

Phase I Geoenvironmental Site Assessment

Site: Land at Edenfield Road, Rochdale
Reference: 16-702-R2-1
Date: August 24





E3P

Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

+ 44 (0) 161 707 9612
<https://e3p.co.uk>

Registered in England
CRN: 08725262

QUALITY ASSURANCE

Report Reference	16-720-R2
-------------------------	------------------

REV REF:	DESCRIPTION	AUTHOR	CHECKED	AUTHORISED	DATE
1	First issue	ID	JS	SC	06/08/24

This report has been prepared for the sole benefit, use, and information of the client. The liability of Environmental Engineering Partnership Limited T/A E3P with respect to the information contained in the report will not extend to any third party. This report has been prepared by the qualified persons as listed below.

WRITTEN BY	QUALIFICATIONS	POSITION
Iona Diack	BSc (Hons), FGS	Consultant

REVIEWED BY	QUALIFICATIONS	POSITION
Jessica Sheridan	MeSci, FGS	Senior Consultant

AUTHORISED BY	QUALIFICATIONS	POSITION
Stephanie Cox	BSc (Hons), FGS, PIEMA, MIEnvSci, Cenv	Director



EXECUTIVE SUMMARY

Site Address	Land off Edenfield Road, Wolstenholme, Rochdale, OL12 7TN
Grid Reference	E 385158, N 414818.
Site Area	0.1 Ha.
Proposed Development	Jackson, Jackson and Sons intend to construct a singular low-rise residential dwelling with an associated garden, access road and infrastructure.
Current Site Use	The subject site is a roughly square parcel of land located to the north of Edenfield road, Wolstenholme, Rochdale. The site slopes gently to the south towards Edenfield Road. In the eastern half of the site, former building footings and brick courses are present where construction of a property was commenced and then abandoned. Rough scrub vegetation is present across the remainder of the site with overgrown grasses and self-seeding saplings. Boundaries are lined with semi-mature hedgerows and semi-mature to mature trees.
Site History	The site appears to have remained undeveloped throughout the mapping history. Early mapping indicates the site formed part of a colliery, but with no discernible features within the site boundary. (The Coal Authority record a mine entry on the western site boundary; however, this does not appear on historical maps). The land adjacent to the west of the site is later labelled as a Brick Ground, however, no excavations are shown. By 2017, aerial imagery shows the beginning of construction of a single structure in the east of the site, which remains incomplete to the present day.

ENVIRONMENTAL SETTING

Geology	Superficial Geology	Glacial Till
	Bedrock Geology	(Majority) Pennine Lower Coal Measures Formation – SANDSTONE, MUDSTONE and SILTSTONE (Northeast) Rough Rock - SANDSTONE
	Faults	Geological mapping for the site shows a northwest-southeast trending fault bisecting the north-eastern corner of the site.
Hydrogeology	Superficial – Secondary (undifferentiated) aquifer Bedrock – Secondary A aquifer	
	No active groundwater abstraction licences are recorded within 1 km of the site.	
Hydrology	The nearest surface water feature is Mill Croft Brook 226 m South West. It is likely that any shallow groundwater, if present, will flow in a southerly direction towards Mill Croft Brook.	
	The site is located within Flood Zone 1 - no risk of flooding.	
Utility Locations	Statutory service plans indicate the following: A private water main serving the terraced properties to the north of the site runs along the eastern site boundary, within the site. No mains gas, electricity, BT or foul drainage connections are recorded within the site boundary; all are present to the north and south.	
Landfill Sites and Waste Sites	A historical landfill site is recorded within Local Authority (LA) mapping records, situated approximately 138 m to 140 m from the site boundary. No information is available regarding the accepted waste, or the full extent of operating dates.	



Radon	Radon Class 3-5% of homes are estimated to be at or above the Action Level. It is recommended that a site specific BGS radon report is obtained to determine the true risk from radon at a higher resolution. In the absence of this, basic radon protection measures will be required.
Unexploded Ordnance	Low risk UXO area.
PFAS	Low risk.
Hazardous Installations	No above-ground storage tanks (ASTs) or underground storage tanks (USTs) were observed during the preliminary site walkover. Due to the previously undeveloped nature of the site, it is unlikely that hazardous materials storage will have occurred there.

PREVIOUS REPORTS

The following previous reports have been completed for the site:

-  E3P – 16-702-R1-1 Coal Mining Risk Assessment, April 2024

A full summary of findings is provided in section 5.

PRELIMINARY CONTAMINATED LAND ASSESSMENT

Human Health	No historical development has been recorded on-site other than the abandoned foundations of a proposed residential property. However, the site formed part of a historical colliery, and a mine shaft is recorded on the western boundary. There is therefore potential for colliery spoil to be present across the site. The site was also part of a wider brick ground, and excavations may have extended onto the site and been subsequently infilled. Colliery spoil/infill material may be a source of heavy metals, inorganics, PAH and TPH. The overall risk to end users is considered moderate and intrusive investigation and assessment will be required to determine the level of mitigation measures and/or remediation.
Controlled Waters	Colliery spoil/infill materials may be sources of leachable contaminants such as heavy metals and PAH. Impacted groundwater could transport contaminants vertically and horizontally through permeable strata, if present, however, low permeability cohesive soils are anticipated which would limit migration of contaminants to the underlying aquifer. There are no surface water receptors within influencing distance of the site. The overall risk to controlled waters is low.
Ground Gas	A mine shaft is recorded on the western site boundary which may be a conduit for mine gas. Ground gases may migrate through permeable strata to enter enclosed spaces/excavations and proposed buildings. The risk from ground gas is considered moderate. Ground gas monitoring well should be installed within selected rotary boreholes to assess the risk from mine/ground gas. Alternatively, installation of CS ₂ gas protection measures may be sufficient to mitigate potential risks from ground gas and radon.



