GEOENVIRO

SOLUTIONS LIMITED

PHASE I DESKTOP STUDY AND PRELIMINARY RISK ASSESSMENT REPORT

AT

THE OLD QUARRY, BANK END ROAD, HUDDERSFIELD

FOR

MR C GUNBY

Report Reference: 4281-23 PI

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LIST OF ACRONYMS

Acronym	Meaning
BGS	British Geological Survey
BH	Borehole
CDM	Construction Design and Management
CL:AIRE	Contaminated Land: Applications In Real Environments
CLR	Contaminated Land Report
COSHH	Control Of Substances Hazardous to Health
CSM	Conceptual Site Model
DCP	Dynamic Cone Penetrometer
DEFRA	Department for Environment Foods and Rural Affairs
DoE	Department of Environment
DP	Dynamic Probe
DWS	Drinking Water Standard
EA	Environment Agency
EQS	Environmental Quality Standard
GAC	Generic Acceptance Criteria
HA	Hand Auger
HP	Hand Pit
LPA	Local Planning Authority
LQM	Land Quality Management
mbgl	Metres Below Ground Level
MP	Mackintosh Probe
NGR	National Grid Reference
NPPF	National Planning Policy Framework
OS	Ordnance Survey
SGV	Soil Guideline Value
SPOSH	Significant Possibility of Significant Harm
SPZ	Source Protection Zone
SSSI	Site of Special Scientific Interest
SSV	Soil Screening Value
TP	Trial Pit
TT	Trial Trench
WS	Windowless Sample / Window Sample
WSV	Water Screening Value

1. INTRODUCTION

1.1 BACKGROUND AND INSTRUCTION

GeoEnviro Solutions Limited (GES) was instructed by Mr C Gunby (the Client) to produce a Phase I: Desktop Study and Preliminary Risk Assessment Report for the site located at Bank End Road, Huddersfield, HD7 4JN.

A site location plan is presented as GES Drawing No. 4281-23/01 in **Appendix 1**.

This report is written in accordance with the guidance set out in Land Contamination Risk Management (LCRM), Guiding Principles for Land Contamination (GPLC) 1 – 3, and the National Planning Policy Framework (NPPF).

1.2 PROPOSED DEVELOPMENT

It is currently proposed to construct a new two storey detached residential development at the site which includes demolition of the existing vehicle workshop.

A proposed development plan, as provided to GES, drawn by Paul Matthews Architecture, referenced 22/562/05a and dated 09/2023 is provided within **Appendix 1**.

This proposed development plan has been utilized in the preparation of this risk assessment, based upon a residential with home-grown produce end-use. If an alternative development is subsequently proposed this assessment may need revising and should not be relied upon in its present outcome.

1.3 OBJECTIVES

The objectives of this Phase I report are to:

- To gain an understanding of any concerns of the regulatory authorities (Local Authority Planning, Building Control and Environmental Health departments and the Environment Agency) regarding local land filling, flooding, mining, quarrying and other concerns.
- Establish the environmental setting, including sensitivity in relation to human health, surface water, groundwater, and ecological receptors.
- Review historical and recent uses to assess the potential for contamination to be present from past and current land-use.
- Assess by qualitative means the potential nature and extent of contamination from those uses and the environmental risk and liabilities which may affect the site redevelopment.
- Identify the prevalent source-pathway-receptor linkages present on site by means of a Tier 1 contamination risk assessment which incorporates the formulation of a Conceptual Site Model.

1.4 INFORMATION SOURCES

During the production of this report the following primary information sources have been utilised:

- Enviro + Geo Insight data obtained from Groundsure (4C Group Ltd).

- Historical Ordnance Survey mapping at scales ranging from 1:1,250 to 1:10,560, obtained from Groundsure.
- BGS Open Geoscience online geological mapping tool.
- OS Open Data online mapping tool.
- Coal Authority Online interactive map.

1.5 PREVIOUS INVESTIGATIONS

GES have not been provided with any previous environmental and/or geotechnical investigation reports and are unaware that any have been carried out to date.

2. SITE LOCATION AND DESCRIPTION

2.1 SITE LOCATION

The site is located at land off Bank End Road, Bolster Moor, Huddersfield, at approximate National Grid Reference (NGR): 408935 415479 (centre of the site).

2.2 SITE DESCRIPTION

At this stage, a site reconnaissance has not been carried out; the site description has been taken in part from Google Earth and Google Street View imagery at this stage.

A site reconnaissance visit may be undertaken during any subsequent site investigation and as such will be reported accordingly.

The site comprises an irregular shaped piece of land with an approximate area of 0.26 Ha.

The topography of the site slopes downhill from west to east.

The site is currently occupied by a large garage workshop building, with several portacabins, all concentrated in the southwest quarter of the site, with the rest of the area occupied by undeveloped land covered by grass.

An approximate distribution of the surface covering is given below in Table 2.1.

Table 2.1: Site Surface Covering

Type of Surface Cover	Distribution (%)
Soft Ground (grassed and landscaped areas)	80
Hardstanding	10
Roadways	0
Buildings	10
Water (ponds, streams)	0

The site is bounded by Bank End Road to the South, an unnamed footpath to the East and residential properties to the West.

Access to the site is via Bank End Road from the south.

Surrounding Area

The current surrounding land use to the site is generally residential and industrial properties and undeveloped land in all directions.

The topography of the surrounding area slopes west to east.

3. ENVIRONMENTAL AND GEOLOGICAL SETTING

Information on the environmental and geological setting of the site is presented in a Groundsure Enviro + Geo Insight Report prepared for the site; a copy of this report is presented in **Appendix 3**.

3.1 SITE GEOLOGY

The site geology has been assessed by reference to information from British Geological Survey (BGS) mapping summarised in the Groundsure Enviro + Geo Insight data. Information from these sources referenced in this report has been predominantly limited to that identified within 50 m of the site (underlying geology) or 250 m of the site (structural features, borehole records), in order to focus on the information directly relevant to the site. Information from outside these radii will be referenced when deemed relevant.

Artificial / Made Ground

The artificial deposits underlying the site are described as Disturbed Ground of an unknown or unclassified rock description.

Superficial Ground and Drift Deposits

No superficial deposits are recorded underlying or within 500 metres of the site.

Bedrock Geology

Underlying the site, bedrock comprises of The Huddersfield White Rock - Sandstone Formation, generally described as *'a medium- to coarse-grained, massive to flaggy, cross-bedded, micaceous sandstone'* (BGS Lexicon Description).

Landslips

There are no records within 250 m.

Linear Features

There is record of a landform (FOSSIL_HORIZON) 243 m Northeast of the site.

Natural Ground Subsidence

The following hazard ratings applicable to the site and land within 50 m are presented in the Enviro + Geo Insight Report:

- Shrink / swell clays: Negligible.
- Running sands: Negligible.
- Compressible deposits: Negligible.
- Collapsible deposits: Very low.
- Landslides: Very low.
- Ground dissolution of soluble rocks: Negligible.

3.2 BOREHOLE RECORDS

There are no BGS boreholes recorded within 50 m of the site.

3.3 HYDROGEOLOGY

These records are derived by Groundsure from Environment Agency and British Geological Survey data. Details of the source and coverage of specific records are provided in the Enviro + Geo Insight Report. Information from these sources referenced in this report have been predominantly limited to those identified within 250 m of the site (or 1000 m of the site for abstractions), in order to focus on the information directly relevant to the site. Information from outside these radii will be referenced when deemed relevant.

The Environment Agency aquifer designations used within the following sections are summarised in Table 3.1, below.

Table 3.1: Aquifer Designations

Definition	Description
Principal Aquifer	Layers with high intergranular and/or secondary permeability capable of supporting water supplies at strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as Major Aquifers.
Secondary (A) Aquifer	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.
Secondary (B) Aquifer	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 former non-Aquifers.
Secondary Undifferentiated Aquifer	Layers that cannot be attributed to a category A or B rock type. These layers could have previously been described as a minor or a non-aquifer due to their variable characteristics.
Unproductive strata	Rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

Aquifer within Superficial Deposits

No superficial geology information is recorded underlying the site, and as such no aquifer data is available.

Aquifer within Bedrock Geology

As a result of the bedrock geology underlying the site, there is a single aquifer identified that is designated as Secondary A.

Permeability of Bedrock Deposits

The minimum and maximum permeability are recorded as being moderate and high respectively and the flow type is recorded as fracture.

Groundwater Vulnerability

The site is recorded to be located within an area where the EA considers the groundwater to have a High vulnerability to mobile pollutants, as summarised in Table 3.2 overleaf.

Table 3.2: Groundwater Vulnerability Definitions

Definition	Description
High Vulnerability	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 Vulnerability	Intermediate between high and low vulnerability.

Definition	Description
Low Vulnerability	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.

Groundwater Abstraction Licences

There are no licensed ground water abstractions within 500 m of the site.

Potable Water Abstraction Licences

There are no potable abstractions within 500 m of the site.

Source Protection Zones

There are no Source Protection Zones (SPZ) within 500 m of the site.

3.4 HYDROLOGY

These records are derived by Groundsure from Environment Agency and British Geological Survey data. Details of the source and coverage of specific records are provided in the Enviro + Geo Insight Report. Information from these sources referenced in this report have been predominantly limited to that identified within 250 m of the site (aquifers, surface water) or 1000 m of the site (abstractions), in order to focus on the information directly relevant to the site. Information from outside these radii will be referenced when deemed relevant.

Ordnance Survey Water Network

There are four records within 250 m, all of which are attributed to unnamed rivers. The closest record is located 130 m, to the north. The second unnamed river is recorded as 186 m to the east. The final records are recorded 243 m and 244 m to the northeast of the site.

Surface Water Features

There are four major surface water courses within 250 m of the site, all attributed to unnamed rivers.

Water Framework Directive Surface Water Bodies and Catchments

The site is located directly upon the Colne from Wessenden Brook to R Holme water body catchment, within the Colne and Holme operational catchment.

Surface Water Abstraction Licences

There are no licensed surface water abstractions within 250 m of site.

3.5 ENVIRONMENTALLY SENSITIVE AREAS

These records are derived by Groundsure from Environment Agency, Natural England, Historic England, English Heritage, Forestry Commission and UK Government data. Details of the source and coverage of specific records are provided in the Enviro + Geo Insight Report.

Information from these sources referenced in this report have been predominantly limited to that identified within 500 m of the site (environmental designations) or 250 m of the site (habitat, visual and cultural designations), in order to focus on the information directly relevant to the site. Information from outside these radii will be referenced when deemed relevant.

Environmental and Habitat Designations

There are no environmental and habitat designations within 250 m of the site.

Visual and Cultural Designations

There are no visual and cultural designations within 250 m of the site.

4. PAST LAND USE AND POTENTIAL CONTAMINANT SOURCES

Information on past land use and potential contaminant sources is presented in a Groundsure Enviro + Geo Insight Report prepared for the site; a copy of this report is reproduced in **Appendix 3**.

4.1 LAND USE RECORDS

These records are derived by Groundsure from historical mapping and each record corresponds to a particular map revision date. Thus, several records may refer to the same feature where it is present over time. Groundsure has in some cases grouped such records in the Enviro + Geo Insight report. Differences in distances quoted from the study site may be due to expansion of the feature over time or geolocation errors.

Information from these sources referenced in this report have been predominantly limited to that identified within 250 m of the site, in order to focus on the information directly relevant to the site. Information from outside this radius will be referenced when deemed relevant.

Historical Industrial Land Uses

There are 13 recorded historical industrial land uses within 250 m of the site. These potentially contaminative land uses along with relative distances to site are presented in table 4.1 below.

Table 4.1: Title

Distance	Direction	Land Use	Dates Recorded
5 m - 6 m	Northeast	Unspecified Mill	1951, 1967
51 m	Northeast	Unspecified Mills	1978, 1993
56 m	North	Unspecified Mills	1905,1948
63 m	North	Unspecified Mills	1938
75 m	North	Unspecified Mills	1890
78 m	Northeast	Mill Pond	1938 -1948
84 m	Northeast	Mill Pond	1951
90 m	North	Unspecified Mill	1967 - 1993
198 m	Northwest	Unspecified Works	1967 - 1993
236 m	Northeast	Rifle Range	1890

A further 29 potentially contaminative land uses were recorded within 500 m of the site. These comprise similar uses to those on site and in addition include uses such as quarries, chimneys and unspecified ground workings and tanks.

There are likely to duplicates of the same entry within these records.

Historical Tanks

There are five records of historical tanks within 500 m of the site, four of which are recorded within 250 m of the site. All tanks are recorded as unspecified tanks located 115 m to the north and northeast, 117 m to the northeast, 119 m to the Northeast and 475 m to the east.

There are likely to duplicates of the same entry within these records.

Historical Energy Features

There are no historical energy features recorded within 250 m of the site.

Historical Petrol Stations

There are no records of historical petrol stations within 500 m of the site.

Historical Garages

There are no records of historical garages within 500 m of the site.

Historical Military Land

There are no records of historical military land within 500 m of the site.

Current or Recent Industrial Land Uses

There are 11 records of current or recent industrial land usage within 250 m. The closest land use is Midas Aluminium Ltd located at Unit 2 Heath House Mill, 56 m to the Northeast. The furthest land use is a Silo located 239 m to the Southwest.

Current or Recent Petrol Stations

There are no records of current or recent petrol stations within 500 m of the site.

Electricity Cables

There are no records of high voltage (HV) underground electricity cables within 500 m of the site.

Gas and / or Oil Pipelines

There are no records of medium- or high-pressure underground gas or oil supply pipelines within 500 m of the site.

Railway Infrastructure

There are no records of railway infrastructure within 500 m of the site.

4.2 ENVIRONMENTAL PERMITS, INCIDENTS AND REGISTERS

These records are derived by Groundsure from local authority, Health and Safety Executive and Environment Agency data. Details of the source and coverage of specific records are provided in the Enviro + Geo Insight Report. Information from these sources referenced in this report have been predominantly limited to that identified within 250 m of the site, in order to focus on the information directly relevant to the site. Information from outside this radius will be referenced when deemed relevant.

Sites Determined as Contaminated Land

There are no records of sites determined as contaminated land under Part 2A of the Environmental Protection Act 1990 within 250 m of the site.

Control of Major Accident Hazards (COMAH)

There are no records within 250 m of the site.

Regulated Explosive Sites

There are no records within 250 m of the site.

Planning Hazardous Substances Consents

There are no records within 250 m of the site.

Records of Historic IPC Licensed Activities

There are no records within 250 m of the site.

Records of Part A (1) Licensed Activities

There are no records within 250 m of the site.

Records of Part A (2)/B Licensed Activities and Pollutant Release

There are no records within 250 m of the site.

Records of Radioactive Substance Authorisations

There are no records within 250 m of the site.

Licensed Discharges to Controlled Waters

There are no records within 250 m of the site.

Pollutant release to Surface Waters (Red List)

There are no records within 250 m of the site.

Pollutant Release to Public Sewer

There are no records within 250 m of the site.

List 1 and List 2 Dangerous Substances

There are no records within 250 m of the site.

Substantiated Pollution Incidents

There are no records within 250 m of the site.

Pollution Inventory Substances

There are no records within 250 m of the site.

Pollution Inventory Waste transfers

There are no records within 250 m of the site.

Pollution Inventory Radioactive Waste

There are no records within 250 m of the site.

4.3 WASTE AND LANDFILL

These records are derived by Groundsure from Environment Agency, British Geological Survey, Ordnance Survey (interpreted by Groundsure) and local authority data. Details of the source and coverage of specific records are provided in the Enviro + Geo Insight Report.

Information from these sources referenced in this report have been predominantly limited to that identified within 500 m of the site (landfills) or 250 m of the site (non-landfill waste operations), in order to focus on the information directly relevant to the site. Information from outside these radii will be referenced when deemed relevant.

Active or Recent Landfill

There are no records within 500 m of the site.

Historic Landfill

There are no records within 500 m of the site.

Non-Landfill Waste Records

There are no historical non-landfill waste records within 500 m of the site.

4.4 MINING, GROUND WORKINGS AND NATURAL CAVITIES

These records are derived by from British Geological Survey, Ordnance Survey (interpreted by Groundsure), Coal Authority, Peter Brett Associates, Johnson Poole and Bloomer, Cheshire Brine Subsidence Compensation Board, British Gypsum, Mining Searches UK, Kaolin and Ball Clay Association and local authority data. Details of the source and coverage of specific records are provided in the Enviro + Geo Insight Report.

Information from these sources referenced in this report have been predominantly limited to that identified within 250 m of the site, in order to focus on the information directly relevant to the site. Information from outside these radii will be referenced when deemed relevant.

Natural Cavities

There are no records within 250 m of the site.

Mining Cavities

There are no records within 250 m of the site.

BritPits Data (Surface and Underground Mineral Workings)

There are no records within 250 m of the site.

Historical Mineral Planning Areas

There are no records within 250 m of the site.

Surface Ground Workings

There are two records within 250 m of the site. The closest is located 78 – 85 metres to the northeast and is marked as a Mill Pond, the second is a Pond located 88 metres to the north.

Underground Workings

There are no records within 250 m of the site.

Coal Mining

There are no records within 250 m of the site.

Non-Coal Mining

There is a recorded historical Vein Mineral working on site categorised as Class A, where underground workings are uncommon and potential for difficult ground conditions is unlikely to the degree where they do not require further consideration.

There are no further records within 250 m of the site.

4.5 RADON

The study site is located within a Radon Affected Area, whereas between 1% and 3% of properties are affected by Radon, as such, no Radon protection measures are required, as detailed in BRE211.

4.6 BACKGROUND SOIL CHEMISTRY

Values estimated by BGS for background concentrations of six potentially harmful elements are provided as follows:

- Arsenic: 25 - 35 mg/kg.
- Lead: 100 - 200 mg/kg.
- Bioaccessible lead: No Data Available
- Cadmium: 1.8 mg/kg.
- Chromium: 60-90 mg/kg.
- Nickel: 15 mg/kg.

These values are not considered to be elevated with respect to guideline values for residential end-uses.

5. HISTORICAL MAPPING STUDY

5.1 HISTORICAL MAPPING

The object of this search was to report on the evidence of site history and redevelopment of the site and its environs from available County Series and Ordnance Survey Maps at scales ranging from 1:1,250 to 1:10,560 dating from 1854 to the present day, and Getmapping PLC aerial photography dating from the 1999 to the recent past, as provided by Groundsure.

Information in the historical mapping study has been predominantly limited to that identified on the site or within 100m of the site, in order to focus on the information directly relevant to the site. Information from outside this radius will be referenced when deemed relevant.

Each map or photographs only represents a “snap-shot” of the site and its environs at the date of the survey. Changes that had occurred at other times may not have been recorded on the maps and could represent an unidentified hazard to the site.

The information reported might not represent all pertinent information that could be obtained. The interpretation of the maps and/or other data commented on in this report is subjective.

The Historical Ordnance Survey Maps were obtained from Groundsure and are available for review within **Appendix ?** and are summarised in Table 5.1 below.

Table 5.1: Historical Mapping Review

Date	Scale	On-Site	Offsite
1854	1:10,560	Undeveloped Land	Sandstone quarry located approximately 500m to the southwest
1892 - 1893	1: 2,500	Undeveloped Land	Heath House Mill, and an associated pond is located approximately 100 m to the northeast.
1906 - 1907	1: 2,500	Undeveloped Land	No significant changes to the surrounding area.
1918 - 1919	1: 2,500	Two small, unlabelled buildings have been constructed in the northwest corner and southwest	No significant changes to the surrounding area.
1948	1: 10,560	No significant changes to the layout of the site.	No significant changes to the surrounding area.
1955 - 1956	1: 10,560	No significant changes to the layout of the site.	No significant changes to the surrounding area.
1961	1: 2,500	No significant changes to the layout of the site.	Heath House Mill has expanded with the closest buildings now approximately 50 m to the northeast, along with an associated refuse tip at its northern edge. An unspecified works has been constructed approximately 250 m to the northwest, and several locations marked as poultry houses located between 100 and 250 m to the northwest
1963	1: 2,500	No significant changes to the layout of the site.	No significant changes to the surrounding area.
1975 - 1978	1: 10,560	No significant changes to the layout of the site.	No significant changes to the surrounding area.

Date	Scale	On-Site	Offsite
2001	1: 10,000	No significant changes to the layout of the site.	No significant changes to the surrounding area.
2010	1: 10,000	No significant changes to the layout of the site.	No significant changes to the surrounding area.
2023	1: 10:000	No significant changes to the layout of the site.	No significant changes to the surrounding area.

5.2 AERIAL PHOTOGRAPHY

1999 Aerial Photo

The 1999 aerial photo shows the site to be mostly undeveloped, with minor structures in the southwest corner of the site. The surrounding area is also developed to the current configuration with residential, commercial, and industrial properties.

2000 Aerial Photo

The 2000 aerial photo shows the site in the same configuration. The surrounding area is also developed to the current configuration with residential, commercial, and industrial properties.

2012 Aerial Photo

The 2012 aerial photo shows the site in the assumed current configuration, with the portal frame structure currently. The surrounding area is also developed to the current configuration with residential, commercial, and industrial properties.

2018 Aerial Photo

The 2018 aerial photo shows the site in the assumed current configuration, with the portal frame structure currently. The surrounding area is also developed to the current configuration with residential, commercial, and industrial properties.

Recent Aerial Photograph:

Recent aerial photography shows the site in the assumed current configuration, with the portal frame structure present. The surrounding area is also developed to the current configuration with residential, commercial, and industrial properties.

The aerial photographs are included in the Groundsure Enviro + Geo Insight Report and are available for review within **Appendix 4**.

5.3 SUMMARY

Review of available historical ordinance surveys maps indicated no discernible changes to the site area between the years 1854 and 2010, the portal frame building first appearing in 2012. However, it is likely that subtle changes were made within the site within this period.

6. FRAMEWORK FOR ASSESSMENT OF CONTAMINATION

Environmental risks are assessed within the risk management framework established in Part IIA of the Environmental Protection Act (EPA) 1990 introduced by Section 57 of the Environment Act 1995 which provides a statutory definition of contaminated land. To fall within this definition it is necessary that, as a result of the condition of the land, substances may be present on or under the land such that:

(a) *Significant harm is being caused or there is a significant possibility of such harm being caused.*

or

(b) *Pollution of controlled water is being, or is likely to be, caused.*

Risk from contamination is assessed by consideration of possible linkages between contaminant sources and potential receptors which could be harmed or polluted.

The key aspect of the framework is the development of a Conceptual Site Model (CSM) which illustrates the spatial interaction between the potential sources and receptors on site.

The information presented in this report was collated and evaluated to develop an initial CSM to assess ground contamination issues at the site.

For a risk of pollution or environmental harm to occur as a result of ground contamination, ***all*** of the following elements must be present:

- A source, i.e., a substance that is capable of causing pollution or harm.
- A receptor, i.e., something which could be adversely affected by the contaminant.
- A pathway, i.e., a route by which the contaminant can reach the receptor.

If one of these elements is absent there can be no significant risk. If all are present then the magnitude of the risk is a function of the magnitude and mobility of the source, the sensitivity of the receptor and the nature of the migration pathway.

Potential sources, pathways and receptors are identified in the sections below and the risks associated with possible pollutant linkages outlined.

6.1 SOURCES

On-Site Sources

The following possible on-site sources have been identified from the historical study and the Enviro + Geo Insight data:

- Vehicle workshop.

The following contaminants are potentially associated with the on-site sources:

- PAH
- TPH
- VOCs and SVOCs

However, as the vehicle workshop has only been in existence since after 2010, it is unlikely to present a significant risk due to current working practices and duration of its land use.

Offsite Sources

The following off site sources have been identified from the historical study and the Enviro + Geo Insight data:

- Textile mill located ~100 m to the northeast of the site location.

There are further entries present, but these are considered far enough from the site to pose no risk.

Information provided by Groundsure indicates that there are two areas within 250 m of the site where the potential for infilling is possible. These are both listed as former ponds that may have been infilled within unknown materials.

Information provided by Groundsure indicates that underground workings have taken place directly beneath the site, and no other recorded workings were identified within 250 m.

The historical mapping indicates that there is a single area within 250 m of the site where the potential for infilling is possible. This is a former pond that may have been infilled with unknown materials.

Reference to the DoE Industry Profiles, the following contaminants are potentially associated with the off-site textile Mill.

- Heavy Metals and Metalloids
- Inorganics
- VOCs and SVOCs

The infilled ponds are not considered to present a significant risk to the site due to their distance from the site, expected size and depth, and local geology.

6.2 PATHWAYS

For contaminants to reach potential receptors, there must be a viable **pathway** for the contaminant. Potential pathways that may affect the migration of contaminants are listed in Table 6.2, below.

Table 6.2: Pathways

Pathway	Medium	Properties
Direct Contact	Dust, solid and liquid phase	There may be direct contact with potentially impacted soil and Made Ground across the site. There is a possibility of dust fumes being produced during earthworks in the construction phase. Dermal contact and ingestion of potentially contaminated soils during construction or operational phase of the site.
Leaching through Made Ground	Unsaturated flow	Potential for leaching and migration of potential contaminants along preferential flow paths in the ground.
Foundations and Underground Infrastructure and Obstructions	Preferential flow	Contaminants will flow the path of least resistance which can be gaps around foundations, services, and floor construction
Migration of Ground Gas and Radon	Gaseous flow	Infilled land material is likely to be variable in composition. Migration through granular material within superficial deposits is possible.

6.3 RECEPTORS

The site-specific **receptors** that could be potentially affected by the contamination hazards identified during this preliminary appraisal are summarised in Table 6.3, overleaf:

Table 6.3: Receptors

Category	Receptor	Properties
Humans	End users (such as residents and visitors)	Potential contact with contaminated soils is possible given the residential end use planned.
	Construction workers	Reworking of contaminant impacted materials in underlying soil during construction works can expose workers to contamination.
Property	Materials and site structures	Foundations and site services may be damaged by potentially aggressive compounds present in soils.
Controlled Waters	Underlying superficial / bedrock Aquifer and surface water	The site is recorded as having a Secondary (A) Aquifer within the bedrock underlying the site.
Plant (species and uptake) and Wildlife	Various	Attributes will be influenced by factors such as relative quality, scale, rarity and substitutability.

7. QUALITATIVE RISK ASSESSMENT

Potential pollutant linkages are identified using the source-pathway-receptor framework detailed above. An assessment of the potential significance of each linkage is then made by consideration of the likely magnitude and mobility of the source, the sensitivity of the receptor and nature of the migration/exposure pathways.

This qualitative risk assessment has been undertaken in accordance with Annex 4 of the National House Building Council/Environment Agency/Chartered Institute of Environmental Health R&D publication 66, Guidance for the Safe Development of Housing on Land Affected by Contamination (NHBC/EA/CIEH, 2008) which updates and supersedes CIRIA C552: Contaminated Land Risk Assessment, A Guide to Good Practice (Rudland et al., 2001).

A summary of the risk assessment protocols, and subsequent risk assessment matrix is provided in **Appendix 4**.

An assessment of the likelihood of the risk being realised and the magnitude of potential risk is presented below to give an estimation of the significance of each potential pollutant linkage identified. Where it is considered that there is no credible linkage, this is indicated in the table. In accordance with the R&D66 guidance, if there is no pollution linkage then there is no need to apply tests for probability and consequence.

The assessment is undertaken based on the current proposals for the site, at the time of issuing this report, which would be classed as a generic end land use of 'Residential with home grown produce'. Any change in the development proposals for the site involving a change in end use class may result in a requirement for this assessment to be revised.

