlikely – Sources are expected to be of limited extent and nor are they expected to be sufficiently leachable so as to become mobile in the environment.	Very Low
S2: Sources associated with offsite activities in the vicinity of the site including the construction and use of the M48 motorway.	P1: Human uptake pathways Ingestion Inhalation Direct contact	R4: Environmental receptors – including Nedern Brook and associated tributaries.	Minor – Contaminants on site are unlikely to be present in sufficiently high volumes or concentrations so as to pose a risk to the underlying aquifers.	Unlikely – Sources are expected to be of limited extent and nor are they expected to be sufficiently leachable so as to become mobile in the environment. Unlikely that sufficient runoff would be produced to carry contaminants as far as the identified receptors	Very Low
		R1: End users – future site users			Mild – Contaminants present in the groundwater could pose a health risk to site users. Any contaminants present are unlikely to be present in sufficiently high concentrations as to pose a risk of significant harm.
	P2: Man-made pathways P3: Vertical and horizontal migration of contaminants in the subsurface	R3: Groundwater – Secondary A and B Aquifers	Minor –Contaminants on site are unlikely to be present in sufficiently high volumes or concentrations to pose a risk to the underlying aquifers.	Unlikely – Sources are expected to be of limited extent and nor are they expected to be sufficiently leachable so as to become mobile in the environment.	
P3: Vertical and horizontal migration of contaminants in the subsurface P4: Overland flow - surface runoff.	R4: Environmental receptors – including Nedern Brook and associated tributaries.	Minor –Contaminants on site are unlikely to be present in sufficiently high volumes or concentrations so as to pose a risk to the underlying aquifers.	Unlikely – Sources are expected to be of limited extent and nor are they expected to be sufficiently leachable so as to become mobile in the environment. Unlikely that sufficient runoff would be produced to carry contaminants as far as the identified receptors	Very Low	

7 Conclusions

Mott MacDonald has been commissioned by Monmouthshire County Council to produce a Phase 1 Desk Study for the proposed development of a new Gypsy & Traveller Site camp at Bradbury Farm, Crick.

The following conclusions are based on the understanding that the proposed development comprises the construction of a service block containing toilets, showers, cooking and laundry facilities, with access roads to a number of plots.

It is recommended that this desk study be updated should the scheme proposals be refined or changed.

7.1 Ground Conditions

The ground conditions anticipated to underlie the site have been inferred from available geological mapping and supplemented by the findings from historical off site BGS exploratory holes. A preliminary ground model has been developed for the site. The conditions underlying the site are anticipated to comprise the following:

- Topsoil: Anticipated to comprise brown sands silts and clays with minor gravel inclusions present beneath the whole site area
- Possible Localised Made Ground: Anticipated to be present locally within the site.
- River Terrace Deposits: Anticipated to comprise brown sandy clay or clayey sand with medium to fine gravels of sandstone
- Completely Weathered Bedrock: Red-brown sandy gravelly clay. Gravels are fine to coarse sandstone fragments.
- Bedrock: Anticipated to hard red, white and grey marl, sandstone and dolomitic limestone.
- Groundwater levels beneath the site are currently unknown with the historic borehole logs not recording groundwater to depths as great as 9.30m bgl.

7.1.1 Geo-environmental

A preliminary contaminated land risk assessment has been developed for the site to identify potential contaminant sources, pathways and receptors associated with the proposed development.

7.1.1.1 Human Health

Due to the absence of any significant sources of contamination on site the risk to human health is considered to be 'very low' for the sites end users and 'low' for construction and maintenance workers. Should any soils be identified on site during the works that are not consistent with the likely ground conditions described within this report works should stop and samples of the suspect materials should be recovered and sent for chemical testing with a suitable risk assessment carried out.

7.1.1.2 Groundwater

It is not considered likely that the ground conditions on site pose a significant risk to either the groundwater underlying the site nor surface water features in the vicinity of the site. Additionally, it is not considered likely that the groundwater beneath the site will be acting as a contaminant source.

7.1.1.3 Radon

The highest band of radon risk on site is 3-5%, indicating that there is a 3-5% likelihood of any building on site exceeding Radon Action Level of 200Bq/m³.

7.1.1.4 Waste Classification and Disposal

At the time of writing a soil mass balance for the project had not been produced for the proposed development. However, there is potential for the proposed development to generate surplus soils. Where possible, these soils should be either reused on site or sent to a waste recovery facility for recycling. All soil to be reused or disposed of will need to be tested to confirm suitability for reuse and/or waste classification. This testing should be carried out following completion of the excavation works and prior to reuse or disposal.

7.1.2 Objective and format of any investigation

As the site has been used as an undeveloped field with little ground disturbance that may have led to the presence of contamination sources on site and as such it is considered that the risk of active contaminants pathways to be present on site is low to very low. As such, an intrusive ground investigation is not considered necessary as the risk geoenvironmental risks are not considered to be sufficiently high. However, ground investigation may be required, to inform geotechnical design, should the scheme be progressed beyond the current feasibility stage.

During any future stages of the scheme, should ground conditions be encountered which are outside of those detailed within this report, works should be stopped, samples of the suspect materials sampled and the geoenvironmental risks reassessed. The processes to be followed in the event of uncovering unexpected contamination should be detailed within a Discovery Strategy and provided to the contractor prior to commencing works.

7.2 Recommendations

7.2.1 Utility Survey

There is no information on the location of buried services within or adjacent to the site, however during the walkover, a manhole associated with a water main was identified as were animal water troughs and their associated water supplies. Additionally, overhead power lines were identified running north to south through the centre of the site. It is recommended that a utilities search is undertaken at an early stage in the development of the scheme's design in order obtain details such the line and depth of buried services and the required standoff distances from the overhead power lines.

7.2.2 Radon

A Radon Search Address Report should be obtained to determine the exact radon potential of the site, and appropriate protection put into place based on the results.

7.2.3 Discovery Strategy

A Discovery Strategy should be produced which will detail the steps to be followed should previously unidentified contamination be discovered, if the scheme progresses to the construction stage. This should include the following:

- Potential indicators of contamination (visual or olfactory);
- Quarantine procedures to put in place;
- Testing requirements (number of samples, testing suites etc);

- Geoenvironmental assessment procedures; and
- Materials tracking and verification.

A. Groundsure Environmental and Geo Insight Report

BALLAN COTTAGE, LITTLE BALLAN LANE, CRICK, NP26 5UN

Order Details

Date: 05/12/2023
Your ref: Land_at_Bradbury_Farm_Crick
Our Ref: GS-774-2DA-JKL-FL5

Site Details

Location: 348995 189835
Area: 1.79 ha
Authority: [Sir Fynwy - Monmouthshire County Council](#) ↗



Summary of findings

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Aerial image

[p. 9](#) >

OS MasterMap site plan

[p.14](#) >

groundsure.com/insightuserguide ↗

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	0	10	4	-
16	1.2	Historical tanks	0	0	0	0	-
16 >	1.3 >	Historical energy features >	0	0	0	2	-
17	1.4	Historical petrol stations	0	0	0	0	-
17 >	1.5 >	Historical garages >	0	0	0	2	-
18	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
19 >	2.1 >	Historical industrial land uses >	0	0	15	7	-
20	2.2	Historical tanks	0	0	0	0	-
21 >	2.3 >	Historical energy features >	0	0	0	2	-
21	2.4	Historical petrol stations	0	0	0	0	-
21 >	2.5 >	Historical garages >	0	0	0	3	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
22	3.1	Active or recent landfill	0	0	0	0	-
22	3.2	Historical landfill (BGS records)	0	0	0	0	-
23	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
23	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
23 >	3.5 >	Historical waste sites >	0	0	0	1	-
23	3.6	Licensed waste sites	0	0	0	0	-
24 >	3.7 >	Waste exemptions >	0	0	5	2	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
26 >	4.1 >	Recent industrial land uses >	0	0	1	-	-
27	4.2	Current or recent petrol stations	0	0	0	0	-
27	4.3	Electricity cables	0	0	0	0	-
27	4.4	Gas pipelines	0	0	0	0	-
27	4.5	Sites determined as Contaminated Land	0	0	0	0	-



27	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
28	4.7	Regulated explosive sites	0	0	0	0	-
28	4.8	Hazardous substance storage/usage	0	0	0	0	-
28	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
28	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
28	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
29	4.12	Radioactive Substance Authorisations	0	0	0	0	-
29 >	4.13 >	<u>Licensed Discharges to controlled waters</u> >	0	0	6	27	-
34	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
35	4.15	Pollutant release to public sewer	0	0	0	0	-
35	4.16	List 1 Dangerous Substances	0	0	0	0	-
35	4.17	List 2 Dangerous Substances	0	0	0	0	-
35 >	4.18 >	<u>Pollution Incidents (EA/NRW)</u> >	0	0	1	5	-
36	4.19	Pollution inventory substances	0	0	0	0	-
36	4.20	Pollution inventory waste transfers	0	0	0	0	-
37	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	<u>Hydrogeology</u> >	On site	0-50m	50-250m	250-500m	500-2000m
38 >	5.1 >	<u>Superficial aquifer</u> >	Identified (within 500m)				
40 >	5.2 >	<u>Bedrock aquifer</u> >	Identified (within 500m)				
42 >	5.3 >	<u>Groundwater vulnerability</u> >	Identified (within 50m)				
44 >	5.4 >	<u>Groundwater vulnerability- soluble rock risk</u> >	Identified (within 0m)				
44	5.5	Groundwater vulnerability- local information	None (within 0m)				
45 >	5.6 >	<u>Groundwater abstractions</u> >	0	0	0	6	2
47 >	5.7 >	<u>Surface water abstractions</u> >	0	0	0	0	3
48	5.8	Potable abstractions	0	0	0	0	0
49 >	5.9 >	<u>Source Protection Zones</u> >	1	0	0	0	-
49	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	<u>Hydrology</u> >	On site	0-50m	50-250m	250-500m	500-2000m
50 >	6.1 >	<u>Water Network (OS MasterMap)</u> >	0	0	5	-	-



51 >	6.2 >	Surface water features >	0	0	4	-	-
51 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
52 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
52 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
53	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
53	7.2	Historical Flood Events	0	0	0	-	-
53	7.3	Flood Defences	0	0	0	-	-
54	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
54	7.5	Flood Storage Areas	0	0	0	-	-
55	7.6	Flood Zone 2	None (within 50m)				
55	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
56 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
58 >	9.1 >	Groundwater flooding >	Low (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
59 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	1	3
60	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
60	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
60	10.4	Special Protection Areas (SPA)	0	0	0	0	0
61	10.5	National Nature Reserves (NNR)	0	0	0	0	0
61	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
61 >	10.7 >	Designated Ancient Woodland >	0	0	7	2	60
64	10.8	Biosphere Reserves	0	0	0	0	0
64 >	10.9 >	Forest Parks >	0	0	0	0	1
64	10.10	Marine Conservation Zones	0	0	0	0	0
65	10.11	Green Belt	0	0	0	0	0
65	10.12	Proposed Ramsar sites	0	0	0	0	0



65	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
65	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
65	10.15	Nitrate Sensitive Areas	0	0	0	0	0
66	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
67 >	10.17 >	<u>SSSI Impact Risk Zones ></u>	1	-	-	-	-
68	10.18	SSSI Units	0	0	0	0	0
Page	Section	<u>Visual and cultural designations ></u>	On site	0-50m	50-250m	250-500m	500-2000m
69	11.1	World Heritage Sites	0	0	0	-	-
70	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
70	11.3	National Parks	0	0	0	-	-
70	11.4	Listed Buildings	0	0	0	-	-
70	11.5	Conservation Areas	0	0	0	-	-
71 >	11.6 >	<u>Scheduled Ancient Monuments ></u>	0	0	1	-	-
71	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	<u>Agricultural designations ></u>	On site	0-50m	50-250m	250-500m	500-2000m
72 >	12.1 >	<u>Agricultural Land Classification ></u>	Grade 3b (within 250m)				
73	12.2	Open Access Land	0	0	0	-	-
73	12.3	Tree Felling Licences	0	0	0	-	-
73	12.4	Environmental Stewardship Schemes	0	0	0	-	-
74	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	<u>Habitat designations</u>	On site	0-50m	50-250m	250-500m	500-2000m
75	13.1	Priority Habitat Inventory	0	0	0	-	-
75	13.2	Habitat Networks	0	0	0	-	-
75	13.3	Open Mosaic Habitat	0	0	0	-	-
75	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	<u>Geology 1:10,000 scale ></u>	On site	0-50m	50-250m	250-500m	500-2000m
76 >	14.1 >	<u>10k Availability ></u>	Identified (within 500m)				
77	14.2	Artificial and made ground (10k)	0	0	0	0	-
78 >	14.3 >	<u>Superficial geology (10k) ></u>	1	0	5	0	-

79	14.4	Landslip (10k)	0	0	0	0	-
80 >	14.5 >	Bedrock geology (10k) >	1	1	5	8	-
81 >	14.6 >	Bedrock faults and other linear features (10k) >	0	0	0	3	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
83 >	15.1 >	50k Availability >	Identified (within 500m)				
84	15.2	Artificial and made ground (50k)	0	0	0	0	-
84	15.3	Artificial ground permeability (50k)	0	0	-	-	-
85 >	15.4 >	Superficial geology (50k) >	1	0	2	0	-
86 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
86	15.6	Landslip (50k)	0	0	0	0	-
86	15.7	Landslip permeability (50k)	None (within 50m)				
87 >	15.8 >	Bedrock geology (50k) >	2	0	3	4	-
88 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
88 >	15.10 >	Bedrock faults and other linear features (50k) >	1	0	0	3	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
90 >	16.1 >	BGS Boreholes >	0	1	3	-	-
Page	Section	Natural ground subsidence >					
92 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
93 >	17.2 >	Running sands >	Very low (within 50m)				
95 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
96 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
97 >	17.5 >	Landslides >	Low (within 50m)				
99 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
101 >	18.1 >	BritPits >	0	0	0	1	-
102 >	18.2 >	Surface ground workings >	0	0	14	-	-
103	18.3	Underground workings	0	0	0	0	0
103	18.4	Underground mining extents	0	0	0	0	-
103	18.5	Historical Mineral Planning Areas	0	0	0	0	-



103 >	18.6 >	Non-coal mining >	0	0	2	1	6
105	18.7	JPB mining areas	None (within 0m)				
105	18.8	The Coal Authority non-coal mining	0	0	0	0	-
105	18.9	Researched mining	0	0	0	0	-
105	18.10	Mining record office plans	0	0	0	0	-
106	18.11	BGS mine plans	0	0	0	0	-
106	18.12	Coal mining	None (within 0m)				
106	18.13	Brine areas	None (within 0m)				
106	18.14	Gypsum areas	None (within 0m)				
106	18.15	Tin mining	None (within 0m)				
107	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes >	On site	0-50m	50-250m	250-500m	500-2000m
108 >	19.1 >	Natural cavities >	0	0	0	1	-
109	19.2	Mining cavities	0	0	0	0	0
109	19.3	Reported recent incidents	0	0	0	0	-
109	19.4	Historical incidents	0	0	0	0	-
109	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
111 >	20.1 >	Radon >	Between 3% and 5% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
113 >	21.1 >	BGS Estimated Background Soil Chemistry >	7	3	-	-	-
114	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
114	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects >	On site	0-50m	50-250m	250-500m	500-2000m
115	22.1	Underground railways (London)	0	0	0	-	-
115	22.2	Underground railways (Non-London)	0	0	0	-	-
116	22.3	Railway tunnels	0	0	0	-	-
116	22.4	Historical railway and tunnel features	0	0	0	-	-
116	22.5	Royal Mail tunnels	0	0	0	-	-



116	22.6	Historical railways	0	0	0	-	-
116 >	22.7 >	Railways >	0	0	3	-	-
117	22.8	Crossrail 1	0	0	0	0	-
117	22.9	Crossrail 2	0	0	0	0	-
117	22.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 14/04/2020

Site Area: 1.79ha



Recent site history - 2017 aerial photograph



Capture Date: 26/05/2017

Site Area: 1.79ha



Recent site history - 2009 aerial photograph



Capture Date: 14/10/2009

Site Area: 1.79ha



Recent site history - 2008 aerial photograph

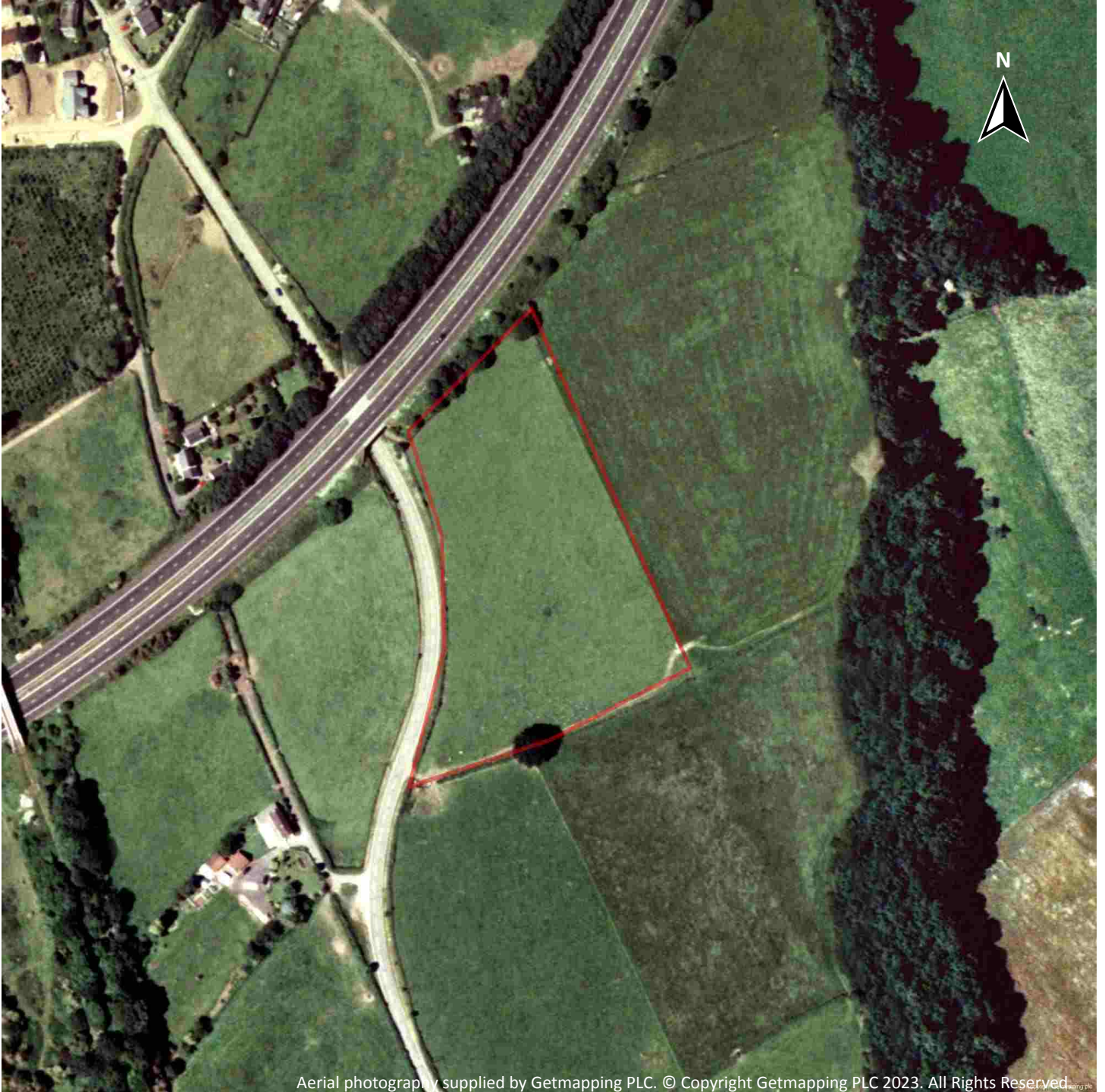


Capture Date: 27/07/2008

Site Area: 1.79ha



Recent site history - 2000 aerial photograph

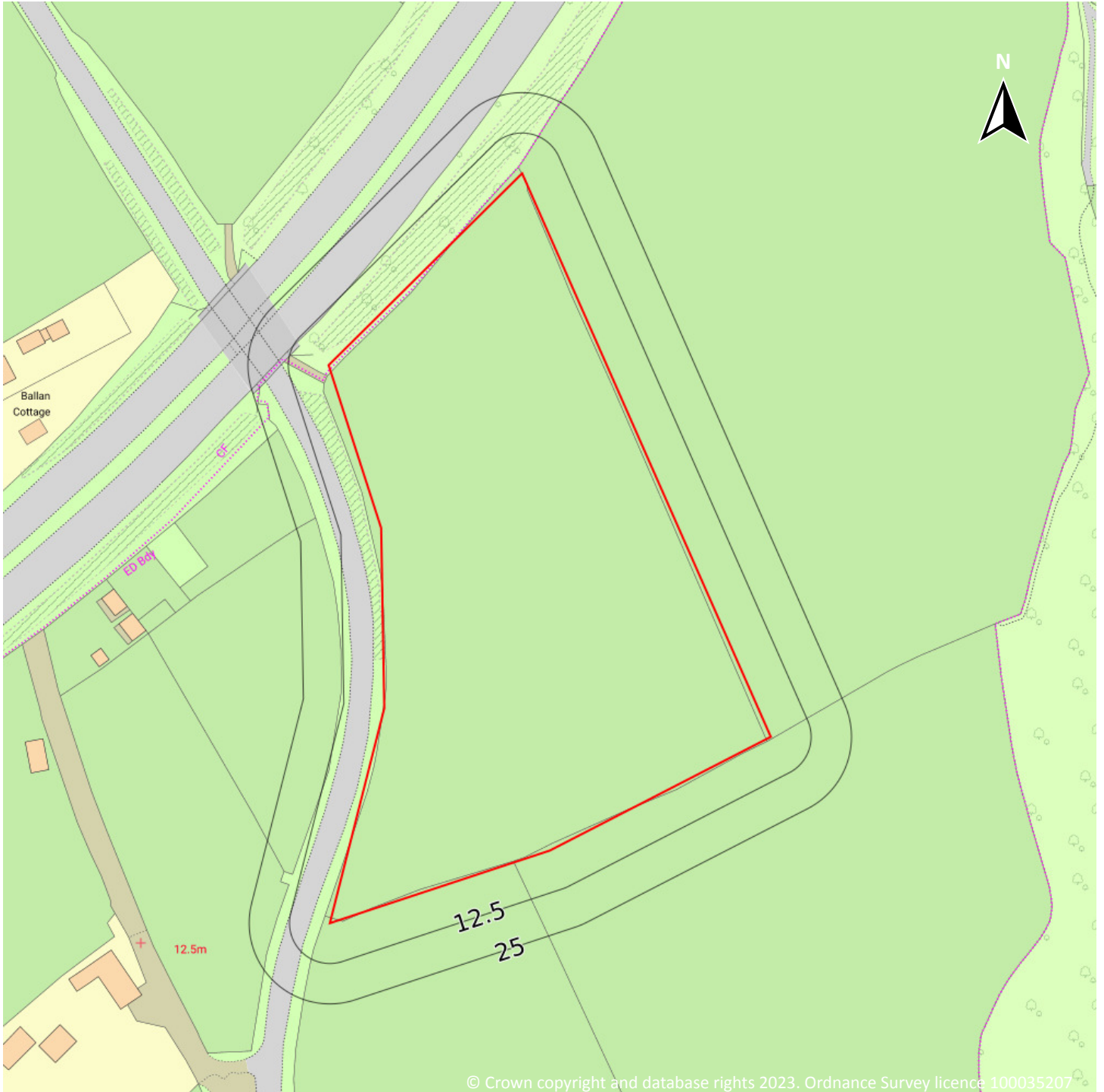


Capture Date: 21/07/2000

Site Area: 1.79ha



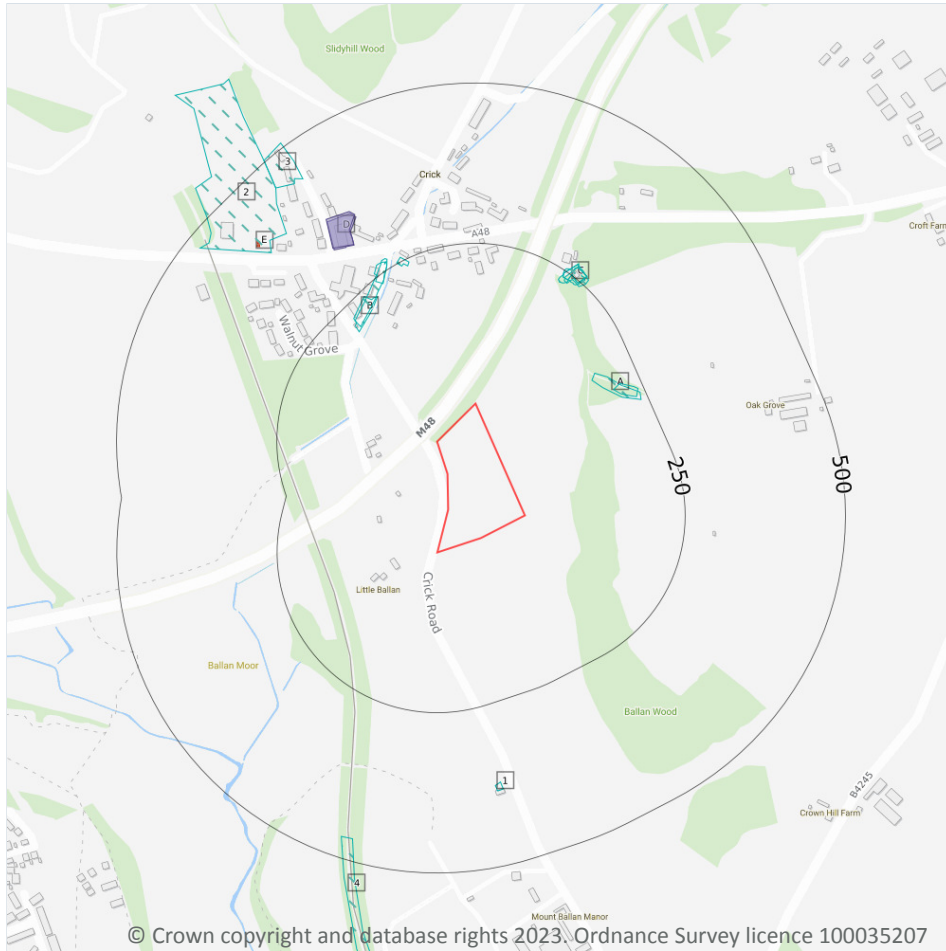
OS MasterMap site plan



Site Area: 1.79ha



1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical energy features
- Historical garages