PRELIMINARY COAL MINING ASSESSMENT

Coal Mining and Land Stability	Geological mapping for the site shows a northwest-southeast trending fault bisecting the north-eastern corner of the site. The local geology is indicated to generally dip 5-10° to the south east. A coal seam (possibly the Bassey or Lower Foot seam) is indicated to crop the west of the site encroaching into the northwest corner of the site and terminating at the fault. Unrecorded workings beneath the site are considered probable and a mine entry is recorded on the western site boundary (385414-017). On the basis that the seam beneath the site is the Lower Foot, with a workable thickness of 0.30 m, 3.00 m of competent rock cover would be required above the seam to mitigate risks of migrating voids propagating to the surface and resulting in subsidence (based on 10 x seam thickness). Investigation would be required to determine the depth to rockhead and presence of any coal seams and/or workings beneath the site. In respect of the mine shaft identified on the western boundary, the assumed shaft diameter is 2.50 m and the departure zone (margin of error for the position of the shaft) is 10.00 m. Based on this information and the inferred depth to rockhead of 5.00-9.00 m, the potential zone of influence (radial stand-off / no build zone) around the shaft may be up to 20.25 m if the position remains unconfirmed (reduced to 10.25 m if located, treated and capped), as shown in Figure 5.1. Note: actual distances would be confirmed on confirmation of the depth to rockhead. There is concluded to be a high risk from mining related subsidence (associated with underground workings and the adjacent disused mine shaft) and a moderate risk from mine/ground gas.
---------------------------------------	--

PRELIMINARY GEOTECHNICAL ASSESSMENT

Initial Geotechnical Assessment	A review of desktop geotechnical data has identified there is a high risk from mining related subsidence (associated with underground workings and the adjacent disused mine shaft). Furthermore, colliery spoil may be present across the site to an unknown depth associated with the historical colliery on-site. This poses a potential risk of substantial Made Ground deposits to an unknown engineering specification.
Brine Workings	Unaffected.
Civil and Structural	Further assessment of the site will be required to determine to presence of hedges and mature trees to assess the underlying Glacial Till (clay) for effects related to moisture variation. Given the entire site is underlain by Glacial Till, soakaway drainage is unlikely to be feasible.
Abnormal Foundations	Piles may be precluded by the presence of shallow underground mine workings. Deeper foundations may also be needed in areas of tree influence. Abnormal foundations (rafts) may be required in the shaft zone of influence.



RECOMMENDATIONS

Due to the potential presence of shallow coal workings below the site, E3P recommends the following works are undertaken to ensure that all areas of potential shallow mine workings are identified and assessed:

-  Trial Trenching should be undertaken to investigate the potential presence of the mine shaft (385414-017) within the 10 m departure distance of its current recorded position. If the shaft is identified within the site boundary, treatment works would be required to stabilise the feature, and a shaft cap or plug would be required at rockhead.
-  A series of rotary open holes should be advanced to a nominal depth of 30 m across the site to confirm the depth to rockhead and investigate the potential presence of the Bassy/Lower Foot Coal seam and any associated shallow workings.
-  Ground gas monitoring well should be installed within selected rotary boreholes to assess the risk from mine/ground gas. Alternatively, installation of CS₂ gas protection measures may be sufficient to mitigate potential risks from ground gas/radon.

Following the confirmation of the position of the mine shaft and the depth to rockhead a Zone of Influence/no build zone for 385414-017 should be calculated and if the proposed structure falls within this area, specialist foundation designs will require submission to the Coal Authority for an engineering appraisal.



TABLE OF CONTENTS

1. INTRODUCTION	8
1.1. Background	8
1.2. Proposed Development.....	8
1.3. Objectives and scope	8
1.4. Sources of Information	9
1.5. Limitations	9
1.6. Risk Classification	9
1.7. Confidentiality	10
2. SITE SETTING.....	11
2.1. Site Details	11
2.2. Current Site Use	11
2.3. Surrounding Area	15
3. SITE HISTORY.....	16
3.1. On-Site Historical Development.....	16
3.2. Summary of On-Site Historical Development	20
3.2.1. Potential Historical Contamination Issues	20
3.2.2. Potential Historical Geotechnical Issues	20
3.3. Off-Site Historical Development	20
3.4. Planning History	20
3.5. Anecdotal Information	21
3.6. Previous Reports	21
4. ENVIRONMENTAL SETTING.....	22
4.1. Geology	22
4.2. Hydrogeology.....	22
4.3. Hydrology	22
4.4. Radon Risk Potential	24
4.5. Landfill Sites	24
4.6. Waste Management Licenses AND Environmental Permits.....	24
4.7. Unexploded Ordnance	25
4.8. Industrial Land Uses.....	25
4.9. Site Sensitivity Assessment.....	25
4.10. Regulatory Database	26
5. PRELIMINARY MINING ASSESSMENT	27
6. INITIAL CONCEPTUAL SITE MODEL.....	29
APPENDIX I LIMITATIONS.....	33
APPENDIX II GLOSSARY	39
APPENDIX III RISK CLASSIFICATION	42
APPENDIX IV DRAWINGS	44
APPENDIX VI HISTORICAL MAPS	46



Drawing List

CJ Partnership Ref: 3633-16 - Site Plan as Proposed

16-702-001-RevA - Site Location Plan

16-702-002-RevA - Proposed Development Plan

16-702-003-RevA - Historical Features Plan

16-702-004-RevA - Site Features Plan

16-702-018-RevA - Coal Mining Issues Plan



1. INTRODUCTION

1.1. BACKGROUND

Jackson, Jackson, & Sons Ltd (the client) commissioned E3P to undertake a Phase I Geoenvironmental Site Assessment at land off Edenfield Road, Rochdale.

This report is required to determine potential contaminated land and geotechnical liabilities for the proposed site redevelopment.

1.2. PROPOSED DEVELOPMENT

Jackson, Jackson & Sons Ltd intends to construct a singular low-rise residential development with an associated garden, and infrastructure. CJ Partnership Site Plan as Proposed (ref: 3633-16) in APPENDIX IV presents the proposed development layout. A snapshot is shown in Figure 1.