8. PRELIMINARY CONCEPTUAL SITE MODEL

Contaminant Source	Pathways	Receptor	Pollutant Linkage	Classification of Probability	Classification of Consequence	Level of Risk	Justification
On Site: Soils on site possibly containing elevated organics such TPH, VOCs, and SVOCs.	Ingestion, dermal contact, inhalation of dusts/vapours	Future end users and site visitors	Considered potentially active	Low Likelihood	Minor	Very Low	A very low risk rating has been given due to the minimal duration the vehicle workshop operated and that this was in very recent times.
		Construction Workers	Considered potentially active	Low Likelihood	Minor	Very Low	A very low risk rating has been given due to the minimal duration the vehicle workshop operated and that this was in very recent times.
	Leaching through soils and migration via groundwater or soil pore moisture	Controlled Waters	Considered potentially active	Low Likelihood	Minor	Very Low	A very low risk rating has been given due to the minimal duration the vehicle workshop operated and that this was in very recent times.
	Permeation of water pipes	Construction materials, future end users and site visitors	Considered potentially active	Low Likelihood	Mild	Low	Hydrocarbons, especially aromatics are known to permeate plastic pipes. Provision of water supply pipes and connectors formed from proprietary “barrier pipe” materials (e.g., polyethylene-aluminium-polyethylene) may be required by the water supply company.
	Uptake	Plant and Wildlife	Considered potentially active	Low Likelihood	Minor	Very Low	A very low risk rating has been given due to the minimal duration the vehicle workshop operated and that this was in very recent times.
On Site: Asbestos at/near ground surface in Made Ground soils.	Inhalation of fibres in airborne dust	Future end users and site visitors	Considered inactive	-	-	Very Low	There is considered to be no pollutant linkage associated with Asbestos.
		Construction Workers	Considered inactive	-	-	Very Low	There is considered to be no pollutant linkage associated with Asbestos.

Contaminant Source	Pathways	Receptor	Pollutant Linkage	Classification of Probability	Classification of Consequence	Level of Risk	Justification
On Site: Ground Gases (CH_4, CO_2, CO, H_2S) from on-site Made Ground.	Gas migration and build up within buildings (explosion/ asphyxiation risk)	Future end users and building structures.	Considered inactive	-	-	Very Low	No Made Ground is expected on site.
Off Site: Historical land uses and activities, Made Ground/infilled material possibly containing elevated metals, other inorganics, organics such as VOCs and SVOCs.	Leaching through soils and migration via groundwater or soil pore moisture	Future end users and site visitors	Considered potentially active	Low Likelihood	Minor	Very Low	Given the location of the offsite source and nature of the contaminants of concern, it is considered unlikely that these will pose a risk to on-site receptors.
	Ingestion, dermal contact, inhalation of dusts/vapours			Low Likelihood	Minor	Very Low	Given the location of the offsite source and nature of the contaminants of concern, it is considered unlikely that these will pose a risk to on-site receptors.
Off Site: Ground Gases (CH_4, CO_2, CO, H_2S) from off-site historical infilling activities.	Gas migration and build up within buildings (explosion/ asphyxiation risk)	Future end users and building structures.	Considered potentially active	Low Likelihood	Minor	Very Low	The infilled ponds are not considered to present a significant risk to the site due to their distance from the site, expected size and depth, and local geology.

9. RECOMMENDATIONS

9.1 PROPOSED SITE INVESTIGATION

Based on the information obtained for the formation of this report, we would recommend that no further action is required based on the CSM with respect to the environmental condition of the site.

9.2 CONSULTEES

It is highly recommended that this report be forwarded to the relevant Local Authority Environmental Health and Planning Departments to seek their comments and subsequent approval, otherwise further works may be required.

9.3 FLOOD RISK ASSESSMENT

This report does not replace a full hydrogeological survey and specialist studies may need to be undertaken to ascertain the risks posed from flooding. Further details on site flood information can be found within the appendices.

9.4 COAL MINING RISK ASSESSMENT

If the impacts of historical coal mining are considered relevant a separate CMRA should be commissioned.

9.5 INVASIVE PLANT SURVEY

Any concerns relating to the possible presence of invasive plants should be undertaken by an appropriately qualified surveyor.

9.6 ASBESTOS SURVEY

Any concerns relating to the possible presence of Asbestos or Asbestos Containing Material (ACM) should be undertaken by an appropriately qualified surveyor.

10. RELIANCE AND LIMITATIONS

This report has been prepared by GES with all reasonable skill, care and diligence. The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources, together with a site walkover inspection of the site, if undertaken.

The opinions given in this report have been dictated by the finite data on which are they based and are relevant only to the purpose for which the report was commissioned.

Information reviewed should not be considered exhaustive and accepted in good faith as providing true and representative data with respect to site conditions. Should additional information become available which may influence the opinion expressed in this report, GES reserves the right to review such information and, if warranted, to alter the opinions accordingly.

It should be noted that any risks identified in this report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site. This is an environmental Phase 1 report and does not consider the geotechnical implications for the site, its redevelopment and proposed future use. Further advice should be sought on geotechnical investigation requirements for the proposed development.

APPENDIX 1

DRAWINGS AND PLANS

General Site Location

GEOENVIRO SOLUTIONS LIMITED	GeoEnviro Solutions Ltd Unit 7 Springvale Works Brighouse West Yorkshire HD6 2RA Tel: 01484 986010 Email: info@geoenvirosolutions.com Web: www.geoenvirosolutions.com N	**PROJECT NAME** Bank End Road, Huddersfield **PROJECT NUMBER** 4281-23	**DRAWING NO.** 4281-23/01	**SCALE** N.T.S
		TITLE Site Location Plan	**DATE** October 2023	**DRAWN BY** ADD

1:200

2m 4 6 8 10 12 14 16 18 20

Oak tree with guard till established

1.5 x 1.5 x 1.5m soakaway serving rear roof slope

Remove existing building

Turfed garden area

1.5 x 1.5 x 1.5m soakaway serving front roof slope

Alpine rockery planting (alpine plants to include Rockfolis, dianthus, cmapunala, primrose and stonecrop)

Patio

ASHP

Refer to proposed elevations for locations of proposed swift box (east facing wall) and sparrow terrace (north facing wall)

New Dwelling

Bins

Solar array to South facing roof slope

19

Parking / Turning

Remove existing buildings

Existing Access

BCP

BANK END ROAD

Low level shrubbery planting (leucothoe, ceanothus, cistus rock rose, lavender, euonymus, hebe, dwarf varieties of hypericum, pieris, potentilla, skimmia and vinca) to site frontage (shrubbery to not exceed 0.9m high)

NB - Nothing shall be permitted to be planted or erected within a strip of land 2.0m deep measured from the carriageway edge of Bank End Road along the full frontage of the site which exceeds 1.0m in height above the level of the adjoining highway.

Vehicular access, parking and turning areas shall be surfaced and drained in accordance with the Communities and Local Government; and Environment Agencies 'Guidance on the permeable surfacing of front gardens (parking areas)' published 13th May 2009 (ISBN 9781409804864) as amended or superseded.

W E S SUN PATH

PAUL MATTHEWS ARCHITECTURAL Ltd

ARCHITECTURE | PLANNING | DESIGN

Malkin Farm
Brow Lane
Holmfirth
HD9 2RJ
07946872499
paul@paulmatthewsarchitectural.co.uk
www.paulmatthewsarchitectural.co.uk

Company Registration Number: 09898149 – Company Registered in England and Wales

Project
Reserved Matters Application for the Removal of Portal Frame Commercial Building and Erection of 1 Detached Dwelling at the Old Quarry, Bank End Road, Bolstermoor, Golcar, Huddersfield, HD7 4JN.

Client
Mr C Gunby

Drawing Title/Issue
Proposed Block Plan

scale	date	sheet size	dwg. no.
1:200	09/2023	A2	22/562/05a

APPENDIX 2

GROUNDSURE ENVIRO + GEO INSIGHT REPORT

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

THE OLD QUARRY, BANK END ROAD, BOLSTER MOOR, HUDDERSFIELD, HD7 4JN

Order Details

Date: 03/10/2023

Your ref: 4281-23

Our Ref: GS-85M-Q6I-Y1R-K4L

Site Details

Location: 408935 415479

Area: 0.26 ha

Authority: Kirklees Council ↗

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Summary of findings p. 2 >

Aerial image p. 9 >

OS MasterMap site plan p.14 >

groundsure.com/insightuserguide ↗

Contact us with any questions at:
info@groundsure.com ↗
01273 257 755

Certified B Corporation

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	2	11	29	-
17 >	1.2 >	Historical tanks >	0	0	4	1	-
18	1.3	Historical energy features	0	0	0	0	-
18	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	Historical garages	0	0	0	0	-
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	2	16	37	-
22 >	2.2 >	Historical tanks >	0	0	4	4	-
22	2.3	Historical energy features	0	0	0	0	-
22	2.4	Historical petrol stations	0	0	0	0	-
23	2.5	Historical garages	0	0	0	0	-
Page	**Section**	**Waste and landfill >**	**On site**	**0-50m**	**50-250m**	**250-500m**	**500-2000m**
24	3.1	Active or recent landfill	0	0	0	0	-
24	3.2	Historical landfill (BGS records)	0	0	0	0	-
25 >	3.3 >	Historical landfill (LA/mapping records) >	0	0	1	0	-
25	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
25	3.5	Historical waste sites	0	0	0	0	-
25 >	3.6 >	Licensed waste sites >	0	0	0	1	-
26 >	3.7 >	Waste exemptions >	0	0	9	2	-
Page	**Section**	**Current industrial land use >**	**On site**	**0-50m**	**50-250m**	**250-500m**	**500-2000m**
28 >	4.1 >	Recent industrial land uses >	0	0	11	-	-
29	4.2	Current or recent petrol stations	0	0	0	0	-
29	4.3	Electricity cables	0	0	0	0	-
30	4.4	Gas pipelines	0	0	0	0	-
30	4.5	Sites determined as Contaminated Land	0	0	0	0	-

30	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
30	4.7	Regulated explosive sites	0	0	0	0	-
30	4.8	Hazardous substance storage/usage	0	0	0	0	-
31	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
31	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
31	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
31	4.12	Radioactive Substance Authorisations	0	0	0	0	-
31 >	**4.13 >**	**Licensed Discharges to controlled waters >**	0	0	0	1	-
32	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
32	4.15	Pollutant release to public sewer	0	0	0	0	-
32	4.16	List 1 Dangerous Substances	0	0	0	0	-
32	4.17	List 2 Dangerous Substances	0	0	0	0	-
33	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
33	4.19	Pollution inventory substances	0	0	0	0	-
33	4.20	Pollution inventory waste transfers	0	0	0	0	-
33	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
34	5.1	Superficial aquifer	None (within 500m)				
35 >	**5.2 >**	**Bedrock aquifer >**	Identified (within 500m)				
37 >	**5.3 >**	**Groundwater vulnerability >**	Identified (within 50m)				
38	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
38	5.5	Groundwater vulnerability- local information	None (within 0m)				
39 >	**5.6 >**	**Groundwater abstractions >**	0	0	0	0	14
43 >	**5.7 >**	**Surface water abstractions >**	0	0	0	0	32
51 >	**5.8 >**	**Potable abstractions >**	0	0	0	0	8
53	5.9	Source Protection Zones	0	0	0	0	-
53	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	**Hydrology >**	On site	0-50m	50-250m	250-500m	500-2000m
54 >	**6.1 >**	**Water Network (OS MasterMap) >**	0	0	4	-	-

55 >	6.2 >	Surface water features >	0	0	4	-	-
55 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
56 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
56 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
57	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
57	7.2	Historical Flood Events	0	0	0	-	-
57	7.3	Flood Defences	0	0	0	-	-
58	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
58	7.5	Flood Storage Areas	0	0	0	-	-
59	7.6	Flood Zone 2	None (within 50m)				
59	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
60 >	8.1 >	Surface water flooding >	1 in 250 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
62 >	9.1 >	Groundwater flooding >	Negligible (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
63	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
64	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
64	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
64	10.4	Special Protection Areas (SPA)	0	0	0	0	0
64	10.5	National Nature Reserves (NNR)	0	0	0	0	0
65	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
65 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	1
65	10.8	Biosphere Reserves	0	0	0	0	0
65	10.9	Forest Parks	0	0	0	0	0
66	10.10	Marine Conservation Zones	0	0	0	0	0
66 >	10.11 >	Green Belt >	1	0	0	0	0
66	10.12	Proposed Ramsar sites	0	0	0	0	0

66	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
67	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
67	10.15	Nitrate Sensitive Areas	0	0	0	0	0
67	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
68 >	**10.17 >**	**SSSI Impact Risk Zones >**	1	-	-	-	-
69	10.18	SSSI Units	0	0	0	0	0
Page	Section	**Visual and cultural designations >**	On site	0-50m	50-250m	250-500m	500-2000m
70	11.1	World Heritage Sites	0	0	0	-	-
71	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
71	11.3	National Parks	0	0	0	-	-
71 >	**11.4 >**	**Listed Buildings >**	0	1	5	-	-
72	11.5	Conservation Areas	0	0	0	-	-
72	11.6	Scheduled Ancient Monuments	0	0	0	-	-
72	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	**Agricultural designations >**	On site	0-50m	50-250m	250-500m	500-2000m
73 >	**12.1 >**	**Agricultural Land Classification >**	Grade 4 (within 250m)				
74	12.2	Open Access Land	0	0	0	-	-
74	12.3	Tree Felling Licences	0	0	0	-	-
74	12.4	Environmental Stewardship Schemes	0	0	0	-	-
74	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	**Habitat designations >**	On site	0-50m	50-250m	250-500m	500-2000m
75 >	**13.1 >**	**Priority Habitat Inventory >**	0	0	4	-	-
76	13.2	Habitat Networks	0	0	0	-	-
76	13.3	Open Mosaic Habitat	0	0	0	-	-
76	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	**Geology 1:10,000 scale >**	On site	0-50m	50-250m	250-500m	500-2000m
77 >	**14.1 >**	**10k Availability >**	Identified (within 500m)				
78 >	**14.2 >**	**Artificial and made ground (10k) >**	1	0	0	9	-
80	14.3	Superficial geology (10k)	0	0	0	0	-

80	14.4	Landslip (10k)	0	0	0	0	-
81 >	14.5 >	Bedrock geology (10k) >	1	0	2	5	-
82 >	14.6 >	Bedrock faults and other linear features (10k) >	0	0	1	0	-
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)	0	0	0	0	-
85	15.5	Superficial permeability (50k)	None (within 50m)				
85	15.6	Landslip (50k)	0	0	0	0	-
85	15.7	Landslip permeability (50k)	None (within 50m)				
86 >	15.8 >	Bedrock geology (50k) >	1	0	1	3	-
87 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
87 >	15.10 >	Bedrock faults and other linear features (50k) >	0	0	1	0	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
88 >	16.1 >	BGS Boreholes >	0	0	3	-	-
Page	Section	Natural ground subsidence >					
90 >	17.1 >	Shrink swell clays >	Negligible (within 50m)				
91 >	17.2 >	Running sands >	Negligible (within 50m)				
92 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
93 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
94 >	17.5 >	Landslides >	Very low (within 50m)				
95 >	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
97 >	18.1 >	BritPits >	0	0	0	3	-
98 >	18.2 >	Surface ground workings >	0	0	6	-	-
99	18.3	Underground workings	0	0	0	0	0
99	18.4	Underground mining extents	0	0	0	0	-
99	18.5	Historical Mineral Planning Areas	0	0	0	0	-

99 >	**18.6 >**	**Non-coal mining >**	1	0	0	1	0
100	18.7	JPB mining areas	None (within 0m)				
100	18.8	The Coal Authority non-coal mining	0	0	0	0	-
100	18.9	Researched mining	0	0	0	0	-
101	18.10	Mining record office plans	0	0	0	0	-
101	18.11	BGS mine plans	0	0	0	0	-
101	18.12	Coal mining	None (within 0m)				
101	18.13	Brine areas	None (within 0m)				
101	18.14	Gypsum areas	None (within 0m)				
102	18.15	Tin mining	None (within 0m)				
102	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
103	19.1	Natural cavities	0	0	0	0	-
103	19.2	Mining cavities	0	0	0	0	0
103	19.3	Reported recent incidents	0	0	0	0	-
103	19.4	Historical incidents	0	0	0	0	-
104	19.5	National karst database	0	0	0	0	-
Page	Section	**Radon >**					
105 >	**20.1 >**	**Radon >**	Between 1% and 3% (within 0m)				
Page	Section	**Soil chemistry >**	On site	0-50m	50-250m	250-500m	500-2000m
107 >	**21.1 >**	**BGS Estimated Background Soil Chemistry >**	2	4	-	-	-
107	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
108	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
109	22.1	Underground railways (London)	0	0	0	-	-
109	22.2	Underground railways (Non-London)	0	0	0	-	-
109	22.3	Railway tunnels	0	0	0	-	-
109	22.4	Historical railway and tunnel features	0	0	0	-	-
109	22.5	Royal Mail tunnels	0	0	0	-	-

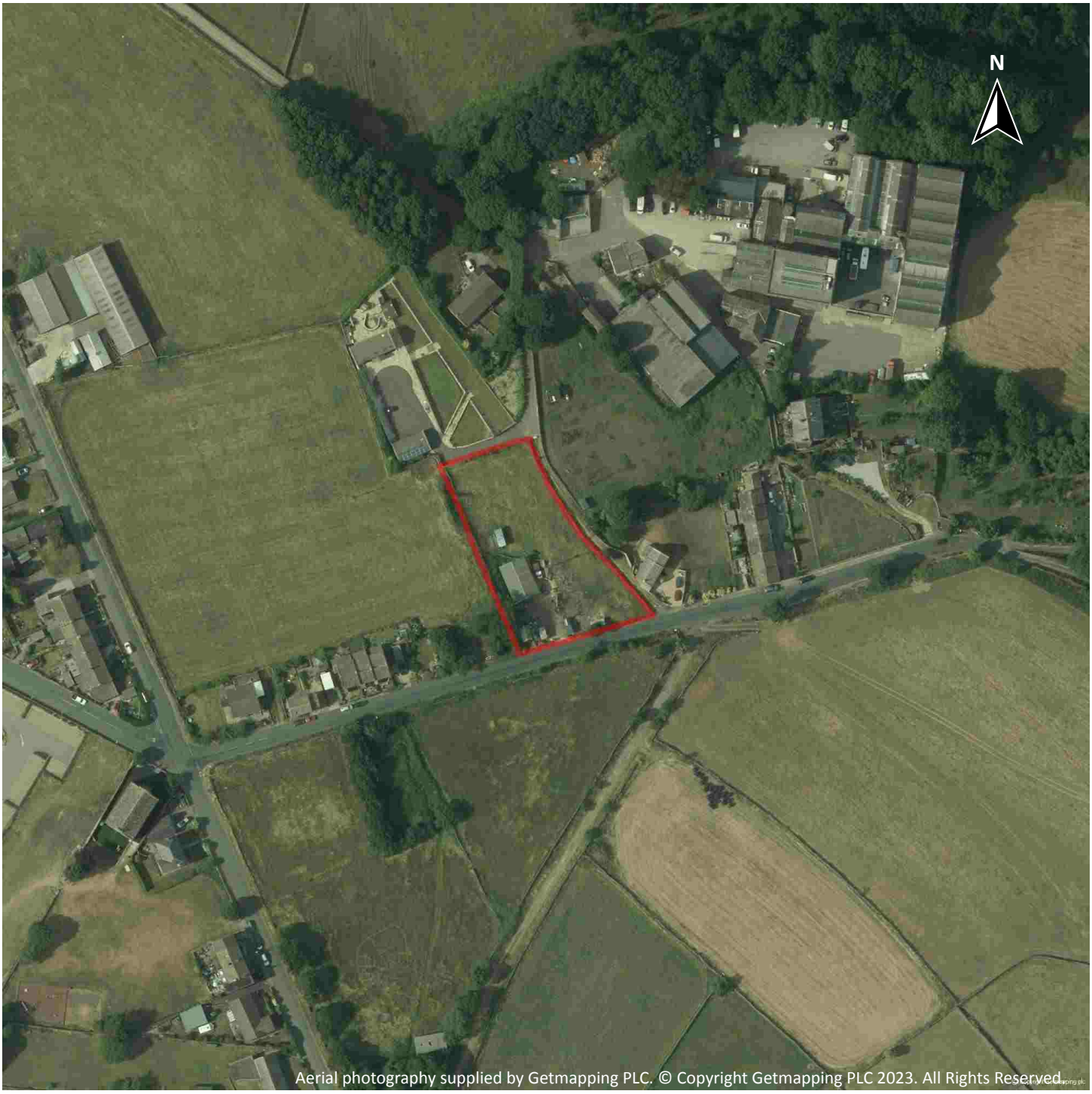
110	22.6	Historical railways	0	0	0	-	-
110	22.7	Railways	0	0	0	-	-
110	22.8	Crossrail 1	0	0	0	0	-
110	22.9	Crossrail 2	0	0	0	0	-
110	22.10	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 30/05/2021

Site Area: 0.26ha

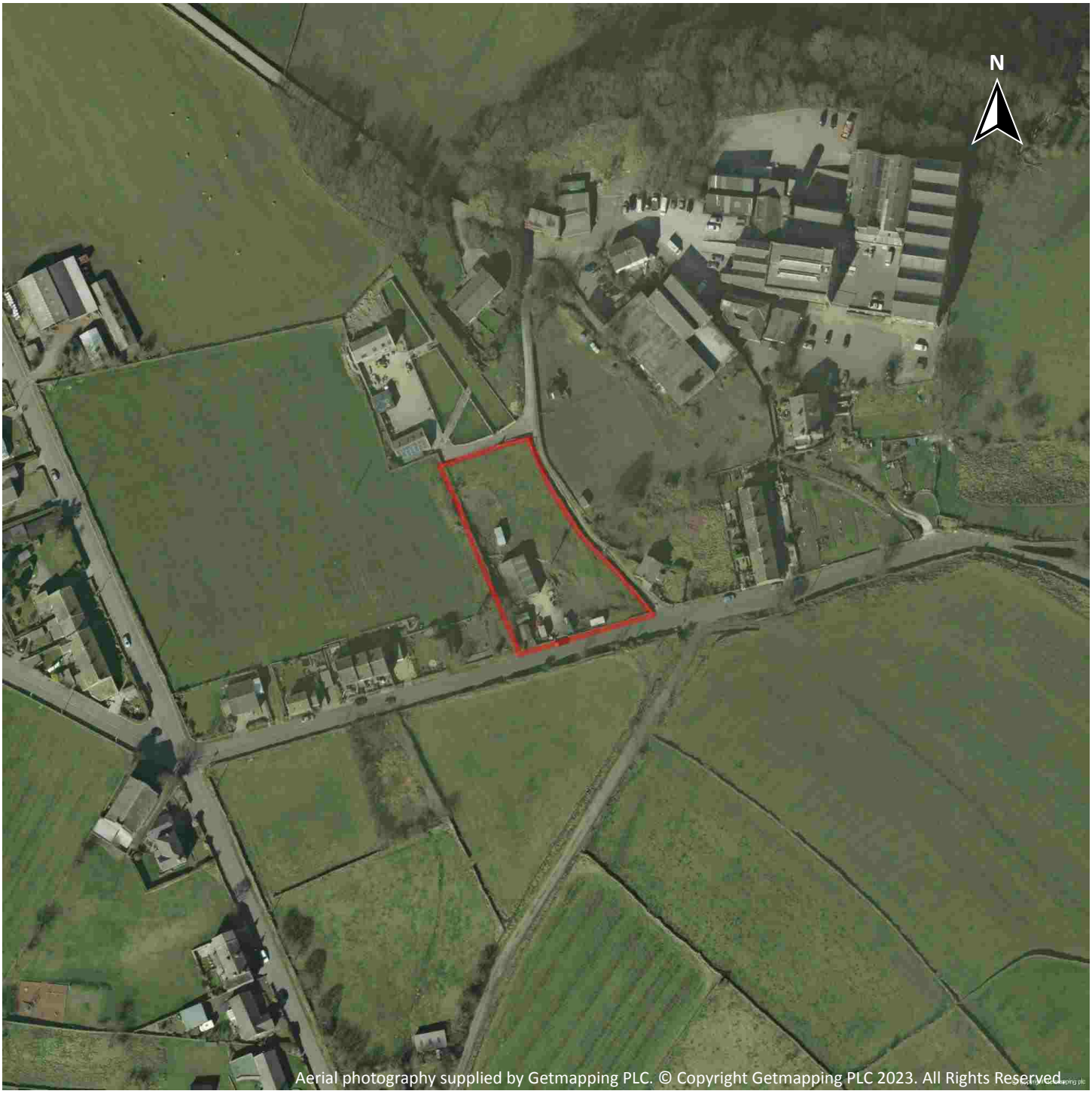
Recent site history - 2018 aerial photograph



Capture Date: 01/07/2018

Site Area: 0.26ha

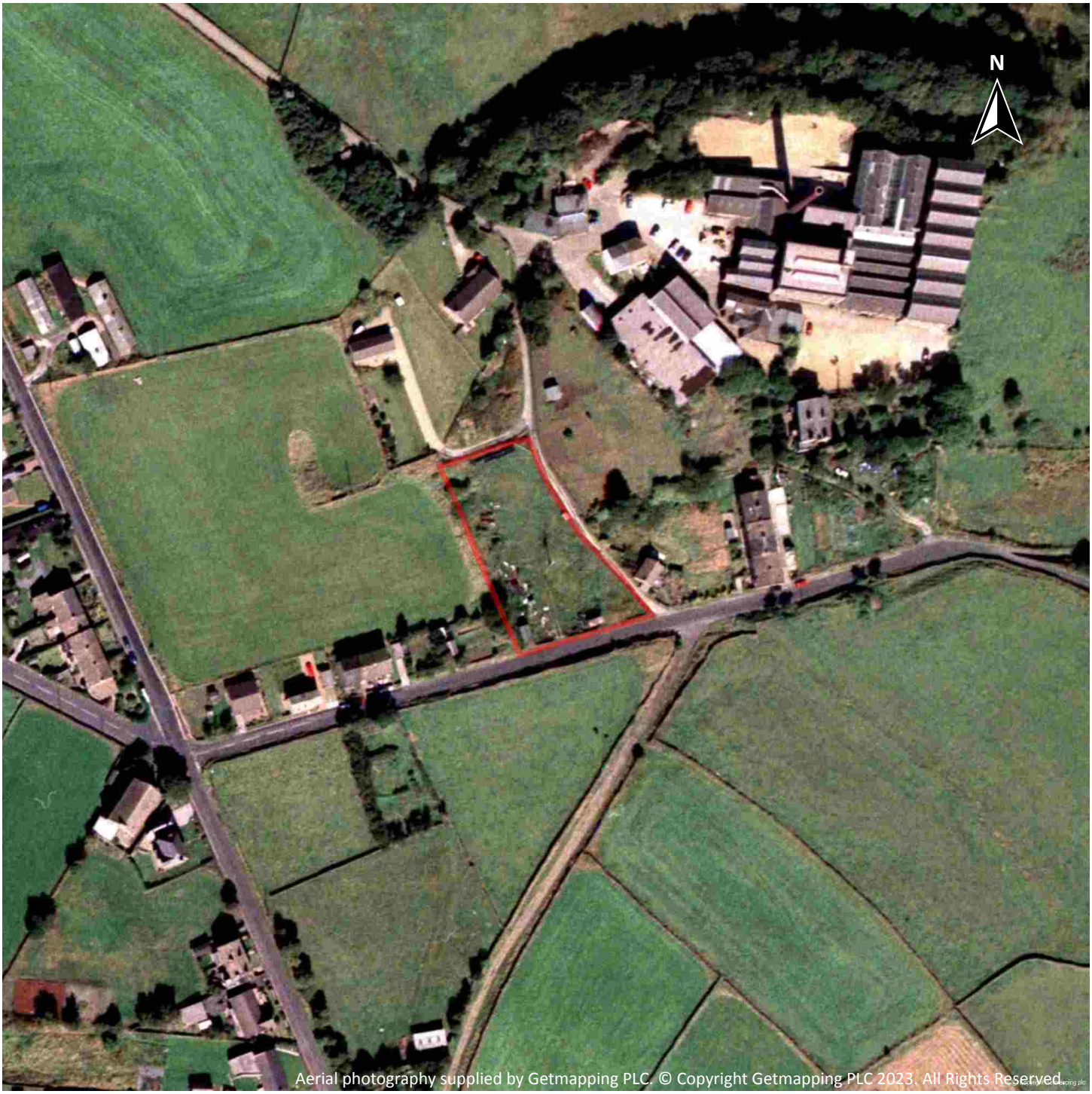
Recent site history - 2012 aerial photograph