1.1 Historical industrial land uses

Records within 500m **14**

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
A	181m NE	Cuttings	1919 - 1949	1229590

ID	Location	Land use	Dates present	Group ID
A	206m NE	Cuttings	1949	1215866
B	207m NW	Unspecified Pit	1919 - 1949	1220993
B	211m NW	Unspecified Pit	1949	1232447
C	230m NE	Unspecified Old Quarry	1902	1241874
C	236m NE	Unspecified Old Quarry	1919 - 1949	1202477
B	236m NW	Unspecified Pit	1919 - 1949	1230572
B	239m N	Smithy	1919	1188923
C	240m NE	Unspecified Old Quarry	1967 - 1968	1200803
C	240m NE	Unspecified Old Quarry	1949	1239385
1	371m S	Telephone Exchange	1969 - 1983	1212686
2	391m NW	Unspecified Depot	1967 - 1968	1256686
3	442m NW	Unspecified Works	1967 - 1968	1219132
4	466m S	Cuttings	1983	1158509

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

0

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

2

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.



Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
E	411m NW	Electricity Substation	-	96473
E	414m NW	Electricity Substation	1998	97973

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

2

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
D	311m NW	Garage	1964 - 1967	35409
D	313m NW	Garage	1998	33628

This data is sourced from Ordnance Survey / Groundsure.



1.6 Historical military land

Records within 500m

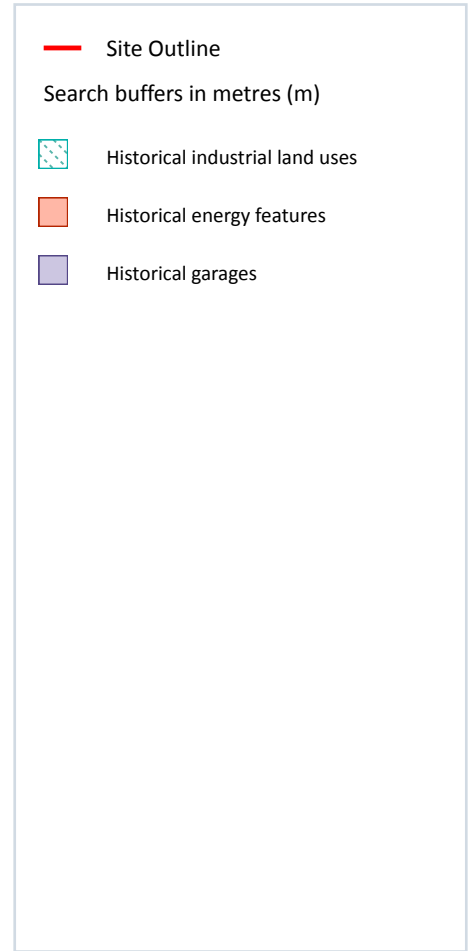
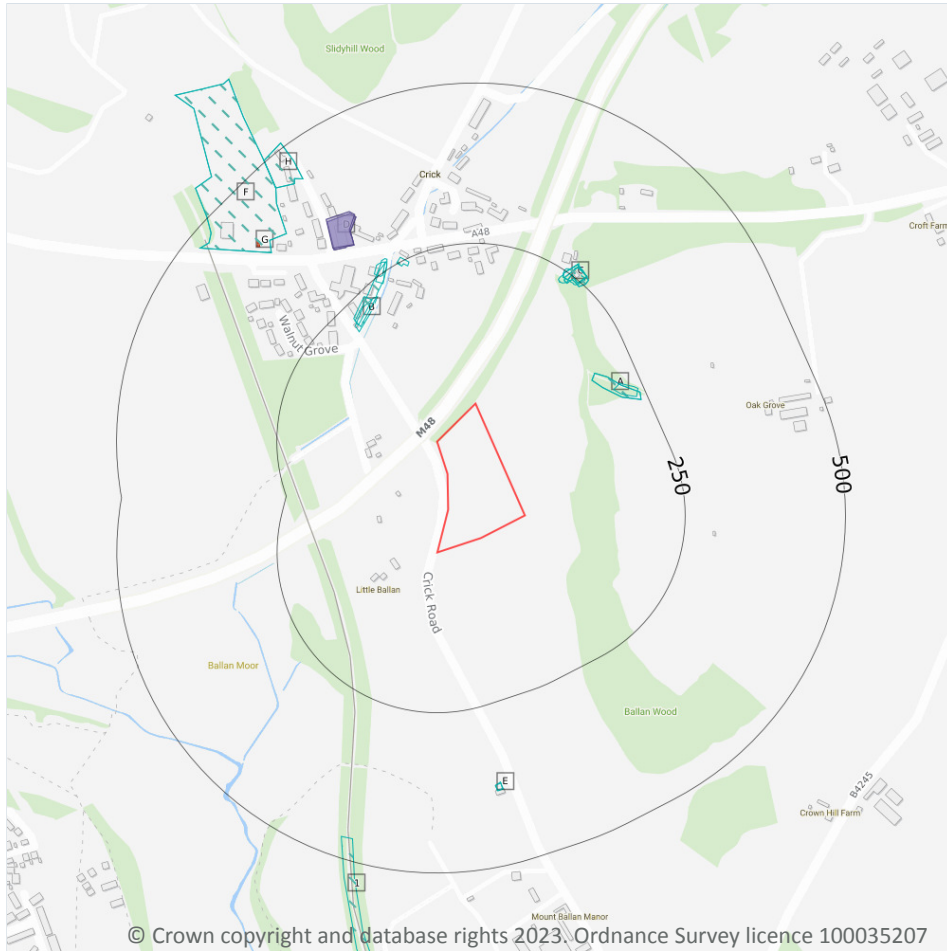
0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.



2 Past land use - un-grouped



2.1 Historical industrial land uses

Records within 500m **22**

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 19](#) >

ID	Location	Land Use	Date	Group ID
A	181m NE	Cuttings	1949	1229590
A	181m NE	Cuttings	1919	1229590
A	206m NE	Cuttings	1949	1215866

ID	Location	Land Use	Date	Group ID
B	207m NW	Unspecified Pit	1919	1220993
B	211m NW	Unspecified Pit	1949	1232447
B	216m NW	Unspecified Pit	1949	1220993
C	230m NE	Unspecified Old Quarry	1902	1241874
C	236m NE	Unspecified Old Quarry	1949	1202477
C	236m NE	Unspecified Old Quarry	1919	1202477
B	236m NW	Unspecified Pit	1919	1230572
B	239m N	Smithy	1919	1188923
C	240m NE	Unspecified Old Quarry	1967	1200803
C	240m NE	Unspecified Old Quarry	1968	1200803
C	240m NE	Unspecified Old Quarry	1949	1239385
B	247m NW	Unspecified Pit	1949	1230572
E	371m S	Telephone Exchange	1983	1212686
E	373m S	Telephone Exchange	1969	1212686
F	391m NW	Unspecified Depot	1967	1256686
F	391m NW	Unspecified Depot	1968	1256686
H	442m NW	Unspecified Works	1967	1219132
H	442m NW	Unspecified Works	1968	1219132
1	466m S	Cuttings	1983	1158509

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

0

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.



2.3 Historical energy features

Records within 500m

2

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 19 >](#)

ID	Location	Land Use	Date	Group ID
G	411m NW	Electricity Substation	-	96473
G	414m NW	Electricity Substation	1998	97973

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

3

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

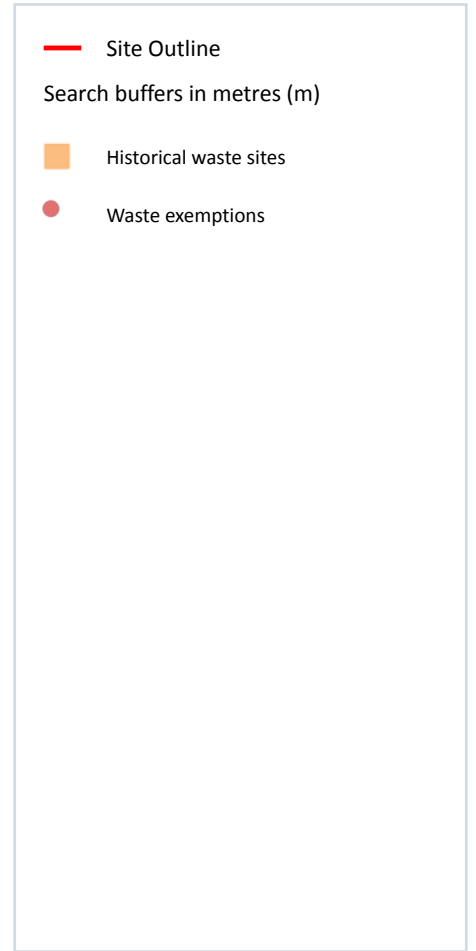
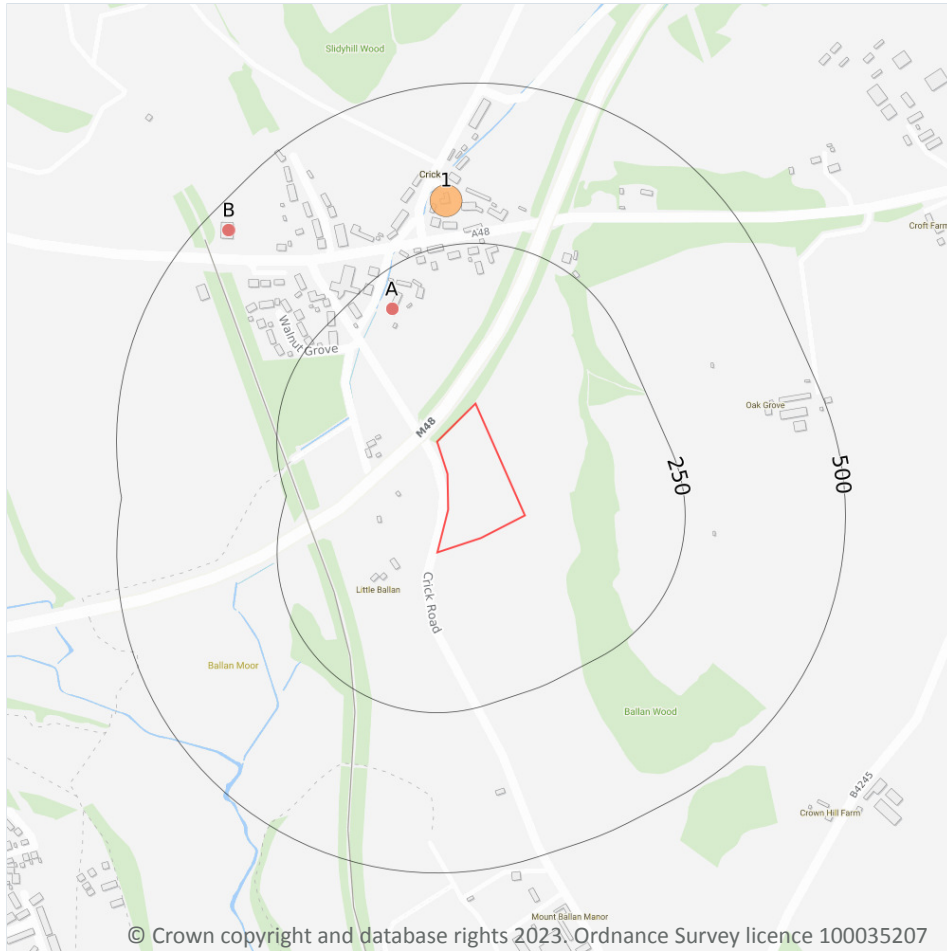
Features are displayed on the Past land use - un-grouped map on [page 19 >](#)

ID	Location	Land Use	Date	Group ID
D	311m NW	Garage	1967	35409
D	311m NW	Garage	1964	35409
D	313m NW	Garage	1998	33628

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



3.1 Active or recent landfill

Records within 500m

0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m

0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m

0

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m

0

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m

1

Waste site records derived from Local Authority planning records and high detail historical mapping.

Features are displayed on the Waste and landfill map on [page 22 >](#)

ID	Location	Address	Further Details	Date
1	294m N	Site Address: The Folley, Manor Farm, Crick, Caldicot, Gwent, NP26 5BR	Type of Site: Waste Transfer Station Planning application reference: DC/2015/01013 Description: Scheme comprises to utilise the area of land, currently used for the processing of on-site material, as a waste transfer station, this station will handle the screening, sorting, crushing and grading of material brought on to site, the product of these processes will be sold on. Data source: Historic Planning Application Data Type: Point	-

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m

0

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.



3.7 Waste exemptions

Records within 500m

7

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on [page 22 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
A	196m NW	Monmouthshire County Council, Manor Farm Depot, Shirenewton Road, Crick, Monmouthshire, NP26 5UW	NRW-WME068594	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	196m NW	Monmouthshire County Council, Manor Farm Depot, Shirenewton Road, Crick, Monmouthshire, NP26 5UW	NRW-WME068594	Using waste exemption	Not on a farm	Use of waste in construction
A	196m NW	Monmouthshire County Council, Monmouthshire County council Highways Depot, Manor Farm, Shirenewton road, Crick, Caldicot, Sir Fynwy, NP265UW	NRW-WME033211	Using waste exemption	Not on a farm	Use of waste in construction
A	196m NW	Monmouthshire County Council, Monmouthshire County Council, Manor Farm Depot, Shirenewton Road, Crick, Monmouthshire, NP265UW	NRW-WME033964	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	196m NW	Monmouthshire County Council, Monmouthshire County Council, Manor Farm Depot, Shirenewton Road, Crick, Monmouthshire, NP265UW	NRW-WME033964	Using waste exemption	Not on a farm	Use of waste in construction
B	462m NW	Sir Robert McAlpine Ltd, Sir Robert McAlpine Ltd, Caerwent Workshops, Caerwent, Caldicot, NP265XH	NRW-WME017973	Disposing of waste exemption	Not on a farm	Burning waste in the open

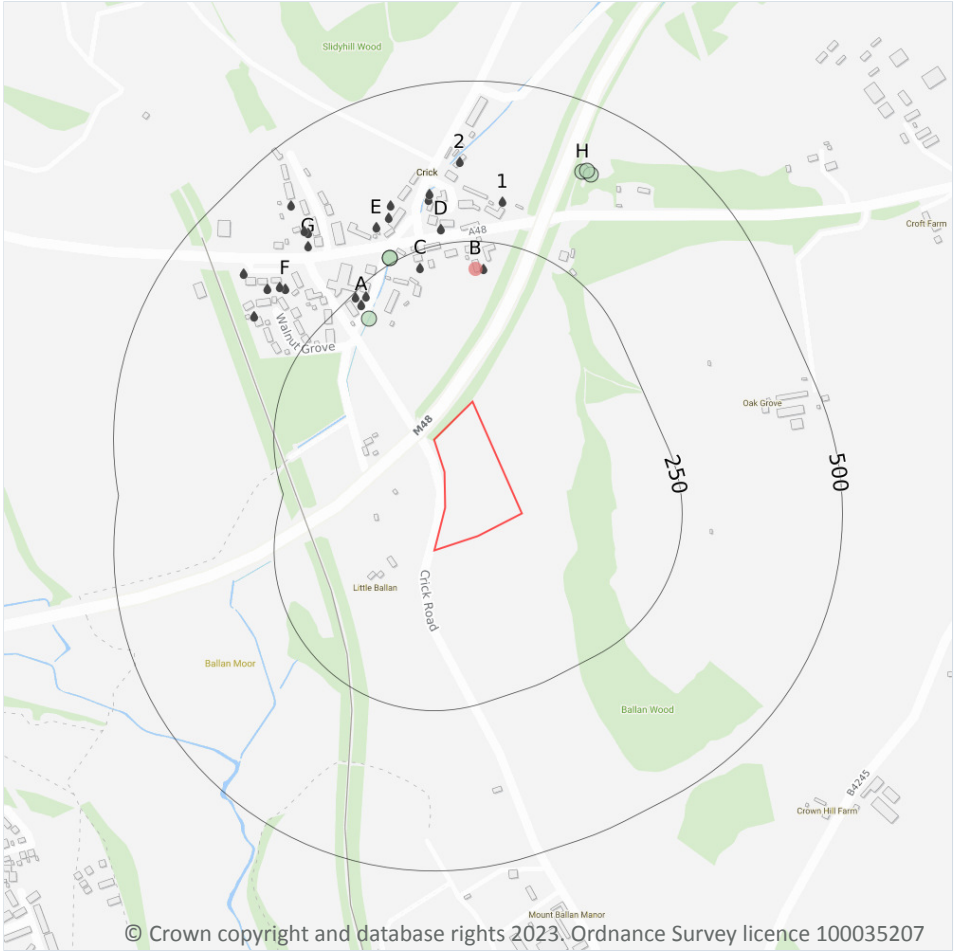


ID	Location	Site	Reference	Category	Sub-Category	Description
B	463m NW	CAERWENT WORKSHOPS, CAERWENT, CALDICOT, NP26 5XH	WEX071043	Disposing of waste exemption	Not on a farm	Burning waste in the open

This data is sourced from the Environment Agency and Natural Resources Wales.



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m **1**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 26](#) >

ID	Location	Company	Address	Activity	Category
B	208m N	Celtic Fuel Oils Ltd	Lake House, -, Crick, Gwent, NP26 5UW	Fuel Distributors and Suppliers	Household, Office, Leisure and Garden

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0
---------------------	---

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0
---------------------	---

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0
---------------------	---

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0
---------------------	---

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0
---------------------	---

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m

0

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from Local Authority records.