Figure 1 Snapshot of Proposed Development



1.3. OBJECTIVES AND SCOPE

The objectives of the geoenvironmental investigation are as follows:



- 📍 Review historical plans, geology, hydrogeology, site sensitivity, floodplain issues, mining records and any local authority information available to complete a desk study in line with Environment Agency (EA) document Land Contamination: Risk Management (LCRM) (updated June 2023).
- 📍 Assess the implications of any potential environmental risks, liabilities and development constraints associated with the site concerning the site's future use and in relation to off-site receptors.
- 📍 Assess the desk study information and, where possible, provide preliminary recommendations concerning foundations, pavement construction, general geotechnical issues, floor slabs and coal mining related issues.
- 📍 Provide recommendations regarding future works required.

1.4. SOURCES OF INFORMATION

Background information was sought from the following sources:

- 📍 Groundsure Enviro+Geo Insight Search Reference GS-MEG-JQ6-ZL8-2B2;
- 📍 Historical mapping dated 1850 to 2024 (APPENDIX VI);
- 📍 Online planning records held by Rochdale Metropolitan Borough Council;
- 📍 Consultations with representatives of the Coal Authority;
- 📍 Magic Map Groundwater Vulnerability Map;
- 📍 Radon: Guidance on protective measures for new buildings (BRE Document BR 211, 2007);
- 📍 British Geological Survey Map;
- 📍 Groundsure IO database;
- 📍 <https://zeticauxo.com/downloads-and-resources/risk-maps/>;
- 📍 <https://flood-map-for-planning.service.gov.uk>
- 📍 Search results | Catchment Data Explorer | Catchment Data Explorer

1.5. LIMITATIONS

The limitations of this report are presented in APPENDIX I.

1.6. RISK CLASSIFICATION

The description of risk classification and the likely action required as set out in CIRIA C552 are included in APPENDIX III.



1.7. CONFIDENTIALITY

E3P has prepared this report solely for the use of the client and those parties with whom a warranty agreement has been executed or with whom an assignment has been agreed. Should any third party wish to use or rely upon the report's contents, written approval must be sought from E3P; a charge may be levied against such consent.



2. SITE SETTING

2.1. SITE DETAILS

Table 1 **Site Details**

Site Address	Land off Edenfield Road, Wolstenholme, Rochdale, OL12 7TN
National Reference	Grid E 385158, N 414818.
Site Area	0.1 Ha.
Site Ownership	Private ownership

The Glossary presented in APPENDIX II defines all acronyms used within this report.

A site location map is presented in APPENDIX IV as Drawing 16-702-001-RevA.

2.2. CURRENT SITE USE

A desk-based assessment was completed by an E3P representative on 19 July 2024, with the full details included in Table 2.



Table 2	Site Description	PHOTOGRAPHIC EVIDENCE
FEATURE	DESCRIPTION	
Occupancy/Use	The subject site is a roughly square parcel of land located to the north of Edenfield Road, Wolstenholme, Rochdale. At present the site is vacant, with overgrown, rough scrub vegetation occupying the entirety of the site.	
Structures	In the eastern half of the site, former building footings and brick courses are present where construction of a property was commenced and then abandoned.	
Retaining Structures	No retaining structures have been identified.	



FEATURE	DESCRIPTION	PHOTOGRAPHIC EVIDENCE
Access	The site is accessible to pedestrians and vehicles via a private road off Edenfield Road, which runs along the eastern site boundary.	
	Entry to the site is through a gap in the stone wall midway along the eastern boundary (see previous image).	
Slope	The site is variable in topography, with a gentle slope to the south towards Edenfield road identified.	
Vegetation/Ecology	Rough scrub vegetation is present across the site with overgrown grasses and self-seeding saplings. Boundaries are lined with semi-mature hedgerows and semi-mature to mature trees. A habitat survey will be required to support the planning application.	
Hazardous Material Storage	No above-ground storage tanks (ASTs) or underground storage tanks (USTs) were observed during the preliminary site walkover. Due to the previously undeveloped nature of the site, it is unlikely that hazardous materials storage will have occurred there.	
Asbestos-Containing Material (ACM)	No evidence of ACM was noted across the site during the walkover.	



FEATURE	DESCRIPTION	PHOTOGRAPHIC EVIDENCE
Polychlorinated Biphenyls (PCBs)	No equipment that may contain PCBs, such as transformers or electric substations, have been identified on the site.	
PFAS/PFOA	No sources of PFAS/PFOA have been identified.	
Waste Storage	No hazardous materials storage has been observed.	
Utilities	Statutory service plans indicate the following: - A private water main serving the terraced properties to the north of the site runs along the eastern site boundary, within the site. - No mains gas, electricity, BT or foul drainage connections are recorded within the site boundary; all are present to the north and south.	



2.3. SURROUNDING AREA

The immediate surrounding area land uses are summarised in Table.

Table 3 **Surrounding Land Uses**

DIRECTION	LAND USE
North	Residential units
East	Residential units
South	Residential units
West	Agricultural fields



3. SITE HISTORY

3.1. ON-SITE HISTORICAL DEVELOPMENT

A review of historical mapping and historical aerial imagery pertinent to the site is summarised in Table 4. In addition, historical site features are presented in Drawing No 16-702-003 in APPENDIX IV.

Table 4 **Historical Development**

MAP EDITION	HISTORICAL LAND USE	HISTORICAL MAP EXCERPT
1850 1:10,000	The site itself is undeveloped but appears to form part of a Colliery.	



MAP EDITION	HISTORICAL LAND USE	HISTORICAL MAP EXCERPT
1890 1:2,500	The site appears to comprise a singular field with no notable site features. There is no longer reference to a colliery and there is no evidence of this within the surrounding area. <i>Note: Due to map positioning errors, the site boundary has been slightly adjusted and is drawn in red.</i>	
1962 1:2,500	No significant changes have occurred since previous mapping. The land adjacent to the west is labelled as a Brick Ground, however, no excavations are shown. <i>Note: Due to map positioning errors, the site boundary has been slightly adjusted and is drawn in red.</i>	



MAP EDITION	HISTORICAL LAND USE	HISTORICAL MAP EXCERPT
1992 1:2,500	No significant changes have occurred since previous mapping.	
2003 1:1,250	No significant changes have occurred since previous mapping.	