Capture Date: 26/03/2012

Site Area: 0.26ha

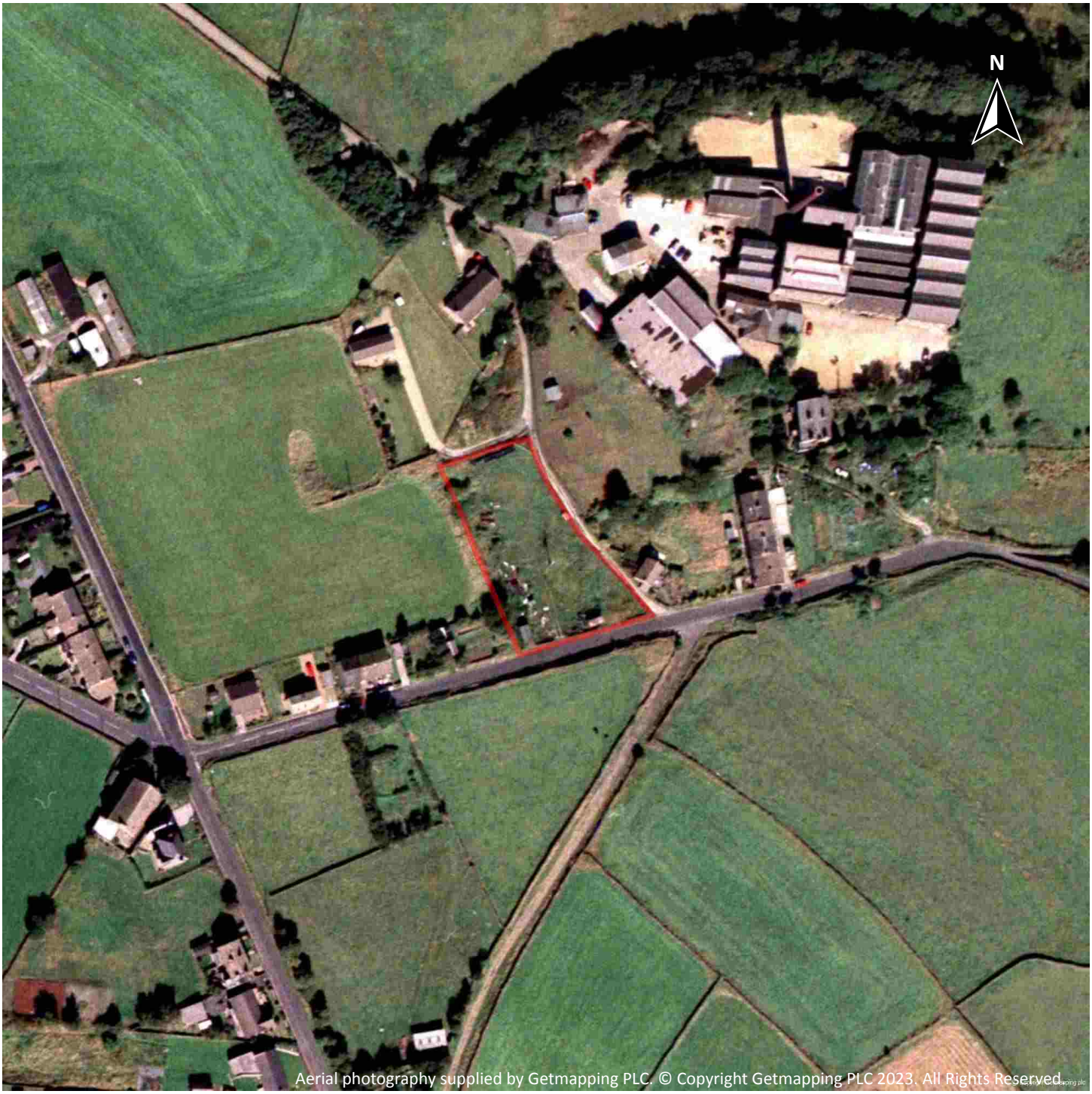
Recent site history - 2000 aerial photograph



Capture Date: 25/08/2000

Site Area: 0.26ha

Recent site history - 1999 aerial photograph



Capture Date: 10/09/1999

Site Area: 0.26ha

OS MasterMap site plan

Site Area: 0.26ha

1 Past land use

Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

1.1 Historical industrial land uses

Records within 500m	42

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	5m NE	Unspecified Mill	1951	1506389

ID	Location	Land use	Dates present	Group ID
A	6m N	Unspecified Mill	1967	1543056
A	51m NE	Unspecified Mill	1978	1483884
A	51m NE	Unspecified Mill	1993	1484740
A	56m N	Unspecified Mill	1905	1482774
A	56m N	Unspecified Mill	1948	1484086
A	63m N	Unspecified Mill	1938	1531816
A	75m N	Unspecified Mill	1890	1468877
A	78m NE	Mill Pond	1938 - 1948	1514240
A	84m NE	Mill Pond	1951	1506649
A	90m N	Unspecified Mill	1967 - 1993	1543057
1	198m NW	Unspecified Works	1967 - 1993	1510534
2	236m NE	Rifle Range	1890	1443647
B	287m N	Unspecified Ground Workings	1905	1483109
B	287m N	Unspecified Ground Workings	1948	1546428
3	346m NE	Unspecified Ground Workings	1905	1412097
C	389m NE	Unspecified Mills	1948	1463455
C	389m NE	Unspecified Mills	1905	1484425
C	390m NE	Unspecified Mills	1890	1469792
C	391m NE	Unspecified Mills	1938	1499550
D	391m SW	Unspecified Pit	1948	1484370
D	391m SW	Unspecified Pit	1905	1538669
C	392m NE	Unspecified Mills	1951	1501520
C	394m NE	Mill Pond	1905	1467163
D	395m S	Unspecified Quarry	1951	1537491
E	395m N	Unspecified Pit	1948	1468178
C	396m NE	Mill Pond	1938 - 1948	1460239
C	399m NE	Unspecified Mill	1993	1550978
C	399m NE	Unspecified Mill	1967 - 1978	1555272

ID	Location	Land use	Dates present	Group ID
D	400m S	Unspecified Quarry	1930	1557053
E	402m N	Unspecified Pit	1951	1466301
E	402m N	Unspecified Pit	1890	1550851
C	403m NE	Mill Pond	1951	1553533
E	403m N	Unspecified Pit	1938	1468943
E	405m N	Unspecified Pit	1967 - 1993	1541867
D	430m SW	Refuse Heap	1948	1436496
4	451m SW	Unspecified Quarry	1905 - 1930	1514484
C	458m E	Chimney	1967 - 1978	1523836
C	475m E	Unspecified Tank	1905	1491274
C	475m E	Unspecified Tank	1938 - 1948	1537682
5	480m SW	Unspecified Quarry	1930	1426563
C	483m E	Unspecified Tank	1951	1512057

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**5**

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 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	115m NE	Unspecified Tank	1907	222906
A	115m N	Unspecified Tank	1932	222903
A	117m NE	Unspecified Tank	1919	222907
A	119m NE	Unspecified Tank	1907	222908
C	475m E	Unspecified Tank	1893 - 1932	240040

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	0

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 un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

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 un-grouped 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	0

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 un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

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

Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

2.1 Historical industrial land uses

Records within 500m	55

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	5m NE	Unspecified Mill	1951	1506389
A	6m N	Unspecified Mill	1967	1543056
A	51m NE	Unspecified Mill	1993	1484740

ID	Location	Land Use	Date	Group ID
A	51m NE	Unspecified Mill	1978	1483884
A	56m N	Unspecified Mill	1948	1484086
A	56m N	Unspecified Mill	1905	1482774
A	63m N	Unspecified Mill	1938	1531816
A	75m N	Unspecified Mill	1890	1468877
A	78m NE	Mill Pond	1948	1514240
A	84m NE	Mill Pond	1951	1506649
A	85m NE	Mill Pond	1938	1514240
A	90m N	Unspecified Mill	1993	1543057
A	90m N	Unspecified Mill	1967	1543057
A	90m N	Unspecified Mill	1978	1543057
B	198m NW	Unspecified Works	1993	1510534
B	198m NW	Unspecified Works	1978	1510534
B	198m NW	Unspecified Works	1967	1510534
1	236m NE	Rifle Range	1890	1443647
C	287m N	Unspecified Ground Workings	1948	1546428
C	287m N	Unspecified Ground Workings	1905	1483109
2	346m NE	Unspecified Ground Workings	1905	1412097
D	389m NE	Unspecified Mills	1948	1463455
D	389m NE	Unspecified Mills	1905	1484425
D	390m NE	Unspecified Mills	1890	1469792
D	391m NE	Unspecified Mills	1938	1499550
E	391m SW	Unspecified Pit	1948	1484370
E	391m SW	Unspecified Pit	1905	1538669
D	392m NE	Unspecified Mills	1951	1501520
D	394m NE	Mill Pond	1905	1467163
E	395m S	Unspecified Quarry	1951	1537491
F	395m N	Unspecified Pit	1948	1468178

ID	Location	Land Use	Date	Group ID
D	396m NE	Mill Pond	1948	1460239
D	399m NE	Unspecified Mill	1993	1550978
D	399m NE	Unspecified Mill	1978	1555272
D	399m NE	Unspecified Mill	1967	1555272
E	400m S	Unspecified Quarry	1930	1557053
D	401m NE	Mill Pond	1938	1460239
F	402m N	Unspecified Pit	1951	1466301
F	402m N	Unspecified Pit	1890	1550851
D	403m NE	Mill Pond	1951	1553533
F	403m N	Unspecified Pit	1938	1468943
F	403m N	Unspecified Pit	1938	1468943
F	405m N	Unspecified Pit	1993	1541867
F	405m N	Unspecified Pit	1978	1541867
F	405m N	Unspecified Pit	1967	1541867
E	430m SW	Refuse Heap	1948	1436496
G	451m SW	Unspecified Quarry	1905	1514484
G	451m SW	Unspecified Quarry	1930	1514484
D	458m E	Chimney	1967	1523836
D	459m E	Chimney	1978	1523836
D	475m E	Unspecified Tank	1948	1537682
D	475m E	Unspecified Tank	1905	1491274
D	480m E	Unspecified Tank	1938	1537682
3	480m SW	Unspecified Quarry	1930	1426563
D	483m E	Unspecified Tank	1951	1512057

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	8

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'.

Features are displayed on the Past land use - un-grouped map on **page 19 >**

ID	Location	Land Use	Date	Group ID
A	115m NE	Unspecified Tank	1907	222906
A	115m N	Unspecified Tank	1932	222903
A	117m NE	Unspecified Tank	1919	222907
A	119m NE	Unspecified Tank	1907	222908
D	475m E	Unspecified Tank	1893	240040
D	476m E	Unspecified Tank	1919	240040
D	476m E	Unspecified Tank	1932	240040
D	482m E	Unspecified Tank	1907	240040

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	0

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'.

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	0

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'.

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill

Site Outline

Search buffers in metres (m)

Historical landfill (LA/OS)

Licensed waste sites

Waste exemptions

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	1

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

Features are displayed on the Waste and landfill map on **page 24 >**

ID	Location	Site address	Source	Data type
1	121m N	Refuse Tip	1961 mapping	Polygon

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	0

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

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

3.6 Licensed waste sites

Records within 500m	1

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

Features are displayed on the Waste and landfill map on **page 24 >**

ID	Location	Details		
4	355m W	Site Name: Heaven Scent Site Address: Mr Christopher Haigh / Mrs Jeanette Alison Haigh, 33, Bolster Moor Road, Bolster Moor, Huddersfield, West Yorkshire, HD7 4JU Correspondence Address: -	Type of Site: Incinerator Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 641570 EPR reference: EA/EPR/SP3396ZL Operator: Mr Christopher Haigh / Mrs Jeanette Alison Haigh Waste Management licence No: 65536 Annual Tonnage: 438	Issue Date: 28/08/2007 Effective Date: 28/08/2007 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: 28/08/2007 Status: Expired

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

3.7 Waste exemptions

Records within 500m	11

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 24 >**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	217m W	1A, BOLSTER MOOR ROAD, GOLCAR, HUDDERSFIELD, HD7 4JU	WEX181310	Disposing of waste exemption	On a farm	Disposal by incineration
A	241m SW	Harden Road Farm Bolster Moor Road Huddersfield hd7 4ju	EPR/AH0670TP/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
A	241m SW	Harden Road Farm Bolster Moor Road Huddersfield hd7 4ju	EPR/AH0670TP/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
A	241m SW	Harden Road Farm Bolster Moor Road Huddersfield hd7 4ju	EPR/AH0670TP/A001	Treating waste exemption	Agricultural Waste Only	Treatment of sheep dip for disposal
A	241m SW	Harden Road Farm Bolster Moor Road Huddersfield hd7 4ju	EPR/AH0670TP/A001	Treating waste exemption	Agricultural Waste Only	Preparatory treatments (baling, sorting, shredding etc)
A	241m SW	Harden Road Farm Bolster Moor Road Huddersfield hd7 4ju	EPR/AH0670TP/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising

ID	Location	Site	Reference	Category	Sub-Category	Description
A	241m SW	Harden Road Farm Bolster Moor Road Huddersfield hd7 4ju	EPR/AH0670TP/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
A	241m SW	Harden Road Farm Bolster Moor Road Huddersfield hd7 4ju	EPR/AH0670TP/A001	Using waste exemption	Agricultural Waste Only	Use of mulch
A	241m SW	Harden Road Farm Bolster Moor Road Huddersfield hd7 4ju	EPR/AH0670TP/A001	Using waste exemption	Agricultural Waste Only	Burning of waste as a fuel in a small appliance
2	269m NW	-	WEX008637	Disposing of waste exemption	Not on a farm	Burning waste in the open
3	300m W	1, BOLSTER MOOR ROAD, GOLCAR, HUDDERSFIELD, HD7 4JU	WEX022533	Disposing of waste exemption	On a farm	Disposal by incineration

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

4 Current industrial land use

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Site Outline

Search buffers in metres (m)

Recent industrial land uses

Licensed Discharges to controlled waters

4.1 Recent industrial land uses

Records within 250m	11

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 28 >**

ID	Location	Company	Address	Activity	Category
1	56m NE	Midas Aluminium Ltd	Unit 2 Heath House Mill, Heath House Lane, Bolster Moor, Huddersfield, West Yorkshire, HD7 4JW	General Construction Supplies	Industrial Products
A	122m NE	Anything Iron	Unit 17 Heath House Mill, Heath House Lane, Bolster Moor, Huddersfield, West Yorkshire, HD7 4JW	Metalworkers Including Blacksmiths	Construction Services

ID	Location	Company	Address	Activity	Category
A	123m NE	Chimney	West Yorkshire, HD7	Chimneys	Industrial Features
A	154m NE	Pennine Control Systems	Unit 12b Heath House Mill, Heath House Lane, Bolster Moor, Huddersfield, West Yorkshire, HD7 4JW	Electrical and Electronic Engineers	Engineering Services
A	154m NE	Lords Brewing Company Ltd	Unit 15 Heath House Mill, Heath House Lane, Bolster Moor, Huddersfield, West Yorkshire, HD7 4JW	Alcoholic Drinks	Foodstuffs
A	154m NE	Nautilus Group Ltd	Unit 13 Top Floor, Heath House Mill, Heath House Lane, Bolster Moor, Huddersfield, West Yorkshire, HD7 4JW	Hobby, Sports and Pastime Products	Consumer Products
A	154m NE	T V in Disguise	Heath House Mill, Heath House Lane, Bolster Moor, Huddersfield, West Yorkshire, HD7 4JW	Glass	Industrial Products
2	157m NW	Poultry Houses	West Yorkshire, HD7	Poultry Farming, Equipment and Supplies	Farming
3	199m SW	Poultry Houses	West Yorkshire, HD7	Poultry Farming, Equipment and Supplies	Farming
4	204m NW	E C Brett	76, Slades Road, Bolster Moor, Huddersfield, West Yorkshire, HD7 4JR	Dairy Farming	Farming
5	239m SW	Silo	West Yorkshire, HD7	Hoppers and Silos	Farming

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	1

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 28 >**

ID	Location	Address	Details	
6	297m E	COPLEY BANK CSO, COPLEY BANK, GOLCAR, NR HUDDERSFIELD, WEST YORKSHIRE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA7461 Permit Version: 1 Receiving Water: UNNAMED TRIB OF RIVER COLNE	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 26/10/1998 Effective Date: 26/10/1998 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	0

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

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

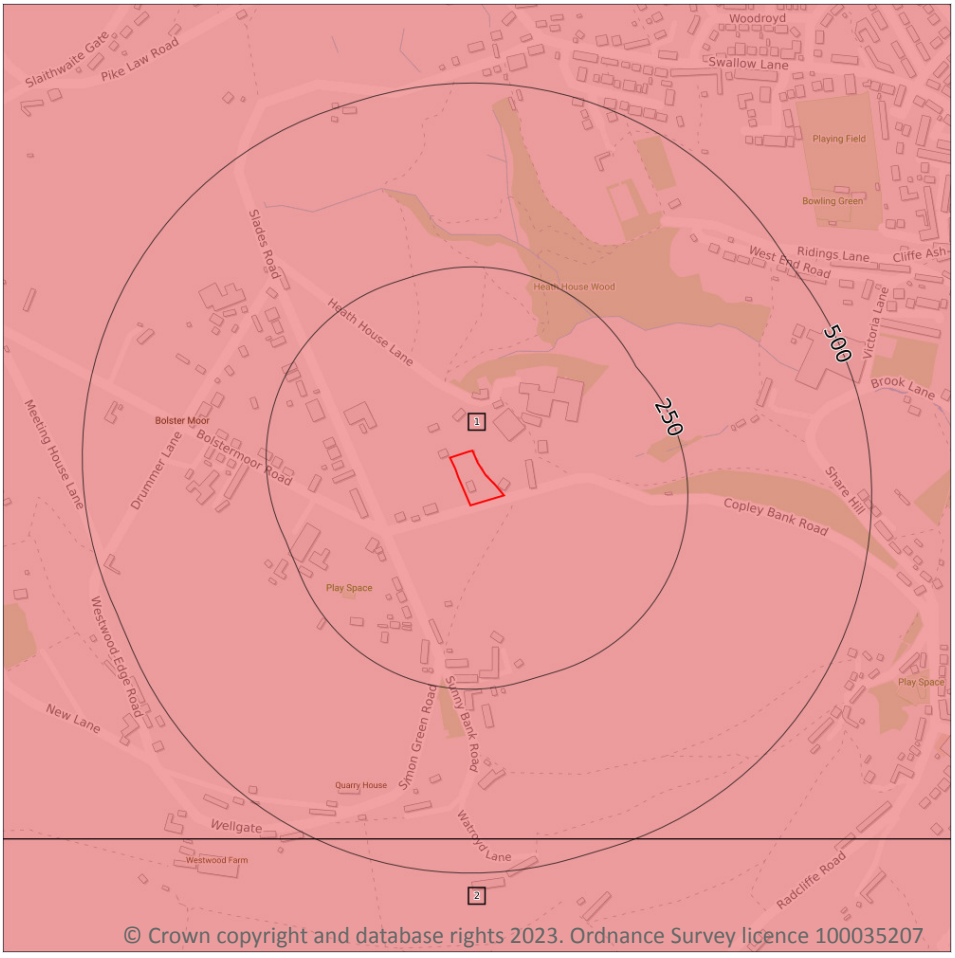
5.1 Superficial aquifer

Records within 500m	0

Aquifer status of groundwater held within superficial geology.

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	2

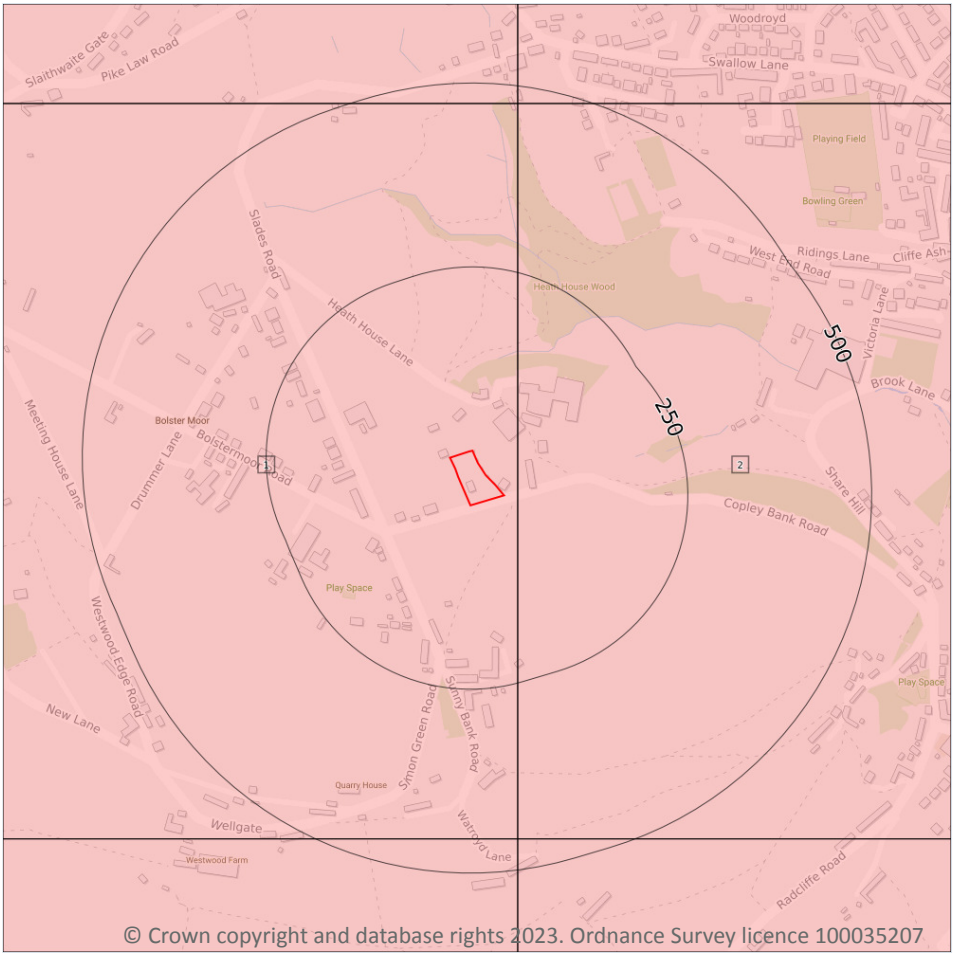
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 35 >**

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	454m S	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.

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability
- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability
- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information
- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	2

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 37 >**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: High Infiltration value: >70% Dilution value: >550mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
2	18m E	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >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	0

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

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

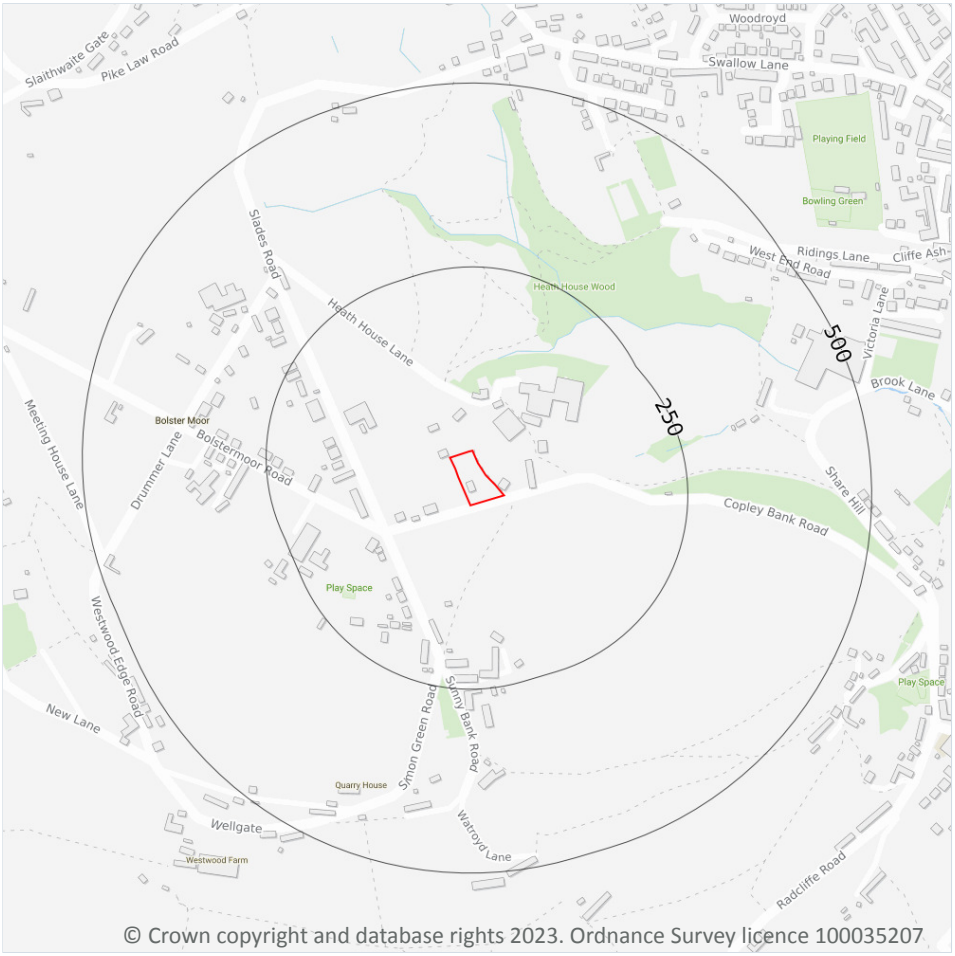
5.5 Groundwater vulnerability- local information

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



Site Outline

Search buffers in metres (m)

- Source Protection Zone 1 — Inner catchment
- Source Protection Zone 2 — Outer catchment
- Source Protection Zone 3 — Total catchment
- Source Protection Zone 4 — Zone of Special Interest
- Source Protection Zone 1c — Inner catchment - confined aquifer
- Source Protection Zone 2c — Outer catchment - confined aquifer
- Source Protection Zone 3c — Total catchment - confined aquifer
- Drinking water abstraction licences
- Drinking water abstraction licences — Polygon features
- Drinking water abstraction licences — Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m	14

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 39 >**

ID	Location	Details	
-	963m S	Status: Historical Licence No: 2/27/11/019 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-GOLCAR Data Type: Point Name: P & R WHITWAM Easting: 408800 Northing: 414500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 101 Version Start Date: 30/06/2000 Version End Date: -
-	1057m SE	Status: Active Licence No: NE/027/0011/007 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-TITANIC MILLS-LINTHWAITE Data Type: Point Name: PROPERTY RENAISSANCE LTD Easting: 409740 Northing: 414730	Annual Volume (m^3): 43070 Max Daily Volume (m^3): 118 Original Application No: NPS/WR/005539 Original Start Date: 21/02/2011 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 21/02/2011 Version End Date: -
-	1057m SE	Status: Historical Licence No: 2/27/11/191 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-COAL MEASURES-TITANIC MILLS-LINTHWAITE Data Type: Point Name: LOWRY HOMES PLC Easting: 409740 Northing: 414730	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 12/03/2005 Expiry Date: 31/12/2010 Issue No: 1 Version Start Date: 12/03/2005 Version End Date: -
-	1057m SE	Status: Historical Licence No: 2/27/11/191 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-TITANIC MILLS-LINTHWAITE Data Type: Point Name: LOWRY HOMES PLC Easting: 409740 Northing: 414730	Annual Volume (m^3): 54000 Max Daily Volume (m^3): 150 Original Application No: - Original Start Date: 12/03/2005 Expiry Date: 31/12/2010 Issue No: 2 Version Start Date: 08/02/2008 Version End Date: -