4.12 Radioactive Substance Authorisations

Records within 500m

0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m

33

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on [page 26 >](#)

ID	Location	Address	Details	
B	207m N	Lake House, Crick, Caldicot, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CB3593ZU Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 09/06/2022 Effective Date: 09/06/2022 Revocation Date: -
C	224m N	SEPTIC TANKSERVING LLYSWEN, CRICK, CALDICOT, MONMOUTHSHIRE, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: VP3423GP Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 29/06/2012 Effective Date: 29/06/2012 Revocation Date: -
A	230m NW	SEPTIC TANK@ 1&2 CRICK PLACE, 1 & 2 CRICK PLACE, CALDICOT, MONMOUTHSHIRE, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: XB3438AL Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 25/04/2013 Effective Date: 25/04/2013 Revocation Date: -
A	230m NW	SEPTIC TANK@ 1&2 CRICK PLACE, 1 & 2 CRICK PLACE, CALDICOT, MONMOUTHSHIRE, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRXB3438AL Permit Version: 1 Receiving Water: GROUNDWATER	Status: NEW ISSUED UNDER EPR 2010 Issue date: 25/04/2013 Effective Date: 25/04/2013 Revocation Date: -



ID	Location	Address	Details	
A	233m NW	Kites Nest, Crick, Caldicot, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CB3797ZW Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 16/02/2023 Effective Date: 16/02/2023 Revocation Date: -
A	244m NW	CRICK HOUSE NURSING HOME, CRICK HOUSE NURSING HOME, Crick, Caldicot, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: AN0216101 Permit Version: 0 Receiving Water: TRIB OF NEDERN BROOK	Status: Effective Issue date: 03/10/2023 Effective Date: 03/10/2023 Revocation Date: -
D	274m N	ST @ MANOR CROFT, MANOR FARM, CRICK, CALDICOT, MONMOUTHSHIRE, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: XP3826XT Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 31/10/2012 Effective Date: 31/10/2012 Revocation Date: -
D	274m N	ST @ MANOR CROFT, MANOR FARM, CRICK, CALDICOT, MONMOUTHSHIRE, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRXP3826XT Permit Version: 1 Receiving Water: GROUNDWATER VIA SOAKAWAY	Status: NEW ISSUED UNDER EPR 2010 Issue date: 31/10/2012 Effective Date: 31/10/2012 Revocation Date: -
E	310m N	ST DONATS, CRICK, CALDICOT, GWENT, WALES, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: SP3327XD Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 29/03/2012 Effective Date: 29/03/2012 Revocation Date: -
E	310m N	ST DONATS, CRICK, CALDICOT, GWENT, WALES, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRSP3327XD Permit Version: 1 Receiving Water: GROUNDWATER VIA AN INFILT SYS	Status: NEW ISSUED UNDER EPR 2010 Issue date: 29/03/2012 Effective Date: 29/03/2012 Revocation Date: -



ID	Location	Address	Details	
1	314m N	SEPTIC TANK @ CRICK MANOR, CRICK MANOR, CRICK, CALDICOT, GWENT, NP26 5XU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: WP3524XJ Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 25/09/2012 Effective Date: 25/09/2012 Revocation Date: -
E	315m N	Holly House, Holly House, Crick, Caldicot, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CB3699FQ Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 26/10/2022 Effective Date: 26/10/2022 Revocation Date: -
D	322m N	SEPTIC TANK @ MANOR HAVEN, MANOR FARM, CRICK, CALDICOT, MONMOUTHSHIRE, NP26 5BR	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: WP3326XJ Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 06/08/2012 Effective Date: 06/08/2012 Revocation Date: -
D	322m N	SEPTIC TANK @ MANOR HAVEN, MANOR FARM, CRICK, CALDICOT, MONMOUTHSHIRE, NP26 5BR	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRWP3326XJ Permit Version: 1 Receiving Water: GROUNDWATER	Status: NEW ISSUED UNDER EPR 2010 Issue date: 06/08/2012 Effective Date: 06/08/2012 Revocation Date: -
E	331m N	Benbrook, Crick, Caldicot, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CB3897FQ Permit Version: 0 Receiving Water: Groundwater via an infiltration system	Status: Effective Issue date: 20/06/2023 Effective Date: 20/06/2023 Revocation Date: -
D	331m N	SEPTIC TANK AT MANOR COURT, MANOR FARM, CRICK, CALDICOT, MONMOUTHSHIRE, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: XP3120GN Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 14/09/2012 Effective Date: 14/09/2012 Revocation Date: -



ID	Location	Address	Details	
D	331m N	SEPTIC TANK AT MANOR COURT, MANOR FARM, CRICK, CALDICOT, MONMOUTHSHIRE, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRXP3120GN Permit Version: 1 Receiving Water: GROUNDWATER	Status: NEW ISSUED UNDER EPR 2010 Issue date: 14/09/2012 Effective Date: 14/09/2012 Revocation Date: -
F	331m NW	SEPTIC TANK SERVING MELROSE, MELROSE, CRICK, CALDICOT, MONMOUTHSHIRE, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: YP3823GF Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 21/12/2012 Effective Date: 21/12/2012 Revocation Date: -
F	331m NW	SEPTIC TANK SERVING MELROSE, MELROSE, CRICK, CALDICOT, MONMOUTHSHIRE, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRYP3823GF Permit Version: 1 Receiving Water: GROUND	Status: NEW ISSUED UNDER EPR 2010 Issue date: 21/12/2012 Effective Date: 21/12/2012 Revocation Date: -
F	338m NW	NEWTON HOUSE, CRICK, CALDICOT, MONMOUTHSHIRE, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: WP3225XA Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 16/08/2012 Effective Date: 16/08/2012 Revocation Date: -
F	340m NW	LAND OFF CRICK ROAD, CRICK, NEAR CHEPSTOW, MONMOUTHSHIRE, NP26 5UX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: AN0292801 Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 27/05/2011 Effective Date: 27/05/2011 Revocation Date: -
F	340m NW	LAND OFF CRICK ROAD, CRICK, NEAR CHEPSTOW, MONMOUTHSHIRE, NP26 5UX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: AN029280101 Permit Version: 1 Receiving Water: LAND	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 28/09/1999 Effective Date: 28/09/1999 Revocation Date: 26/05/2011
F	340m NW	LAND OFF CRICK ROAD, CRICK, NEAR CHEPSTOW, MONMOUTHSHIRE, NP26 5UX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: AN029280101 Permit Version: 2 Receiving Water: LAND	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 27/05/2011 Effective Date: 27/05/2011 Revocation Date: -



ID	Location	Address	Details	
F	351m NW	SEPTIC TANK AND INFILTRATION SYT. @, RUSSET HOUSE, CRICK, CALDICOT, MONMOUTHSHIRE, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: ZB3893HV Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 21/07/2021 Effective Date: 26/07/2021 Revocation Date: -
F	351m NW	SEPTIC TANK AND INFILTRATION SYT. @, RUSSET HOUSE, CRICK, CALDICOT, MONMOUTHSHIRE, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRZB3893HV Permit Version: 1 Receiving Water: GROUNDWATER	Status: NEW ISSUED UNDER EPR 2010 Issue date: 23/07/2014 Effective Date: 23/07/2014 Revocation Date: -
G	353m NW	Crick Lodge, Crick Lodge, Crick, Caldicot, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: AB3199ZG Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 02/11/2016 Effective Date: 08/11/2016 Revocation Date: -
G	368m NW	SEPTIC TANK AT PRIMROSE COTTAGE, OLD SHIRENEWTON ROAD, CRICK, CALDICOT, MONMOUTHSHIRE, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: XP3223KS Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 14/09/2012 Effective Date: 14/09/2012 Revocation Date: -
G	368m NW	SEPTIC TANK AT PRIMROSE COTTAGE, OLD SHIRENEWTON ROAD, CRICK, CALDICOT, MONMOUTHSHIRE, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRXP3223KS Permit Version: 1 Receiving Water: GROUNDWATER	Status: NEW ISSUED UNDER EPR 2010 Issue date: 14/09/2012 Effective Date: 14/09/2012 Revocation Date: -
2	374m N	HIGHWAY DIRECT WORKS MANOR FARM, HIGHWAY DIRECT WORKS, MANOR FARM DEPOT, CRICK NEAR CHEPSTOW, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: AN0293201 Permit Version: 0 Receiving Water: TRIB OF NEDERN BROOK	Status: Effective Issue date: 29/10/1999 Effective Date: 29/10/1999 Revocation Date: -



ID	Location	Address	Details	
G	374m NW	Kylemore, Kylemore, Crick, Caldicot, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: AB3391ZR Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 15/12/2016 Effective Date: 15/12/2016 Revocation Date: -
F	394m NW	SEPTIC TANK @ BRAMLEY HOUSE, CRICK, NR. CALDICOTE, MONMOUTHSHIRE, -, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: UP3625XP Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 29/05/2012 Effective Date: 29/05/2012 Revocation Date: -
F	394m NW	SEPTIC TANK @ BRAMLEY HOUSE, CRICK, NR. CALDICOTE, MONMOUTHSHIRE, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRUP3625XP Permit Version: 1 Receiving Water: GW VIA INFILTRATION SYSTEM	Status: NEW ISSUED UNDER EPR 2010 Issue date: 29/05/2012 Effective Date: 29/05/2012 Revocation Date: -
G	417m NW	Woodley, Crick, Caldicot, NP26 5UW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CB3899FL Permit Version: 0 Receiving Water: Groundwater via infiltration system	Status: Effective Issue date: 07/07/2023 Effective Date: 07/07/2023 Revocation Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.



4.15 Pollutant release to public sewer

Records within 500m **0**

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m **0**

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m **0**

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m **6**

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on [page 26 >](#)

ID	Location	Details	
A	205m NW	Incident Date: 28/07/2010 Incident Identification: 807149 Pollutant: Sewage Materials Pollutant Description: Grey Water	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
C	258m N	Incident Date: 08/12/2016 Incident Identification: 1607308 Pollutant: Pollutant Not Identified Pollutant Description: Pollutant Not Identified	Water Impact: Category 3 (Minor) Land Impact: No Details Air Impact: No Details

ID	Location	Details	
C	258m N	Incident Date: 08/12/2016 Incident Identification: 1607308 Pollutant: - Pollutant Description: -	Water Impact: Category 3 (Minor) Land Impact: No Details Air Impact: No Details
H	397m N	Incident Date: 06/12/2013 Incident Identification: 1181757 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
H	399m N	Incident Date: 23/05/2014 Incident Identification: 1238394 Pollutant: Multiple Pollutants Pollutant Description: 2 Pollutants Including Soils and Clay	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
H	402m N	Incident Date: 12/06/2014 Incident Identification: 1244566 Pollutant: Inert Materials and Wastes Pollutant Description: Rocks and Gravel	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m

0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m

0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



4.21 Pollution inventory radioactive waste

Records within 500m

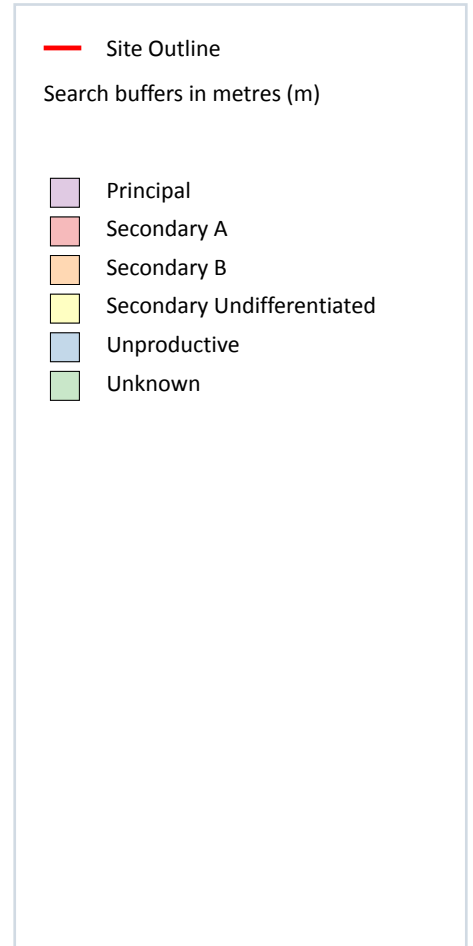
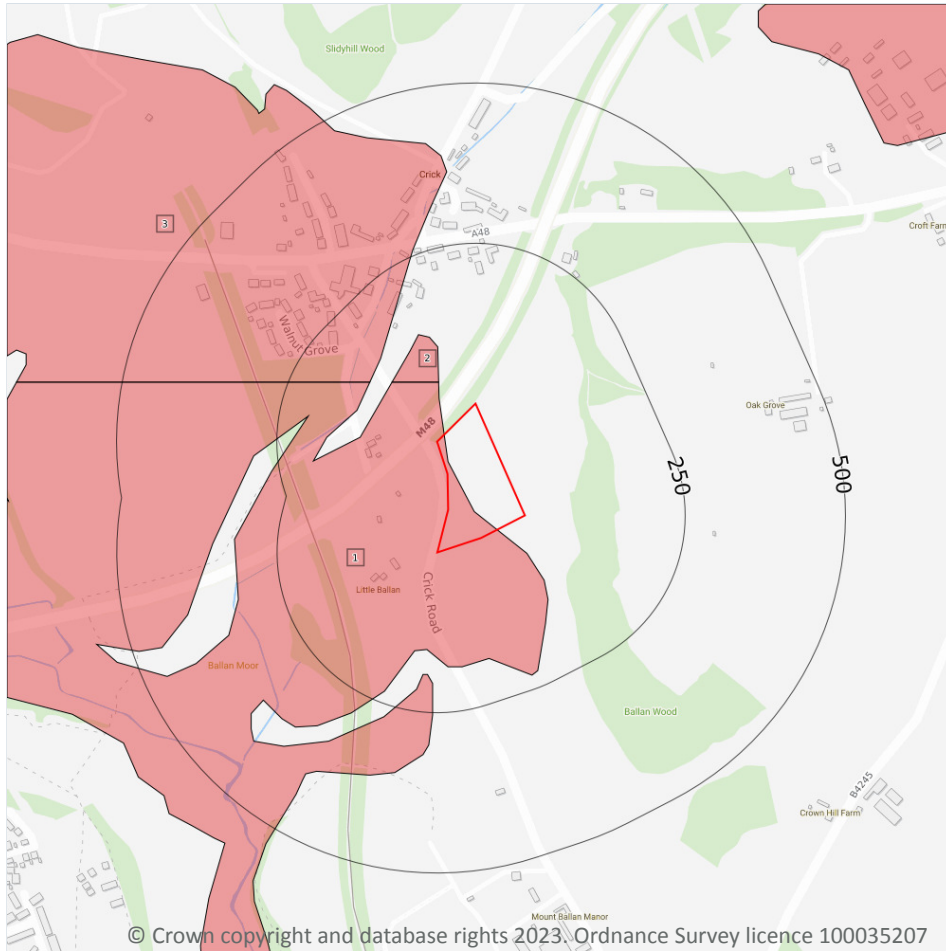
0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m

3

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 38](#) >

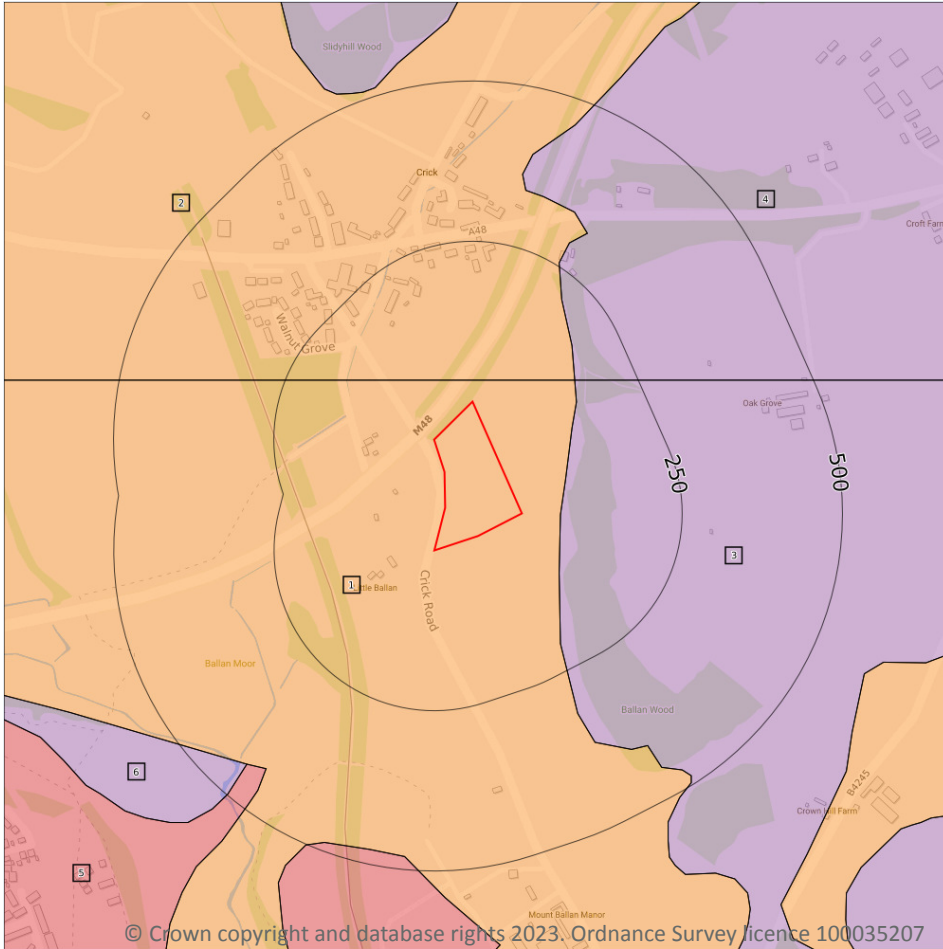
ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	64m N	Secondary A	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

ID	Location	Designation	Description
3	140m NW	Secondary A	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

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Bedrock aquifer



— Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m

6

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on [page 40 >](#)

ID	Location	Designation	Description
1	On site	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers
2	34m N	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers

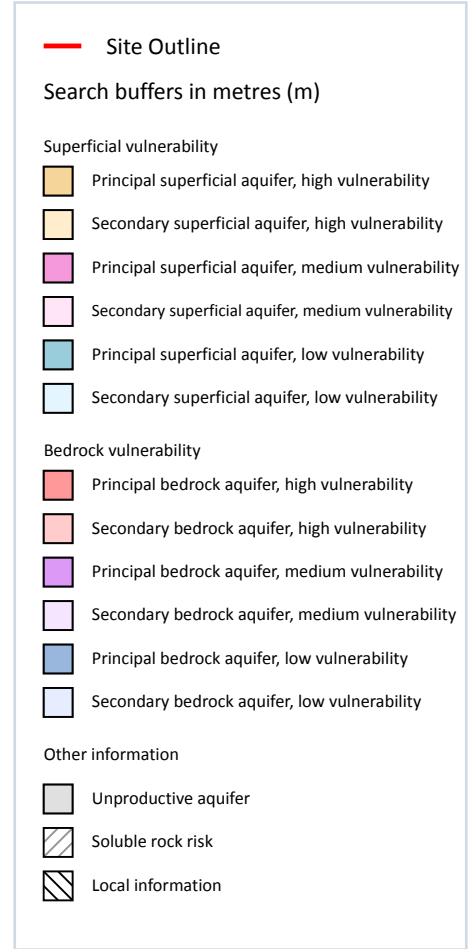
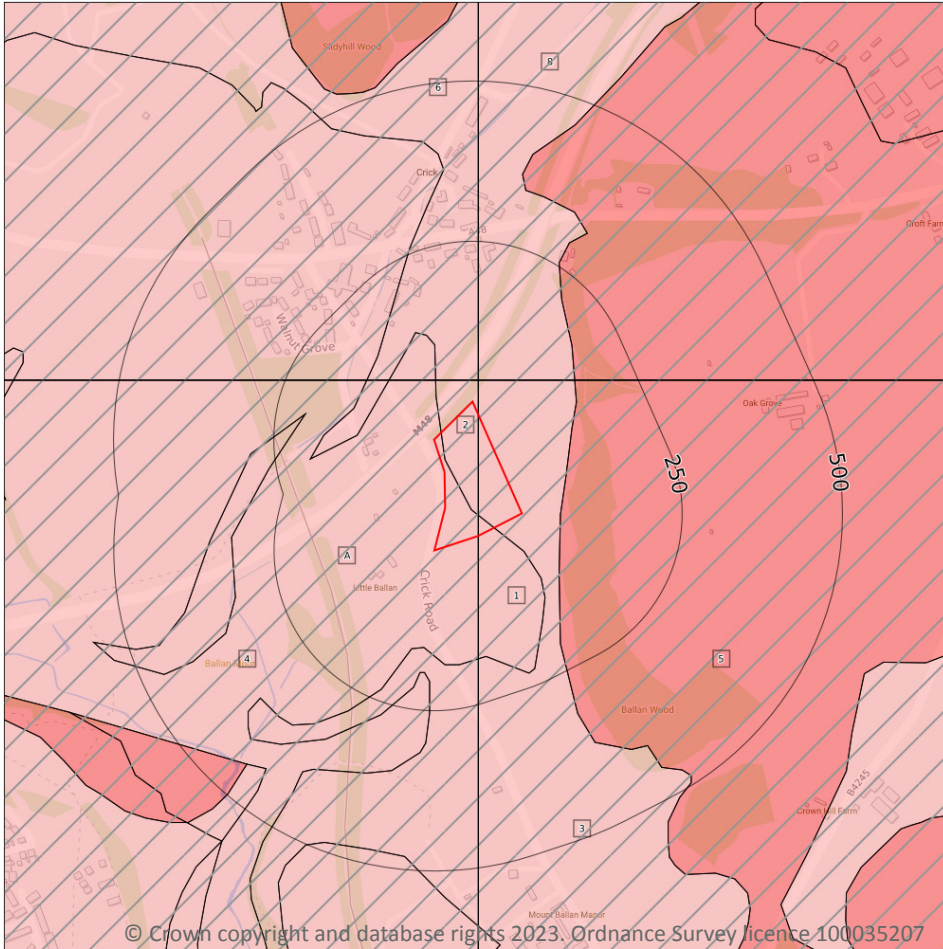


ID	Location	Designation	Description
3	60m E	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
4	159m NE	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
5	430m SW	Secondary A	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
6	443m SW	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

6

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on [page 42](#) >



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: High	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
3	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
A	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: High	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
6	33m N	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
8	34m N	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



5.4 Groundwater vulnerability- soluble rock risk

Records on site

2

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
4	Very significant soluble rocks are likely to be present with a high possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, especially in adverse conditions such as concentrated surface or subsurface water flow.	4.0%
5	Very significant soluble rocks are likely to be present with a high possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, especially in adverse conditions such as concentrated surface or subsurface water flow.	10.0%

This data is sourced from the British Geological Survey and the Environment Agency.

5.5 Groundwater vulnerability- local information

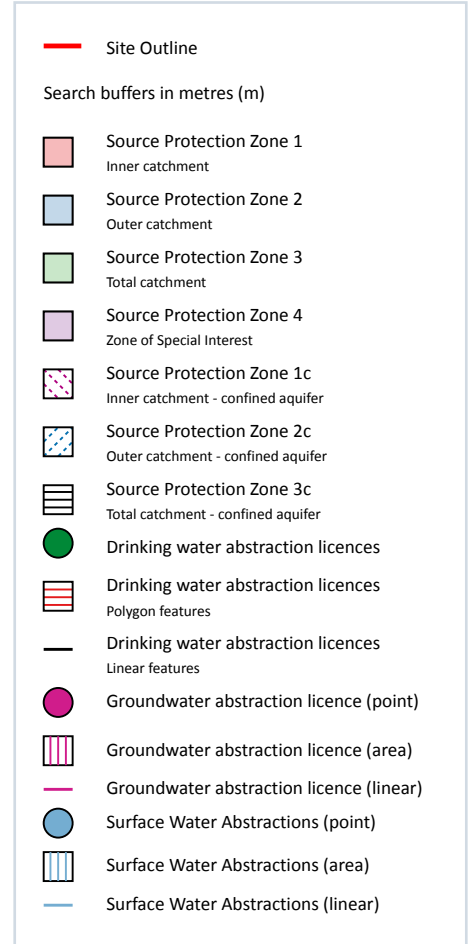
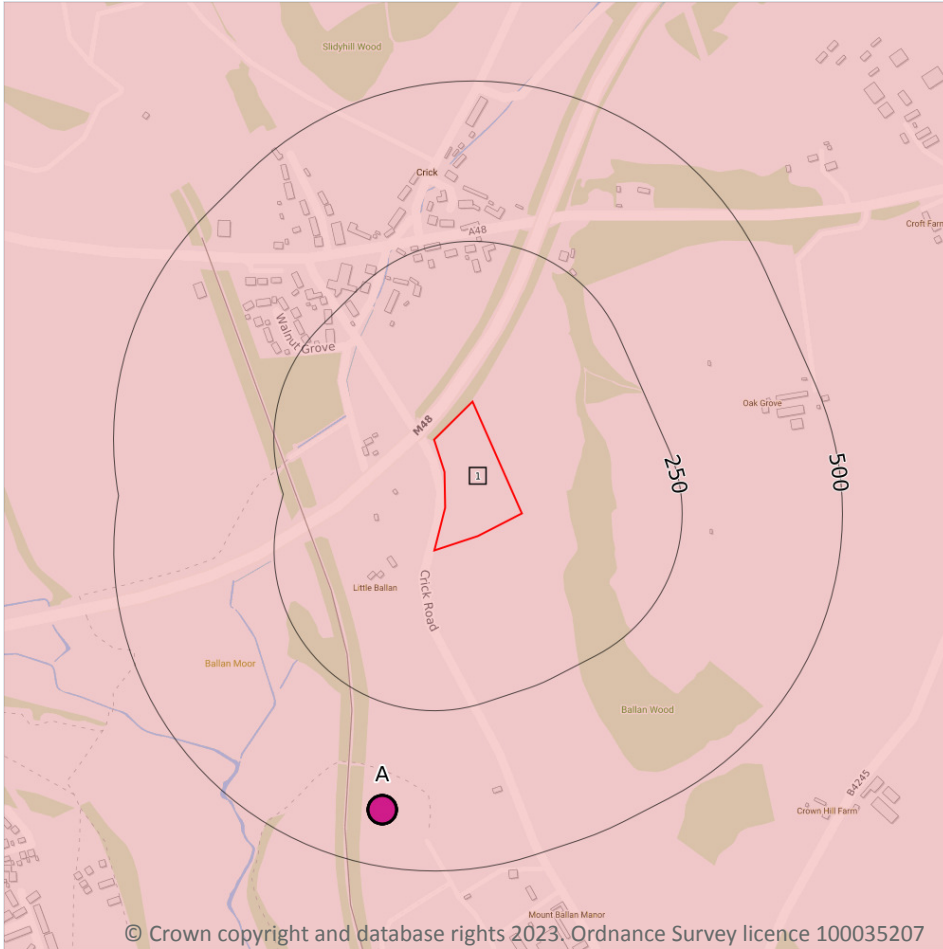
Records on site