MAP EDITION	HISTORICAL LAND USE	HISTORICAL MAP EXCERPT
2017 Aerial Mapping	A footprint of a structure is shown in the eastern half of the site. No further features are noted. The site now mirrors present day arrangement.	



3.2. SUMMARY OF ON-SITE HISTORICAL DEVELOPMENT

The following summary points have been highlighted after a detailed review of the historical mapping series.

-  Colliery

3.2.1. POTENTIAL HISTORICAL CONTAMINATION ISSUES

-  Colliery Spoil/Made Ground – Heavy Metals, Sulphates, non-volatile PAHs, TPHs, Asbestos, ground gases

3.2.2. POTENTIAL HISTORICAL GEOTECHNICAL ISSUES

-  Colliery spoil/deep Made Ground – Geotechnically unsuitable material backfilled to an unspecified depth. Risks of spontaneous combustion if high calorific content.
-  Coal workings – Voided ground and risk of crown hole subsidence, workings may be backfilled with non-engineered materials (geotechnically unsuitable for founding)
-  Coal mine entry (shaft) on western boundary – Voided ground, risk of shaft collapse.
-  Adjacent brick ground and unrecorded excavations may have encroached the site boundary – Geotechnically unsuitable backfill and potential for highwall.

3.3. OFF-SITE HISTORICAL DEVELOPMENT

A review of potentially contaminative uses identified on historical Ordnance Survey maps within a 100 m radius of the site is summarised in Table 5.

Table 5 Surrounding Historical Development

SURROUNDING FEATURE	DISTANCE	DATES	DIRECTION
Baitings Mill (Cotton) Then: Baitings Mill (Fustian) Then: Mill Then: Baitings Mill Then: Mill	2 m	Pre 1890–Pre 1910 Pre 1910–Pre 1962 Pre 1962–Pre 1979 Pre 1979 – Pre 1984 Pre 1984 – Pre 2003	East
Old Brick Works Then: no longer marked	50 m	Pre 1890–Pre 1910 Pre 1910–Present	North
Unspecified Tank Then: No longer marked	58 m	Pre 1910–Pre 1962 Pre 1962–Present	South West
Electricity Sub Station Then: No longer recorded	90 m	Pre 1979 – Pre 1981 Pre 1981 – Present	South East

3.4. PLANNING HISTORY

E3P has reviewed online planning records held by Rochdale Metropolitan Borough Council, and environmentally pertinent information has been recorded below relating to the site.



Table 6 **Planning History**

PLANNING REFERENCE	PLANNING APPLICATION	PERTINENT DOCUMENTS
92/D27872	Erection Of One Dwelling	N/A
95/D31935	Renewal Of Outline Planning Application (D27872) For One Dwelling	N/A
98/D35417	Renewal Of Outline Planning Permission D31935 For the Erection of One Dwelling.	N/A
01/D38689	Renewal Of Outline Planning Permission D35417 For the Erection of One Dwelling.	N/A

3.5. ANECDOTAL INFORMATION

No Anecdotal information has been obtained for the site.

3.6. PREVIOUS REPORTS

The following previous site investigation reports have been provided to E3P for review:

Table 7 **Previous Reports**

AUTHOR	TITLE / REFERENCE	CLIENT	DATE
E3P	16-702-R1-1 Coal Mining Risk Assessment	Jackson, Jackson and Sons Ltd	April 2024

The key findings of the previous desk-based coal mining assessment report are summarised within Section 5, and where necessary, data has been used to support the E3P geoenvironmental site assessment.



4. ENVIRONMENTAL SETTING

4.1. GEOLOGY

The British Geological Survey (BGS) map (Sheet 076) for the site (1:50,000, Solid and Drift editions) and online records indicate the area is underlain by the geological sequence presented in Table 8.

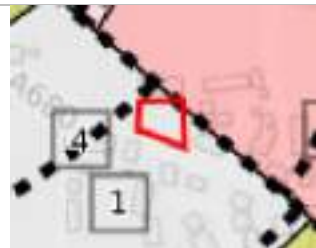
Table 8 Summary of Underlying Geology

GEOLOGICAL UNIT	CLASSIFICATION	DESCRIPTION	AQUIFER CLASSIFICATION
Drift	Glacial Till	SAND, CLAY, SILT, and GRAVEL	Secondary undifferentiated
Solid	Pennine Lower Coal Measures Formation	MUDSTONE, SILTSTONE, SANDSTONE	Secondary A aquifer
	Northeast - Rough Rock	SANDSTONE	

E3P has reviewed the BGS database, with no boreholes situated within approximately 500 m of the site boundary.

The BGS mapping identifies the location of faults, as presented in Table 9.

Table 9 Faulting

LOCATION	DESCRIPTION	IMAGE
On Site	Trending northeast to southwest	

4.2. HYDROGEOLOGY

The Groundsure report indicates that the site is not located within a groundwater source protection zone. Furthermore, there are no active groundwater/potable abstractions within 1 km of the site.

Based on the local topography, the location of surface watercourses, it is likely that shallow groundwater, if present, will flow in a south-westerly direction following the topographical gradient towards Mill Croft Brook to the southwest.

4.3. HYDROLOGY

Surface water features within 250 m of the subject site are summarised in Table 10

Table 10 Surface Water Features

SURFACE WATER FEATURE	EA CLASSIFICATION	QUALITY	DISTANCE (M)	DIRECTION
Mill Croft Brook	Inland River	-	226 m	Southwest



The site is predominantly located within a currently defined “Flood Risk Zone 1”, defined as land assessed as having less than 1 in 1,000 annual probability of river or sea flooding (< 0.1%) and, as such, is considered to be unaffected by river flooding.

In addition, the Groundsure report states there is a limited potential for groundwater flooding at the site. The Environment Agency (EA) Flood Risk Maps for the site is presented in Figure 2 and Groundsure Groundwater Flood Map in Figure 3.

Figure 2 EA Flood Risk Map – Surface Water



Source - <https://flood-map-for-planning.service.gov.uk/>

Figure 3 Groundsure Flood Risk Map - Groundwater





Source – Groundsure mapping

4.4. RADON RISK POTENTIAL

The UK Radon Map indicates the site is situated in an area where between 3% and 5% of homes are above the “Action Level”. Therefore, basic radon protective measures may be necessary for the construction of new dwellings or extensions.