ID	Location	Details	
-	1192m SE	Status: Historical Licence No: 2/27/11/045 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - LINTHWAITE Data Type: Point Name: JAMES DYSON LTD Easting: 409800 Northing: 414600	Annual Volume (m^3): 175000 Max Daily Volume (m^3): 650 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 101 Version Start Date: 17/01/2002 Version End Date: -
-	1302m S	Status: Historical Licence No: 2/27/11/016 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: SPRING - MILLSTONE GRIT - LINTHWAITE Data Type: Point Name: GEORGE COCK LTD Easting: 409250 Northing: 414190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 101 Version Start Date: 22/05/2001 Version End Date: -
-	1356m SE	Status: Historical Licence No: 2/27/11/057 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: SPRINGS Data Type: Point Name: ROBERTS Easting: 410100 Northing: 414700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 27/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/01/1966 Version End Date: -
-	1362m S	Status: Historical Licence No: 2/27/11/050 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - KINDERSCOUT GRIT - LINTHWAITE Data Type: Point Name: GEORGE COCK LTD Easting: 409260 Northing: 414130	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 101 Version Start Date: 22/05/2001 Version End Date: -

ID	Location	Details	
-	1379m S	Status: Historical Licence No: 2/27/11/016 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: SPRING - COAL MEASURES - WATER TO MILL DAM Data Type: Point Name: GEORGE COCK LTD Easting: 409200 Northing: 414100	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/01/1966 Version End Date: -
-	1379m S	Status: Historical Licence No: 2/27/11/050 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: GEORGE COCK LTD Easting: 409200 Northing: 414100	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/01/1966 Version End Date: -
-	1797m NE	Status: Historical Licence No: 2/27/11/117 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: SPRING Data Type: Point Name: SHEARD Easting: 410100 Northing: 416900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/04/1966 Version End Date: -
-	1797m NE	Status: Historical Licence No: 2/27/11/117 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: SPRING - LONGWOOD Data Type: Point Name: SHEARD Easting: 410100 Northing: 416900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/04/1966 Version End Date: -
-	1863m SE	Status: Historical Licence No: 2/27/11/105 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: WELL Data Type: Point Name: HINCHCLIFFE & HAIGH Easting: 410450 Northing: 414320	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/04/1966 Version End Date: -

ID	Location	Details	
-	1863m SE	Status: Historical Licence No: 2/27/11/105 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: WELL - MILLSTONE GRIT - LINTHWAITE Data Type: Point Name: HINCHCLIFFE & HAIGH Easting: 410450 Northing: 414320	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/04/1966 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	32

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 39 >**

ID	Location	Details	
-	873m SE	Status: Historical Licence No: 2/27/11/013 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: SPRING-LINTHWAITE-HUDDERSFIELD Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409400 Northing: 414700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 101 Version Start Date: 16/07/2002 Version End Date: -
-	989m S	Status: Historical Licence No: 2/27/11/111 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE-WESTWOOD MILLS-LINTHWAITE Data Type: Point Name: MICHAEL WILSON RESTORATIONS Easting: 409200 Northing: 414500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 101 Version Start Date: 10/12/2002 Version End Date: -

ID	Location	Details	
-	1054m S	Status: Historical Licence No: 2/27/11/011 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: COLLINS & PRESTWICH & CO LTD Easting: 408900 Northing: 414400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
-	1065m SE	Status: Active Licence No: 2/27/11/013(A) Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE-LINTHWAITE Data Type: Point Name: PROPERTY RENAISSANCE LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): 9092 Max Daily Volume (m^3): 45.45 Original Application No: 1622(A) Original Start Date: 16/07/2002 Expiry Date: - Issue No: 1 Version Start Date: 01/04/2008 Version End Date: -
-	1065m SE	Status: Historical Licence No: 2/27/11/013 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
-	1065m SE	Status: Historical Licence No: 2/27/11/013 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -

ID	Location	Details	
-	1065m SE	Status: Historical Licence No: 2/27/11/013 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: RIVER COLNE-LINTHWAITE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
-	1065m SE	Status: Historical Licence No: 2/27/11/013 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE-LINTHWAITE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
-	1204m SE	Status: Historical Licence No: 2/27/11/111 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: MICKMAN Easting: 409700 Northing: 414500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/01/1991 Version End Date: -
-	1204m SE	Status: Historical Licence No: 2/27/11/111 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE - LINTHWAITE Data Type: Point Name: MICKMAN Easting: 409700 Northing: 414500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/01/1991 Version End Date: -

ID	Location	Details	
-	1224m S	Status: Historical Licence No: 2/27/11/179 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Line Name: GROSVENOR CHEMICALS LIMITED Easting: 408820 Northing: 414230	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 09/02/1996 Expiry Date: - Issue No: 100 Version Start Date: 09/02/1996 Version End Date: -
-	1224m S	Status: Historical Licence No: 2/27/11/179 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER COLNE - LINTHWAITE Data Type: Line Name: GROSVENOR CHEMICALS LTD Easting: 408820 Northing: 414230	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 09/02/1996 Expiry Date: - Issue No: 100 Version Start Date: 09/02/1996 Version End Date: -
-	1272m E	Status: Active Licence No: 2/27/11/042 Details: Process Water Direct Source: SURFACE WATER Point: RIVER COLNE - LINTHWAITE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410200 Northing: 415100	Annual Volume (m^3): 31822 Max Daily Volume (m^3): 159.11 Original Application No: 3842 Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/05/1989 Version End Date: -
-	1272m E	Status: Historical Licence No: 2/27/11/042 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410200 Northing: 415100	Annual Volume (m^3): 31822 Max Daily Volume (m^3): 159.11 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/05/1989 Version End Date: -

ID	Location	Details	
-	1272m E	Status: Historical Licence No: 2/27/11/042 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE - LINTHWAITE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410200 Northing: 415100	Annual Volume (m^3): 31822 Max Daily Volume (m^3): 159.11 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/05/1989 Version End Date: -
-	1309m W	Status: Historical Licence No: NE/027/0011/015 Details: Hydroelectric Power Generation Direct Source: SURFACE WATER Point: CRIMBLE CLOUGH AT WALLER CLOUGH, HUDDERSFIELD Data Type: Point Name: Garside Easting: 407625 Northing: 415781	Annual Volume (m^3): 145152 Max Daily Volume (m^3): 484 Original Application No: - Original Start Date: 18/07/2013 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 18/07/2013 Version End Date: -
-	1428m E	Status: Active Licence No: 2/27/11/006 Details: Process Water Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410400 Northing: 415300	Annual Volume (m^3): 30117 Max Daily Volume (m^3): 146.38 Original Application No: 475 Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1989 Version End Date: -
-	1428m E	Status: Active Licence No: 2/27/11/006 Details: Boiler Feed Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410400 Northing: 415300	Annual Volume (m^3): 30117 Max Daily Volume (m^3): 146.38 Original Application No: 475 Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1989 Version End Date: -
-	1428m E	Status: Historical Licence No: 2/27/11/006 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410400 Northing: 415300	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1989 Version End Date: -

ID	Location	Details	
-	1428m E	Status: Historical Licence No: 2/27/11/006 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410400 Northing: 415300	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1989 Version End Date: -
-	1646m E	Status: Active Licence No: NE/027/0011/021 Details: Supply To A Canal For Throughflow Direct Source: SURFACE WATER Point: BRITANNIA BRIDGE, HOLME MILLS, HUDDERSFIELD Data Type: Point Name: Canal and River Trust Easting: 410621 Northing: 415613	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: NPS/WR/036287 Original Start Date: 26/03/2021 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 15/10/2021 Version End Date: -
-	1656m NE	Status: Historical Licence No: 2/27/11/123 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: CLAYWOOD BROOK Data Type: Point Name: PARKWOOD MILLS CO LTD Easting: 410000 Northing: 416800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 26/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 26/05/1966 Version End Date: -
-	1657m NE	Status: Historical Licence No: 2/27/11/066 Details: Potable Water Supply - Direct Direct Source: SURFACE WATER Point: LONGWOOD UPPER AND LOWER RESERVOIRS Data Type: Line Name: YORKSHIRE WATER SERVICES LTD Easting: 409700 Northing: 417000	Annual Volume (m^3): 818297 Max Daily Volume (m^3): 2241.91 Original Application No: - Original Start Date: 27/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/01/1966 Version End Date: -

ID	Location	Details	
-	1764m SW	Status: Historical Licence No: 2/27/11/008 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: GLOBE WORSTED CO Easting: 408100 Northing: 413900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 01/12/1965 Version End Date: -
-	1874m SW	Status: Active Licence No: NE/027/0011/026 Details: Supply To A Canal For Throughflow Direct Source: SURFACE WATER Point: MERRY DALE CLOUGH Data Type: Point Name: Canal and River Trust Easting: 407536 Northing: 414207	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: NPS/NA/001055 Original Start Date: 26/03/2021 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 26/03/2021 Version End Date: -
-	1874m SW	Status: Historical Licence No: NE/027/0011/026 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: SURFACE WATER Point: MERRY DALE CLOUGH Data Type: Point Name: Canal and River Trust Easting: 407536 Northing: 414207	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 26/03/2021 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 26/03/2021 Version End Date: -
-	1875m SW	Status: Historical Licence No: 2/27/11/100 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Line Name: BROOK GROUP (HOLDINGS) LTD Easting: 407780 Northing: 413800	Annual Volume (m^3): 181840 Max Daily Volume (m^3): 909.2 Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 101 Version Start Date: 26/03/2008 Version End Date: -

ID	Location	Details	
-	1942m SW	Status: Historical Licence No: 2/27/11/146 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: HUDDERSFIELD CANAL Data Type: Point Name: BRITISH WATERWAYS BOARD Easting: 407770 Northing: 413900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 26/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/06/1969 Version End Date: -
-	1942m SW	Status: Historical Licence No: 2/27/11/146 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: HUDDERSFIELD CANAL - SLAITHWAITE Data Type: Point Name: BRITISH WATERWAYS Easting: 407770 Northing: 413900	Annual Volume (m^3): 45460 Max Daily Volume (m^3): 124.55 Original Application No: - Original Start Date: 26/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/06/1969 Version End Date: -
-	1951m SW	Status: Active Licence No: NE/027/0011/025 Details: Supply To A Canal For Throughflow Direct Source: SURFACE WATER Point: SLAITHWAITE RESERVOIR Data Type: Point Name: Canal and River Trust Easting: 407515 Northing: 414116	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: NPS/NA/001049 Original Start Date: 26/03/2021 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 26/03/2021 Version End Date: -
-	1951m SW	Status: Historical Licence No: NE/027/0011/025 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: SURFACE WATER Point: SLAITHWAITE RESERVOIR Data Type: Point Name: Canal and River Trust Easting: 407515 Northing: 414116	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 26/03/2021 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 26/03/2021 Version End Date: -

ID	Location	Details	
-	1961m NE	Status: Historical Licence No: 2/27/11/123 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: CLAY WOOD BROOK-PARKWOOD ROAD-LONGWOOD Data Type: Point Name: PARKWOOD MILLS CO LTD Easting: 410330 Northing: 416910	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 26/05/1966 Expiry Date: - Issue No: 102 Version Start Date: 30/08/2002 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	8

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.

Features are displayed on the Abstractions and Source Protection Zones map on **page 39 >**

ID	Location	Details	
-	873m SE	Status: Historical Licence No: 2/27/11/013 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: SPRING-LINTHWAITE-HUDDERSFIELD Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409400 Northing: 414700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 101 Version Start Date: 16/07/2002 Version End Date: -
-	1054m S	Status: Historical Licence No: 2/27/11/011 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: COLLINS & PRESTWICH & CO LTD Easting: 408900 Northing: 414400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -

ID	Location	Details	
-	1057m SE	Status: Active Licence No: NE/027/0011/007 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-TITANIC MILLS-LINTHWAITE Data Type: Point Name: PROPERTY RENAISSANCE LTD Easting: 409740 Northing: 414730	Annual Volume (m^3): 43070 Max Daily Volume (m^3): 118 Original Application No: NPS/WR/005539 Original Start Date: 21/02/2011 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 21/02/2011 Version End Date: -
-	1057m SE	Status: Historical Licence No: 2/27/11/191 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-COAL MEASURES-TITANIC MILLS-LINTHWAITE Data Type: Point Name: LOWRY HOMES PLC Easting: 409740 Northing: 414730	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 12/03/2005 Expiry Date: 31/12/2010 Issue No: 1 Version Start Date: 12/03/2005 Version End Date: -
-	1057m SE	Status: Historical Licence No: 2/27/11/191 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-TITANIC MILLS-LINTHWAITE Data Type: Point Name: LOWRY HOMES PLC Easting: 409740 Northing: 414730	Annual Volume (m^3): 54000 Max Daily Volume (m^3): 150 Original Application No: - Original Start Date: 12/03/2005 Expiry Date: 31/12/2010 Issue No: 2 Version Start Date: 08/02/2008 Version End Date: -
-	1065m SE	Status: Historical Licence No: 2/27/11/013 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -

ID	Location	Details	
-	1065m SE	Status: Historical Licence No: 2/27/11/013 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: RIVER COLNE-LINTHWAITE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
-	1657m NE	Status: Historical Licence No: 2/27/11/066 Details: Potable Water Supply - Direct Direct Source: SURFACE WATER Point: LONGWOOD UPPER AND LOWER RESERVOIRS Data Type: Line Name: YORKSHIRE WATER SERVICES LTD Easting: 409700 Northing: 417000	Annual Volume (m^3): 818297 Max Daily Volume (m^3): 2241.91 Original Application No: - Original Start Date: 27/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/01/1966 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m	0

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

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

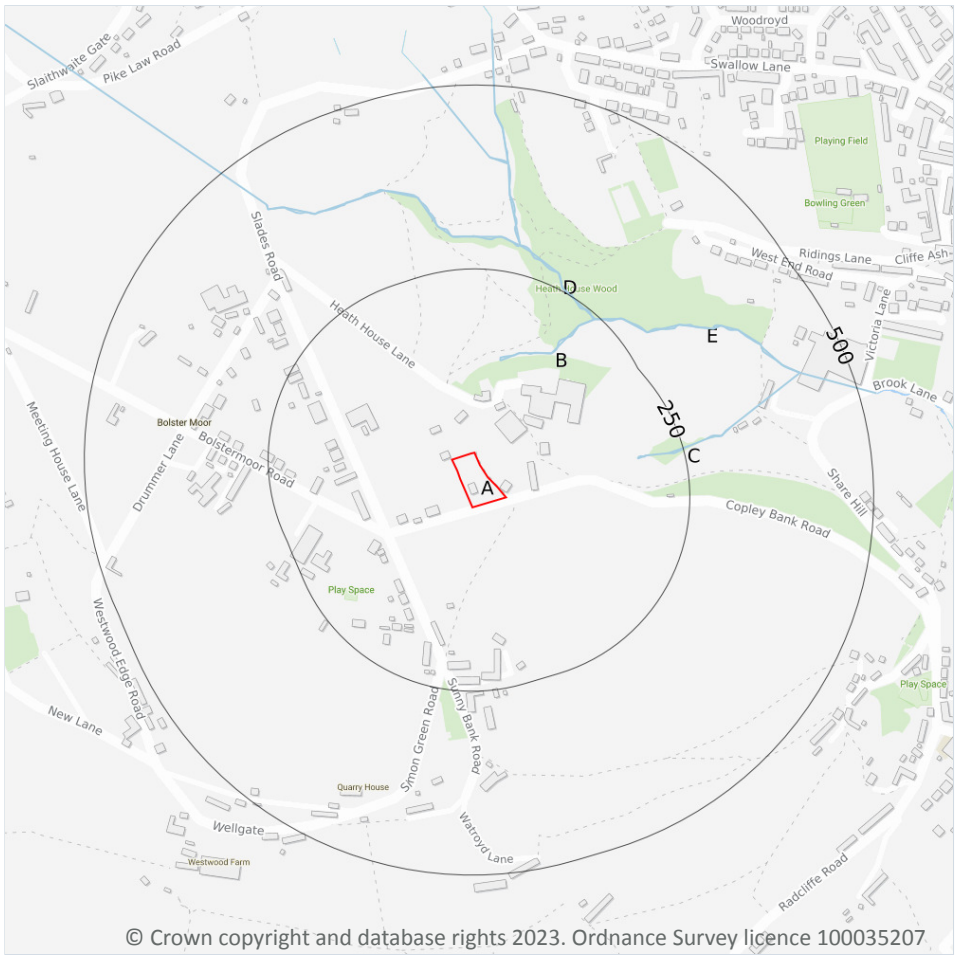
5.10 Source Protection Zones (confined aquifer)

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



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Site Outline

Search buffers in metres (m)

- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m	4

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 54 >**

ID	Location	Type of water feature	Ground level	Permanence	Name
B	130m N	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
C	186m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	243m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	244m NE	Inland river not influenced by normal tidal action.	On ground surface	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 54 >**

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 54 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	**On site**	**River**	**Colne from Wessenden Brook to R Holme**	**GB104027063330**	**Colne and Holme**	**Aire and Calder**

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. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on **page 54 >**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	714m W	River	Colne from Wessenden Brook to R Holme	GB104027063330 ↗	Moderate	Fail	Moderate	2019

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. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 54 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**Aire & Calder Carb Limestone / Millstone Grit / Coal Measures.**	**GB40402G700400 ↗**	**Poor**	**Poor**	**Good**	**2019**

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.

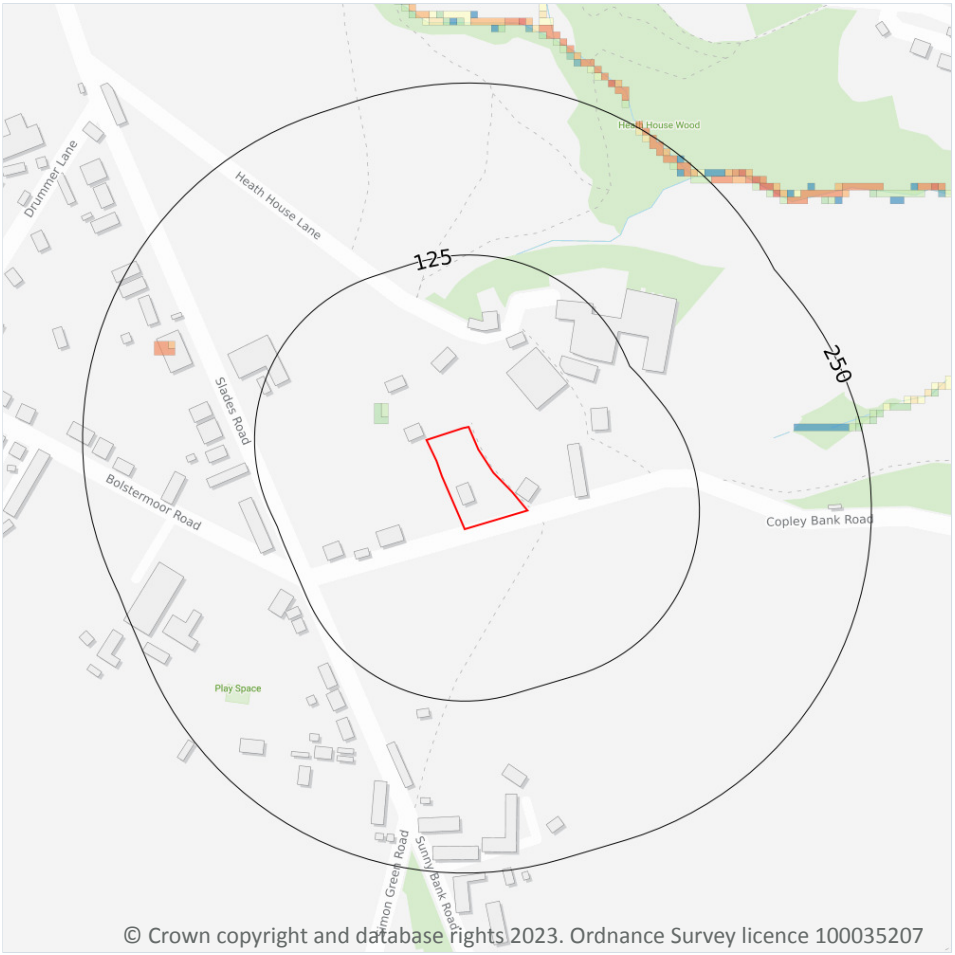
7.7 Flood Zone 3

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



Site Outline

Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**Negligible**
Highest risk within 50m	**1 in 250 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 60 >**

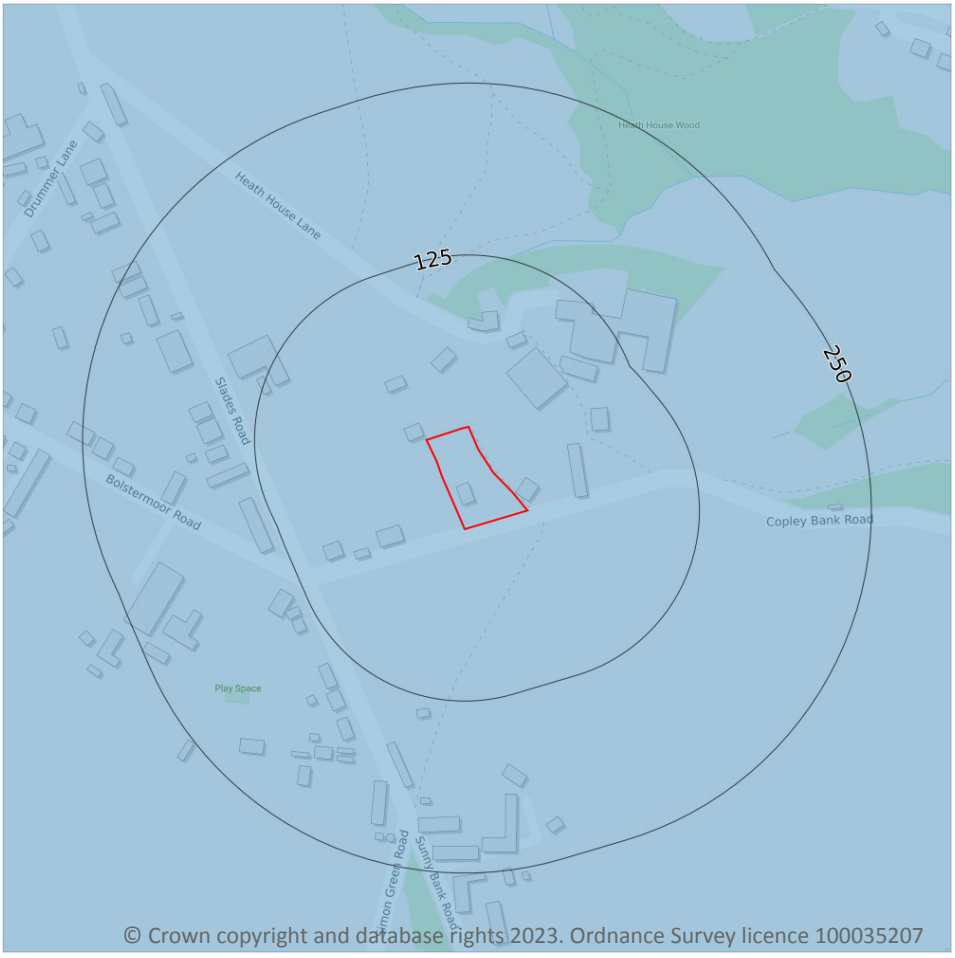
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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	Negligible
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



Site Outline

Search buffers in metres (m)

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

9.1 Groundwater flooding

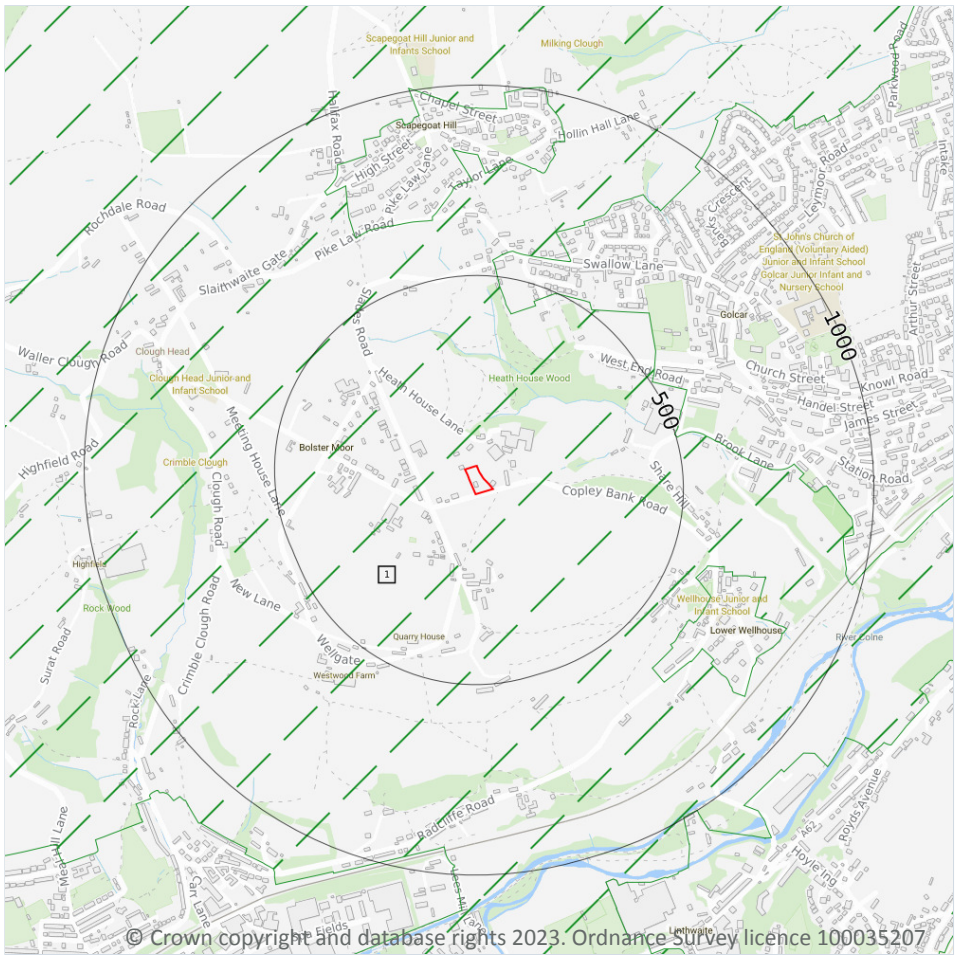
Highest risk on site	**Negligible**
Highest risk within 50m	**Negligible**

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 62 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Designated Ancient Woodland

Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	0

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.

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	1

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 63 >**

ID	Location	Name	Woodland Type
-	1937m N	Unknown	Ancient Replanted Woodland

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	1

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

Features are displayed on the Environmental designations map on **page 63 >**

ID	Location	Name	Local Authority name
1	**On site**	**South and West Yorkshire**	**Kirklees**

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.