0

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk ↗.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones



5.6 Groundwater abstractions

Records within 2000m

8

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 45 >](#)

ID	Location	Details	
A	412m S	Status: Active Licence No: 20/56/72/0030 Details: Spray Irrigation - Direct - High Direct Source: Mercia Mudstone Group Point: - Data Type: Point Name: - Easting: 348850 Northing: 189330	Annual Volume (m ³): 10454 Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/11/2015 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
A	412m S	Status: Active Licence No: 20/56/72/0030 Details: General Farming & Domestic - Medium Direct Source: Mercia Mudstone Group Point: - Data Type: Point Name: - Easting: 348850 Northing: 189330	Annual Volume (m ³): 10454 Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/11/2015 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
A	412m S	Status: Active Licence No: 20/56/72/0030 Details: General Farming & Domestic - Medium Direct Source: Mercia Mudstone Group Point: - Data Type: Point Name: - Easting: 348850 Northing: 189330	Annual Volume (m ³): 4546 Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/11/2015 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
A	412m S	Status: Historical Licence No: 20/56/72/0030 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE AT MOUNT BALLAN MANOR Data Type: Point Name: Broome & Co Limited Easting: 348850 Northing: 189330	Annual Volume (m ³): 15000 Max Daily Volume (m ³): 261 Original Application No: - Original Start Date: 10/06/1987 Expiry Date: - Issue No: 102 Version Start Date: 13/11/2015 Version End Date: -
A	412m S	Status: Historical Licence No: 20/56/72/0030 Details: Spray Irrigation - Direct Direct Source: EAW Groundwater Point: BOREHOLE AT MOUNT BALLAN MANOR Data Type: Point Name: Broome & Co Limited Easting: 348850 Northing: 189330	Annual Volume (m ³): 15000 Max Daily Volume (m ³): 261 Original Application No: - Original Start Date: 10/06/1987 Expiry Date: - Issue No: 102 Version Start Date: 13/11/2015 Version End Date: -



ID	Location	Details	
A	412m S	Status: Active Licence No: 20/56/72/0030 Details: Spray Irrigation - Direct - High Direct Source: Mercia Mudstone Group Point: - Data Type: Point Name: - Easting: 348850 Northing: 189330	Annual Volume (m ³): 4546 Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/11/2015 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	753m S	Status: Historical Licence No: 20/56/72/0030 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE AT MOUNT BALLAN MANOR Data Type: Point Name: Broome & Co Ltd Easting: 349100 Northing: 189000	Annual Volume (m ³): 4546 Max Daily Volume (m ³): 218 Original Application No: - Original Start Date: 10/06/1987 Expiry Date: - Issue No: 101 Version Start Date: 02/12/2010 Version End Date: -
-	753m S	Status: Historical Licence No: 20/56/72/0030 Details: Spray Irrigation - Direct Direct Source: EAW Groundwater Point: BOREHOLE AT MOUNT BALLAN MANOR Data Type: Point Name: Broome & Co Ltd Easting: 349100 Northing: 189000	Annual Volume (m ³): 4546 Max Daily Volume (m ³): 218 Original Application No: - Original Start Date: 10/06/1987 Expiry Date: - Issue No: 101 Version Start Date: 02/12/2010 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m

3

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 45 >](#)



ID	Location	Details	
-	1158m S	Status: Historical Licence No: 20/56/72/0038 Details: Make-Up Or Top Up Water Direct Source: EAW Surface Water Point: NEDERN BROOK Data Type: Point Name: Monmouthshire County Council Easting: 348750 Northing: 188590	Annual Volume (m ³): 7800 Max Daily Volume (m ³): 100 Original Application No: - Original Start Date: 12/01/1995 Expiry Date: - Issue No: 101 Version Start Date: 21/07/2014 Version End Date: -
-	1158m S	Status: Historical Licence No: 20/56/72/0038 Details: Make-up or Top-up Water - High Direct Source: Nedern Brook Point: - Data Type: Point Name: - Easting: 348750 Northing: 188590	Annual Volume (m ³): 7800 Max Daily Volume (m ³): 480 Original Application No: - Original Start Date: 16/03/2018 Expiry Date: 31/03/2026 Issue No: - Version Start Date: - Version End Date: -
-	1158m S	Status: Active Licence No: 20/56/72/0038 Details: Make-up or Top-up Water - High Direct Source: Nedern Brook Point: - Data Type: Point Name: - Easting: 348750 Northing: 188590	Annual Volume (m ³): 7800 Max Daily Volume (m ³): 100 Original Application No: - Original Start Date: 16/03/2018 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m

0

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.



5.9 Source Protection Zones

Records within 500m

1

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination. Features are displayed on the Abstractions and Source Protection Zones map on [page 45 >](#)

ID	Location	Type	Description
1	On site	1	Inner catchment

This data is sourced from the Environment Agency and Natural Resources Wales.

5.10 Source Protection Zones (confined aquifer)

Records within 500m

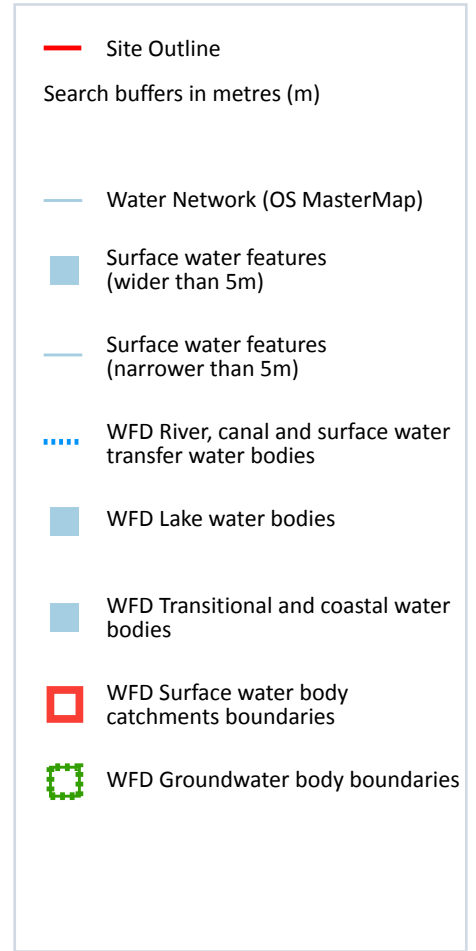
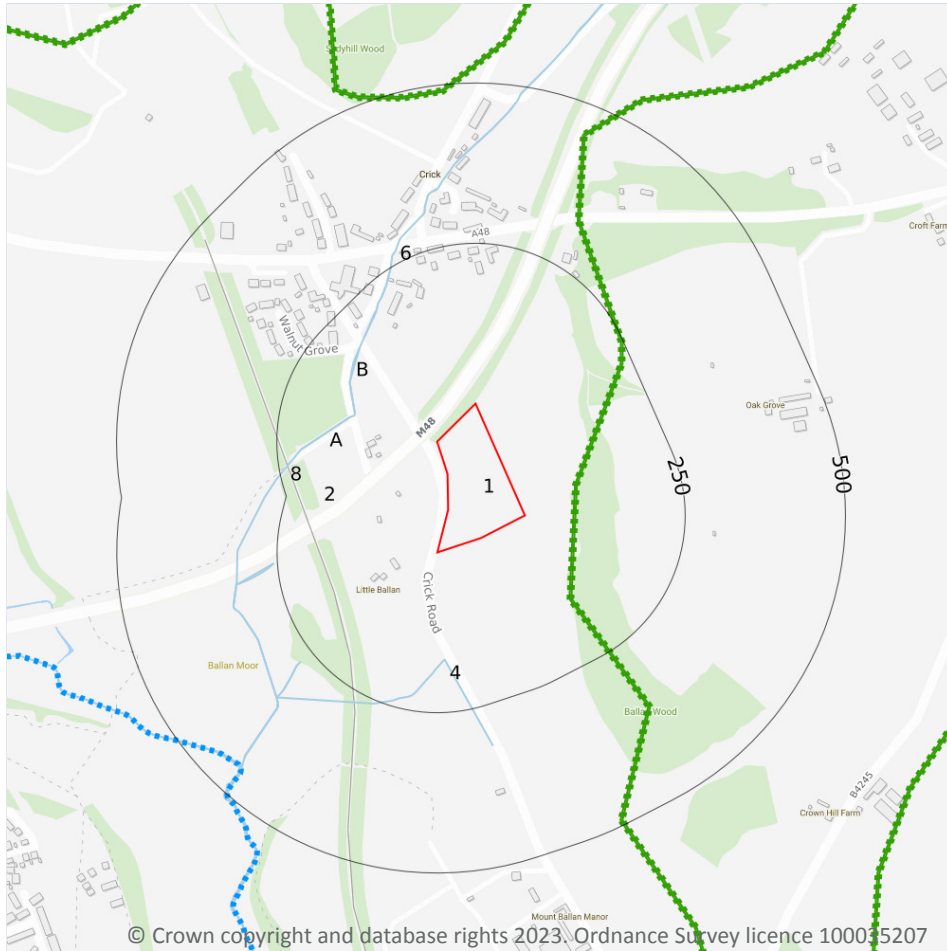
0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.



6 Hydrology



6.1 Water Network (OS MasterMap)

Records within 250m

5

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on [page 50 >](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
A	134m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
B	134m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	167m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	210m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
8	213m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	4
----------------------------	----------

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on [page 50 >](#)

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1
------------------------	----------

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on [page 50 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River WB catchment	Nedern Bk - souce to R Severn Estuary	GB109056026880	Usk below Abergavenny	Usk

This data is sourced from the Environment Agency and Natural Resources Wales.



6.4 WFD Surface water bodies

Records identified

1

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site.

Features are displayed on the Hydrology map on [page 50 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
14	453m SW	River	Nedern Bk - souce to R Severn Estuary	GB109056026880	Poor	Good	Poor	2016

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site

1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place.

Features are displayed on the Hydrology map on [page 50 >](#)

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	On site	Usk Devonian Old Red Sandstone	GB40902G201700	Good	Good	Good	2017

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m

0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m

0

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m

0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m

0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.7 Flood Zone 3

Records within 50m

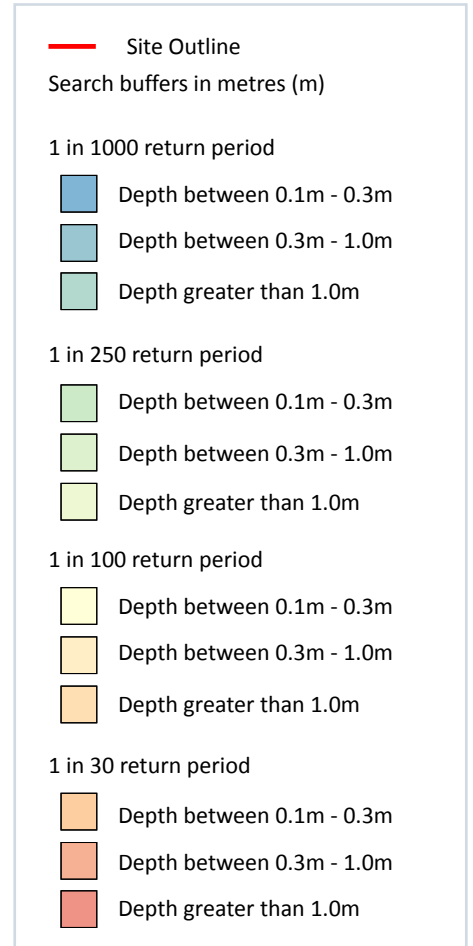
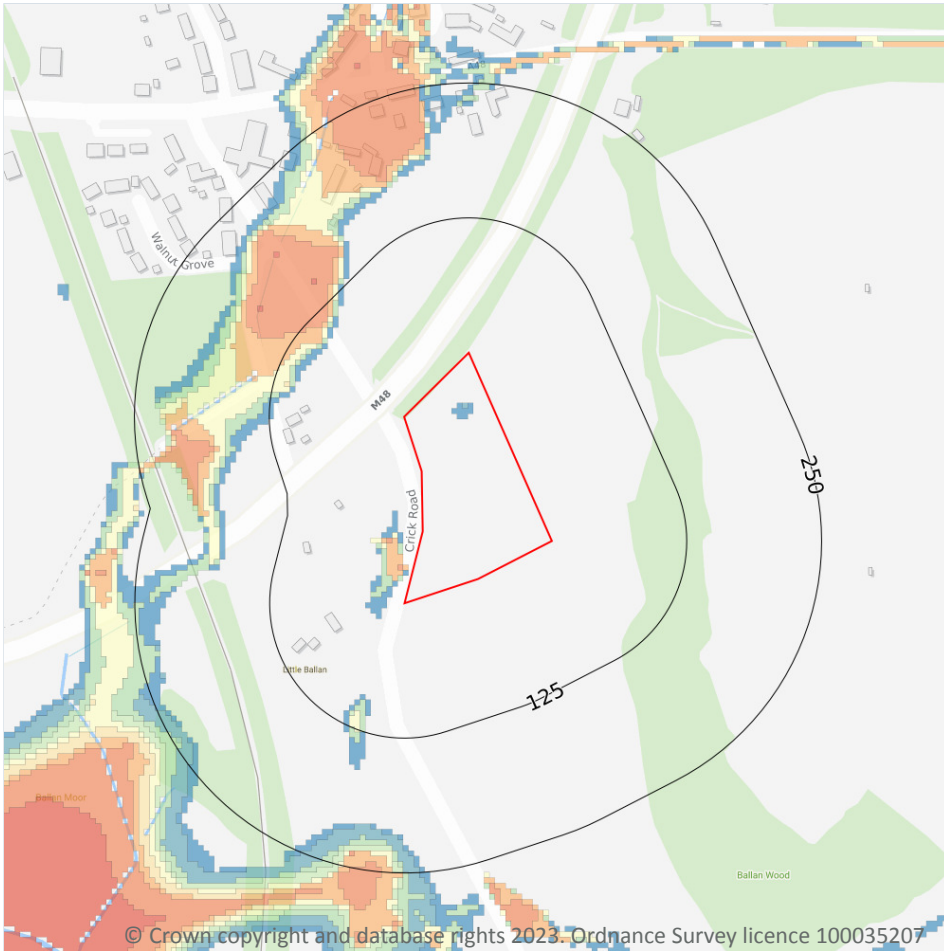
0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 1000 year, 0.3m - 1.0m

Highest risk within 50m

1 in 30 year, 0.3m - 1.0m

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on [page 56 >](#)

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

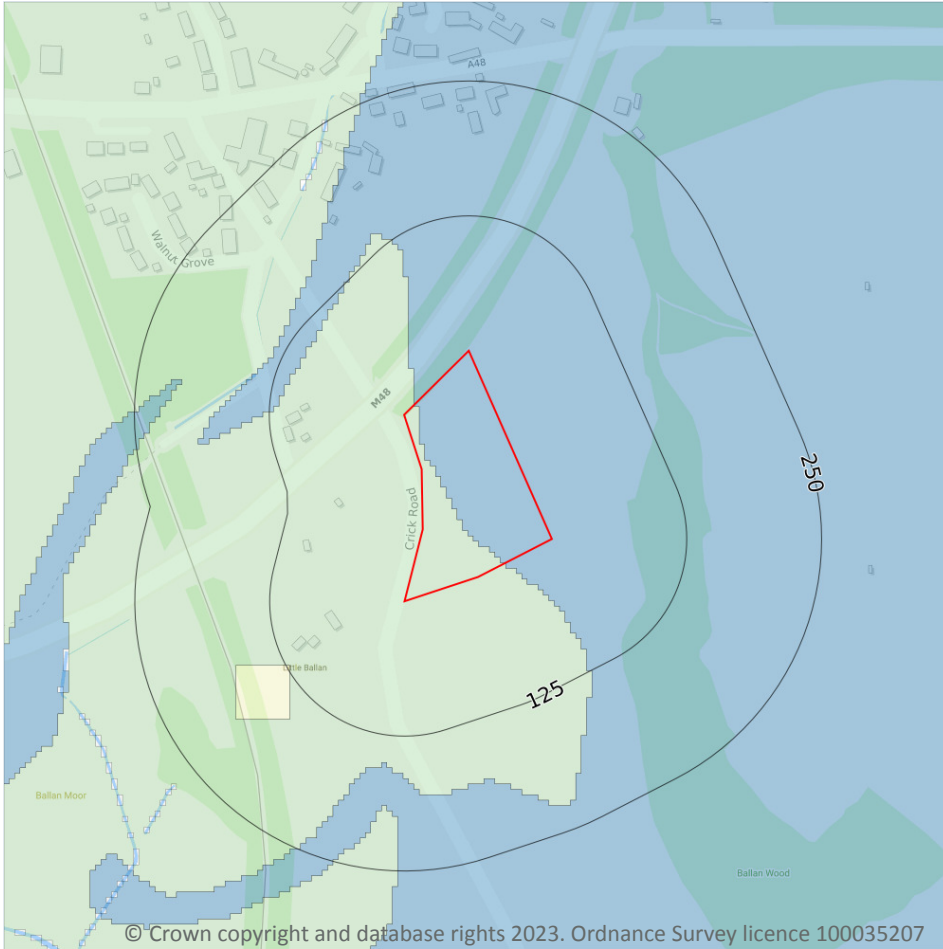
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

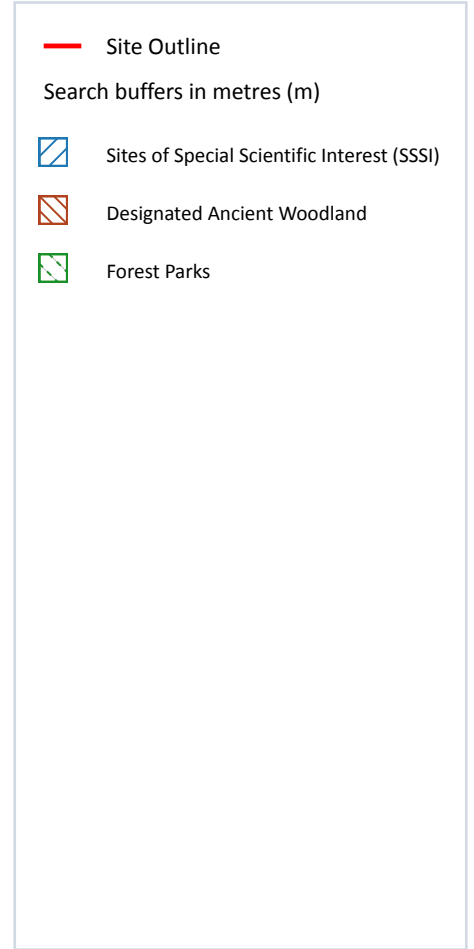
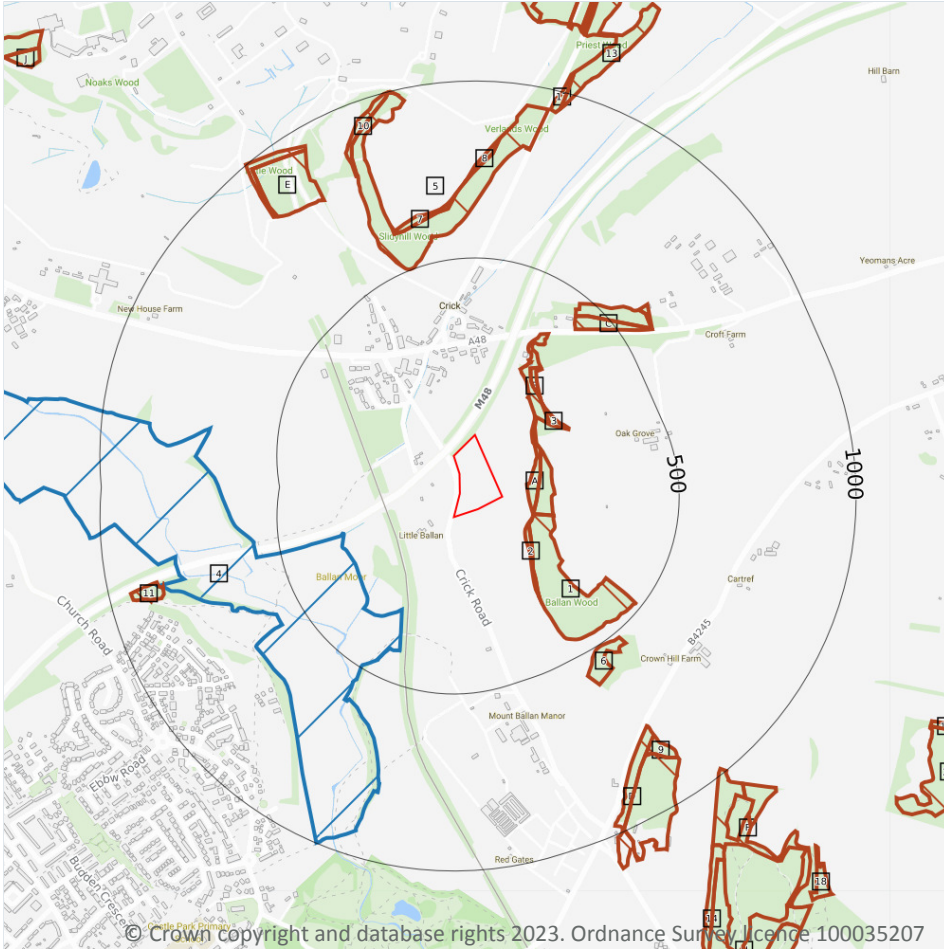
Low

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 58](#) >

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

4

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 59](#) >

ID	Location	Name	Data source
4	300m SW	Nedern Brook Wetlands, Caldicot	Natural Resources Wales



ID	Location	Name	Data source
-	1264m N	Dinham Meadows	Natural Resources Wales
-	1682m N	Dinham Meadows	Natural Resources Wales
-	1781m W	Brockwells Meadows	Natural Resources Wales

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

0

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.