It is recommended that a site specific BGS radon report is obtained to determine the true risk from radon at a higher resolution.

4.5. LANDFILL SITES

A historical landfill site is recorded within Local Authority (LA) mapping records, situated approximately 138 m to 140 m from the site boundary. No information is available regarding the accepted waste, or the full extent of operating dates.

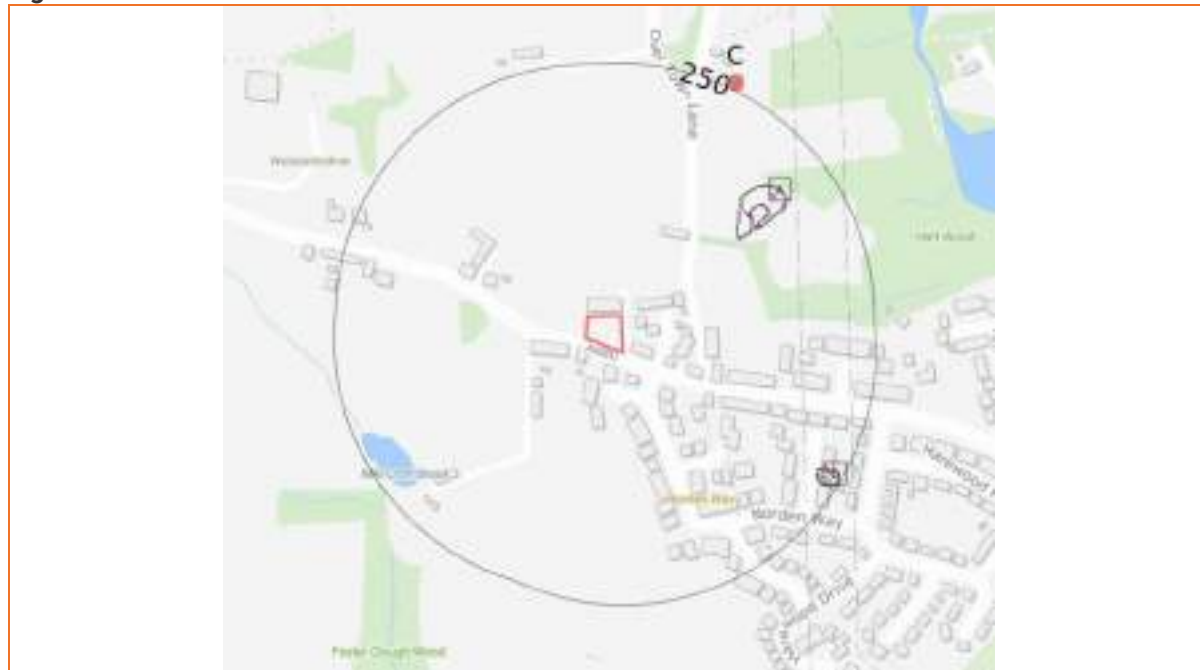
Table 11 Licensed Landfills

LANDFILL NAME	OPERATING DATE	ACCEPTED WASTE	DIRECTION
Refuse Tip (Unspecified)	Circa 1984*	Unknown	North East
Refuse Tip (Unspecified)	Circa 1962*	Unknown	North East

*Source is from historical mapping held by local authorities.

A screenshot of the mapping showing landfill locations within 250m radius of the site is included in Figure 4.

Figure 4 Locations of Landfills



4.6. WASTE MANAGEMENT LICENSES AND ENVIRONMENTAL PERMITS

No Waste Management Licenses or Environmental Permits have been identified in the environmental database for the site and surrounding area (< 250m).