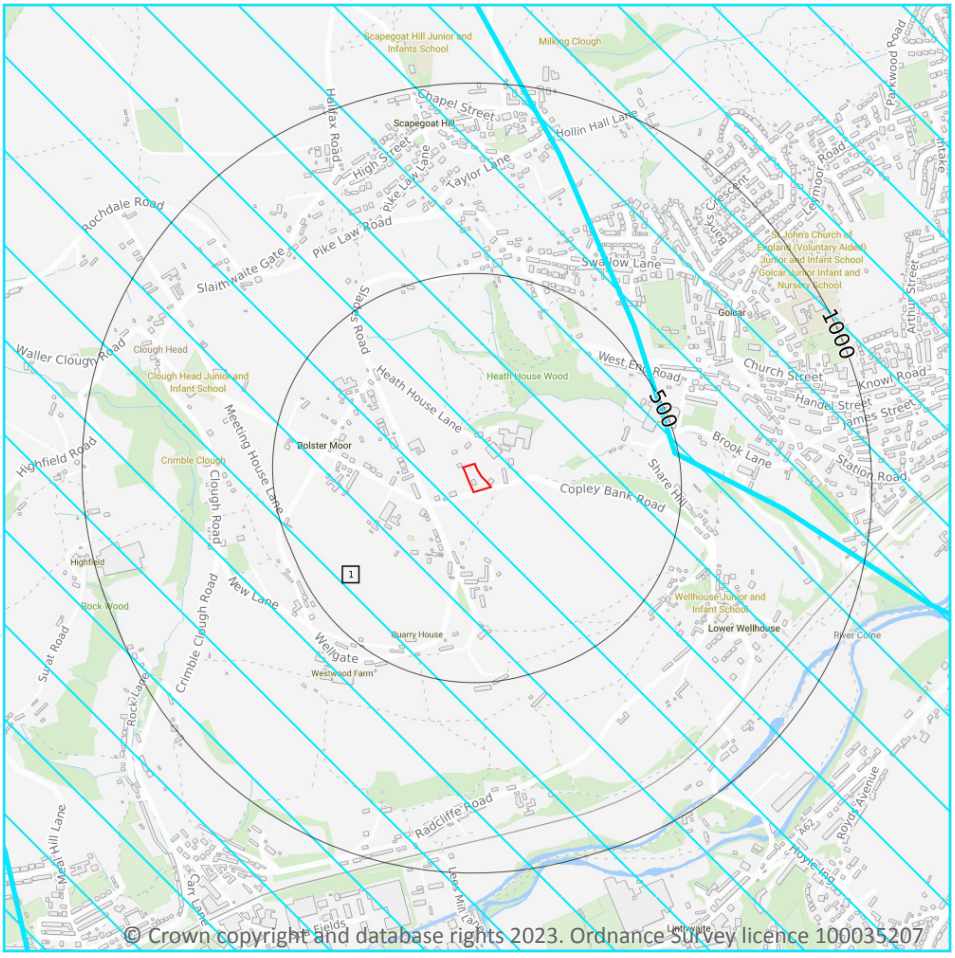
10.16 Nitrate Vulnerable Zones

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



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Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site	1

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

Features are displayed on the SSSI Impact Zones and Units map on **page 68 >**

ID	Location	Type of developments requiring consultation
1	**On site**	**Infrastructure - Airports, helipads and other aviation proposals.** **Minerals, Oil and Gas - Oil & gas exploration/extraction.** **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)** **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**

This data is sourced from Natural England.

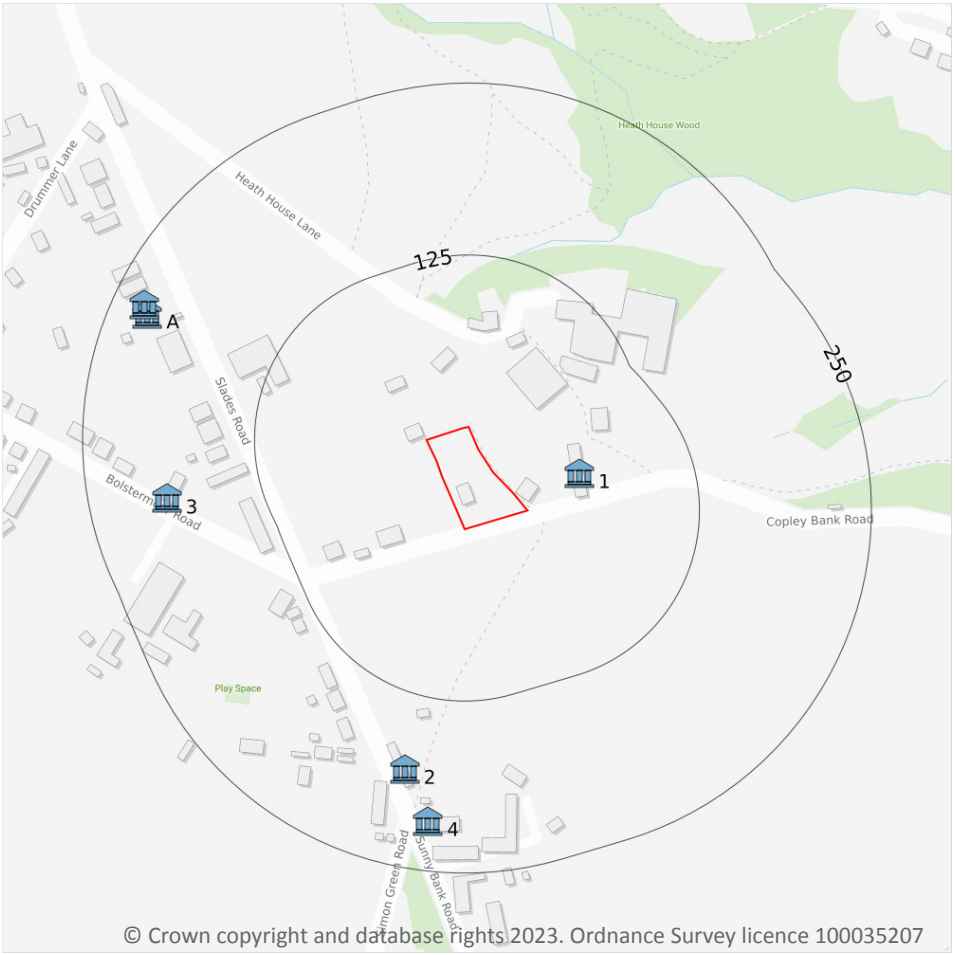
10.18 SSSI Units

Records within 2000m	0

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



Site Outline

Search buffers in metres (m)

- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

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	6

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.

Features are displayed on the Visual and cultural designations map on **page 70 >**

ID	Location	Name	Grade	Reference Number	Listed date
1	46m E	Bank End	II	1230923	11/07/1985
2	180m S	205 And 207, Slades Road	II	1224208	11/07/1985
3	194m W	2 Bolster Moor Road	II	1231231	11/07/1985
4	214m S	Headwell Green	II	1224048	11/07/1985
A	223m NW	72 And 74 Slades Road	II	1266986	11/07/1985
A	227m NW	70, Slades Road	II	1224047	11/07/1985

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

11.5 Conservation Areas

Records within 250m	0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m	0

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

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

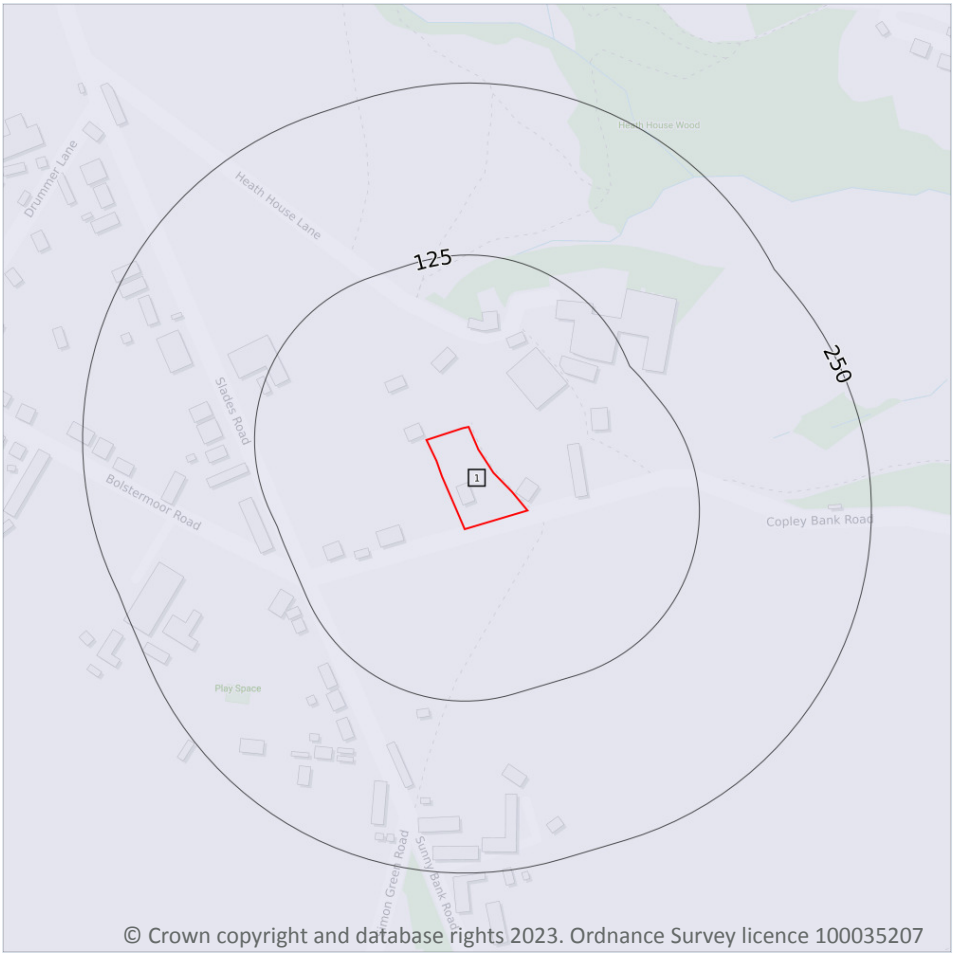
11.7 Registered Parks and Gardens

Records within 250m	0

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

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

12 Agricultural designations



Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	1

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 73 >**

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

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

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

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

12.3 Tree Felling Licences

Records within 250m	0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

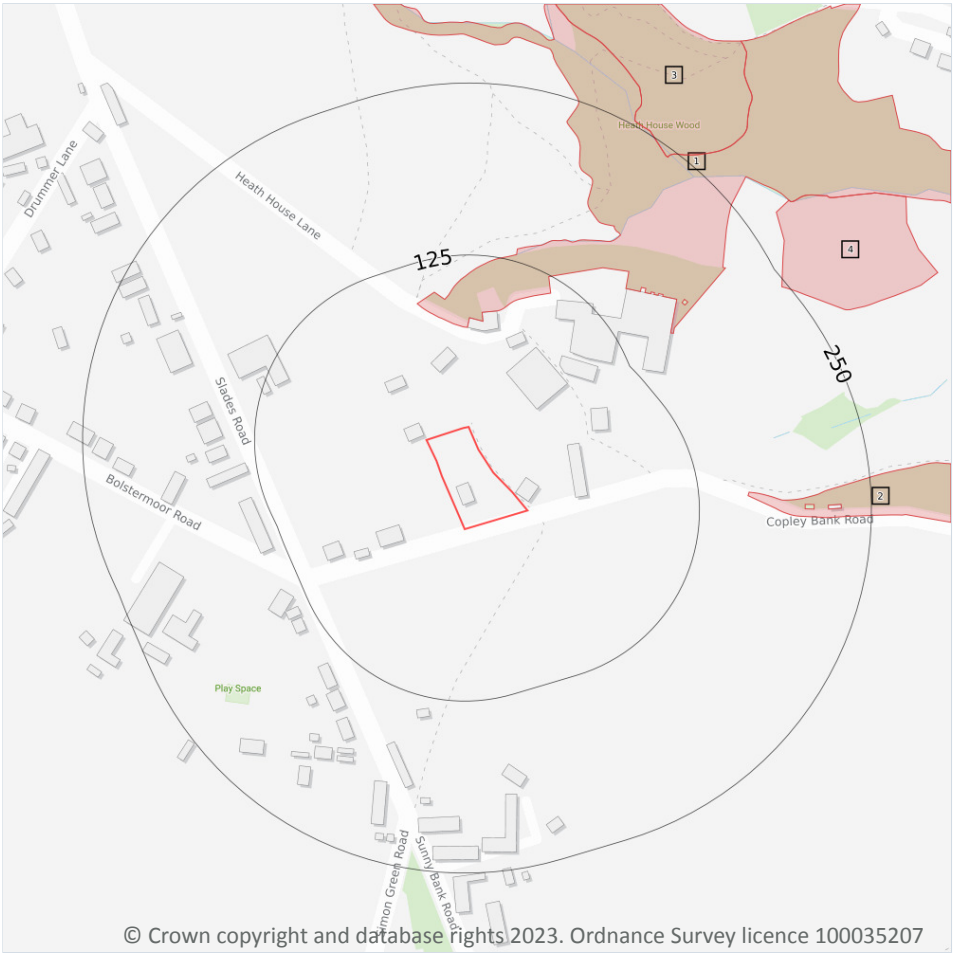
12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations



Site Outline

Search buffers in metres (m)

Priority Habitat Inventory
Open Mosaic Habitat
Limestone Pavement Orders

Habitat Networks
Primary Habitat
Restorable Habitat
Associated Habitats
Habitat Restoration-Creation
Network Enhancement Zone 1
Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m	4

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

Features are displayed on the Habitat designations map on **page 75 >**

ID	Location	Main Habitat	Other habitats
1	72m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	161m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	244m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	246m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

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.

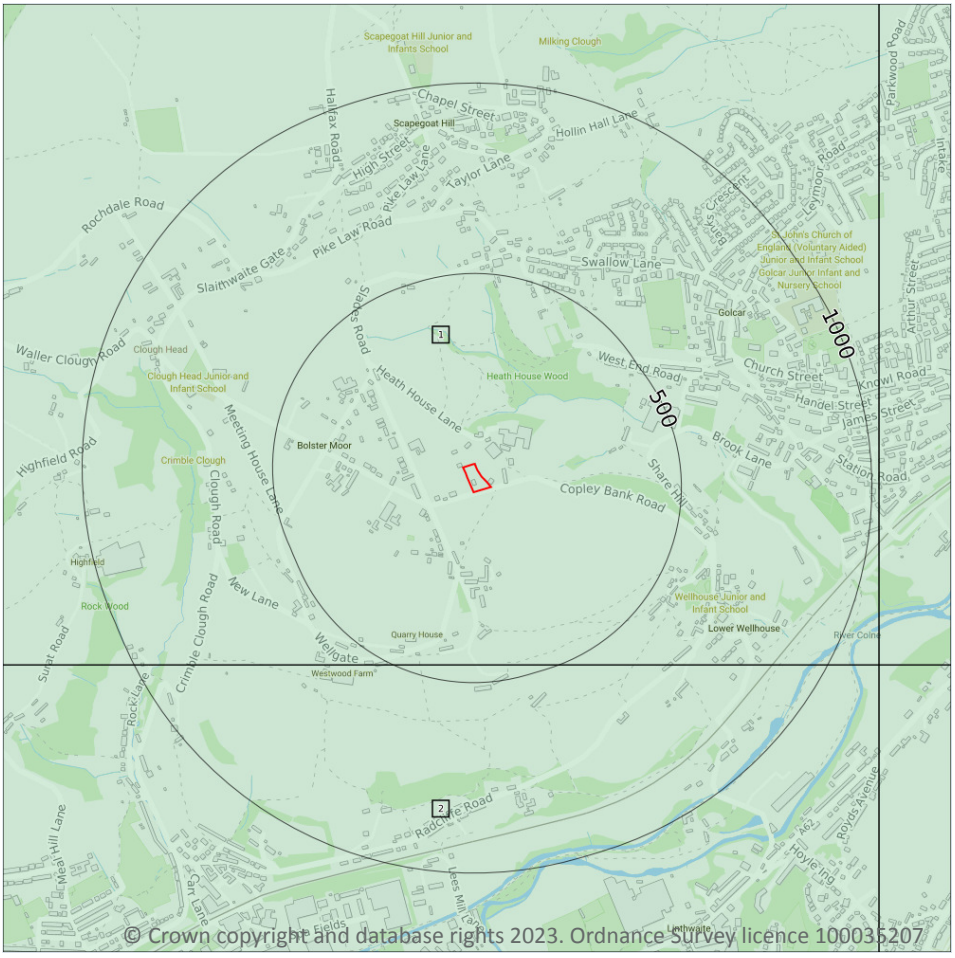
13.4 Limestone Pavement Orders

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

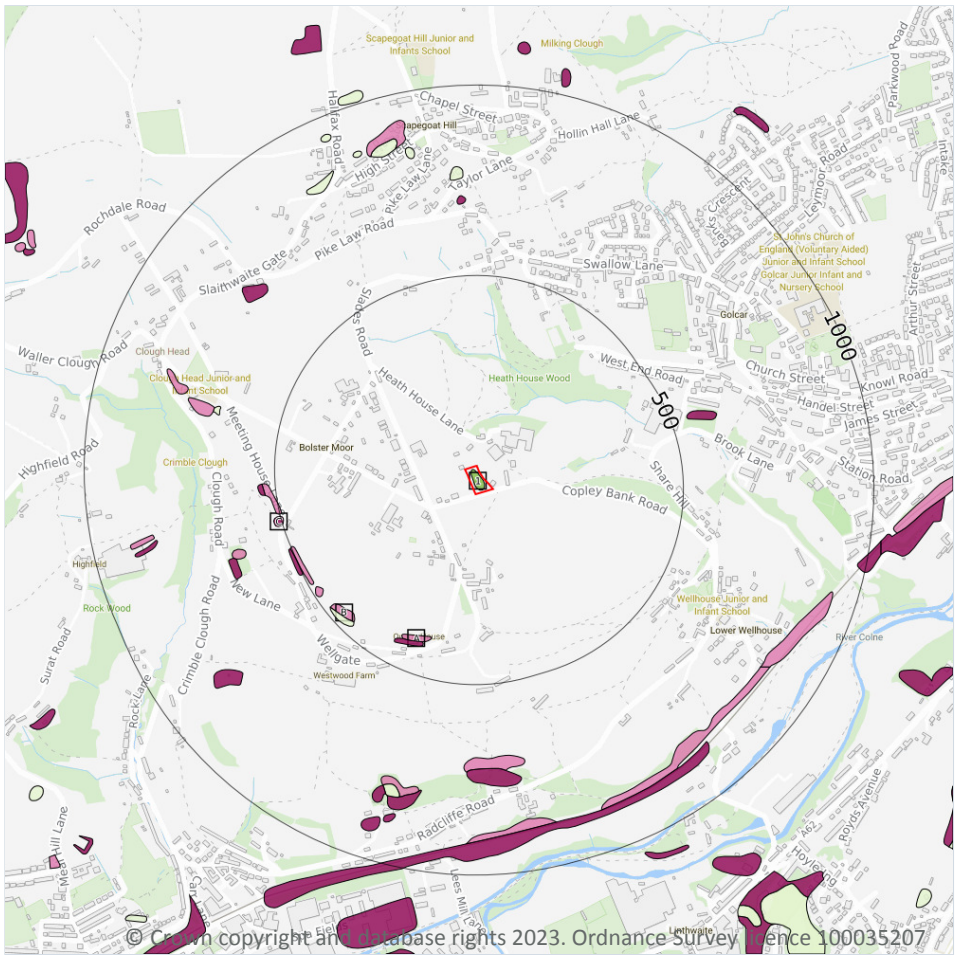
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 77 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**SE01NE**
2	454m S	Full	Full	Full	Full	SE01SE

This data is sourced from the British Geological Survey.

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



Site Outline

Search buffers in metres (m)

- Reclaimed ground
- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m	10

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

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 78 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**DDGR-UKNOWN**	**Disturbed Ground (Undivided)**	**Unknown/unclassified Entry**
A	393m S	WGR-VOID	Worked Ground (Undivided)	Void
A	412m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	448m SW	WGR-VOID	Worked Ground (Undivided)	Void

ID	Location	LEX Code	Description	Rock description
B	463m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
B	472m SW	WGR-VOID	Worked Ground (Undivided)	Void
B	484m SW	WGR-VOID	Worked Ground (Undivided)	Void
C	494m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
C	495m W	WGR-VOID	Worked Ground (Undivided)	Void
B	497m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

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.

This data is sourced from the British Geological Survey.

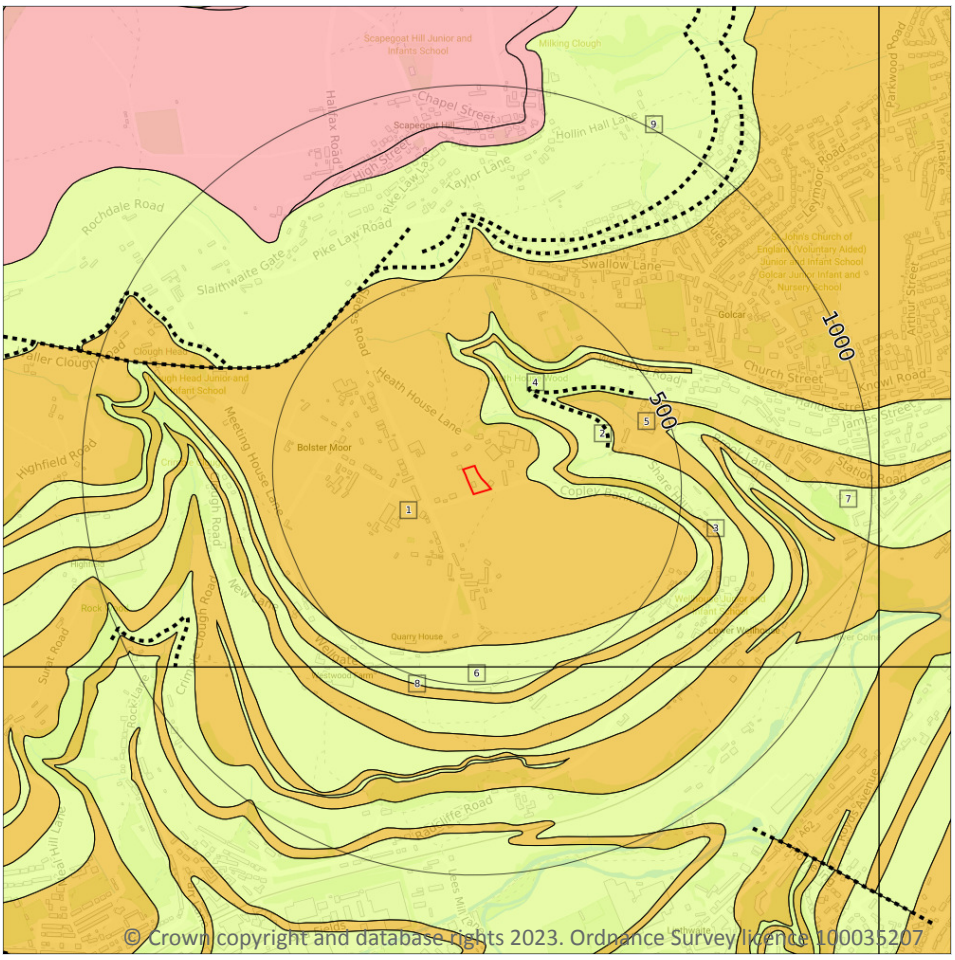
14.4 Landslip (10k)

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.

Geology 1:10,000 scale - Bedrock



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Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m	8

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 81 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**HDW-SDST**	**Huddersfield White Rock - Sandstone**	**Marsdenian Sub-age**
2	101m E	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
3	173m E	MGCZ-SDST	Unnamed Sandstone Of Marsdenian Age (in Millstone Grit Group) - Sandstone	Marsdenian Sub-age

ID	Location	LEX Code	Description	Rock age
5	277m NE	GSYG-SDST	Guiseley Grit - Sandstone	Marsdenian Sub-age
6	454m S	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
7	484m E	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
8	496m SE	MGCZ-SDST	Unnamed Sandstone Of Marsdenian Age (in Millstone Grit Group) - Sandstone	Marsdenian Sub-age
9	499m N	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	**1**

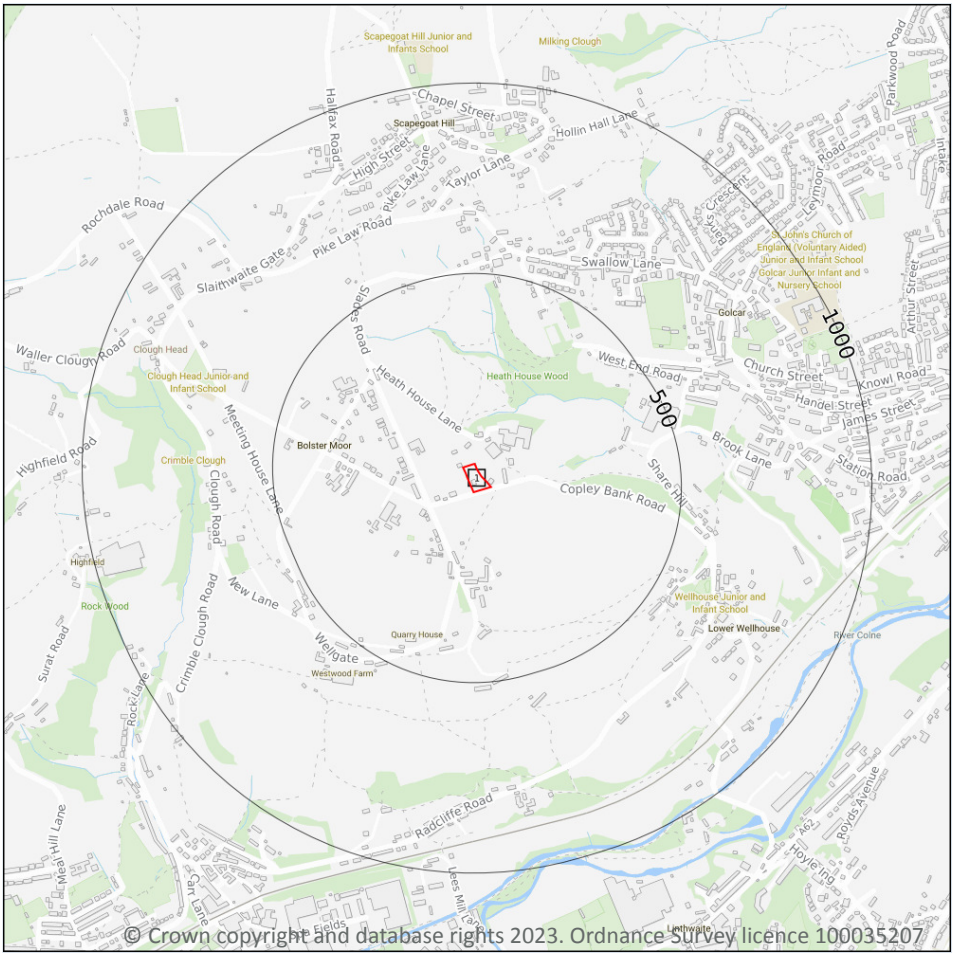
Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 81 >**

ID	Location	Category	Description
4	243m NE	FOSSIL_HORIZON	Fossil horizon, marine band

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 83 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW077_huddersfield_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

15.4 Superficial geology (50k)

Records within 500m	0

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.

This data is sourced from the British Geological Survey.

15.5 Superficial 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 superficial deposits (the zone between the land surface and the water table).

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.