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

10.7 Designated Ancient Woodland

Records within 2000m

69

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 59 >](#)

ID	Location	Name	Woodland Type
A	73m E	Unknown	Restored Ancient Woodland Site
A	97m SE	Unknown	Restored Ancient Woodland Site
1	100m SE	Unknown	Ancient Semi Natural Woodland
2	104m SE	Unknown	Ancient Semi Natural Woodland
B	141m NE	Unknown	Ancient Semi Natural Woodland
3	203m NE	Unknown	Restored Ancient Woodland Site
B	211m NE	Unknown	Ancient Semi Natural Woodland
C	412m NE	Unknown	Ancient Semi Natural Woodland
C	440m NE	Unknown	Ancient Semi Natural Woodland
5	502m N	Unknown	Ancient Semi Natural Woodland



ID	Location	Name	Woodland Type
6	505m SE	Unknown	Restored Ancient Woodland Site
7	610m N	Unknown	Ancient Semi Natural Woodland
8	714m N	Unknown	Ancient Semi Natural Woodland
D	766m SE	Unknown	Restored Ancient Woodland Site
E	788m NW	Unknown	Ancient Semi Natural Woodland
9	799m SE	Unknown	Ancient Semi Natural Woodland
10	803m N	Unknown	Ancient Semi Natural Woodland
E	831m NW	Unknown	Ancient Semi Natural Woodland
D	834m SE	Unknown	Restored Ancient Woodland Site
11	846m W	Unknown	Ancient Semi Natural Woodland
12	940m N	Unknown	Ancient Semi Natural Woodland
13	953m N	Unknown	Ancient Semi Natural Woodland
F	985m SE	Unknown	Ancient Semi Natural Woodland
F	1058m SE	Unknown	Ancient Semi Natural Woodland
14	1151m SE	Unknown	Restored Ancient Woodland Site
G	1171m N	Unknown	Ancient Semi Natural Woodland
G	1175m N	Unknown	Plantation on Ancient Woodland Site
15	1180m N	Unknown	Ancient Semi Natural Woodland
G	1181m N	Unknown	Plantation on Ancient Woodland Site
G	1181m N	Unknown	Plantation on Ancient Woodland Site
G	1183m N	Unknown	Ancient Semi Natural Woodland
H	1192m SE	Unknown	Restored Ancient Woodland Site
-	1288m N	Unknown	Ancient Semi Natural Woodland
18	1326m SE	Unknown	Ancient Semi Natural Woodland
19	1370m SE	Unknown	Ancient Semi Natural Woodland
20	1373m SE	Unknown	Ancient Semi Natural Woodland
H	1381m SE	Unknown	Restored Ancient Woodland Site
-	1406m N	Unknown	Ancient Semi Natural Woodland



ID	Location	Name	Woodland Type
-	1449m W	Unknown	Ancient Semi Natural Woodland
-	1515m W	Unknown	Restored Ancient Woodland Site
-	1541m N	Unknown	Plantation on Ancient Woodland Site
-	1600m NE	Unknown	Ancient Semi Natural Woodland
J	1617m NW	Unknown	Restored Ancient Woodland Site
-	1619m N	Unknown	Ancient Semi Natural Woodland
-	1626m N	Unknown	Plantation on Ancient Woodland Site
-	1634m N	Unknown	Plantation on Ancient Woodland Site
-	1635m N	Unknown	Restored Ancient Woodland Site
J	1644m NW	Unknown	Restored Ancient Woodland Site
-	1676m N	Unknown	Plantation on Ancient Woodland Site
-	1695m N	Unknown	Plantation on Ancient Woodland Site
-	1698m N	Unknown	Restored Ancient Woodland Site
-	1714m E	Unknown	Ancient Semi Natural Woodland
-	1722m N	Unknown	Plantation on Ancient Woodland Site
-	1755m E	Unknown	Restored Ancient Woodland Site
-	1783m NE	Unknown	Restored Ancient Woodland Site
-	1786m W	Unknown	Ancient Woodland Site of Unknown Category
-	1789m N	Unknown	Ancient Semi Natural Woodland
-	1792m NW	Unknown	Ancient Semi Natural Woodland
-	1840m W	Unknown	Restored Ancient Woodland Site
-	1859m SE	Unknown	Ancient Semi Natural Woodland
-	1878m N	Unknown	Plantation on Ancient Woodland Site
-	1893m E	Unknown	Restored Ancient Woodland Site
-	1894m E	Unknown	Ancient Semi Natural Woodland
-	1895m N	Unknown	Plantation on Ancient Woodland Site
-	1918m E	Unknown	Restored Ancient Woodland Site
-	1925m N	Unknown	Ancient Semi Natural Woodland



ID	Location	Name	Woodland Type
-	1929m W	Unknown	Ancient Semi Natural Woodland
-	1963m NE	Unknown	Restored Ancient Woodland Site
-	1975m N	Unknown	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
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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	1
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These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

Features are displayed on the Environmental designations map on [page 59 >](#)

ID	Location	Name
-	1924m N	Wye Valley Woods

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

0

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

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

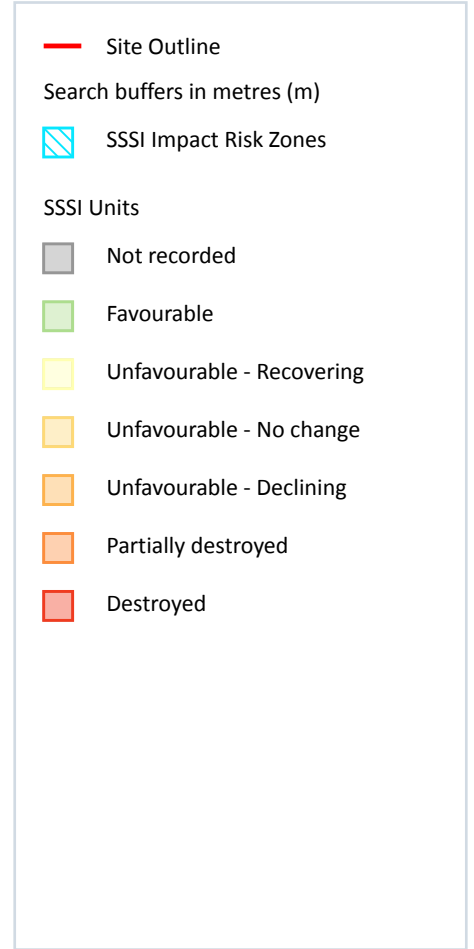
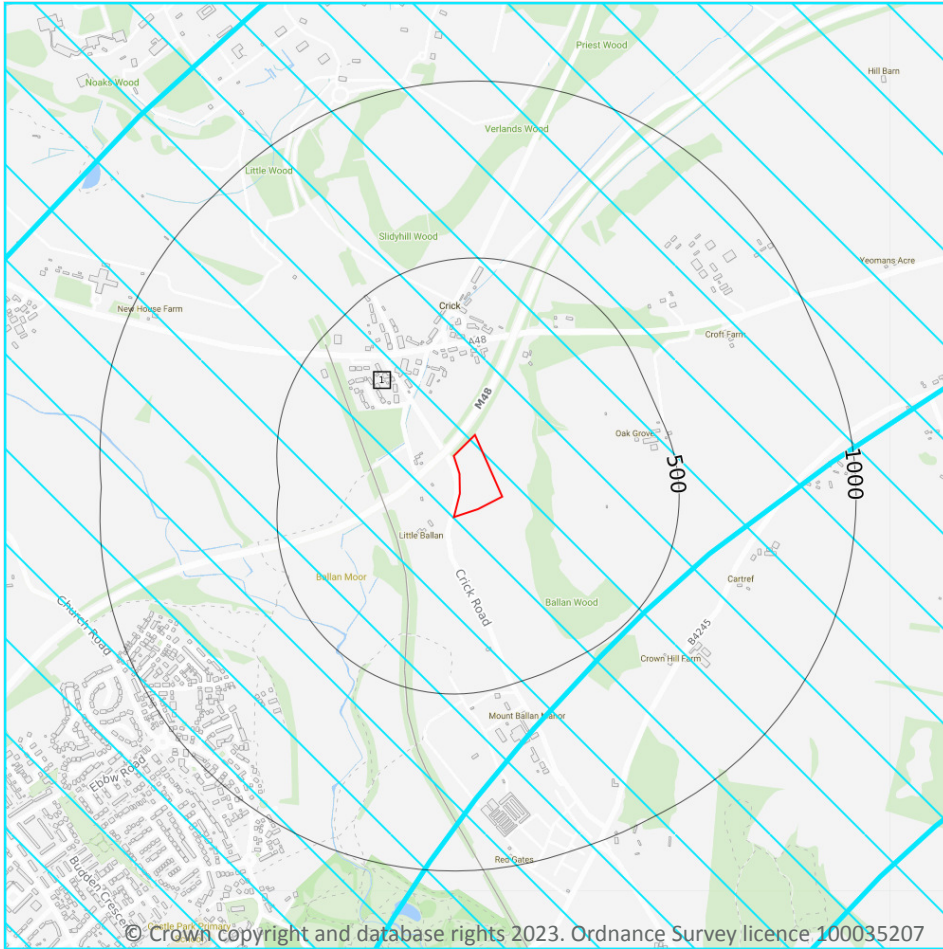
0

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.

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



SSSI Impact Zones and Units



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 67](#) >

ID	Location	Type of developments requiring consultation
1	On site	<p>Infrastructure - Airports, helipads and other aviation proposals.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t).</p> <p>Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p>

This data is sourced from Natural England.

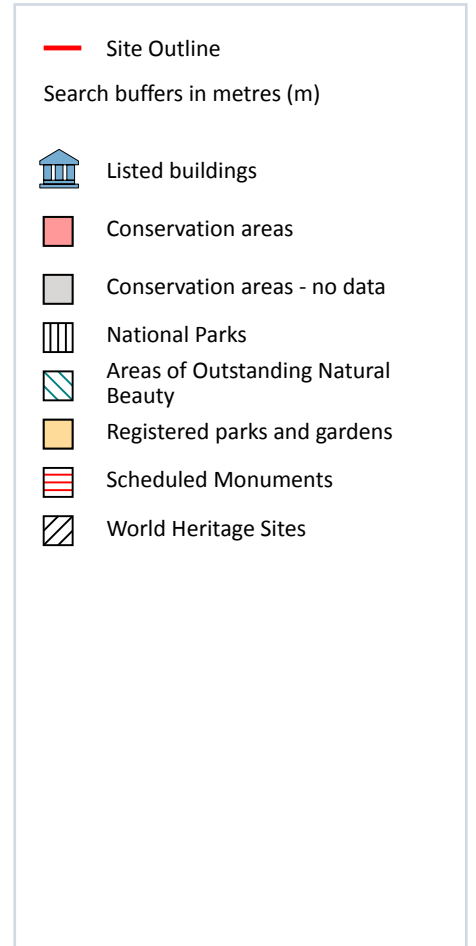
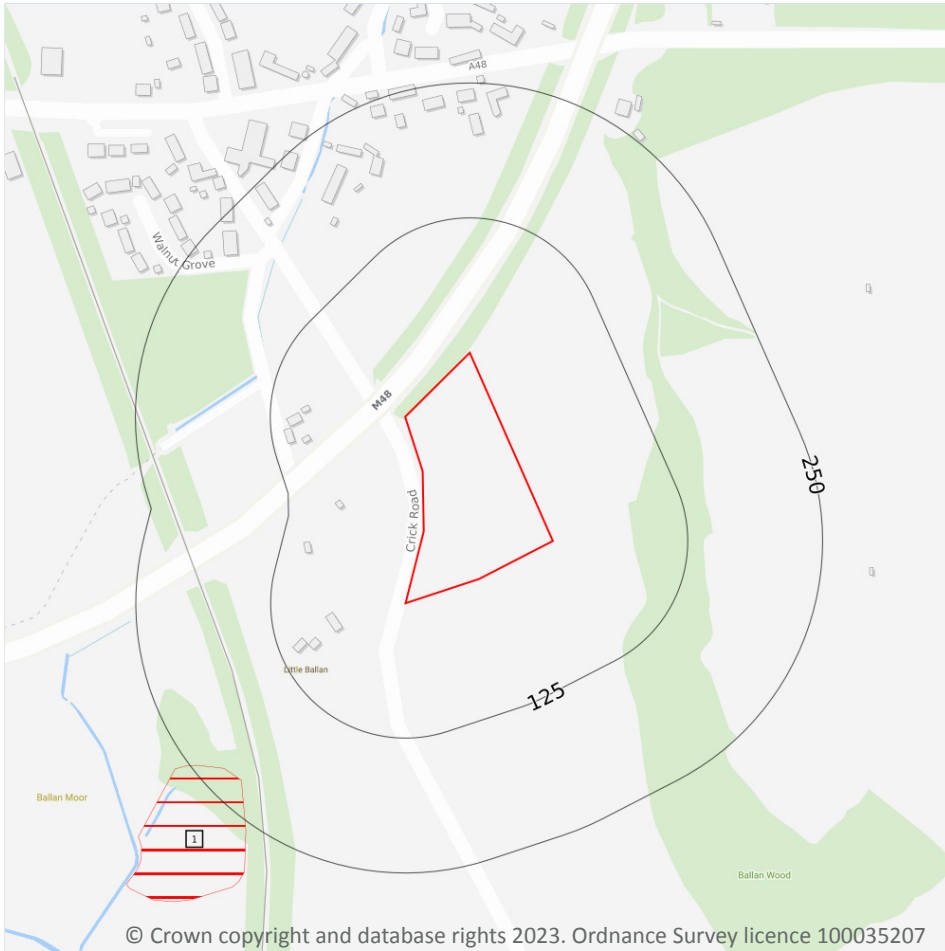
10.18 SSSI Units

Records within 2000m	0
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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.

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

1

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.

Features are displayed on the Visual and cultural designations map on [page 69 >](#)

ID	Location	Ancient monument name	Reference number
1	224m SW	The Berries Mound & Bailey Castle	2966

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

11.7 Registered Parks and Gardens

Records within 250m

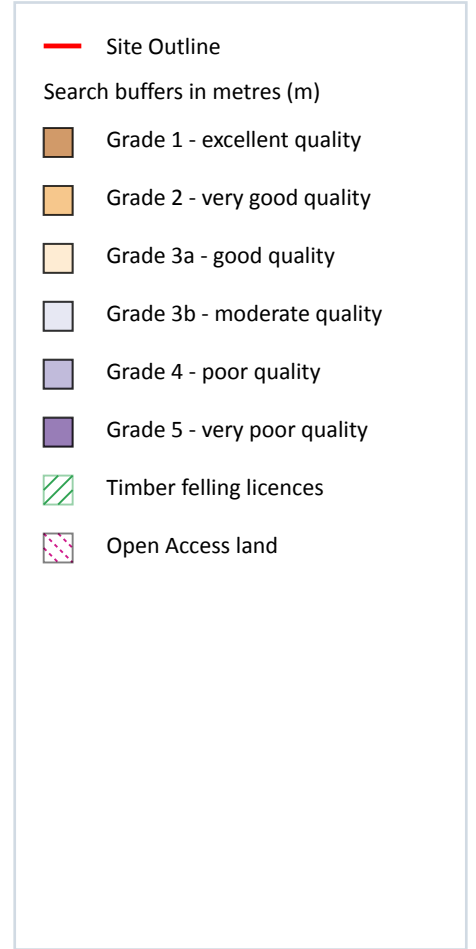
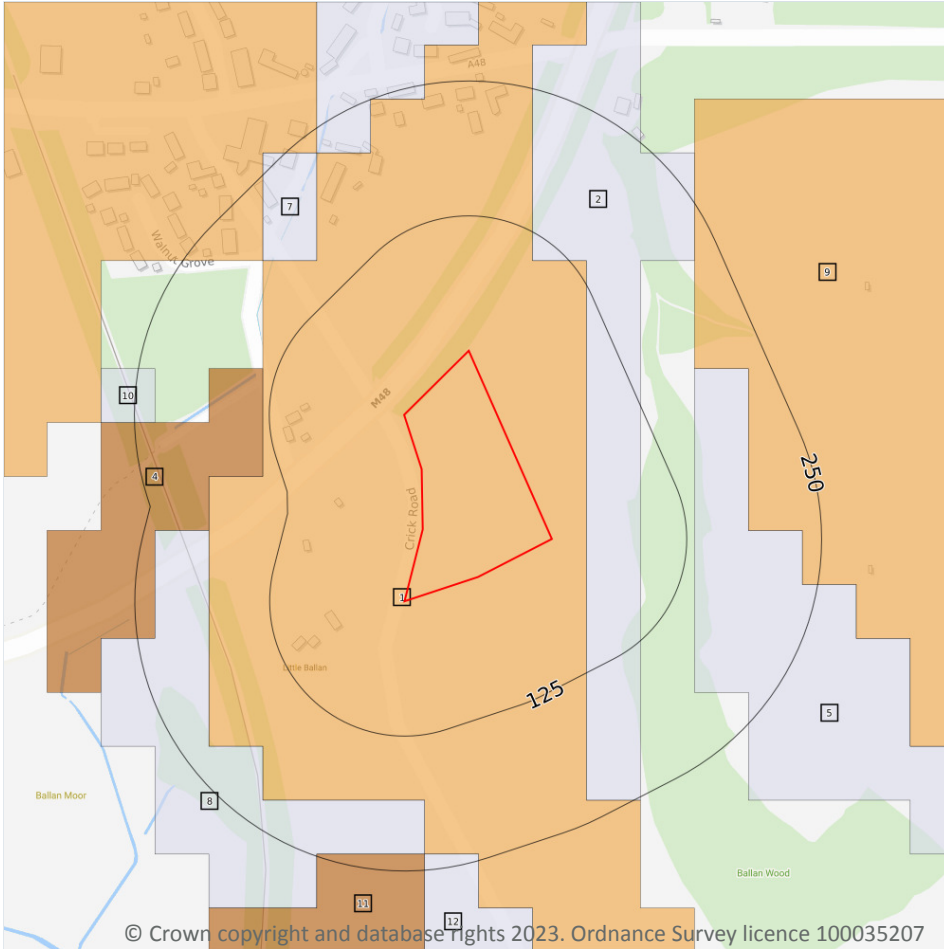
0

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



12.1 Agricultural Land Classification

Records within 250m

10

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 72](#) >

ID	Location	Classification	Description
1	On site	Grade 2	Good quality agricultural land
2	32m SE	Grade 3b	Moderate quality agricultural land
4	131m W	Grade 1	Excellent quality agricultural land

ID	Location	Classification	Description
5	132m E	Grade 3b	Moderate quality agricultural land
7	159m NW	Grade 3b	Moderate quality agricultural land
8	181m SW	Grade 3b	Moderate quality agricultural land
9	182m E	Grade 2	Good quality agricultural land
10	231m W	Grade 3b	Moderate quality agricultural land
11	234m S	Grade 1	Excellent quality agricultural land
12	235m S	Grade 3b	Moderate quality agricultural land

This data is sourced from Natural Resources Wales.

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

13.1 Priority Habitat Inventory

Records within 250m

0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

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.

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

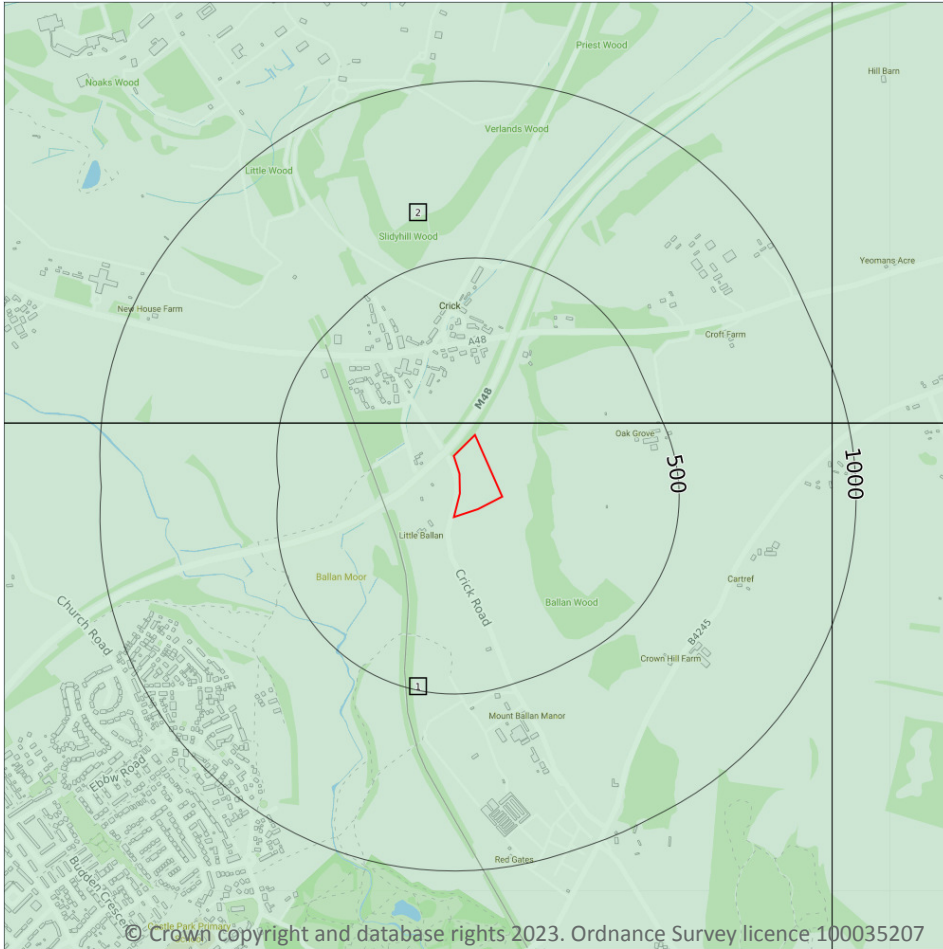
0

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

2

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 76 >](#)

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	ST48NE
2	34m N	No coverage	Full	Full	No coverage	ST49SE

This data is sourced from the British Geological Survey.



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

14.2 Artificial and made ground (10k)

Records within 500m

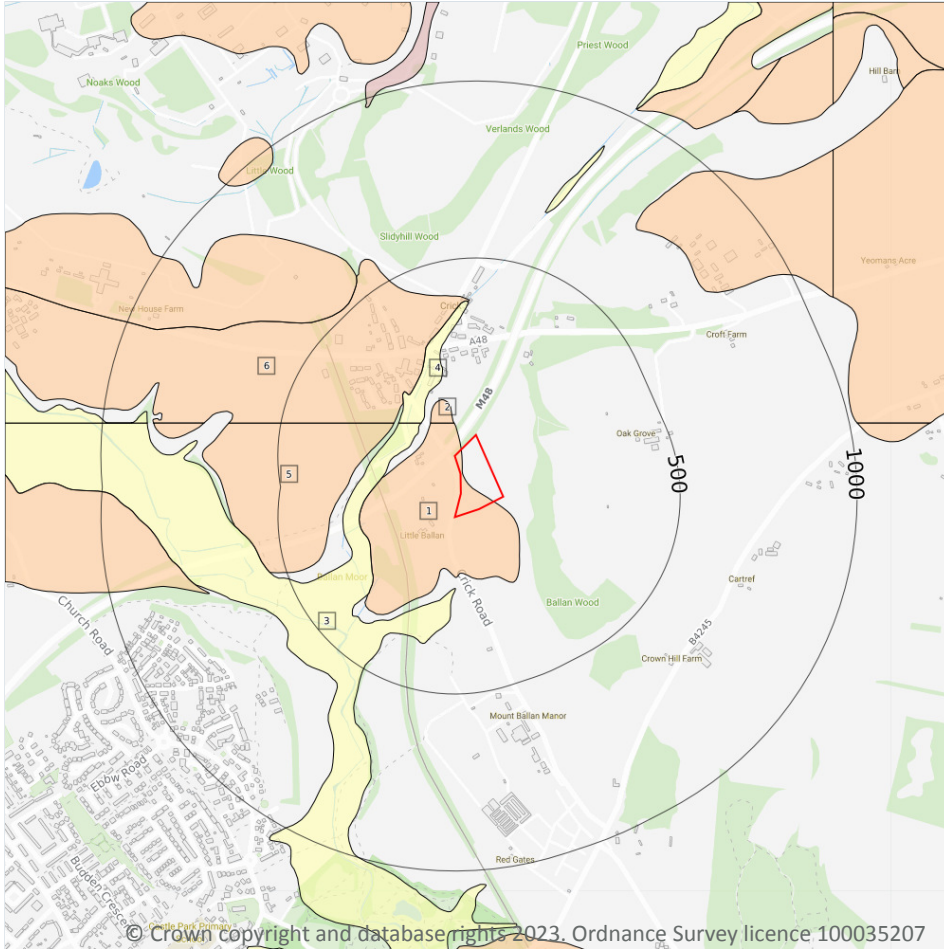
0


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.