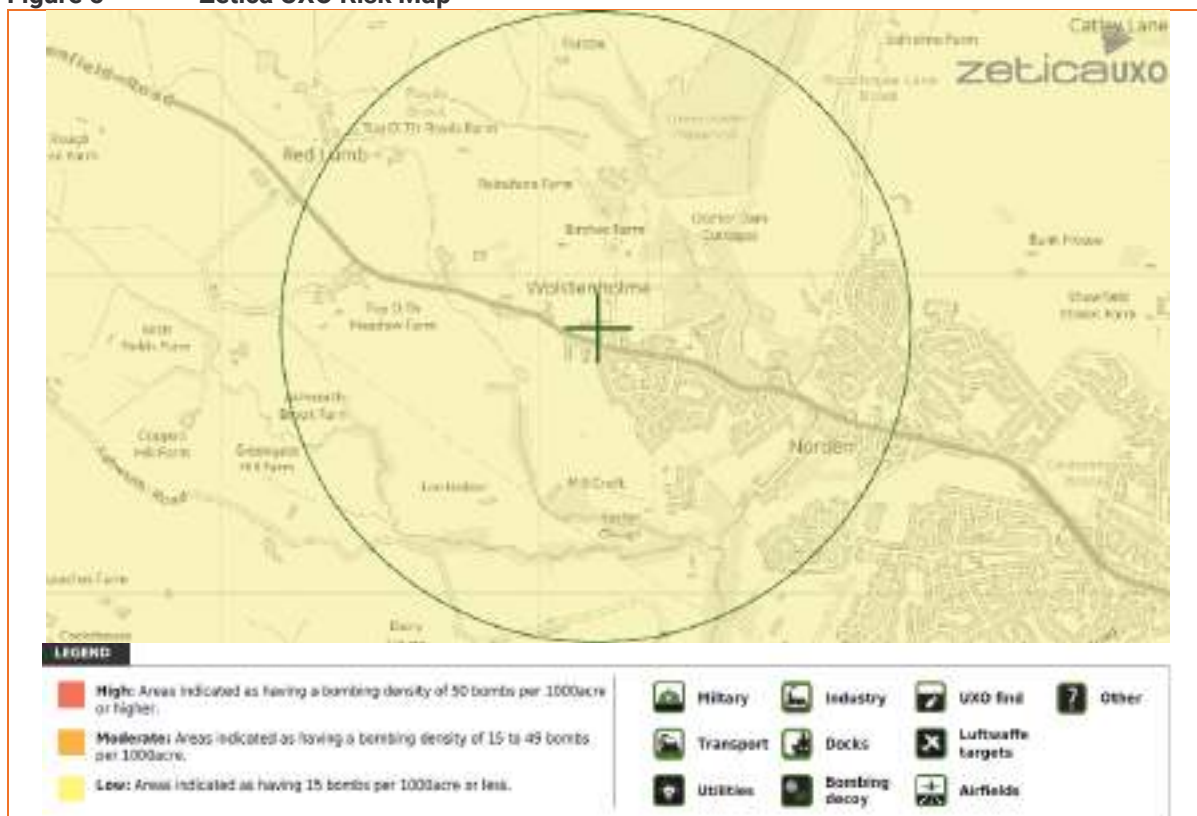


4.7. UNEXPLODED ORDNANCE

The regional unexploded bomb risk map from Zetica (2014) indicates that the site is in an area at low risk from possible unexploded ordnance (UXO) resulting from the Second World War. The Zetica UXO Risk Map is presented in

Figure 5.

Figure 5 Zetica UXO Risk Map



Source - <https://zeticauxo.com/downloads-and-resources/risk-maps/>

4.8. INDUSTRIAL LAND USES

The site is located within a predominantly agricultural and residential area; therefore, there are no entries within the trade directory for industrial land uses.

4.9. SITE SENSITIVITY ASSESSMENT

The site is assessed to be located within a low/moderate sensitivity setting, as discussed in Table 12.

Table 12 Site Sensitivity Assessment

SENSITIVITY PROFILE	DISCUSSION	RATING
Groundwater Source Protection Zone or Drinking Water Safeguard Zone	The site is not situated within a Groundwater Source Protection Zone or a Drinking Water Safeguard Zone.	Low
Distance to the Closest Groundwater Abstraction Point	All groundwater abstraction points are historical, with the closest active groundwater abstraction point situated 1.9km west.	Low



SENSITIVITY PROFILE	DISCUSSION	RATING
Aquifer Classification in Superficial Drift Deposits	Secondary Undifferentiated Superficial Aquifer.	Moderate/Low
Aquifer Classification in Bedrock	Secondary A bedrock aquifer.	Moderate
Is the site Underlain by Low-Permeability Drift to Depths in Excess of 10 m?	The thickness of underlying superficial deposits is presently unknown.	Moderate
Is the site Located Within 50 m of a Surface Watercourse?	The closest surface water receptor is Mill Croft Brook situated 226 m south west. Therefore the overall risk is considered low as it is situated sufficient distance from the site.	Low
Sensitive Land Uses	The site is situated within a Grade 3 Agricultural Land Classification, and within a Designated Green Belt Area (Merseyside and Greater Manchester). Furthermore, the site is situated within an SSSI impact risk zone, but the proposed development is not included within the type of development requiring consultation.	Moderate
Sensitive Ecological Receptors	The site is situated approximately 216m East of a Designated Ancient Woodland (Wolstenholme Wood). However, it is considered these are situated sufficient distance to not pose a sensitive ecological receptor to the proposed development.	Low
OVERALL SITE ENVIRONMENTAL SENSITIVITY		Low/Moderate

4.10. REGULATORY DATABASE

The information summarised in Table 13 has been obtained from a commercially available environmental database. The summary table only includes records from within 250 m of the subject site and is not otherwise detailed in the report.

Table 13 Summary of Environmental Data

RECORD	ENTRIES WITHIN 250 M	DETAILS
Contaminated Land Register Entries and Notices	0	None Identified
Authorised Industrial Processes (Part A(1), Part A(2) and Part B installations under the Environmental Permitting Regulations 2016)	0	None Identified
Fuel Stations Entries	0	None Identified
Licensed Radioactive Substances	0	None Identified
Enforcements, Prohibitions or Prosecutions	0	None Identified
Discharge Consents	0	None Identified
Pollution Incidents	0	None Identified
Consents Issued Under the Planning (Hazardous Substances) Act 1990	0	None Identified
Control of Major Accident Hazard (COMAH) Sites	0	None Identified



5. PRELIMINARY MINING ASSESSMENT

A coal mining risk assessment was completed under separate cover by E3P (Ref: 16-702-R1, April 2023). The key findings are summarised as follows:

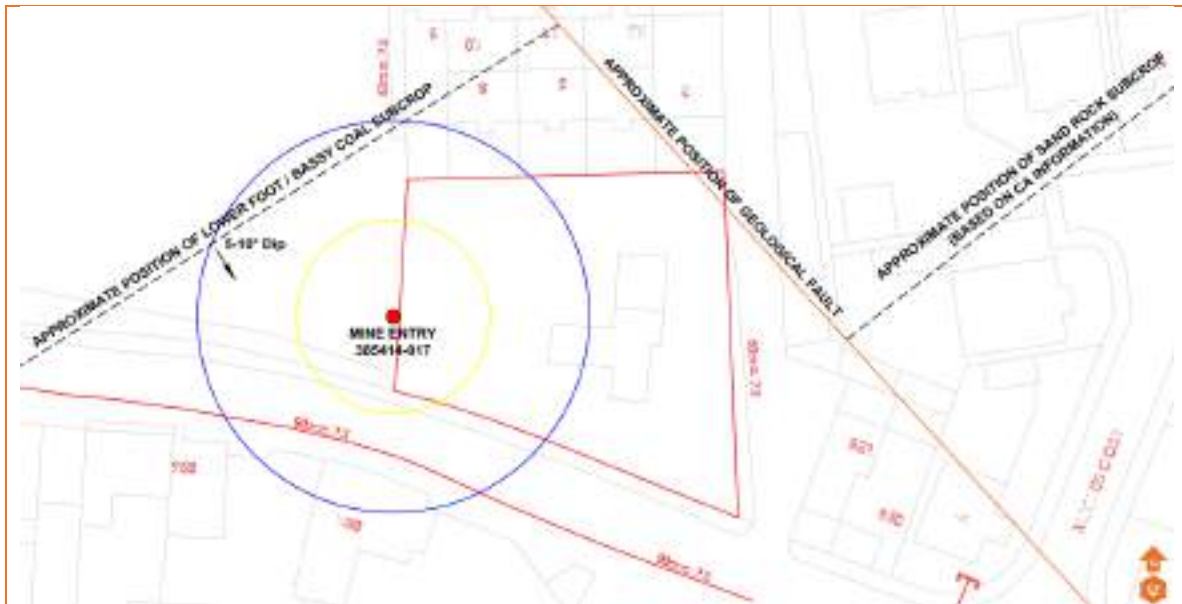
Geological mapping for the site shows a northwest-southeast trending fault bisecting the north-eastern corner of the site. The local geology is indicated to generally dip 5-10° to the south east. A coal seam (possibly the Bassey or Lower Foot seam) is indicated to crop the west of the site encroaching into the northwest corner of the site and terminating at the fault. Given the indicated dip of the local geology, the coal seam would therefore be anticipated at rockhead in the north west of the site (inferred c. 5.00-9.00 m bgl based on available BGS borehole records) dipping to 4.00-8.00 m below rockhead in the south west. Unrecorded workings beneath the site are considered probable and a mine entry is recorded on the western site boundary (385414-017). Based on this, there is considered to be a high risk from shallow unrecorded coal workings beneath the site and the presence of a mine entry on the western site boundary.