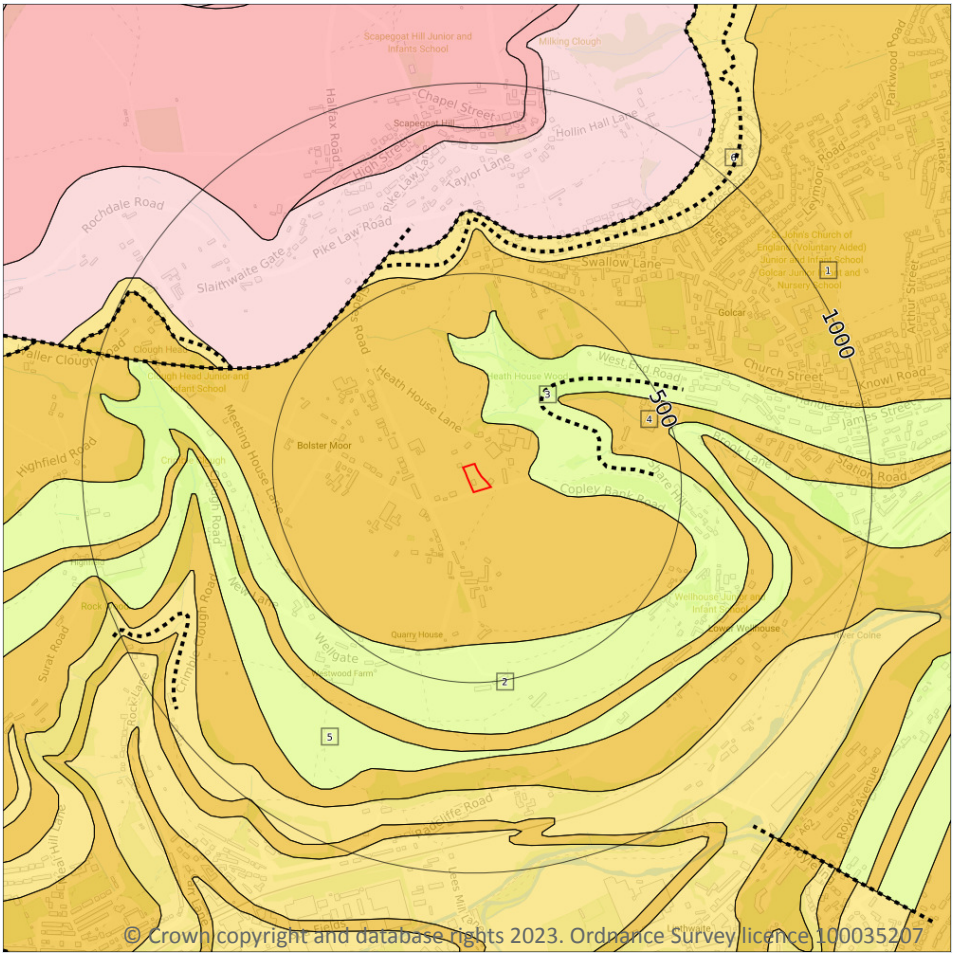
15.7 Landslip permeability (50k)

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	5

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 86 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**HDW-SDST**	**HUDDERSFIELD WHITE ROCK - SANDSTONE**	**NAMURIAN**
2	105m E	MG-MDSS	MILLSTONE GRIT GROUP [SEE ALSO MIGR] - MUDSTONE, SILTSTONE AND SANDSTONE	NAMURIAN
4	275m NE	GSYG-SDST	GUISELEY GRIT - SANDSTONE	NAMURIAN

ID	Location	LEX Code	Description	Rock age
5	488m E	MG-MDSS	MILLSTONE GRIT GROUP [SEE ALSO MIGR] - MUDSTONE, SILTSTONE AND SANDSTONE	NAMURIAN
6	497m N	MARSD-MDSI	MARSDEN FORMATION - MUDSTONE AND SILTSTONE	NAMURIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock 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 bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**High**	**Moderate**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	1

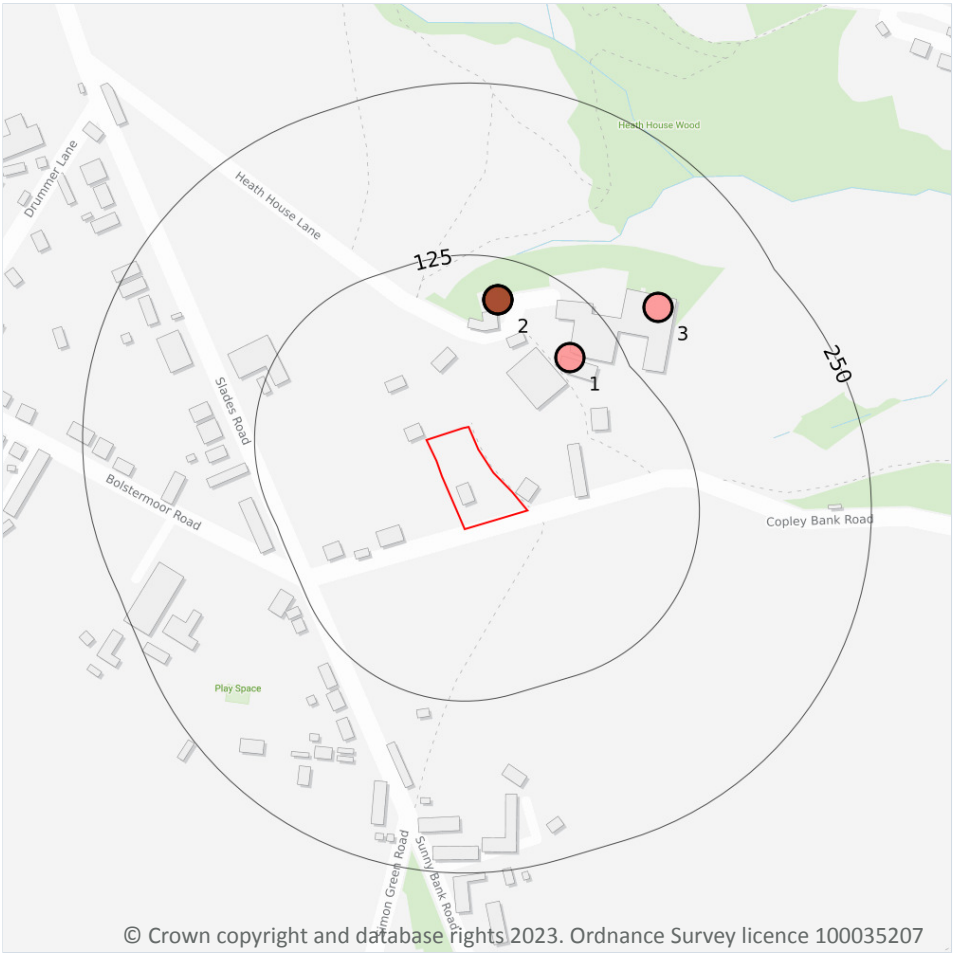
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 86 >**

ID	Location	Category	Description
3	233m NE	FOSSIL_HORIZON	Marine band

This data is sourced from the British Geological Survey.

16 Boreholes



Site Outline

Search buffers in metres (m)

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

16.1 BGS Boreholes

Records within 250m	3

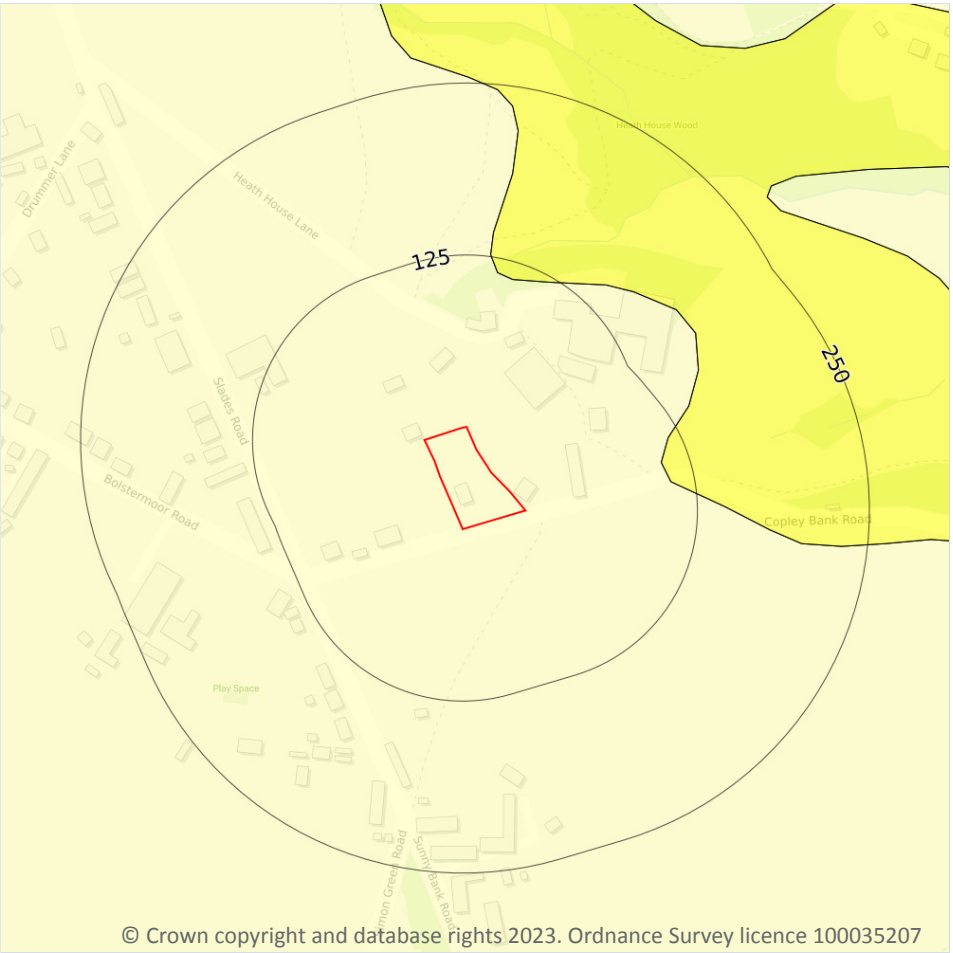
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several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

Features are displayed on the Boreholes map on **page 88 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	89m NE	409012 415578	HEATH HOUSE MILLS	98.45	N	36735 ↗
2	95m N	408960 415620	HEATH HOUSE MILLS	-1.0	N	36866 ↗
3	163m NE	409076 415615	HEATH HOUSE MILL	244.14	N	36736 ↗

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.1 Shrink swell clays

Records within 50m	1

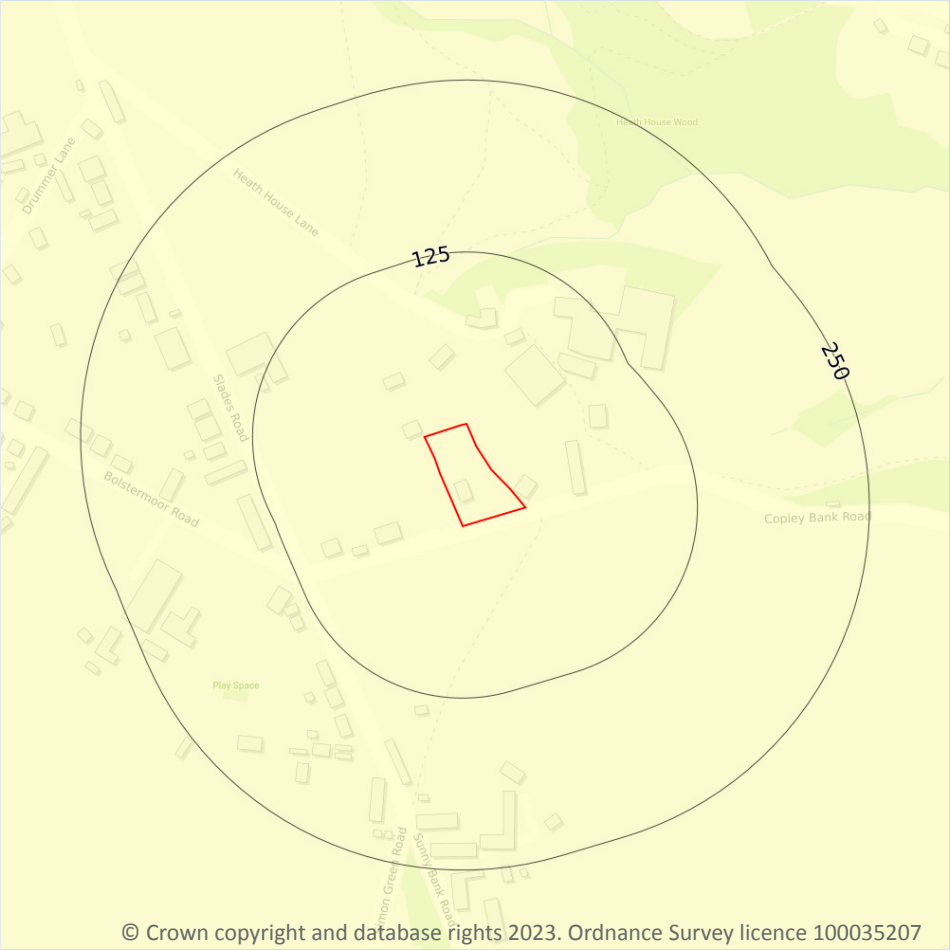
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 90 >**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.2 Running sands

Records within 50m	1

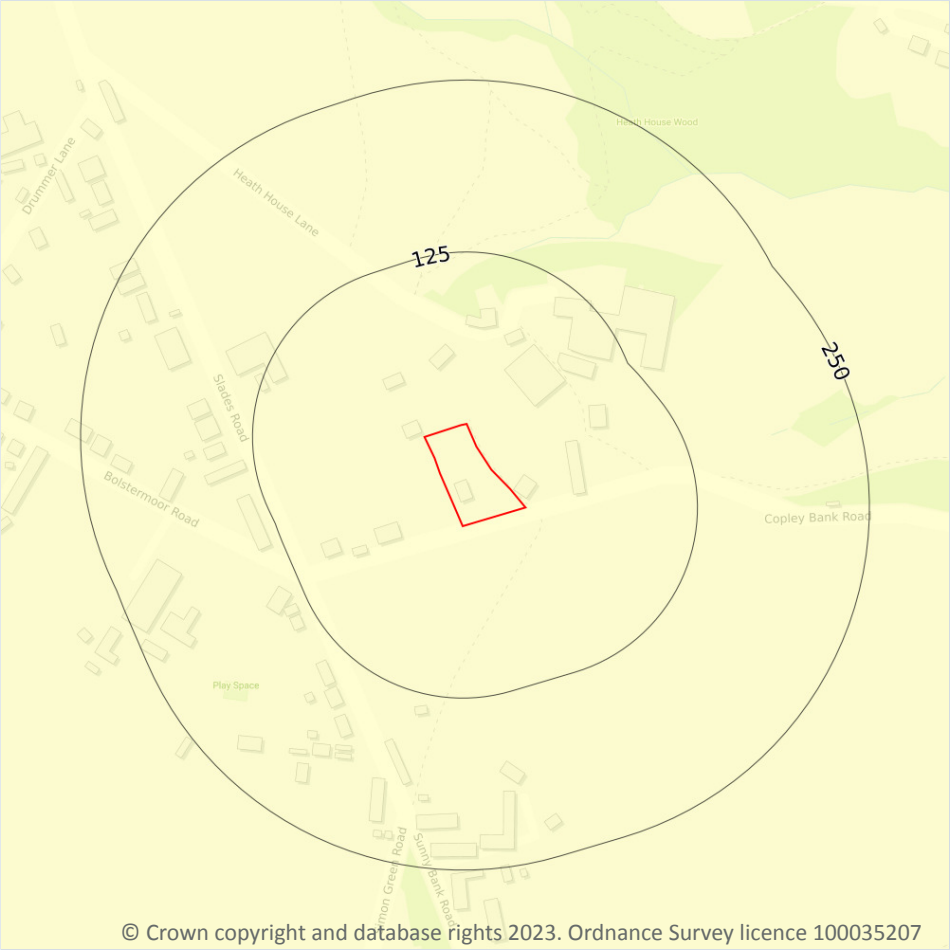
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 91 >**

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.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.3 Compressible deposits

Records within 50m	1

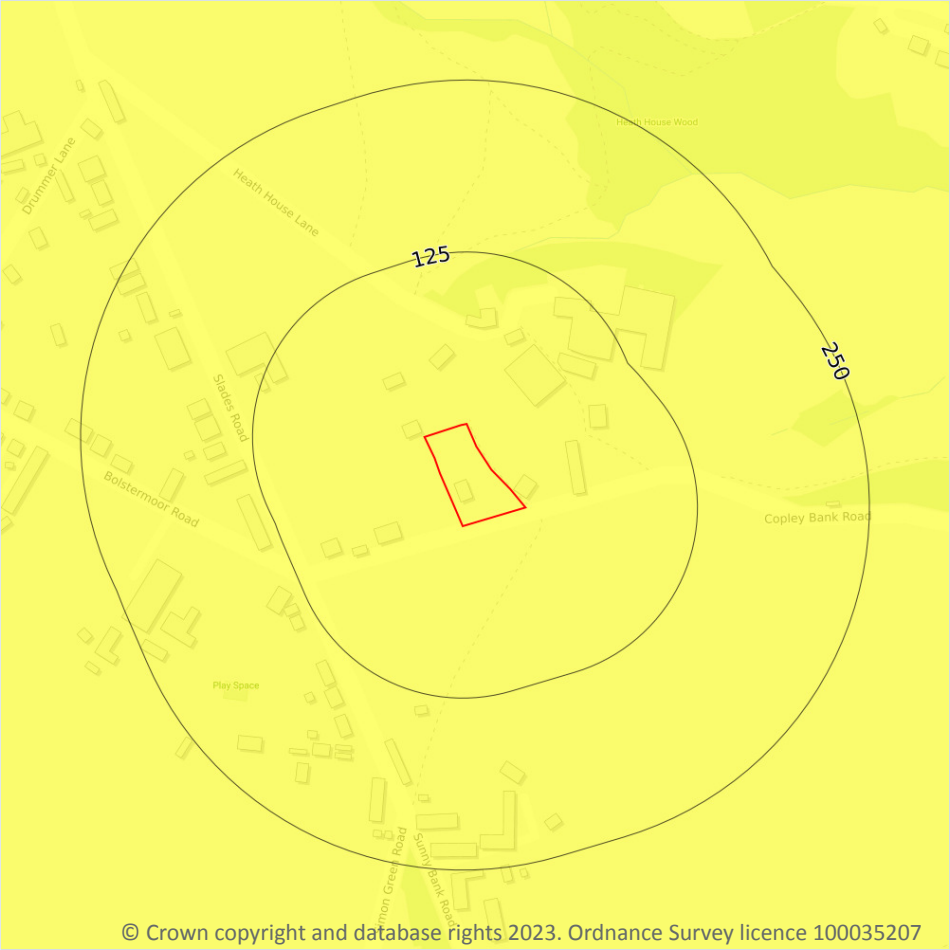
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 92 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m	1

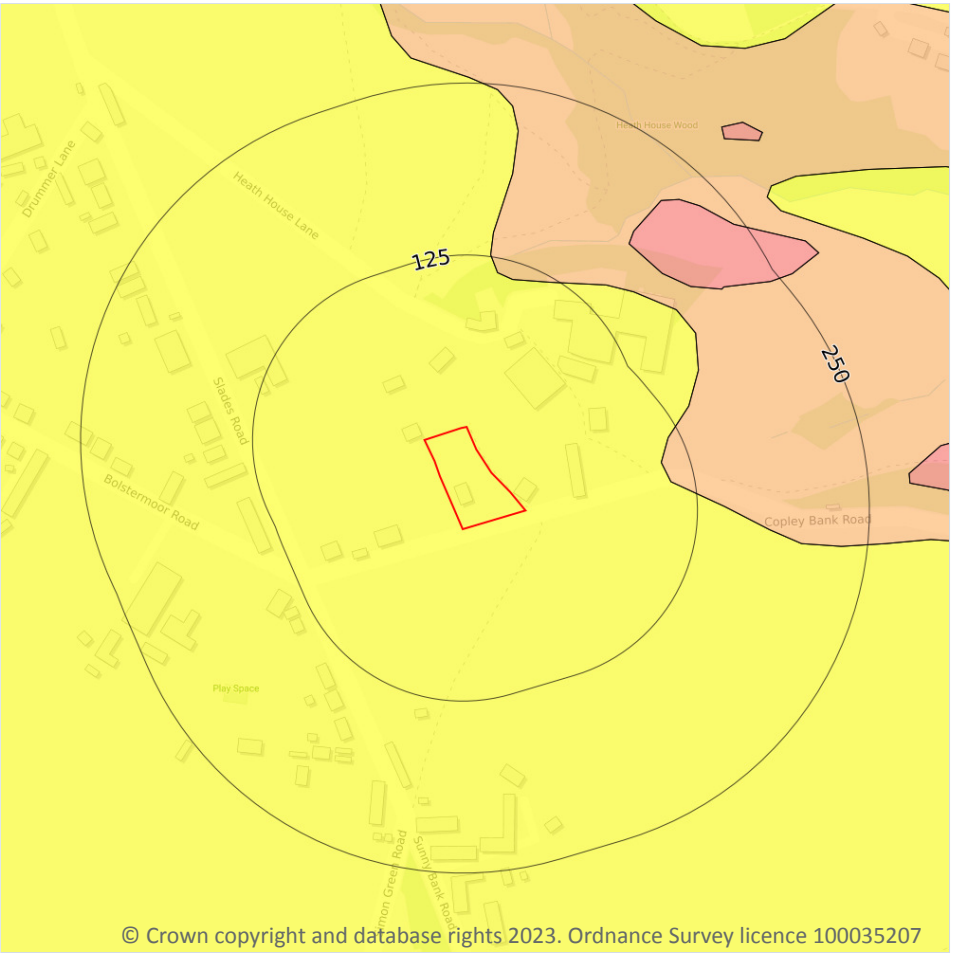
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 93 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.5 Landslides

Records within 50m	1

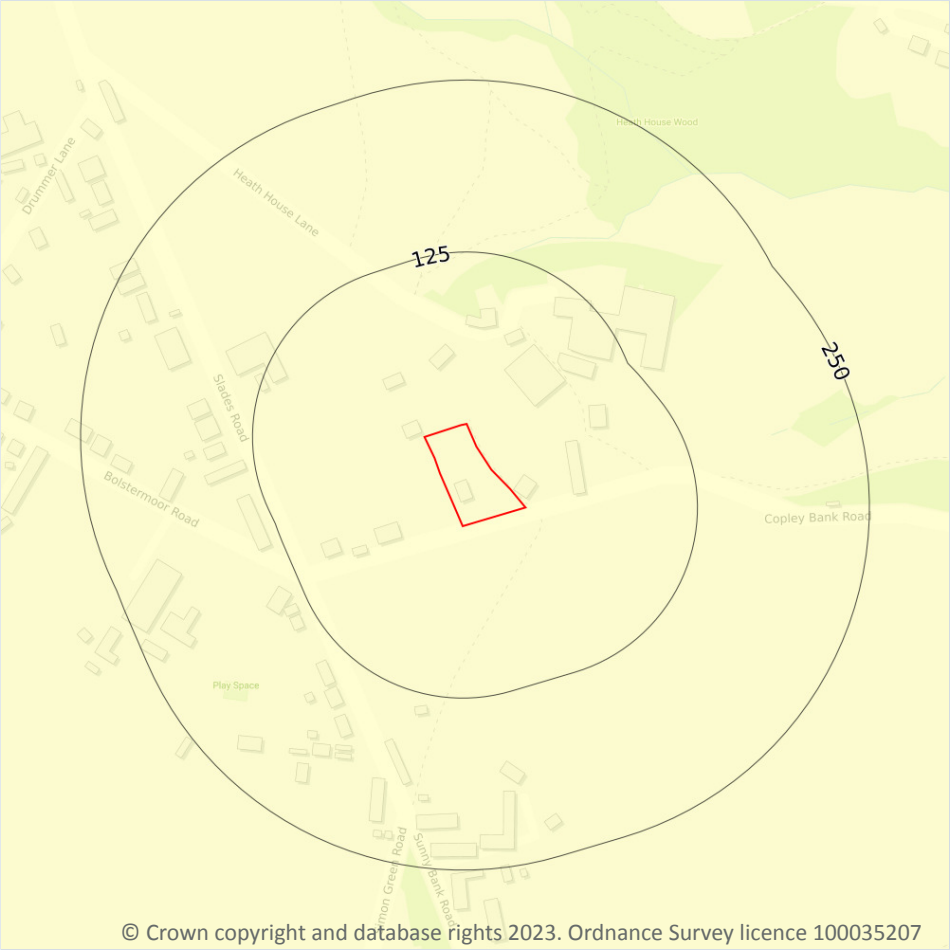
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 94 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.6 Ground dissolution of soluble rocks

Records within 50m	1

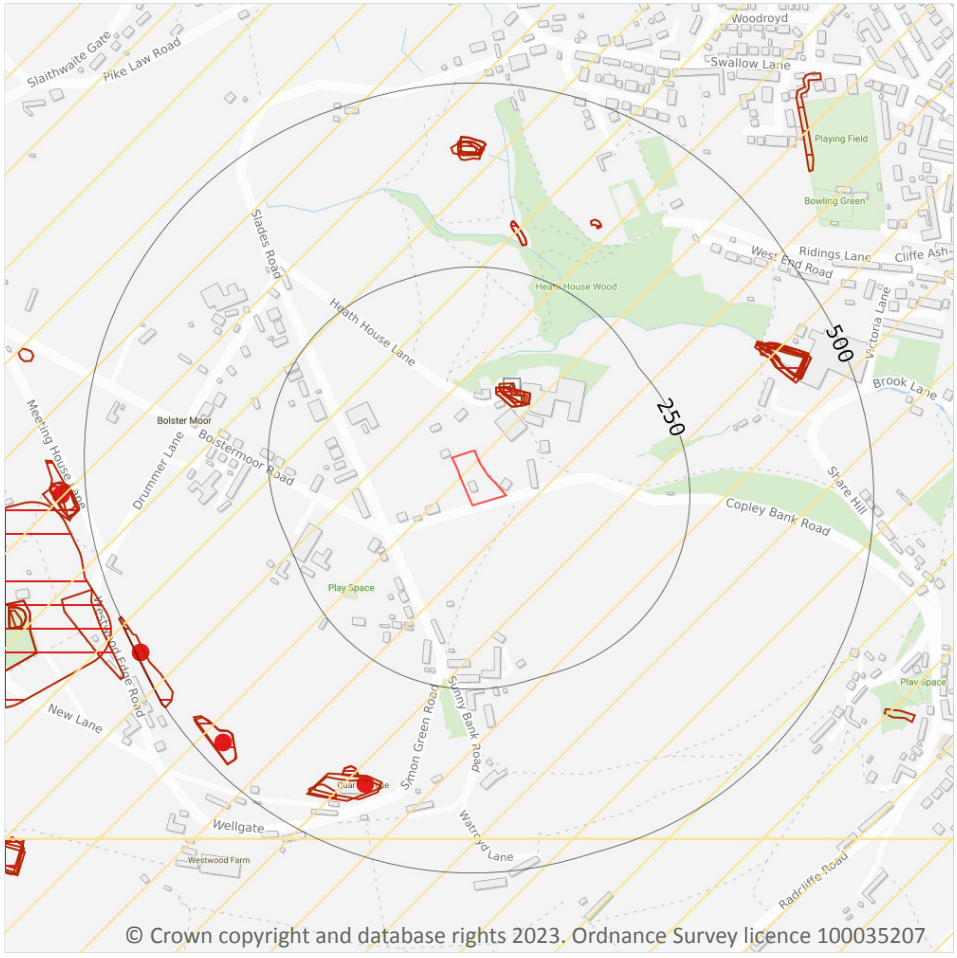
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 95 >**

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

This data is sourced from the British Geological Survey.