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

6

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 78 >](#)

ID	Location	LEX Code	Description	Rock description
1	On site	RTD2-XSV	River Terrace Deposits, 2 - Sand And Gravel	Sand And Gravel
2	67m N	RTD2-XSV	River Terrace Deposits, 2 - Sand And Gravel	Sand And Gravel
3	122m NW	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
4	133m NW	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel

ID	Location	LEX Code	Description	Rock description
5	195m NW	RTD2-XSV	River Terrace Deposits, 2 - Sand And Gravel	Sand And Gravel
6	195m NW	RTD2-XSV	River Terrace Deposits, 2 - Sand And Gravel	Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

0

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.

This data is sourced from the British Geological Survey.



ID	Location	LEX Code	Description	Rock age
4	85m E	HBO-LMOOL	Hunts Bay Oolite Subgroup - Ooidal Limestone	Holkerian Age - Arundian Age
5	163m NE	HBO-LMOOL	Hunts Bay Oolite Subgroup - Ooidal Limestone	Holkerian Age - Arundian Age
6	223m NE	CHSA-SDST	Cromhall Sandstone Formation - Sandstone	Brigantian Age - Arundian Age
7	232m NE	CHSA-SDST	Cromhall Sandstone Formation - Sandstone	Brigantian Age - Arundian Age
9	306m NE	LLY-ARLMST	Llanelly Formation - Argillaceous, Muddy Limestone/cementstone/calculutite	Arundian Age
10	325m N	MMMMF-CONG	Mercia Mudstone Group (marginal Facies) - Conglomerate	Triassic Period
12	407m S	MMMMF-CONG	Mercia Mudstone Group (marginal Facies) - Conglomerate	Triassic Period
14	431m SW	HBO-LMOOL	Hunts Bay Oolite Subgroup - Ooidal Limestone	Holkerian Age - Arundian Age
15	475m S	MMG-SDST	Mercia Mudstone Group - Sandstone	Rhaetian Age - Early Triassic Epoch
16	492m E	LLY-ARLMST	Llanelly Formation - Argillaceous, Muddy Limestone/cementstone/calculutite	Arundian Age
17	497m N	CHSA-SDST	Cromhall Sandstone Formation - Sandstone	Brigantian Age - Arundian Age
18	497m N	LLY-ARLMST	Llanelly Formation - Argillaceous, Muddy Limestone/cementstone/calculutite	Arundian Age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

3

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 80](#) >

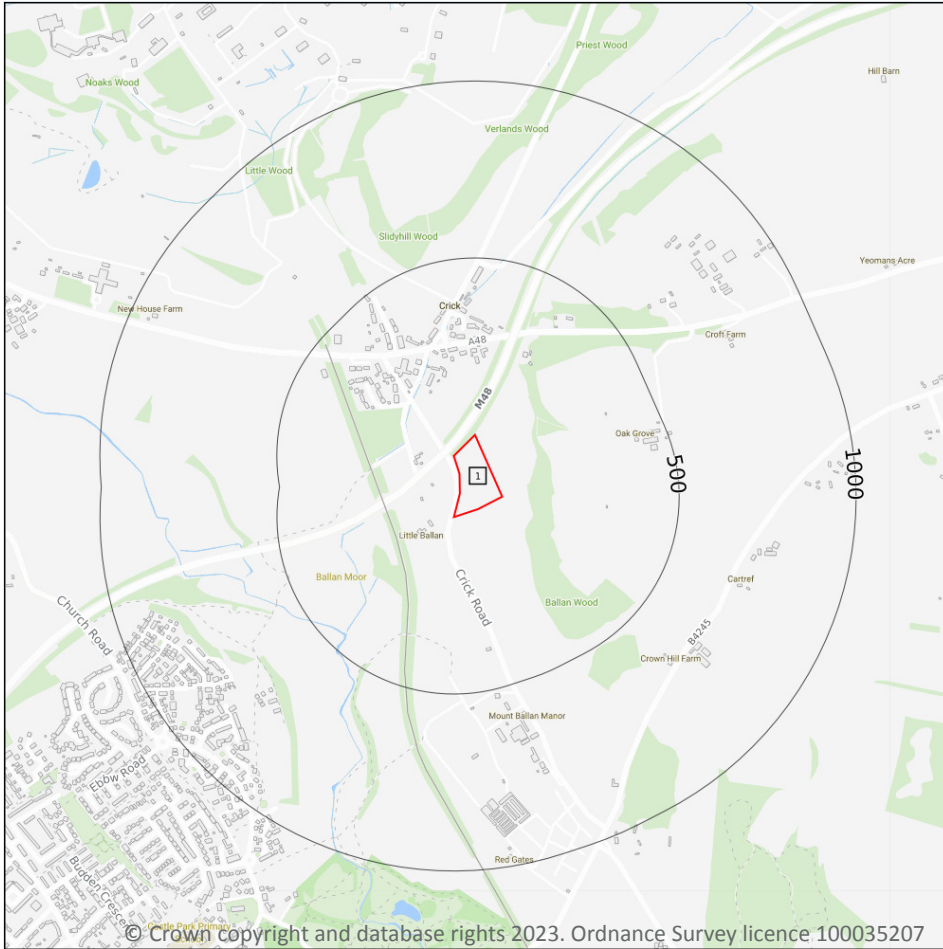
ID	Location	Category	Description
8	263m NW	FAULT	Normal fault, inferred; crossmarks on downthrow side
11	403m S	FAULT	Normal fault, inferred; crossmarks on downthrow side
13	407m S	FAULT	Normal fault, inferred; crossmarks on downthrow side



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. Where 50k data is not available, this area has been filled in with 625k scale data.

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 83](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	Full	EW250_chepstow_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

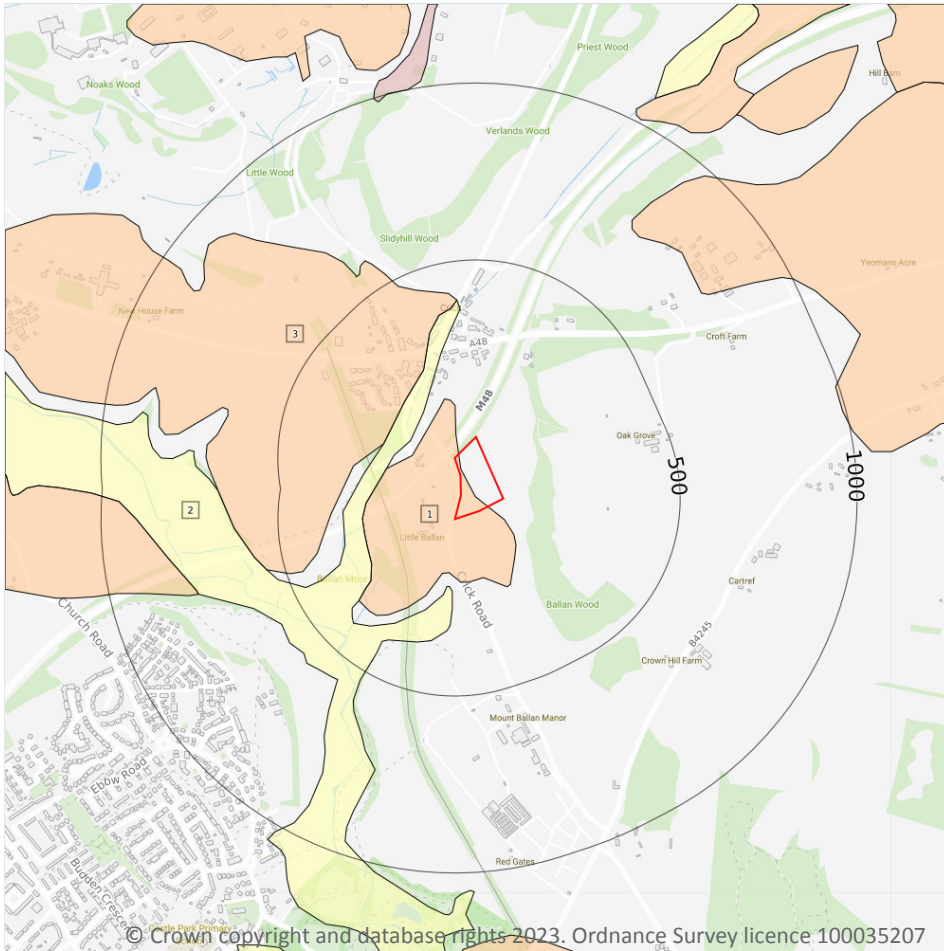
0


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

3

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 85 >](#)

ID	Location	LEX Code	Description	Rock description
1	On site	RTD2-XSV	RIVER TERRACE DEPOSITS, 2	SAND AND GRAVEL
2	134m NW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	198m NW	RTD2-XSV	RIVER TERRACE DEPOSITS, 2	SAND AND GRAVEL

This data is sourced from the British Geological Survey.



15.5 Superficial permeability (50k)

Records within 50m	1
---------------------------	----------

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	Intergranular	Very High	High

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0
----------------------------	----------

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.

This data is sourced from the British Geological Survey.

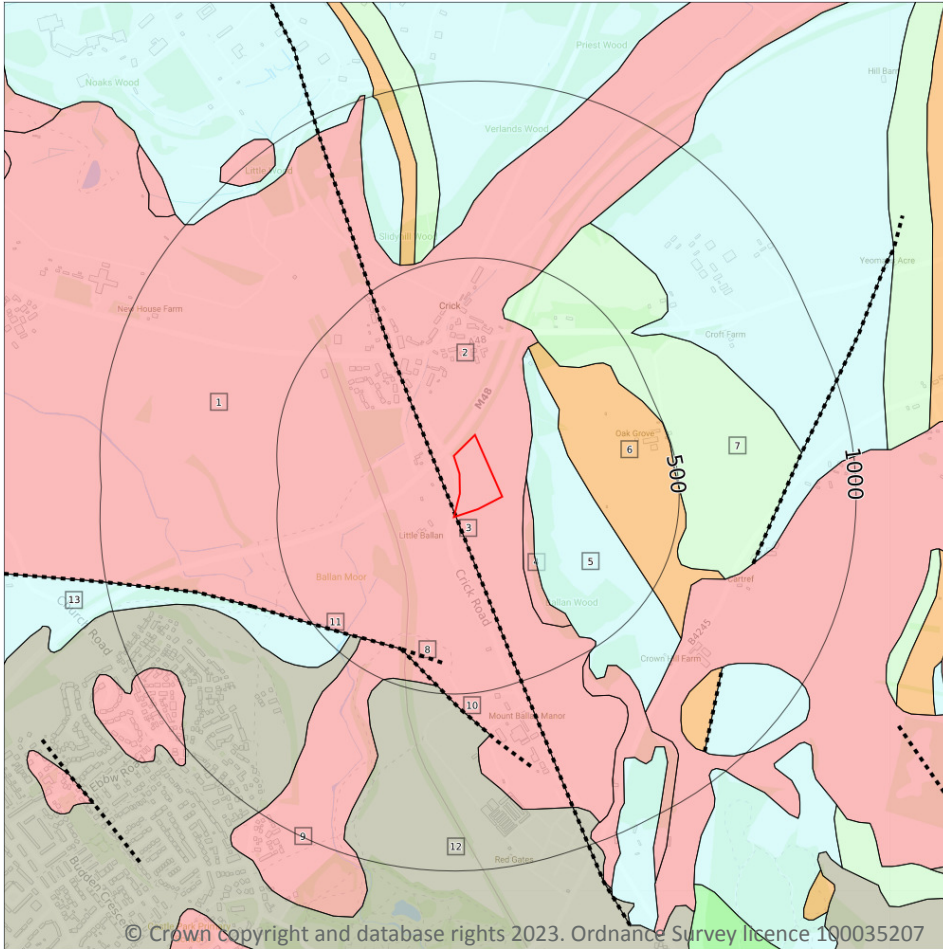
15.7 Landslip permeability (50k)

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

9

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 87](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-
2	On site	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-

ID	Location	LEX Code	Description	Rock age
4	60m E	MMMF-CONG	MERCIA MUDSTONE GROUP (MARGINAL FACIES) - CONGLOMERATE	-
5	76m E	HBO-LMOOL	HUNTS BAY OOLITE SUBGROUP - LIMESTONE, OOIDAL	WISEAN
6	217m E	CHSA-SDST	CROMHALL SANDSTONE FORMATION - SANDSTONE	WISEAN
7	308m NE	LLY-ARLMST	LLANELLY FORMATION - LIMESTONE/CEMENTSTONE/CALCILUTITE, ARGILLACEOUS, MUDDY	WISEAN
9	401m SW	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-
12	430m SW	MMG-SDST	MERCIA MUDSTONE GROUP - SANDSTONE	-
13	443m SW	HBO-LMOOL	HUNTS BAY OOLITE SUBGROUP - LIMESTONE, OOIDAL	WISEAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m

2

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	Low	Low
33m N	Fracture	Low	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

4

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 87 >](#)

ID	Location	Category	Description
3	On site	FAULT	Reverse or thrust fault, inferred



ID	Location	Category	Description
8	401m S	FAULT	Fault, inferred, displacement unknown
10	401m SW	FAULT	Fault, inferred, displacement unknown
11	401m SW	FAULT	Fault, inferred, displacement unknown

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

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16.1 BGS Boreholes

Records within 250m

4

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 90](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	28m NW	348927 189943	LONDON-SOUTH WALES MOTORWAY 95	6.24	N	16023736 ↗
2	139m N	349029 190100	LONDON-SOUTH WALES MOTORWAY 96	6.24	N	16023759 ↗

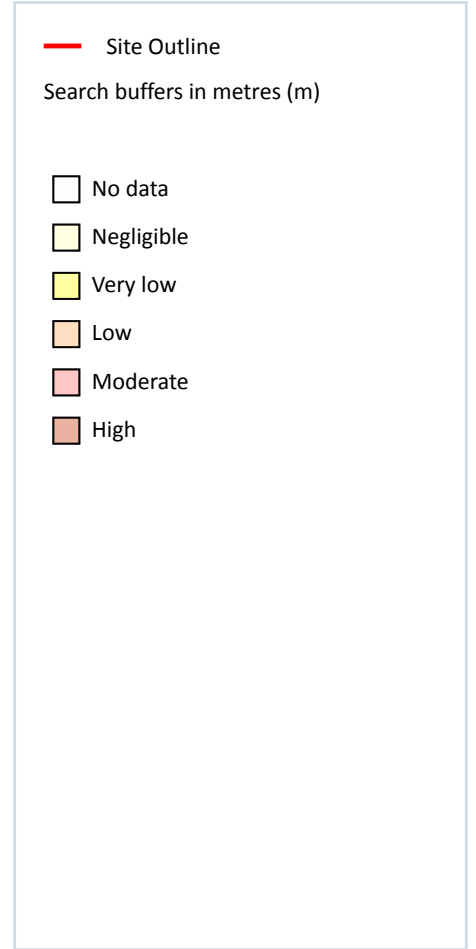
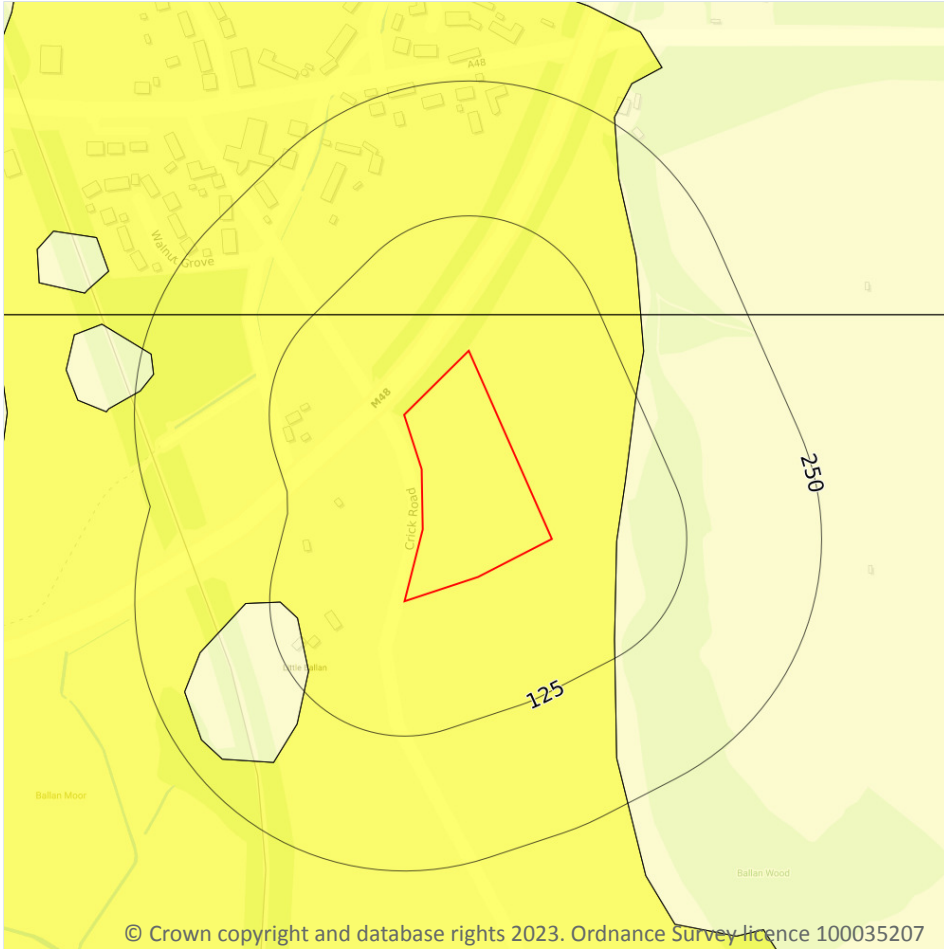


ID	Location	Grid reference	Name	Length	Confidential	Web link
3	219m W	348712 189737	LONDON-SOUTH WALES MOTORWAY 94	9.29	N	16023735 ↗
4	237m W	348698 189774	LONDON-SOUTH WALES MOTORWAY 93	9.14	N	16023734 ↗

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

2

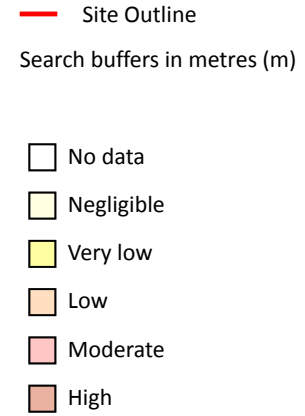
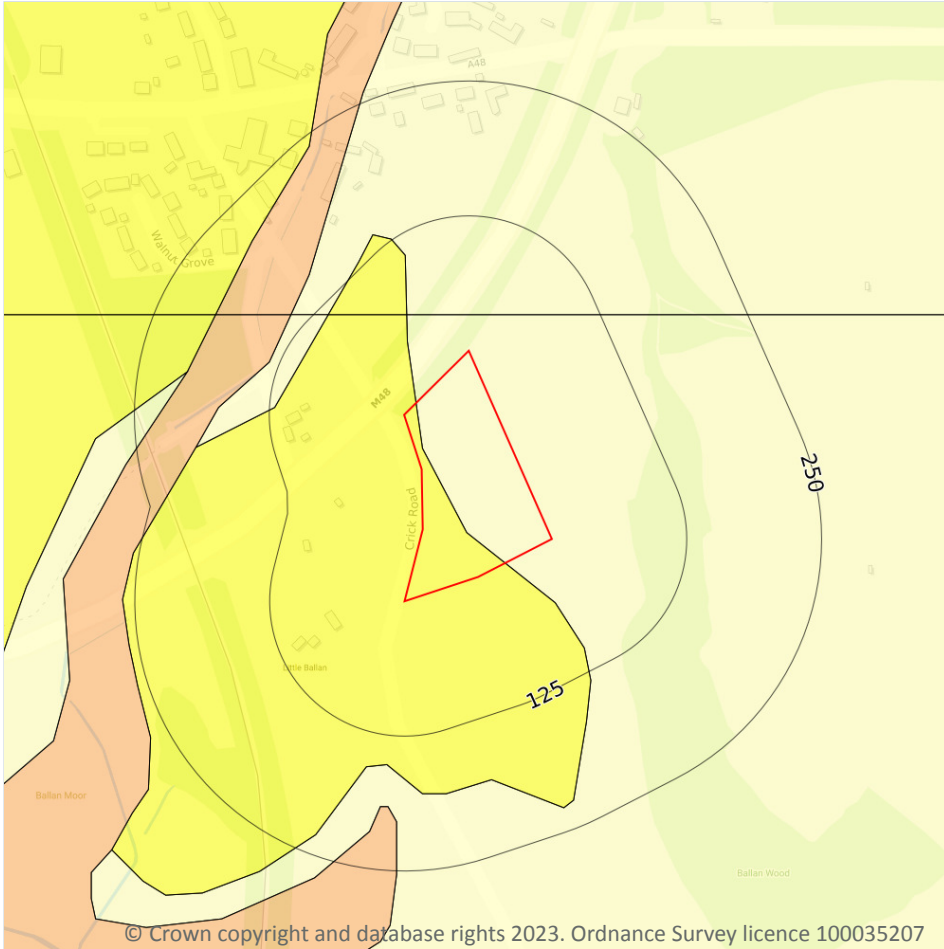
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 92 >](#)

Location	Hazard rating	Details
On site	Very low	Ground conditions predominantly low plasticity.
34m N	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

3

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 93](#) >

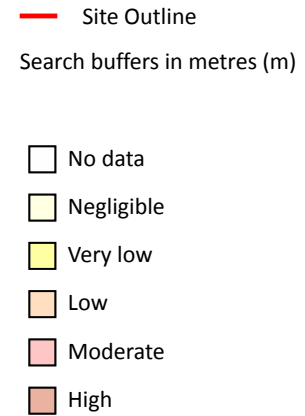
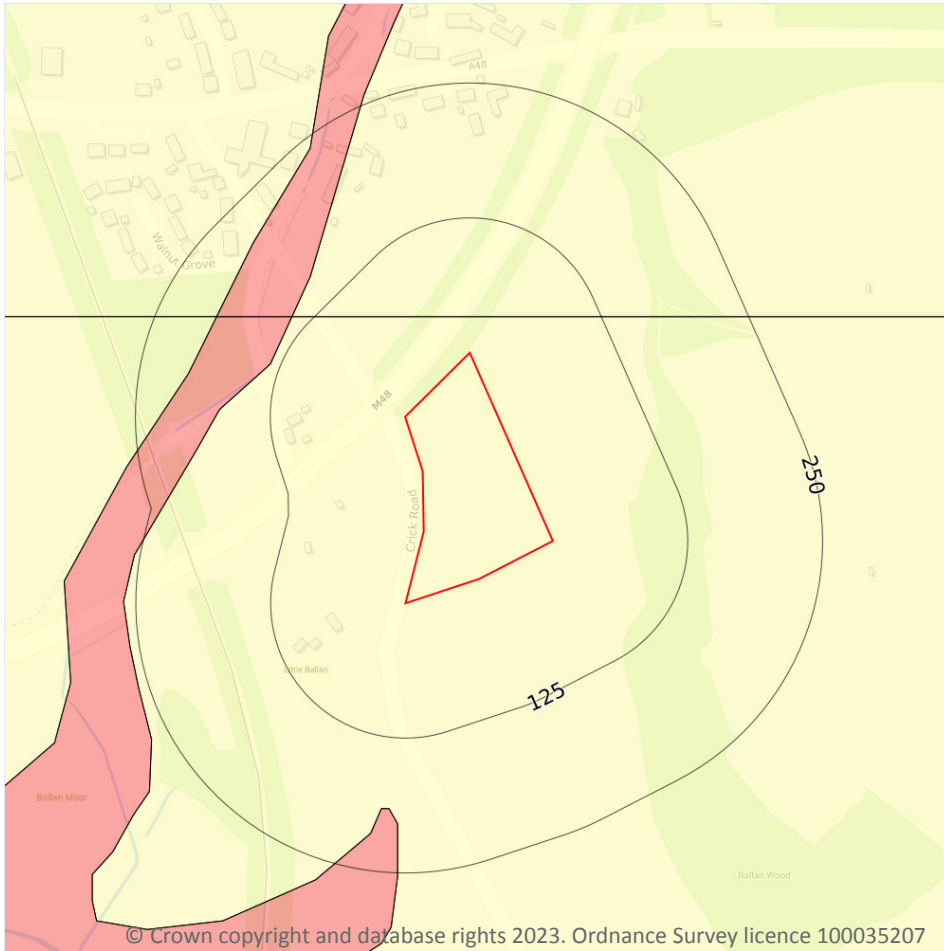
Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