Based on BGS memoirs, it is likely that the seam would be the Lower Foot mine, as this is understood to be of workable quality in the area, albeit of limited thickness (0.30 m), whereas the Bassy is generally shaly and of poor quality.

On the basis that the seam beneath the site is the Lower Foot, with a workable thickness of 0.30 m, 3 m of competent rock cover would be required above the seam to mitigate risks of migrating voids propagating to the surface and resulting in subsidence (based on 10 x seam thickness). Investigation would be required to determine the depth to rockhead and presence of any coal seams and/or workings beneath the site.

In respect of the mine shaft identified on the western boundary, the assumed shaft diameter is 2.50 m and the departure zone (margin of error for the position of the shaft) is 10.00 m. Based on this information and the inferred depth to rockhead of 5.00-9.00 m, the potential zone of influence (radial stand-off / no build zone) around the shaft may be up to 20.25 m if the position remains unconfirmed (reduced to 10.25 m if located, treated and capped), as shown in Figure 5.1. Note: actual distances would be confirmed on confirmation of the depth to rockhead.

Figure 5 **Coal Mining Constraints Plan**



The no-build zone would be required to protect structures if a failure was to occur. The CA is a statutory body that works with the planning authority that seldom allows plots to be constructed within the Zone of Influence, if plots are to be constructed within the Zone of Influence, specialist foundation designs will be required to be submitted to the CA for an engineering appraisal.

E3P recommends the following works are undertaken to ensure that all areas of potential shallow mine workings are identified and assessed:

- 📍 Trial Trenching should be undertaken to investigate the potential presence of the mine shaft (385414-017) within the 10 m departure distance of its current recorded position. If the shaft is identified within the site boundary, treatment works would be required to stabilise the feature, and a shaft cap or plug would be required at rockhead.
- 📍 A series of rotary open holes should be advanced to a nominal depth of 40 m across the site to confirm the depth to rockhead and investigate the potential presence of the Bassy/Lower Foot Coal seam and any associated shallow workings.
- 📍 Ground gas monitoring wells should be installed within selected rotary boreholes to assess the risk from mine/ground gas, or a precautionary gas membrane/mitigation measure should be installed in any new developments.
- 📍 Following the confirmation of the position of the mine shaft and the depth to rockhead a Zone of Influence/no build zone for 385414-017 should be calculated and if the proposed structure falls within this area, specialist foundation designs will require submission to the Coal Authority for an engineering appraisal.



6. INITIAL CONCEPTUAL SITE MODEL

Under EA LCRM (updated June 2023) and BSI 10175 (Code of Practice for Investigation of Potentially Contaminated Land), and BS EN ISO 21365:2021 (Soil Quality – Conceptual models for potentially contaminated sites), E3P has developed a Tier 1 risk assessment comprising an initial conceptual site model (CSM) to identify potential contamination sources, migration pathways and receptors within the study area. An initial screening of the on and potential off-site sources of contamination has been undertaken in Table 14, with the more detailed initial CSM included overleaf as Table 15.

Table 14 Initial Contaminant Source Screening

SOURCE	SOIL	GROUNDWATER	GROUND GAS
ON-SITE			
Colliery	Sulphates, Heavy Metals, PAHs, TPHs	Heavy Metals, PAHs	Carbon Dioxide, Methane
Made Ground/Brick Ground	Sulphates, Heavy Metals, PAHs, Asbestos	Heavy Metals, PAHs	Carbon Dioxide, Methane



After reviewing all environmentally pertinent information and the potential contaminant sources, the following initial conceptual site model has been developed for the site.

Table 15 Initial Conceptual Model

CONTAMINANT RISK			LIKELIHOOD	SEVERITY	LEVEL OF RISK	JUSTIFICATION
SOURCES	MIGRATION PATHWAYS	RECEPTORS				
HUMAN HEALTH						
Colliery Spoil Heavy Metals, Sulphate, PAHs	Accidental ingestion and/or dermal contact with contaminated soil and/or leachate. PL1/PL2	Human Health – construction workers	Likely	Medium	Moderate	The site formed part of a historical colliery and a mine shaft is recorded on the western boundary, there is therefore potential for colliery spoil to be present across the site. The site was also part of a wider brick ground and excavations may have extended onto the site and been subsequently infilled.
		Human Health – end users	Likely	Medium	Moderate	
MADE GROUND Heavy Metals, PAHs	Inhalation of contaminated dust. PL3					Site personnel have a greater chance of coming into contact with contaminated soils. Particularly during excavation and soil recovery works. Intrusive investigation should be carried out to determine the requirement for a cover system in soft landscaped areas.
Colliery Spoil/MADE GROUND TPH, volatile PAHs (naphthalene)	Inhalation of vapours. PL4	Human Health – end users	Likely	Medium	Moderate	Colliery spoil/infill material may be a source of TPH and volatile PAH. Intrusive investigation and assessment will be required to determine the level of mitigation measures and/or remediation.
	Migration through permeable strata and preferential pathways.	Human Health – Off-site receptors				
MADE GROUND Asbestos (Asbestos containing materials (ACM) and loose fibres)	Inhalation (of fibres). Construction works disturbing bound material and releasing fibres. PL3	Human Health – construction workers, end land users, and users of adjacent sites	Unlikely	Low	Very low	No historical development has been recorded on-site other than the abandoned foundations of a proposed residential property. It is possible that asbestos fibres may be present within Made Ground soils, but unlikely.