18 Mining and ground workings



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Site Outline

Search buffers in metres (m)

- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining

Non Coal Mining

- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m	3

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 97 >**

ID	Location	Details	Description
C	406m S	Name: Dyke End Address: Wellhouse, Golcar, HUDDERSFIELD, West Yorkshire Commodity: Sandstone 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
F	468m SW	Name: Westwood Edge Address: Wellhouse, Golcar, HUDDERSFIELD, West Yorkshire Commodity: Sandstone 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
G	492m SW	Name: Westwood Edge Address: Wellhouse, Golcar, HUDDERSFIELD, West Yorkshire Commodity: Sandstone 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	**6**

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 97 >**

ID	Location	Land Use	Year of mapping	Mapping scale
A	78m NE	Mill Pond	1948	1:10560
A	78m NE	Pond	1905	1:10560
A	84m NE	Mill Pond	1955	1:10560
A	85m NE	Mill Pond	1938	1:10560
A	88m N	Pond	1993	1:10000
A	88m N	Pond	1978	1:10000

This is 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	2

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 97 >**

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**Not available**	**Vein Mineral**	**A**	**Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.**

ID	Location	Name	Commodity	Class	Likelihood
3	454m S	Not available	Vein Mineral	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. 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	0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m	0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m	0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m	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

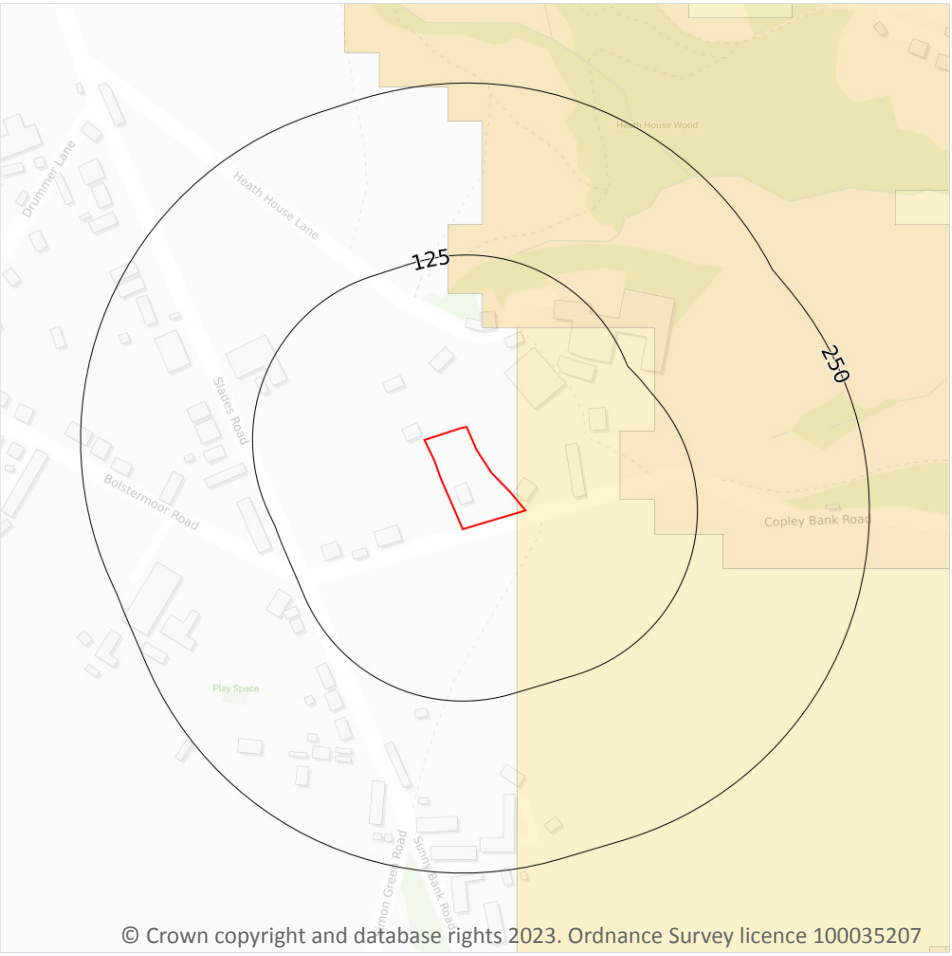
This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

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



Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

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 105 >**

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

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

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

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	6

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 km^2. 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 km^2; 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	**25 - 35 mg/kg**	**No data**	**100 - 200 mg/kg**	**60 - 120 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 mg/kg**
On site	**25 - 35 mg/kg**	**No data**	**100 - 200 mg/kg**	**60 - 120 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 mg/kg**
19m E	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 mg/kg
19m E	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
35m E	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 mg/kg
35m E	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 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 km^2).

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 km^2.

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	0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

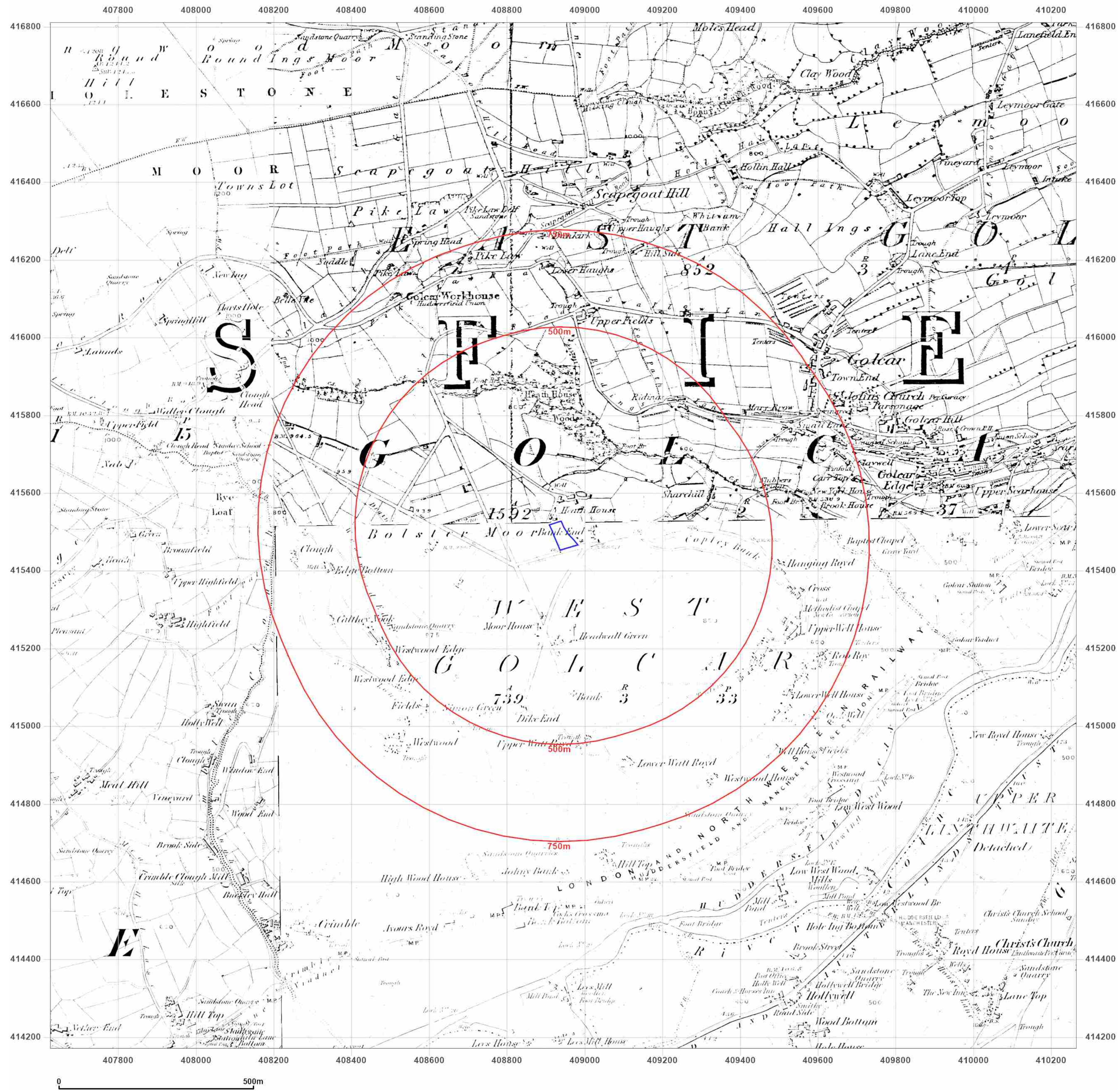
Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference ↗.

Terms and conditions

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

APPENDIX 3

HISTORICAL ORDNANCE SURVEY MAPS



Site Details:

THE OLD QUARRY, BANK END ROAD, BOLSTER MOOR, HUDDERSFIELD, HD7 4JN

Client Ref: 4281-23
Report Ref: GS-49Z-9HM-TSL-5XG
Grid Ref: 408944, 415490

Map Name: County Series

Map date: **1854**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1849
Revised N/A
Edition 1854
Copyright N/A
Levelled N/A

Surveyed 1850
Revised N/A
Edition 1854
Copyright N/A
Levelled 1853

Surveyed 1850
Revised N/A
Edition 1854
Copyright N/A
Levelled 1853

Surveyed 1851
Revised N/A
Edition 1854
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Production date: 03 October 2023

Map legend available at:
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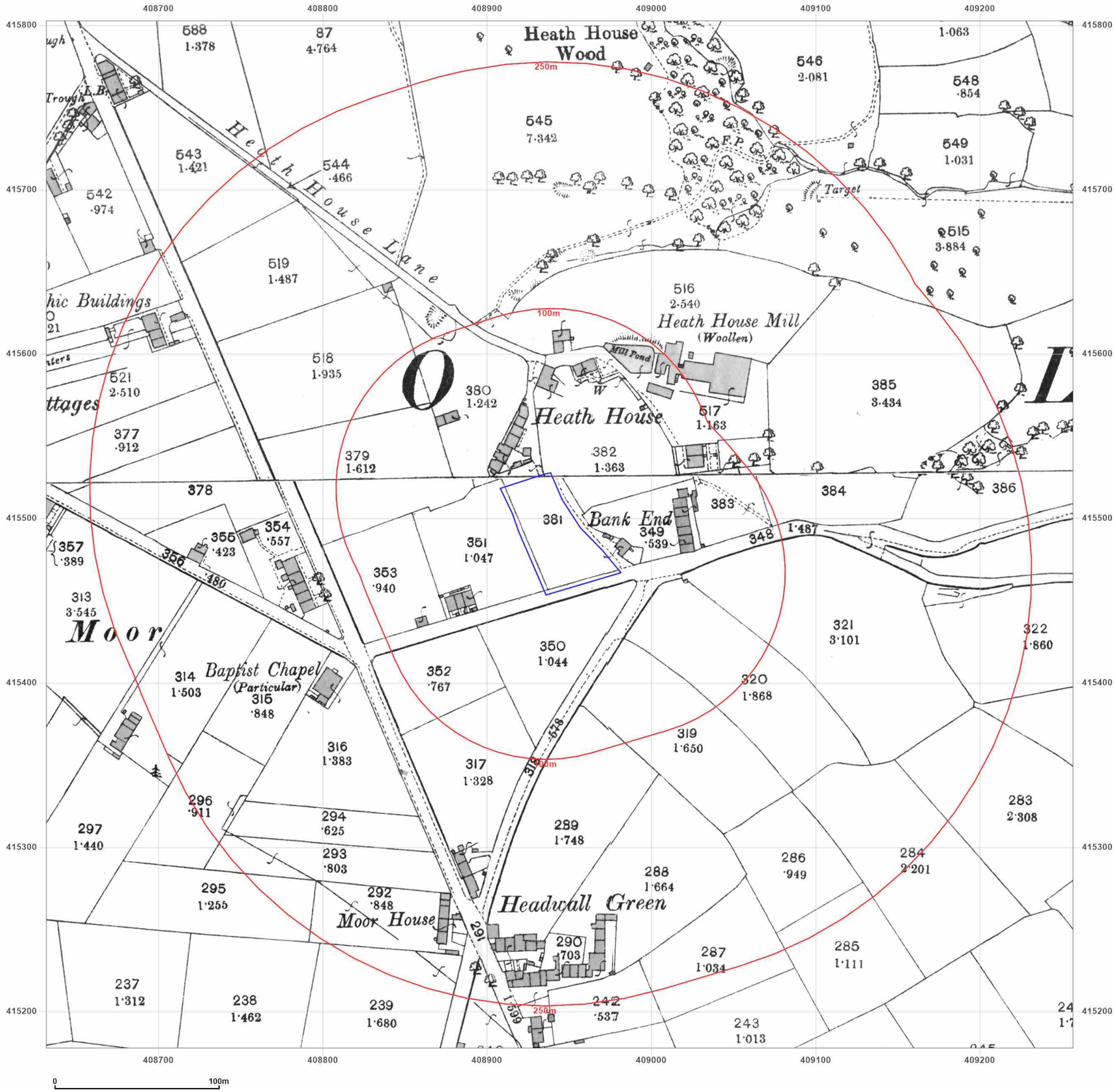

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Site Details:

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Client Ref: 4281-23
Report Ref: GS-49Z-9HM-TSL-5XG
Grid Ref: 408944, 415490

Map Name: County Series

Map date: **1892-1893**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1892
Revised 1892
Edition N/A
Copyright N/A
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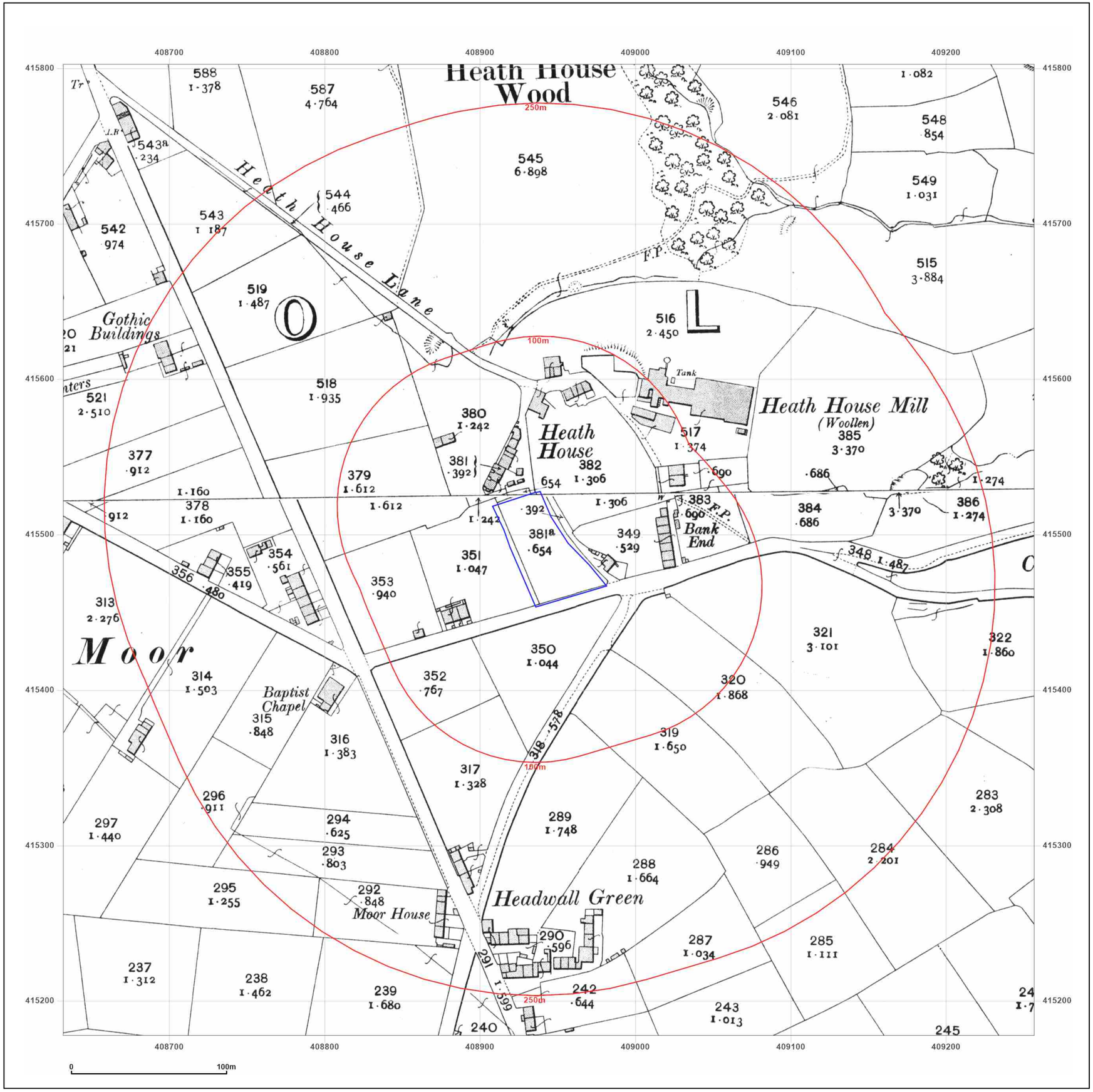

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Client Ref: 4281-23
Report Ref: GS-49Z-9HM-TSL-5XG
Grid Ref: 408944, 415490

Map Name: County Series

Map date: **1906-1907**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1907
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1906
Revised 1906
Edition N/A
Copyright N/A
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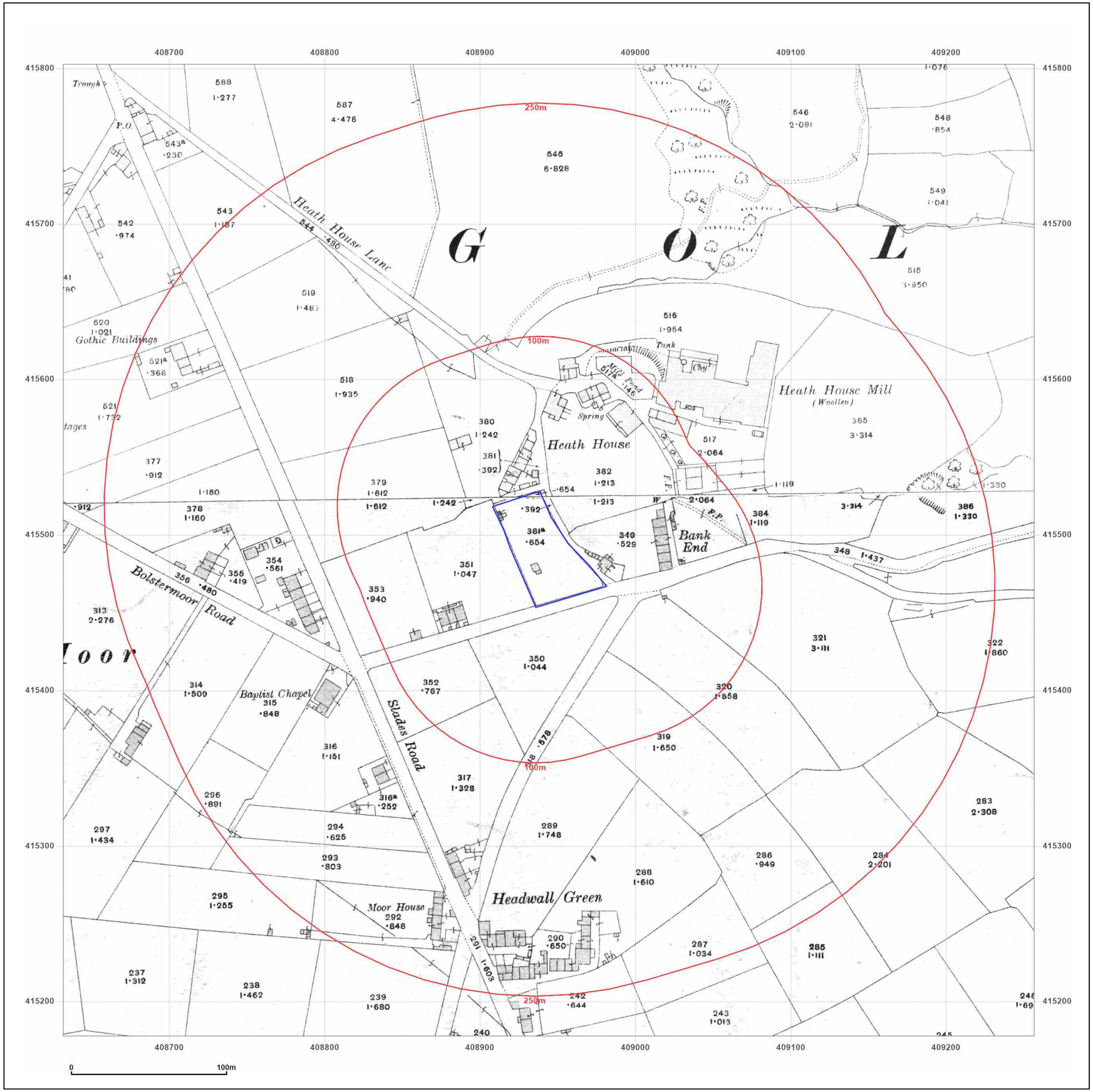

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Client Ref: 4281-23
Report Ref: GS-49Z-9HM-TSL-5XG
Grid Ref: 408944, 415490

Map Name: County Series

Map date: **1918-1919**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1919
Revised 1919
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1891
Revised 1913
Edition 1918
Copyright N/A
Levelled 1914

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Client Ref: 4281-23
Report Ref: GS-49Z-9HM-TSL-5XG
Grid Ref: 408944, 415490

Map Name: County Series

Map date: **1948**

Scale: 1:10,560

Printed at: 1:10,560

N W E S

Surveyed 1849
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1849
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1849
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1851
Revised 1948
Edition N/A
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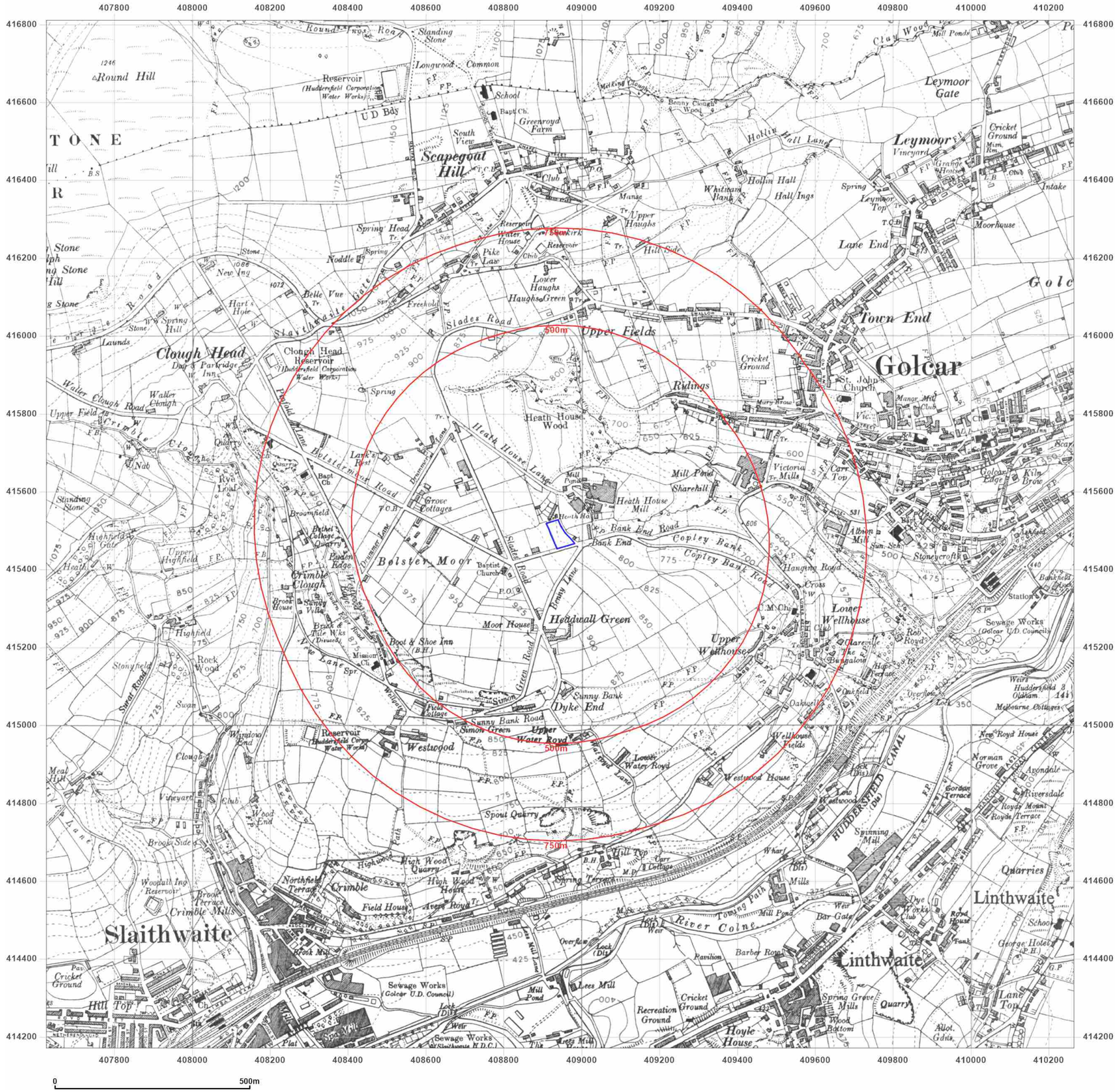

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Site Details:

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Client Ref: 4281-23
Report Ref: GS-49Z-9HM-TSL-5XG
Grid Ref: 408944, 415490

Map Name: Provisional

Map date: **1955-1956**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1951
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1951
Revised 1951
Edition N/A
Copyright 1956
Levelled N/A

Surveyed N/A
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised 1955
Edition 1956
Copyright N/A
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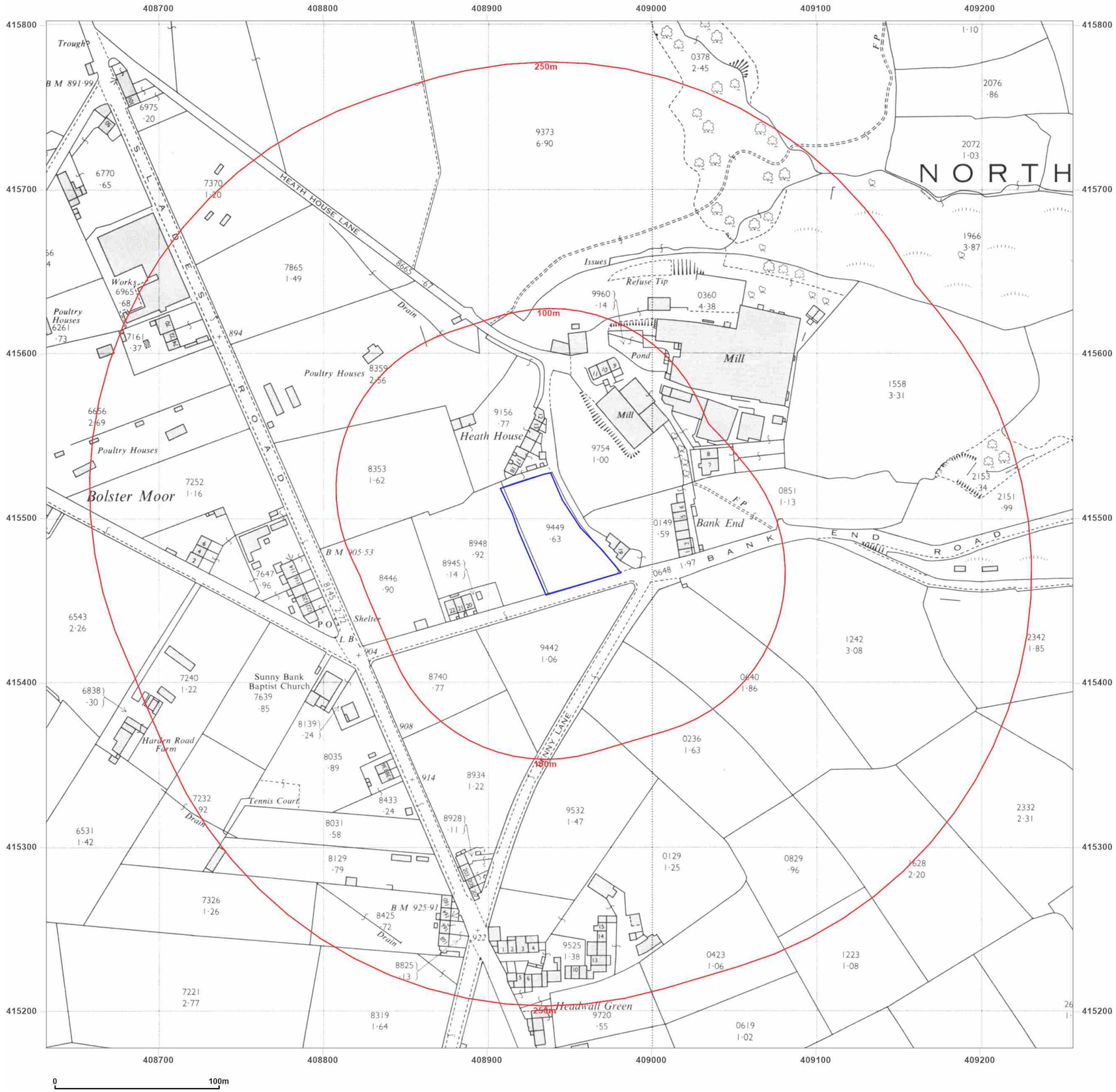