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.
34m N	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

2

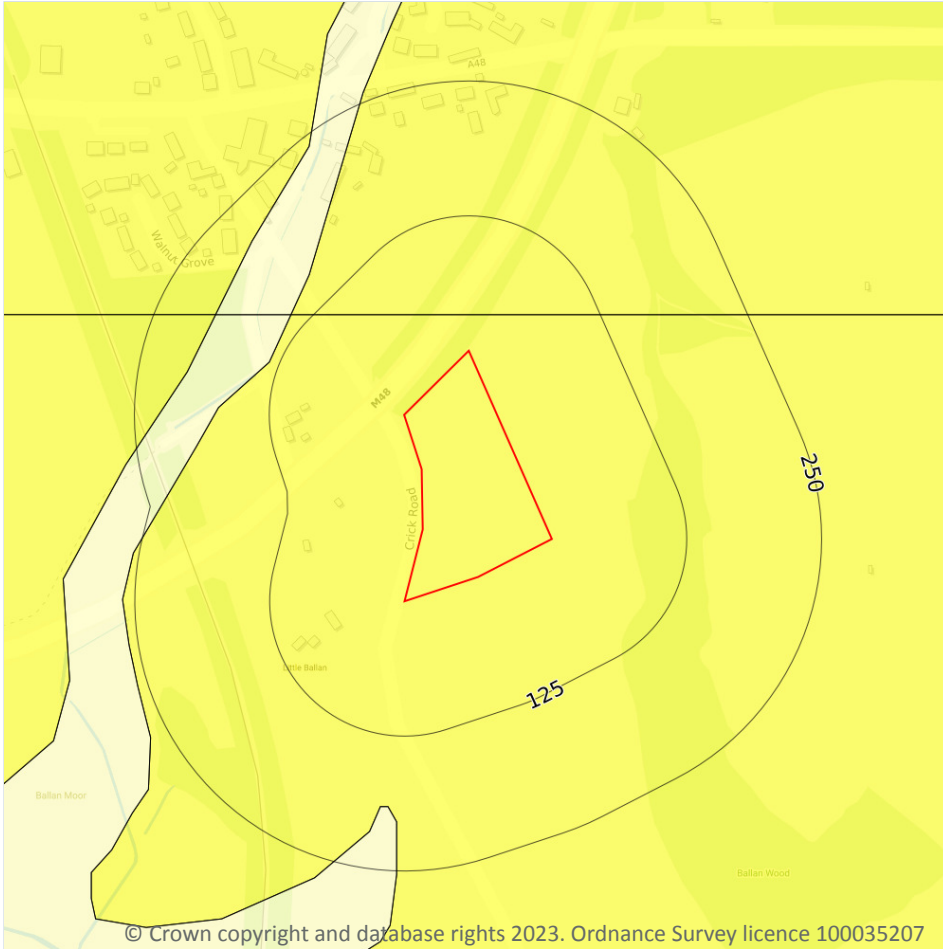
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 95 >](#)

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
34m N	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

2

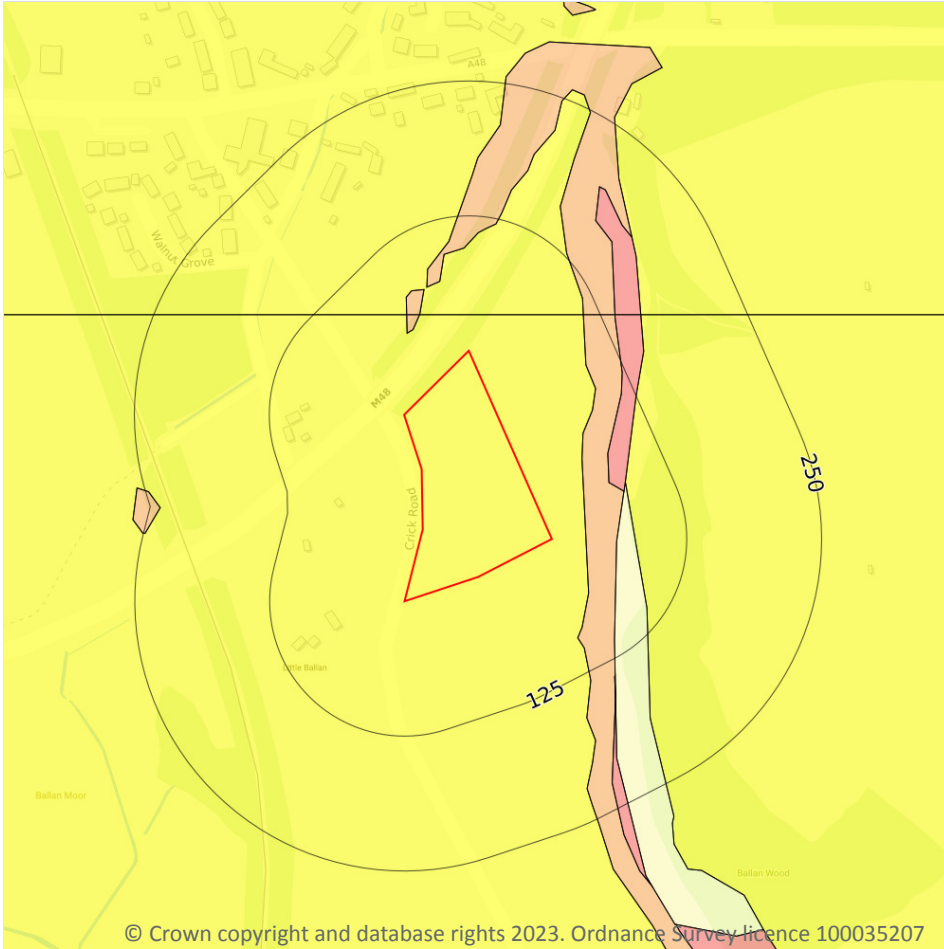
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 96 >](#)

Location	Hazard rating	Details
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.
34m N	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

3

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 97 >](#)

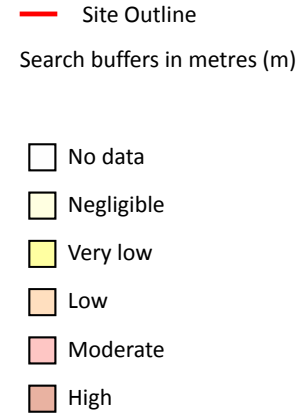
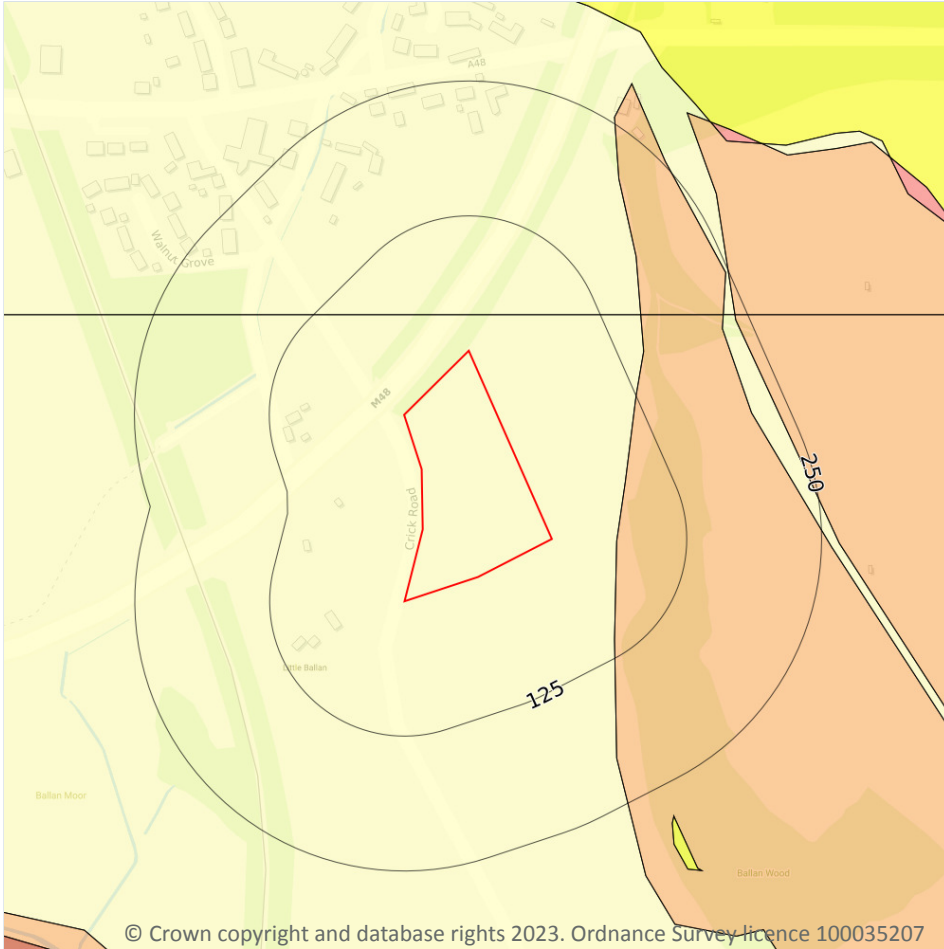
Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

Location	Hazard rating	Details
32m SE	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
34m N	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



17.6 Ground dissolution of soluble rocks

Records within 50m

2

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 99](#)

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.

Location	Hazard rating	Details
34m N	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



18.1 BritPits

Records within 500m

1

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 101](#) >

ID	Location	Details	Description
C	253m NE	Name: Hill Barn Address: Crick, NEWPORT, Monmouthshire Commodity: Limestone 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

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	14
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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 101](#) >

ID	Location	Land Use	Year of mapping	Mapping scale
A	181m NE	Cuttings	1949	1:10560
A	181m NE	Cuttings	1919	1:10560
A	206m NE	Cuttings	1949	1:10560
B	207m NW	Unspecified Pit	1919	1:10560
B	211m NW	Unspecified Pit	1949	1:10560
B	216m NW	Unspecified Pit	1949	1:10560
C	230m NE	Unspecified Old Quarry	1902	1:10560
C	236m NE	Unspecified Old Quarry	1949	1:10560
C	236m NE	Unspecified Old Quarry	1919	1:10560
B	236m NW	Unspecified Pit	1919	1:10560
C	240m NE	Unspecified Old Quarry	1949	1:10560
C	240m NE	Unspecified Old Quarry	1967	1:10000
C	240m NE	Unspecified Old Quarry	1968	1:10560
B	247m NW	Unspecified Pit	1949	1:10560

This data is sourced from Ordnance Survey/Groundsure.



18.3 Underground workings

Records within 1000m

0

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

This is 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

9

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).

Features are displayed on the Mining and ground workings map on [page 101](#) >

ID	Location	Name	Commodity	Class	Likelihood
1	76m E	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
2	159m NE	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
3	443m SW	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
5	512m N	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
6	765m SE	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	816m SE	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	935m E	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	955m E	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	974m SE	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

This data is sourced from the British Geological Survey.



18.7 JPB mining areas

Records on site

0

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

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	0
-----------------	---

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

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

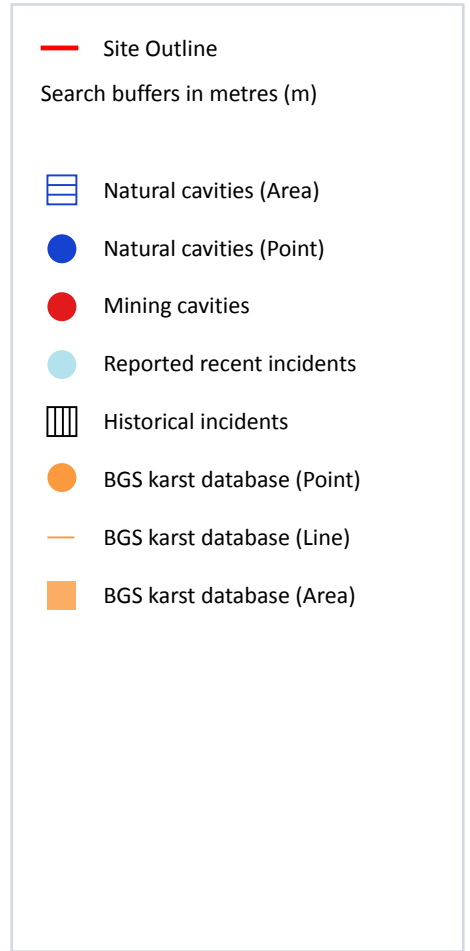
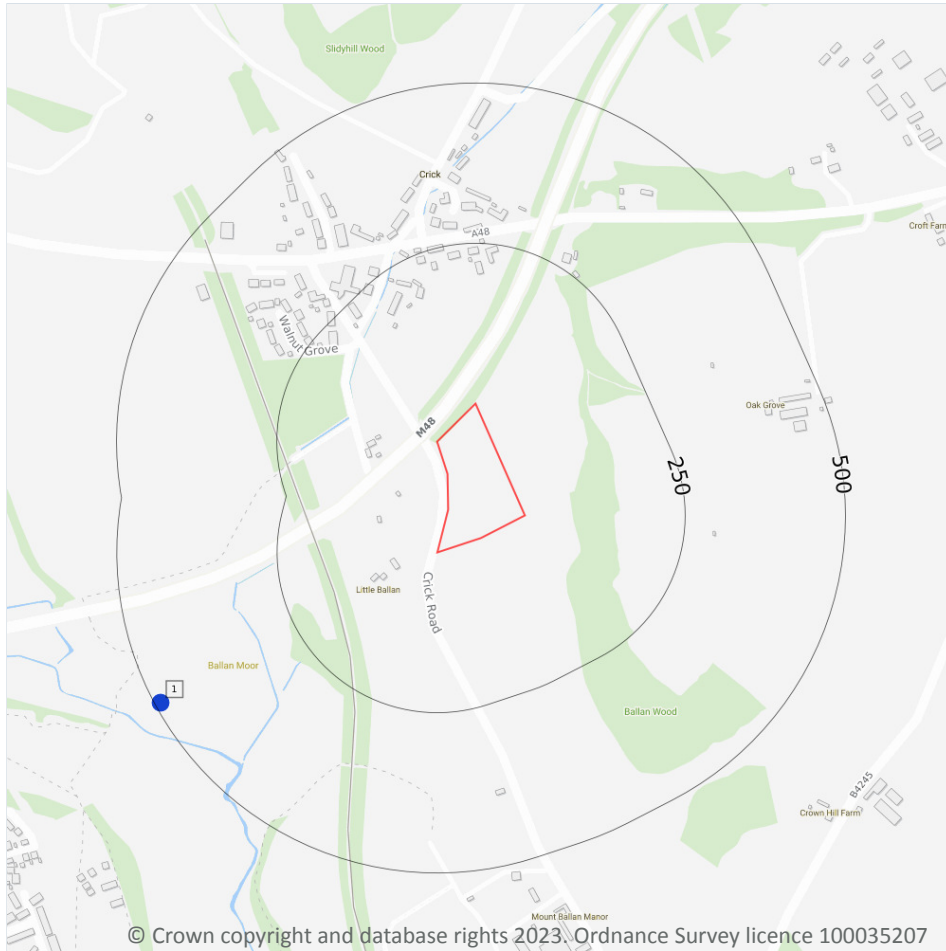
0

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



19.1 Natural cavities

Records within 500m

1

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.

Features are displayed on the Ground cavities and sinkholes map on [page 108](#) >

ID	Location	Details	Source
1	490m SW	Type: - Superficial Geology: - Bedrock Geology: Lower Carboniferous Limestone	Simple Bibliography: - Full Bibliography: Unknown Author, ; Confidentiality: Data source can be revealed, data can be used freely

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

0

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.

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



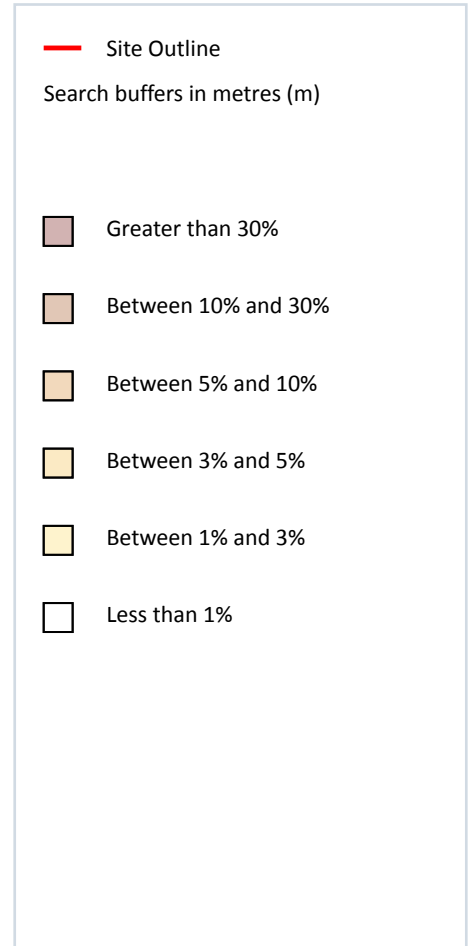
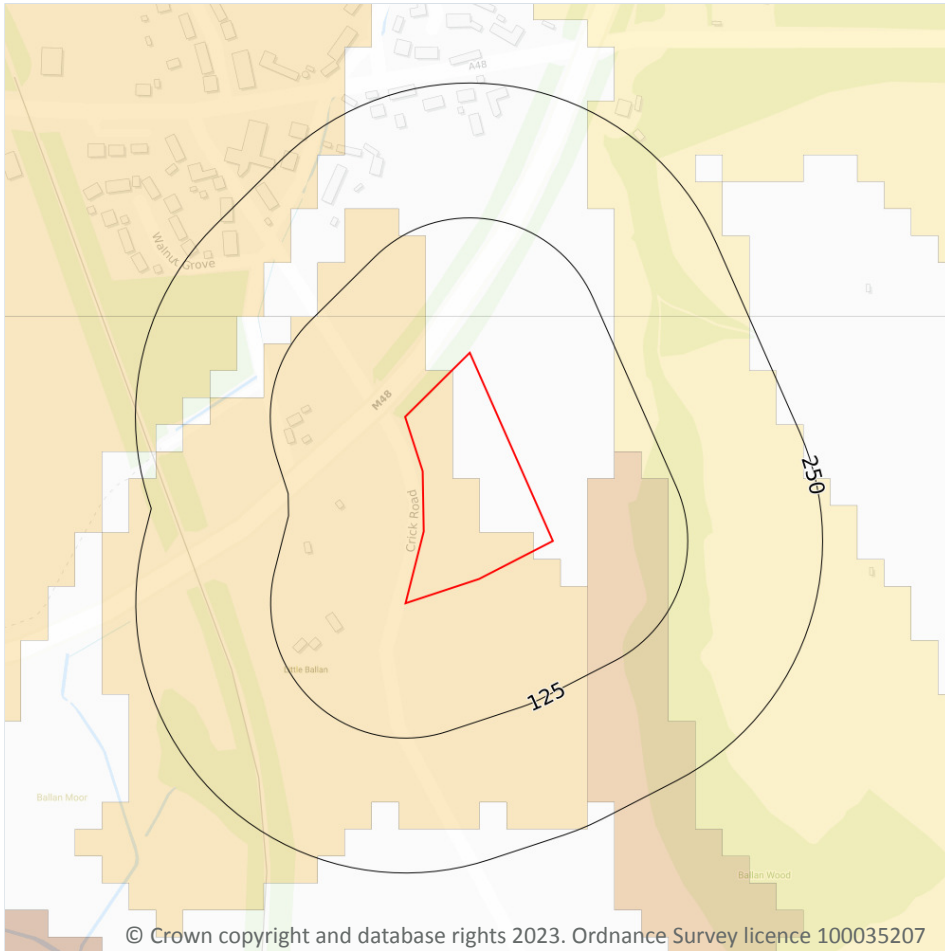
been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

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 111](#) >

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



Location	Estimated properties affected	Radon Protection Measures required
On site	Between 3% and 5%	Basic

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

10

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	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 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 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 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 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
33m N	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
35m N	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
35m N	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 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

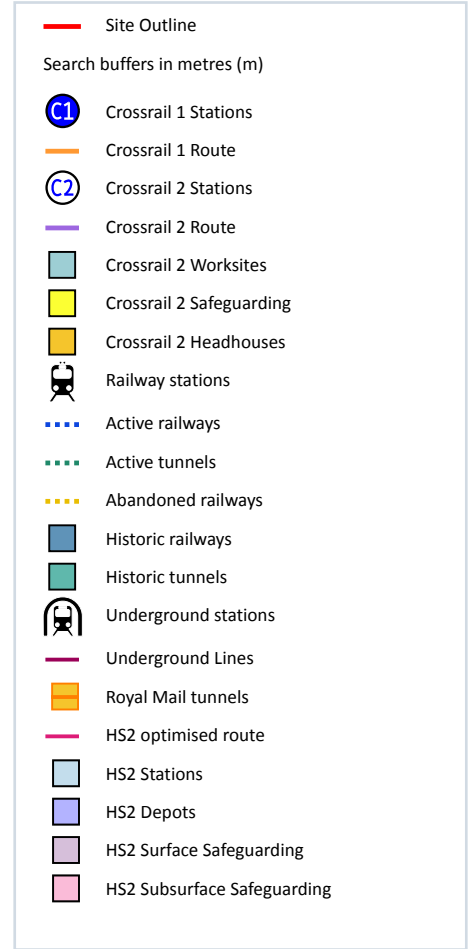
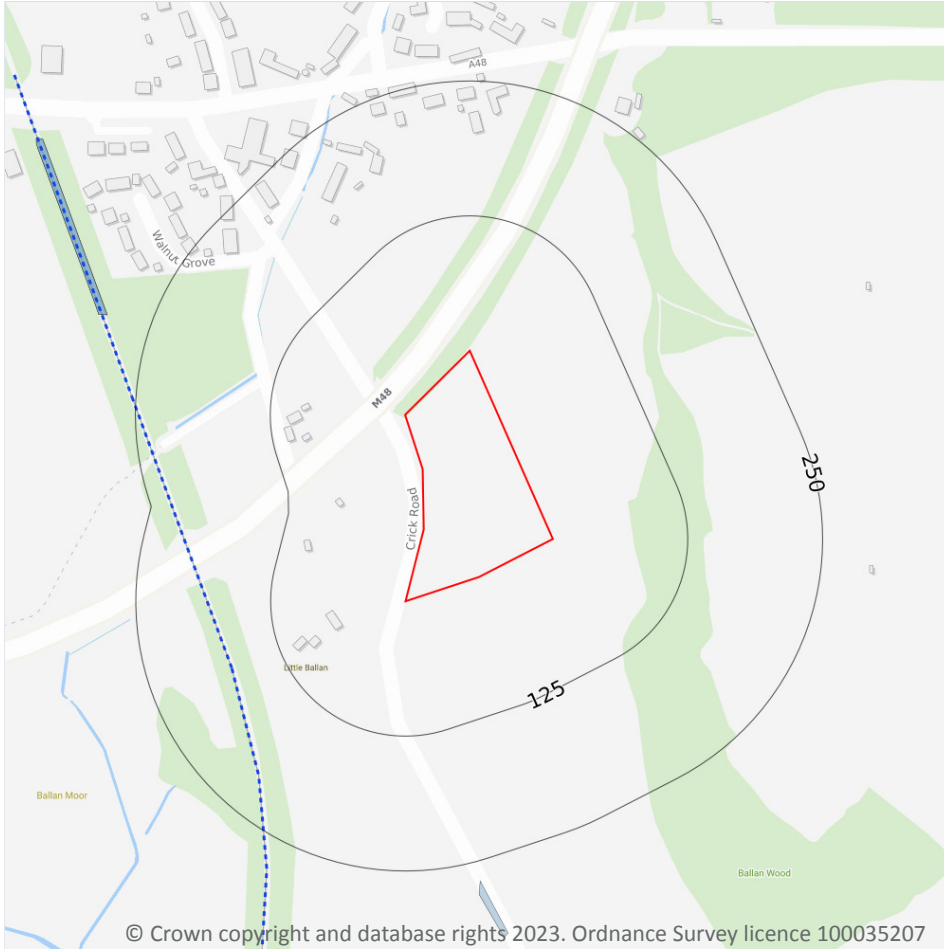
0

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



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

0

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.