Groundsure INSIGHTS

Site Details:

THE OLD QUARRY, BANK END ROAD, BOLSTER MOOR, HUDDERSFIELD, HD7 4JN

Client Ref: 4281-23
Report Ref: GS-49Z-9HM-TSL-5XG
Grid Ref: 408944, 415490

Map Name: National Grid

Map date: **1961**

Scale: 1:2,500

Printed at: 1:2,500

N W E S

Surveyed 1961
Revised 1961
Edition 1963
Copyright 1963
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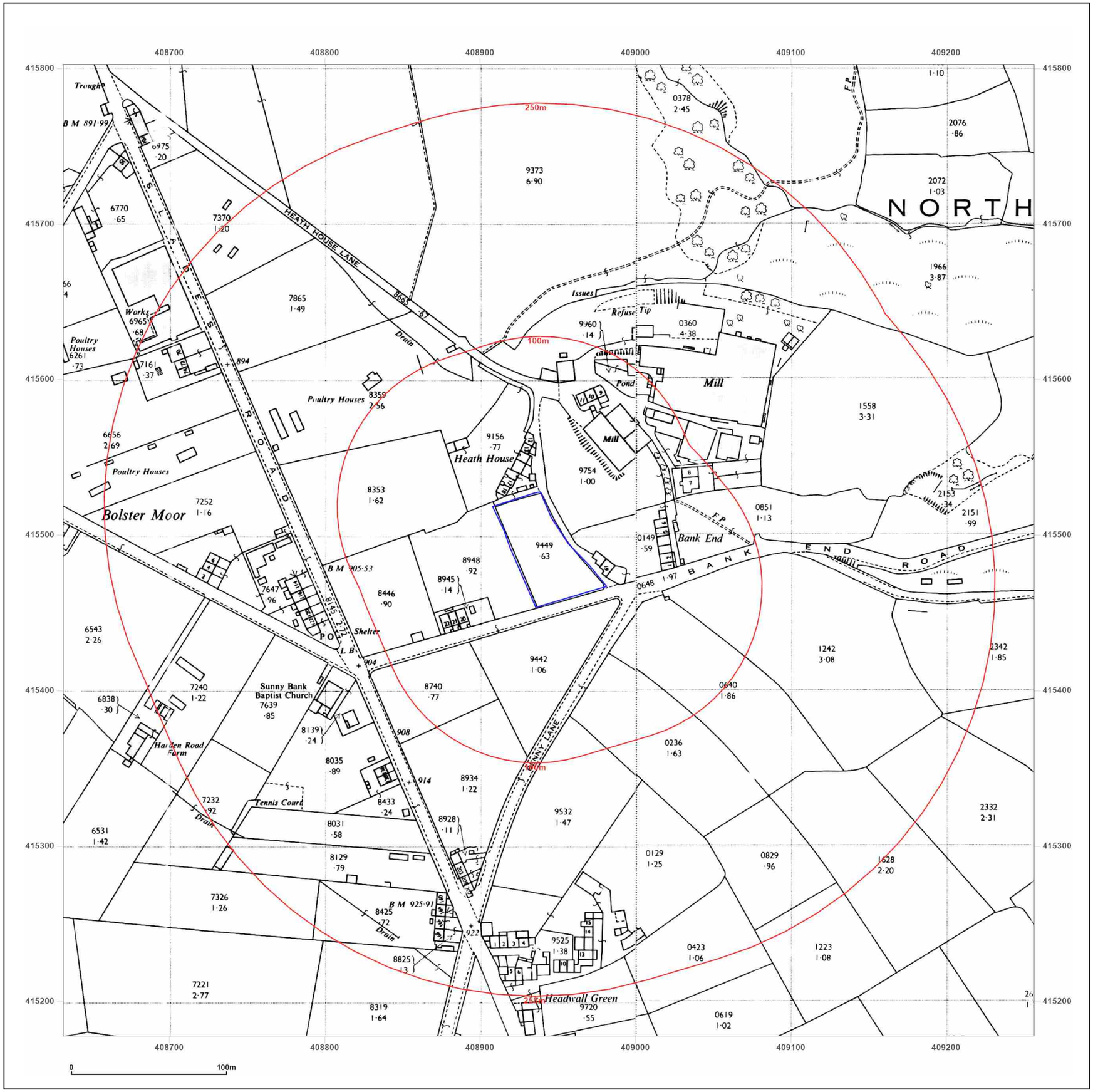

Groundsure INSIGHTS

Site Details:

THE OLD QUARRY, BANK END ROAD, BOLSTER MOOR, HUDDERSFIELD, HD7 4JN

Client Ref: 4281-23
Report Ref: GS-49Z-9HM-TSL-5XG
Grid Ref: 408944, 415490

Map Name: National Grid

Map date: **1963**

Scale: 1:2,500

Printed at: 1:2,500

N W E S

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
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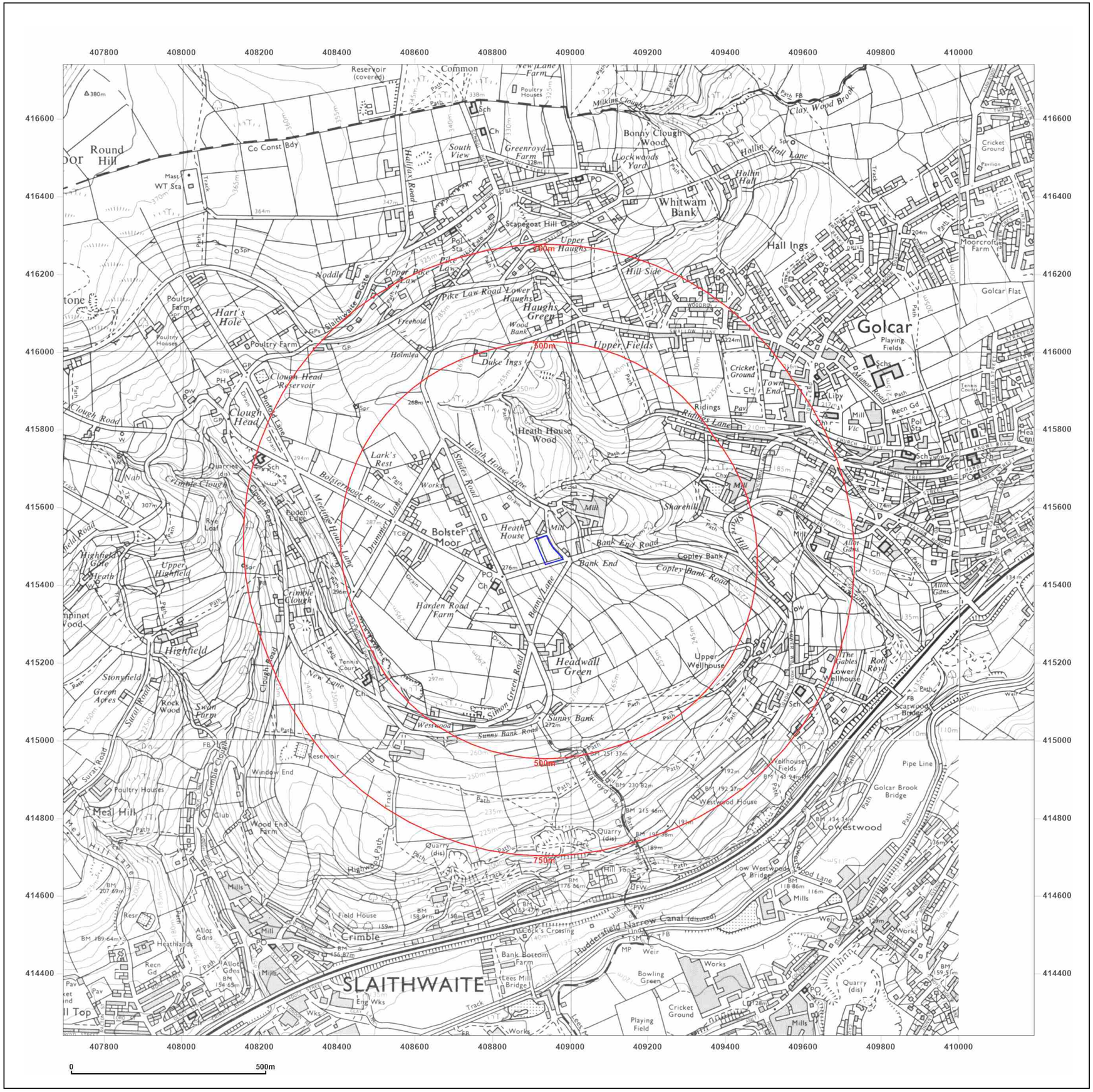

Groundsure INSIGHTS

Site Details:

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Client Ref: 4281-23
Report Ref: GS-49Z-9HM-TSL-5XG
Grid Ref: 408944, 415490

Map Name: National Grid

Map date: **1975-1978**

Scale: 1:10,000

Printed at: 1:10,000

N
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Surveyed 1977
Revised 1978
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1974
Revised 1975
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1978
Revised 1978
Edition N/A
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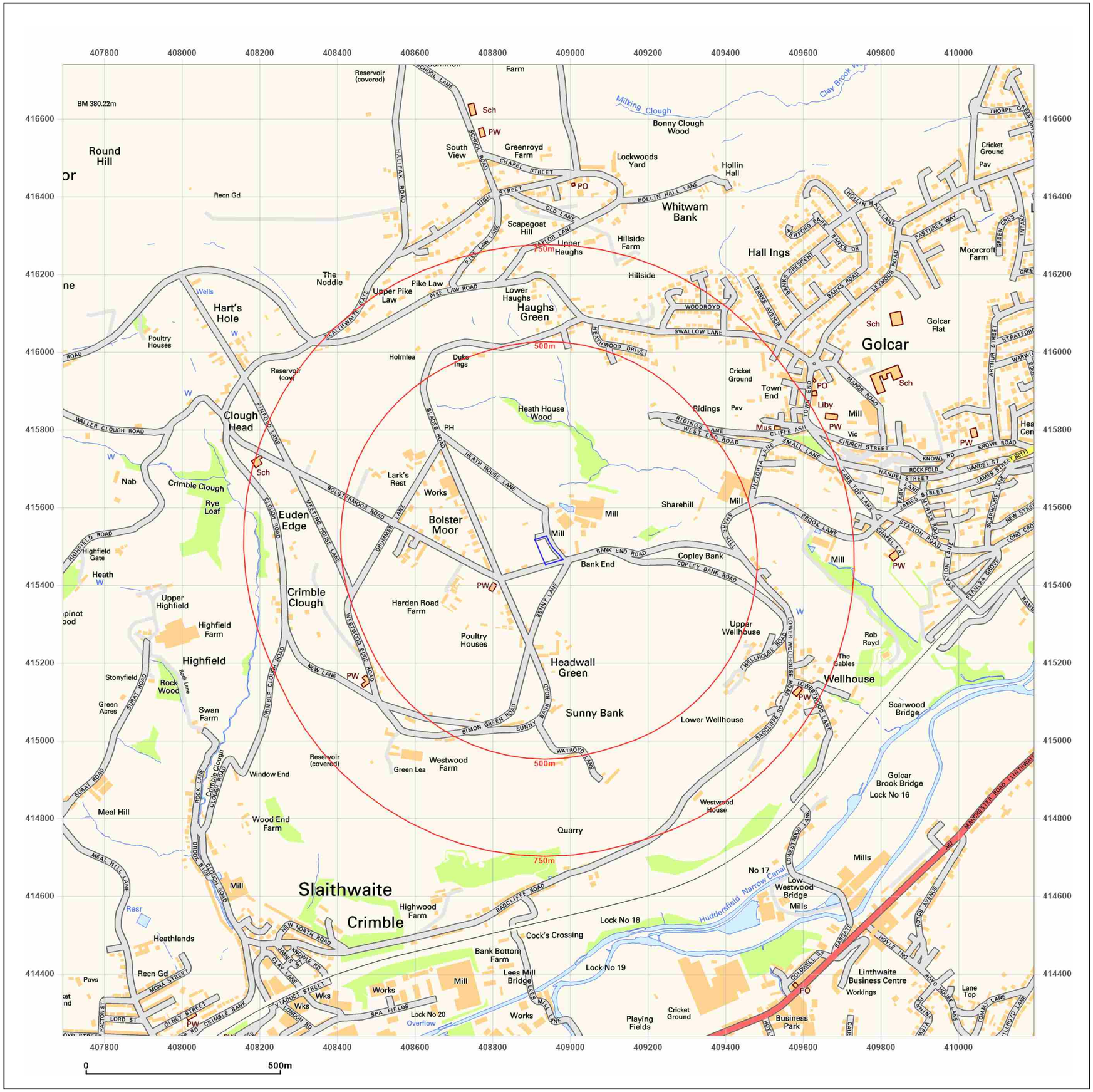

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Client Ref: 4281-23
Report Ref: GS-49Z-9HM-TSL-5XG
Grid Ref: 408944, 415490

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

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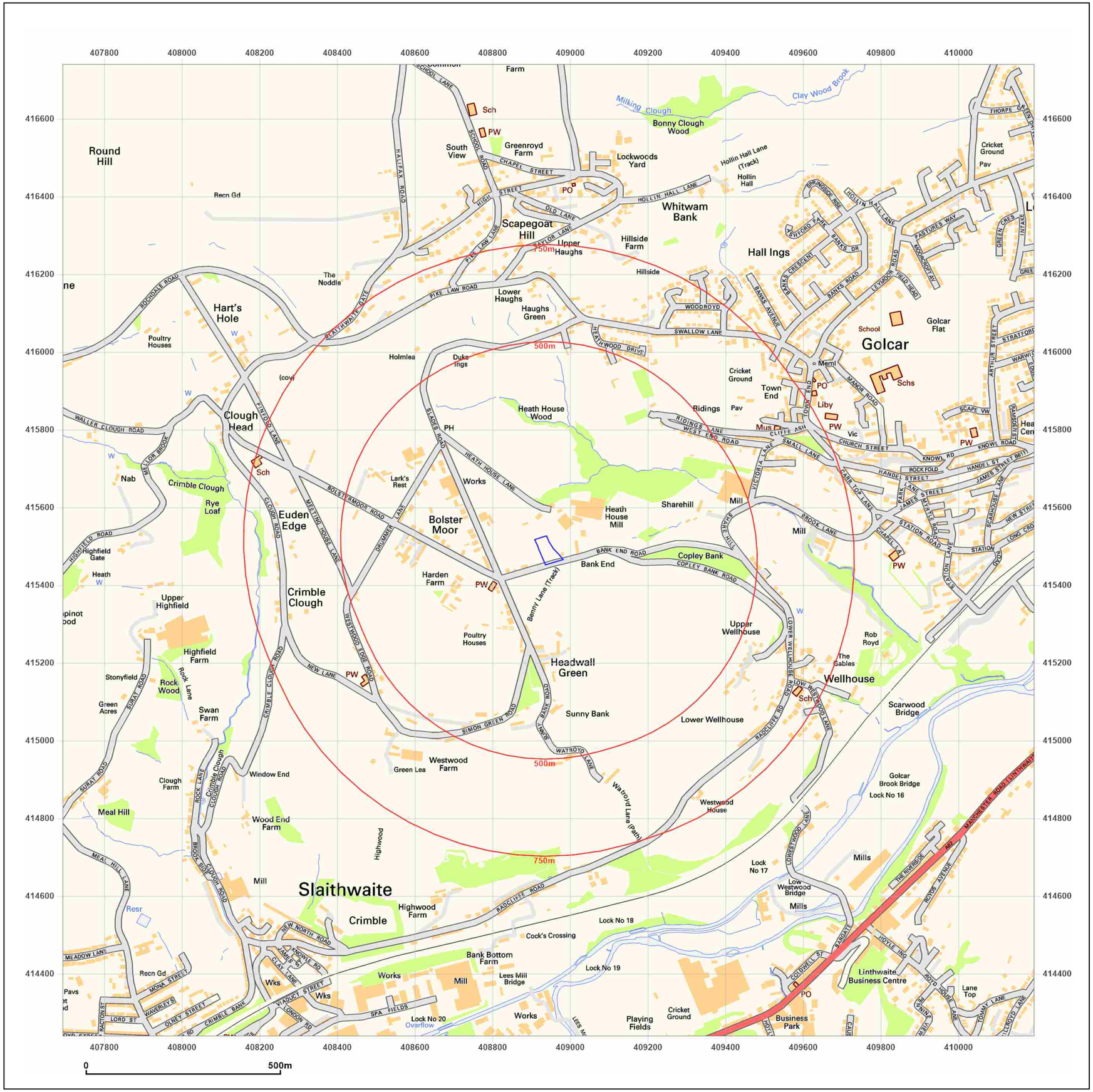

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Site Details:

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Map Name: National Grid

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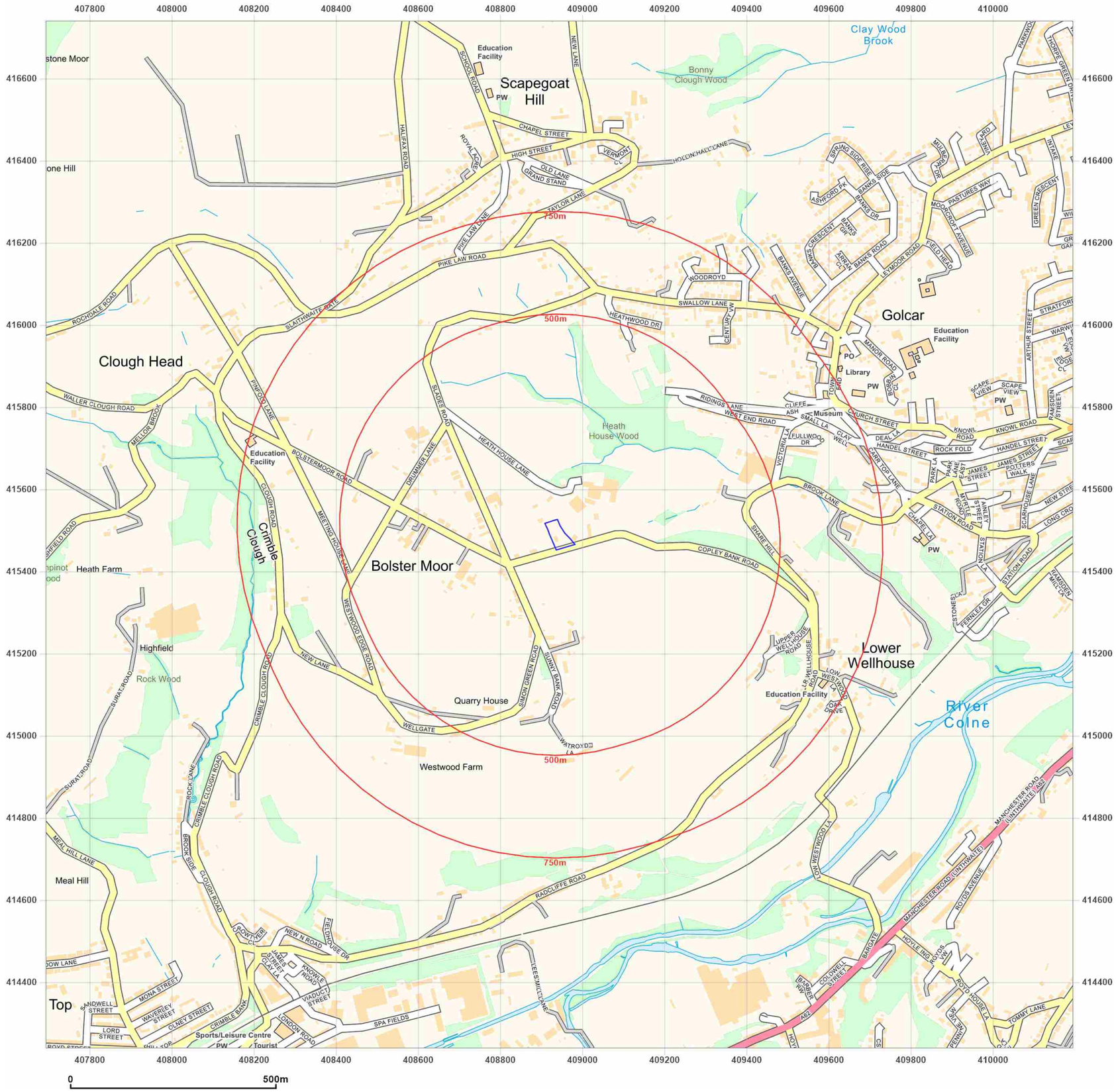

Groundsure INSIGHTS

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Client Ref: 4281-23
Report Ref: GS-49Z-9HM-TSL-5XG
Grid Ref: 408944, 415490

Map Name: National Grid

Map date: **2023**

Scale: 1:10,000

Printed at: 1:10,000

N W E S

2023

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APPENDIX 4

RISK ASSESSMENT MATRIX

Preliminary Risk Assessment Methodology (After NHBC Guidance for the Safe Development of Housing on Land Affected by Contamination (2008))

NHBC Guidance for the Safe Development of Housing on Land Affected by Contamination (2008) sets out a methodology for the estimation of risk.

At Phase I the risk estimation will take the form of a qualitative risk assessment, which will be entirely based on the conceptual model for each potential end-use of the site. Comments on level of uncertainty will also need to be included for each source-pathway-target linkage to allow the confidence in the assessed risks to be understood. The results of the qualitative risk assessment will allow the risk evaluation to be concisely described in the following chapters.

The methodology for risk evaluation is a qualitative method for interpreting the output for the risk estimation stage of the assessment. It involves the classification of the:

The magnitude of probability (i.e. likelihood).
[takes into account both the presence of the hazard and receptor and the integrity of the pathway]

The magnitude of the potential consequence (i.e. severity).
[takes into account both the potential severity of the hazard and the sensitivity of the receptor]

Classification of Probability

Classification	Definition	Examples
High likelihood (Hi)	There is a pollutant linkage and an event that either appears very likely in the short term and almost inevitable in the long term, or there is evidence at the receptor of harm or pollution.	*A) Elevated concentrations of toxic contaminants are present in soils in the top 0.5m in a residential garden.* *B) Ground/groundwater contamination could be present from chemical works, containing a number of USTs, having been in operation on the same site for over 50 years*
Likely (Li)	There is a pollutant 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.	*A) Elevated concentrations of toxic contaminants are present in soils at depths of 0.5-1.0m in a residential garden, or the top 0.5m in public open space.* *B) Ground/groundwater contamination could be present from an industrial site containing a UST present between 1970 and 1990. The tank is known to be single skin. There is no evidence of leakage although there are no records of integrity tests.*
Low likelihood (Lw)	There is a pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the short term.	*A) Elevated concentrations of toxic contaminants are present in soils at depths >1m in a residential garden, or 0.5-1.0m in public open space.* *B) Ground/groundwater contamination could be present on a light industrial unit constructed in the 1990s containing a UST in operation over the last 10 years – the tank is double skinned but there is no integrity testing or evidence of leakage.*
Unlikely (Ul)	There is a pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long term.	*A) Elevated concentrations of toxic contaminants are present below hardstanding.* *B) Light industrial unit <10 yrs old containing a double skinned UST with annual integrity testing results available.*

Preliminary Risk Assessment Methodology (After NHBC Guidance for the Safe Development of Housing on Land Affected by Contamination (2008))

Classification of Consequence

	Definition	Examples
Severe (Sv)	Highly elevated concentrations likely to result in "significant harm" to human health as defined by the EPA 1990, Part 2A, if exposure occurs. A Category 1: Human Health risk is present. 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.	*Significant harm to humans is defined in circular 01/2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions.* *Major fish kill in surface water from large spillage of contaminants from site.* *Highly elevated concentrations of List I and substances present in groundwater close to small potable abstraction (high sensitivity).* *Explosion, causing building collapse (can also equate to immediate human health risk if buildings are occupied).*
Medium (Md)	Elevated concentrations which could result in "significant harm" to human health as defined by the EPA 1990, Part 2A if exposure occurs. A Category 2: Human Health risk is present. 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.	*Significant harm to humans is defined in circular 01/2006 as death, disease* serious injury, genetic mutation, birth defects or the impairment of reproductive functions.* *Damage to building rendering it unsafe to occupy e.g. foundation damage resulting in instability.* *Ingress of contaminants through plastic potable water pipes.*
Mild (Ml)	Exposure to human health unlikely to lead to "significant harm". A Category 3 Human Health risk is present. 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.	*Exposure could lead to slight short - term effects (e.g. mild skin rash).* *Surface spalling of concrete.*
Minor (Mr)	No measurable effect on humans.A Category 4: Human Health risk is present. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Repairable effects of damage to buildings, structures and services.	*The presence of contaminants at such concentrations that protective equipment is required during site works.* *The loss of plants in a landscaping scheme.* *Discoloration of concrete.*

* For these purposes, disease is to be taken to mean an unhealthy condition of the body or a part of it and can include, for example, cancer, liver dysfunction or extensive skin ailments. Mental dysfunction is included only insofar as it is attributable to the effects of a pollutant on the body of the person concerned.

The classification of consequence does not take into account the probability of the consequence being realized. Therefore, there may be more than one consequence for a particular pollutant linkage. Both a severe and medium classification can result in death. Severe relates to short term (acute) risk while medium relates to long

term (chronic) risk. Mild relates to significant harm but to less sensitive receptors. Minor classification relates to harm which is not significant but could have a financial cost.

The classification gives a guide as to the severity and consequence of identified risk when compared with other risk presented on the site. It should be noted that if a risk is identified it cannot be classified as "no risk" but as "very low risk". Differing stakeholders may have a different view on the acceptability of a risk.

Risk Evaluation Matrix

		Consequence			
		Severe (Sv)	Medium (Md)	Mild (Mi)	Minor (Mr)
Probability	High likelihood (Hi)	Very high risk (VH)	High Risk (H)	Moderate Risk (M)	Mod/low risk (M/L)
	Likely (Li)	High risk (H)	Moderate risk (M)	Mod/low risk (M/L)	Low risk (L)
	Low likelihood (Lw)	Moderate risk (M)	Mod/low risk (M/L)	Low risk (L)	Very low risk (VL)
	Unlikely (Ul)	Mod/low risk (M/L)	Low risk (L)	Very low risk (VL)	Very low risk (VL)

Risk Categorizations

Very high risk (VH)	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realized, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High risk (H)	Harm is likely to arise to a designated receptor from an identified hazard. Realization of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short-term and are likely over the longer-term.
Moderate risk (M)	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, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer-term.
Low risk (L)	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realized, would at worst normally be mild.
Very low risk (VL)	There is a low possibility that harm could arise to a receptor. In the event of such harm being realized it is not likely to be severe.

Reference

Rudland, D J, Lancefield, R M, Mayell, P N; 2001; Contaminated land Risk Assessment. A guide to Good Practice; CIRIA Report C552.

The NHBC (National House-Building Council) the Environment Agency and the Chartered Institute of Environmental Health, 2008, Guidance for the Safe Development of Housing on Land Affected by Contamination R&D66.