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

0

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

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m

3

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways. Features are displayed on the Railway infrastructure and projects map on [page 115 >](#)



Location	Name	Type
173m SW	Not given	Single Track
173m SW	Not given	Single Track
229m W	Not given	Single Track

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/ ↗.



B. British Geological Society Historic Borehole Records

BOREHOLE LOG

BOREHOLE No 90.

GROUND LEVEL : 36.83

TYPE OF BORING: Shell and Auger.

DATE STARTED : 18.6.62.

DIA OF BORING: 8"

DESCRIPTION	THICKNESS	DEPTH	LEGEND	SAMPLE No	No of BLOWS OR LOAD.	LABORATORY TESTS.	Tools Used.
TOPSOIL.		0'0"					
Firm sandy CLAY with compact f.m.c. gravel.	1' 3"	1' 3"					Shell and Auger.
	1' 6"	2' 9"		• 1			
Medium density fine brown-black organic silty SAND.	4' 3"	7' 0"		+ 2	25	S	
				• 3			
Medium density brown SAND with f.m.c. gravel and thin layers of silt.	3' 6"	10' 6"		+ 4	21		
				• 5			
Medium density f.m.c. SAND and Gravel with bands of silty sand and silt.	11' 0"	21' 6"		+ 6	25	S	
				• 7			
				+ 8	20		
		21' 6"					
Medium density brown and black f.m.c. sandy GRAVEL.	1' 9"	23' 3"					
Very stiff red, white and grey marly CLAY with pieces of marl.	4' 9"	28' 0"		• 9	100		
				• 10			
Hard red, white and grey MARL.	2' 0"	30' 0"		• 11			

REMARKS:

KEY TO LABORATORY TESTS
 W = MOISTURE CONTENT; S = SIEVE ANALYSIS; H = FULL MECH-ANICAL ANALYSIS; A = PLASTICITY INDEX; P = DRY DENSITY/MOISTURE RELATION; T_D = DRAINED TRIAXIAL; T_U = UNDRAIN-ED TRIAXIAL; R_D = REMOULDED DRAIN-ED TRIAXIAL; R_U = REMOULDED UN- DRAIN-ED TRIAXIAL; K = C.B.R. (UNSOAKED); K_s = C.B.R. (SOAKED); C = CONSOLIDATION; U = UNCONFINED COMPRESSION TEST; B = SHEAR BOX

LONDON-SOUTH WALES MOTORWAY
COLDRA - CRICK.

KEY TO SAMPLES.
 ▬ UNDISTURBED SAMPLE
 ● DISTURBED SAMPLE
 ▬ CORE BORING % RECOVERY
 + S.P.T. No. of BLOWS
 ▬ WATER LEVEL.

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111, WESTMINSTER BRIDGE ROAD,
LONDON, S.E. 1.



BOREHOLE LOG

BOREHOLE No 91

GROUND LEVEL : 34.5

TYPE OF BORING: Shell and Auger.

DATE STARTED : 16.6.62

DIA OF BORING: 8"

DESCRIPTION	THICKNESS	DEPTH	LEGEND	SAMPLE No	No of BLOWS OR LOAD.	LABORATORY TESTS.	TOOLS Used.
TOPSOIL.	1'0"	0'0"					
Soft brown very sandy CLAY and f.m.c. gravel.	1'0"	1'0"					Shell and Auger.
Medium density coarse brown clayey SAND and f.m.c. gravel.	2'0"	2'0"	• 1				
Medium density fine brown and black organic silty SAND.	5'6"	4'0"	• 2 X W X + 3		20 blows/ft	S	
Medium density f.m.c. sandy GRAVEL.	2'0"	9'6"	• 4 + 4		32 blows/ft		
		11'6"					

REMARKS:

<p>KEY TO LABORATORY TESTS</p> <p>W = MOISTURE CONTENT; S = SIEVE ANALYSIS; H = FULL MECH-ANICAL ANALYSIS; A = PLASTICITY INDEX; P = DRY DENSITY/MOISTURE RELATION; Td = DRAINED TRIAXIAL; Tu = UNDRAINED TRIAXIAL; Rd = REMOULDED DRAINED TRIAXIAL; Ru = REMOULDED UNDRAINED TRIAXIAL; K = C.B.R. (UNSOAKED); Ks = C.B.R. (SOAKED); C = CONSOLIDATION; U = UNCONFINED COMPRESSION TEST; B = SHEAR BOX</p>			<p>LONDON - SOUTH WALES MOTORWAY COLDRA - CRICK.</p>
<p>KEY TO SAMPLES.</p> <p>▬ UNDISTURBED SAMPLE</p> <p>● DISTURBED SAMPLE</p>	<p>FOUNDATION ENGINEERING LIMITED; 111, WESTMINSTER BRIDGE ROAD, LONDON, S.E.1.</p>		
<p>▬ CORE BORING % RECOVERY</p>	<p>+ S.P.T. No of BLOWS</p>	<p>≡ WATER LEVEL.</p>	



BOREHOLE LOG

BOREHOLE No 92.

GROUND LEVEL : 24.2.

TYPE OF BORING: Shell and Auger.

DATE STARTED : 14.6.62.

DIA OF BORING: 6"

DESCRIPTION	THICKNESS	DEPTH	LEGEND	SAMPLE No	No of BLOWS OR LOAD.	LABORATORY TESTS.	TOOLS USED.
Soft brown silty CLAY.	5' 6"	0' 0"	X	.1			Shell and Auger.
		X					
Stiff red marly CLAY with medium large gravel.	6' 0"	5' 6"	X	.2 .3	26	Tu	
		X					
		X					
		X					
Stiff red-brown MARL and friable silty Clay.	3' 6"	11' 6"	X	.4 .5	56		
		X					
		X					
Hard red-brown MARL and friable silty clay.	9' 0"	15' 0"	X	.6 .7	61		
		X					
		X					
SANDSTONE.	1' 0"	24' 0"	X	.8a. .8b. .9	115		
		X					
		X					
		X					
		25' 0"	X	.10 .11			

REMARKS:

KEY TO LABORATORY TESTS			LONDON- SOUTH WALES MOTORWAY COLDRA - CRICK.
W = MOISTURE CONTENT ; S = SIEVE ANALYSIS ; H = FULL MECH-ANICAL ANALYSIS ; A = PLASTICITY INDEX ; P = DRY DENSITY/MOISTURE RELATION ; Td = DRAINIED TRIAXIAL ; Tu = UNDRAINED TRIAXIAL ; Rd = REMOULDED DRAINIED TRIAXIAL ; Ru = REMOULDED UNDRAINED TRIAXIAL ; K = C.B.R. (UNSOAKED) ; Ks = C.B.R. (SOAKED) ; C = CONSOLIDATION ; U = UNCONFINED COMPRESSION TEST ; B = SHEAR BOX			
KEY TO SAMPLES.	UNDISTURBED SAMPLE	DISTURBED SAMPLE	FOUNDATION ENGINEERING LIMITED ; 111, WESTMINSTER BRIDGE ROAD, LONDON, S.E.1.
CORE BORING % RECOVERY	S.P.T. No. OF BLOWS	WATER LEVEL.	



BOREHOLE LOG

BOREHOLE N° 72A.

GROUND LEVEL : 24.00

TYPE OF BORING: Shell and Auger

DATE STARTED : 18.10.62.

DIA OF BORING: 6"

DESCRIPTION	THICKNESS	DEPTH	LEGEND	SAMPLE N°	N° OF BLOWS OR LOAD	LABORATORY TESTS	TOOLS USED
TOPSOIL. (Hard red clay).	2' 6"	0' 0"					
Grey silty CLAY with traces of sand.	1' 6"	2' 6"	X	• 1			
		4' 0"	X	• 2			
Grey silty CLAY.	3' 6"		X	• 3			
	+	7' 6"	X	• 4	21 blows/ft.	TU	

REMARKS:

KEY TO LABORATORY TESTS

W = MOISTURE CONTENT ; S = SIEVE ANALYSIS ; H = FULL MECH - ANICAL ANALYSIS ; A = PLASTICITY INDEX ; P = DRY DENSITY / MOISTURE RELATION ; T_D = DRAINED TRIAXIAL ; T_U = UNDRAINED TRIAXIAL ; R_d = REMOULDED DRAINED TRIAXIAL ; R_u = REMOULDED UNDRAINED TRIAXIAL ; K = C.B.R. (UNSOAKED) ; K_s = C.B.R. (SOAKED) ; C = CONSOLIDATION ; U = UNCONFINED COMPRESSION TEST ; B = SHEAR BOX

LONDON - SOUTH WALES MOTORWAY
COLDRA - CRICK.

KEY TO SAMPLES.	UNDISTURBED SAMPLE	DISTURBED SAMPLE
CORE BORING % RECOVERY	S.P.T. N° OF BLOWS	WATER LEVEL.

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LONDON, S. E. 1.

BOREHOLE LOG

BOREHOLE N° 93

GROUND LEVEL : 36.89

TYPE OF BORING: Shell and Auger.

DATE STARTED : 22.6.62.

DIA OF BORING: 8"

DESCRIPTION	THICKNESS	DEPTH	LEGEND	SAMPLE N°	N° OF BLOWS OR LOAD.	LABORATORY TESTS.	TOOLS USED.
Medium density brown SAND with c.m.f. gravel and occasional sandstone.	15' 0"	0' 0"		• 1			Shell and Auger.
				+ 2	19		
				• 3			
				+ 4	18	S	
				• 5			
Medium density brown SAND with c.m.f. gravel and traces of clay.	0' 9"	15' 0"		+ 6	29		
		15' 9"		+ 7	48		
				• 8	150		
Stiff red-brown and grey silty CLAY.	14' 3"			• 9			
				+ 10			
				• 11	250		
				+ 12			
				• 13	150		
		30' 0"		+ 13	150		

REMARKS: U₄ attempted at 29' 0". 250 blows/ft. No recovery.

KEY TO LABORATORY TESTS			LONDON - SOUTH WALES MOTORWAY COLDRA - CRICK.
W = MOISTURE CONTENT; S = SIEVE ANALYSIS; H = FULL MECH - ANICAL ANALYSIS; A = PLASTICITY INDEX; P = DRY DENSITY/ MOISTURE RELATION; T _D = DRAINED TRIAXIAL; T _U = UNDRAINED TRIAXIAL; R _D = REMOULDED DRAINED TRIAXIAL; R _U = REMOULDED UNDRAINED TRIAXIAL; K = C.B.R. (UNSOAKED); K _s = C.B.R. (SOAKED); C = CONSOLIDATION; U = UNCONFINED COMPRESSION TEST; B = SHEAR BOX			
KEY TO SAMPLES.	UNDISTURBED SAMPLE	DISTURBED SAMPLE	FOUNDATION ENGINEERING LIMITED; 111, WESTMINSTER BRIDGE ROAD, LONDON, S.E.1.
□ CORE BORING % RECOVERY	+ S.P.T. N° OF BLOWS	▽ WATER LEVEL.	

BOREHOLE LOG

BOREHOLE N° 94

GROUND LEVEL : 43.0

TYPE OF BORING: Shell and Auger.

DATE STARTED : 18.6.62.

DIA OF BORING: 8"

DESCRIPTION	THICKNESS	DEPTH	LEGEND	SAMPLE N°	N° OF BLOWS OR LOAD	LABORATORY TESTS	TOOLS USED
TOPSOIL.	0'6"	0'0" to 0'6"	[Pattern]	• 1			Shell and Auger.
Medium density brown SAND, with c.m.f. gravel and occasional sandstone fragments.	23'6"	0'6" to 24'0"	[Pattern]	+ 2	31		
				blows/ft			
				• 3			
				+ 4	8	S	
				blows/ft			
				• 5			
				+ 6	42		
blows/ft							
Stiff red-brown and grey silty CLAY.	6'6"	24'0" to 30'6"	[Pattern]	• 7			
				+ 8	30	S	
				blows/ft			
				• 9			
				+ 10	150		
				blows/ft			
				• 11			
+ 12							
blows/ft							
				• 13	158		
				blows/ft			
				• 14			

REMARKS:

<p>KEY TO LABORATORY TESTS</p> <p>W = MOISTURE CONTENT; S = SIEVE ANALYSIS; H = FULL MECH - ANICAL ANALYSIS; A = PLASTICITY INDEX; P = DRY DENSITY/MOISTURE RELATION; T_D = DRAINED TRIAXIAL; T_U = UNDRAINED TRIAXIAL; R_d = REMOULDED DRAINED TRIAXIAL; R_U = REMOULDED UNDRAINED TRIAXIAL; K = C.B.R. (UNSOAKED); K_S = C.B.R. (SOAKED); C = CONSOLIDATION; U = UNCONFINED COMPRESSION TEST; B = SHEAR BOX</p>		<p>LONDON - SOUTH WALES MOTORWAY COLDRA - CRICK.</p>
<p>KEY TO SAMPLES.</p> <p>▬ CORE BORING % RECOVERY</p>	<p>▬ UNDISTURBED SAMPLE</p> <p>● DISTURBED SAMPLE</p> <p>+ S.P.T N° OF BLOWS</p> <p>≡ WATER LEVEL.</p>	
<p>FOUNDATION ENGINEERING LIMITED; 111, WESTMINSTER BRIDGE ROAD, LONDON, S.E.1.</p>		

BOREHOLE LOG

BOREHOLE No 95.

GROUND LEVEL : 46.00

TYPE of BORING: Shell and Auger.

DATE STARTED : 27.6.62

DIA of BORING: 8"

DESCRIPTION	THICKNESS	DEPTH	LEGEND	SAMPLE No	No of BLOWS OR LOAD.	LABORATORY TESTS.	TOOLS USED.
TOPSOIL.	1'0"	0'0"					
Firm brown sandy CLAY with m.c. gravel.	4'0"	1'0"		• 1			Shell and Auger.
Medium density m.f. brown SAND.	2'6"	5'0"		+ 2	25 blows/ft		
Medium density m.f. brown clayey SAND with sandstone pieces	5'0"	7'6"		• 3			
		12'6"		+ 4	32 blows/ft		
Medium density cm.f. GRAVEL with pieces of clayey sand.	8'0"	20'6"		• 5			
				+ 6	20 blows/ft		
				• 7			
				+ 8	95 blows/ft		

REMARKS:

<p>KEY TO LABORATORY TESTS</p> <p>W = MOISTURE CONTENT; S = SIEVE ANALYSIS; H = FULL MECH-ANICAL ANALYSIS; A = PLASTICITY INDEX; P = DRY DENSITY/MOISTURE RELATION; T_d = DRAINED TRIAXIAL; T_u = UNDRAINED TRIAXIAL; R_d = REMOULDED DRAINED TRIAXIAL; R_u = REMOULDED UNDRAINED TRIAXIAL; K = C.B.R. (UNSOAKED); K_s = C.B.R. (SOAKED); C = CONSOLIDATION; U = UNCONFINED COMPRESSION TEST; B = SHEAR BOX.</p>			<p>LONDON - SOUTH WALES MOTORWAY COLDRA - CRICK.</p>
<p>KEY TO SAMPLES.</p> <p>▬ CORE BORING % RECOVERY</p>	<p>▬ UNDISTURBED SAMPLE</p> <p>+ S.P.T. No of BLOWS</p>	<p>● DISTURBED SAMPLE</p> <p>≡ WATER LEVEL.</p>	
<p>FOUNDATION ENGINEERING LIMITED; 111, WESTMINSTER BRIDGE ROAD, LONDON, S.E.1.</p>			



INSTITUTE OF GEOLOGICAL SCIENCES
RECORD OF SHAFT OR BOREHOLE

Name and Number of Shaft or Borehole:

No 12 Severn Bridge Approach M37

For whom made *Amey's Aggregates*

Town or Village County *Glas*

Exact site (reference to a fixed point on 1-in map):

Purpose for which made *Gravel*

Ground Level at ^{shaft} _{bore} relative to O.D. If not ground level give O.D. of beginning of ^{shaft} _{bore}

Made by Date of sinking

Information from Examined by

6-in Map Registration No.

ST 49 SE/8

National Grid Reference

4913 9033

1-in New Series Map No.

250

Enter 'C' if Confidential

RECORD OF BOREHOLE M36

ST/49 SE 8

Ground level : *+ 78.6ft. O.D. Newlyn* Dia. of boring : *8x (18in. core) to 30ft.*

Type of boring : *Shell and Auger Rotary Core Drilling* Lining tubes : *8in. to 5ft. 6in.*

Depth (ft.)	Angle	Sample	Notes	Depth (ft.)	Notes
23.2.60.	2° 6"	D	(1:80)	1° 0"	+77.6 TOPSOIL
24.2.60.					
25.2.60.	12° 0"	BD			Firm to stiff red-brown silty CLAY with rock fragments and boulders (limestone)
26.2.60.					
27.2.60.	19° 6"	W			
29.2.60.	24° 0"		(7 1/2)	23° 6"	+55.1
18.3.60.	30° 0"	100%	(9 1/2)	30° 0"	+48.6
					Fractured grey LIMESTONE (carboniferous limestone)

Key to type of sample :

- U (4) — 4 in. dia. undisturbed sample.
- U (1 1/2) — 1 1/2 in. dia. " "
- D — disturbed sample.
- BD — bulk disturbed sample.
- W — water sample.
- S () — standard penetration test.
- C () — dynamic cone penetration test.
- No. in brackets gives No. of blows/12 in. penetration.

Remarks : (Observations on ground-water, etc.)

- B.H.M35 No ground water was encountered during boring
- B.H.M36 Owing to the qualities of water added for shelling, no record could be obtained of ground water levels.

SEVERN BRIDGE APPROACHES

Soils No:

S/2288

FIG. 24

GEORGE WIMPEY & CO., LTD.

CENTRAL LABORATORY

HAYES

D 7547 Wt. 2



RECORD OF BOREHOLE M37

ST/49 SE 9

Ground level : +59.7ft. O.D. Newlyn

Dia. of boring : 12in. to 12ft.6in.
BX (1 1/8in. core) to 20ft.

Type of boring : Powered Auger and Rotary Core Drilling

Lining tubes : BX to 12ft.6in.

Daily Progress	Core Recovery and Samples		Change of Strata			Description of Strata
	Depth	Percentage and Type	Legend	Depth	O.D. Level	
	3'6" - 5'0"	U (4) D		(1 3SA) 6'0"	+53.7	Stiff red-brown silty CLAY
	7'6"	D		(2 29A) 7'6"	+52.2	Medium brown clayey SAND
23.2.60. 27.2.60.	8'0" - 9'6" 11'0" 12'0"	U (4) D D				Red-brown silty CLAY with bands of conglomeratic limestone. (Dolomitic Conglomerate)
	14'6"					
21.3.60	20'0"	85%		20'0"	+39.7	
				(10A)		
Key to type of sample :			Remarks : (Observations on ground-water, etc.)			
U (4) — 4 in. dia. undisturbed sample. U (1 1/2) — 1 1/2 in. dia. " " D — disturbed sample. BD — bulk disturbed sample. W — water sample. S () — standard penetration test. C () — dynamic cone penetration test. No. in brackets gives No. of blows/12 in. penetration.						
SEVERN BRIDGE APPROACHES						Soils No : S/2288
						FIG. 25

BOREHOLE LOG

BOREHOLE N° 96

GROUND LEVEL : 51.3

TYPE OF BORING: Shell and Auger.

DATE STARTED : 29.6.62

DIA OF BORING: 8"

DESCRIPTION	THICKNESS	DEPTH	LEGEND	SAMPLE N°	N° OF BLOWS OR LOAD.	LABORATORY TESTS.	TOOLS USED.
TOPSOIL.	1'6"	0'0"					Shell and Auger.
Firm brown sandy CLAY with fragments of sandstone.	6'6"	1'6"		• 1	60 blows/ft.	Tu	
				• 2			
				• 3			
				• 4			
Medium density fine brown SAND.	12'0"	8'0"		+ 5	11 blows/ft.		
				+ 6	10 blows/ft.		
				• 7			
Medium density m.f. brown SAND and Gravel.	0'6"	20'0"		+ 8	13 blows/ft.		
		20'6"					

REMARKS:

<p>KEY TO LABORATORY TESTS</p> <p>W = MOISTURE CONTENT; S = SIEVE ANALYSIS; H = FULL MECH - ANICAL ANALYSIS; A = PLASTICITY INDEX; P = DRY DENSITY/ MOISTURE RELATION; Td = DRAINED TRIAXIAL; Tu = UNDRAINED TRIAXIAL; Rd = REMOULDED DRAINED TRIAXIAL; Ru = REMOULDED UNDRAINED TRIAXIAL; K = C.B.R. (UNSOAKED); Ks = C.B.R. (SOAKED); C = CONSOLIDATION; U = UNCONFINED COMPRESSION TEST; B = SHEAR BOX.</p>			<p>LONDON - SOUTH WALES MOTORWAY COLDRA - CRICK.</p>
<p>KEY TO SAMPLES.</p> <p>▬ UNDISTURBED SAMPLE</p> <p>• DISTURBED SAMPLE</p>	<p>FOUNDATION ENGINEERING LIMITED; 111, WESTMINSTER BRIDGE ROAD, LONDON, S.E.1.</p>		
<p>▬ CORE BORING % RECOVERY</p>		<p>+ S.P.T. No. OF BLOWS</p>	<p>≡ WATER LEVEL.</p>

C. Site Walkover Survey Photographs

Photo C.1: View across the site looking to the north.



Photo C.2: View across the site looking to the north-east



Photo C.3: View of the northern end of the site, looking north; Crick road to the west, M48 carried on bridge over Crick Road



Photo C.4: Eastern boundary looking north



Photo C.5: Centre of the site looking south



Photo C.6: Southern end of the site looking south-west.



Photo C.7: Centre of the site looking south-west.



Photo C.8: South-east of the site looking east.



Photo C.9: Animal water trough adjacent to the site's south-western entrance



Photo C.10: Water utility manhole in the sites north-western corner.