CONTAMINANT RISK			LIKELIHOOD	SEVERITY	LEVEL OF RISK	JUSTIFICATION
SOURCES	MIGRATION PATHWAYS	RECEPTORS				
Colliery Spoil/ MADE GROUND MADE GROUND Sulphate/ash	Sulphate attack on concrete. PL6	Building concrete	Likely	Medium	Moderate	Due to the likely presence of Made Ground and associated Colliery Spoil anticipated on the site, the potential for sulphate in ash deposits is high which may impact the proposed building concrete. Intrusive investigation will be required to assess the concrete classification.
MADE GROUND Organic contaminants such as hydrocarbons, solvents	Ingestion of tainted water supply. PL7	Human Health – End Users Water pipeline	Likely	Medium	Moderate	Likely probability as potential contamination is anticipated at pipeline depth across the west of the site (0.75–1.35 m). Intrusive investigation is required.
MADE GROUND Phytotoxic contaminants	Direct contact (plant uptake). PL8	Flora	Low likelihood	Medium	Low	Contamination in the Made Ground may be taken up by flora in soft landscaping/gardens. Intrusive investigation is required.
CONTROLLED WATERS						
Groundwater	Contact with contaminated groundwater. PL2	Human Health – site personnel	Unlikely	Low	Very low	Groundwater is not expected to rise above ground level or significantly flood excavations.
	Contaminants leached from the Made Ground and from off-site sources may be mobilised to greater distances through advective flow. PL5	Human Health – end users	Low likelihood	Low	Low	Colliery spoil/infill materials may be sources of leachable contaminants such as heavy metals and PAH. Impacted groundwater could transport contaminants vertically and horizontally through permeable strata, if present, however, low permeability cohesive soils are anticipated which would limit migration of contaminants to the underlying aquifer. There are no surface water receptors within influencing distance of the site.



CONTAMINANT RISK			LIKELIHOOD	SEVERITY	LEVEL OF RISK	JUSTIFICATION
SOURCES	MIGRATION PATHWAYS	RECEPTORS				
GROUND GAS						
Ground gases (methane and carbon dioxide in the landfill areas as monitored during previous studies)	Inhalation of ground gas. PL4	Human Health – site personnel	Likely	Medium	Moderate	A mine shaft is recorded on the western site boundary which may be a conduit for mine gas. Ground gases may migrate through permeable strata to enter enclosed spaces/excavations and proposed buildings. A period of ground gas monitoring will be required to determine the gas regime for the site.
		Human Health – end users	Likely	Medium	Moderate	
	Accumulation of ground gas in confined spaces (asphyxiation or explosion)	Infrastructure and services	Low likelihood	Low	Very low	
Radon	Inhalation of ground gas. PL4	Human Health – site personnel	Low likelihood	Low	Low	Due to limited exposure and duration, risks to construction workers from radon are not significant.
	Accumulation of ground gas in confined spaces (carcinogenic)	Human Health – end users	Likely	Medium	Moderate	Radon Class 3 - 3-5% of homes are estimated to be at or above the Action Level. Basic radon protection measures required.

Notes:

Main exposure pathways: PL1 = soil ingestion, PL2 = dermal contact and ingestion, PL3 = dust inhalation; PL4 = Vapour/Gas Inhalation; PL5 = Vertical / Lateral Migration; PL6 = Corrosion of concrete; PL7=Tainting of water supply; PL8 = Uptake by plants.

END OF REPORT

APPENDIX I

LIMITATIONS





GENERAL

1. This report and any associated works (together comprising the "Services") were compiled and carried out by E3P for the client (as present in Section 1) under the E3P "Terms of Business" or with those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report.
2. Unless explicitly agreed otherwise, in writing, this report has been prepared under E3P Standard Terms and Business as included within our proposal to the Client.
3. Project-specific appointment documents may be agreed upon at our discretion and a charge may be levied for both the time to review and finalise appointment documents and also for associated changes to the appointment terms. E3P reserves the right to amend the fee should any changes to the appointment terms create an increased risk to E3P.
4. The report needs to be considered in light of the proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

PHASE 1 GEOENVIRONMENTAL AND PRELIMINARY RISK ASSESSMENTS

5. Coverage: This section covers reports with the following titles or combination of titles: Phase 1; Desktop Study; Geoenvironmental Assessment; Development Appraisal; Preliminary Environmental Risk Assessment; Constraints Report; Due Diligence Report; Geotechnical Development Review; Environmental Statement; Environmental Chapter; Baseline Environmental Assessment; Project Scope Summary Report (PSSR), Program Environmental Impact Report (PEIR), Geotechnical Development Risk Register; Agricultural Land Assessment; Mineral Safeguarding Assessment; Desk Top Coal Mining Risk Assessment; Hydrogeological Appraisal; Construction Environmental Management Plan; and Site Water Management Plan.
6. The works undertaken to prepare this report comprised a study of available and easily documented information from a variety of sources (including the Client), together with (where appropriate) a brief walkover inspection of the site and correspondence with relevant authorities and other interested parties. Due to the short timescales associated with these projects' responses may not have been received from all parties. E3P cannot be held responsible for any disclosures that are provided post-production of our report and will not automatically update our report.
7. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, E3P reserves the right to review such information and, if warranted, to modify the opinions accordingly.
8. 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 intrusive investigations of the site.



9. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials, this is for indicative purposes only and does not constitute or replace full and proper surveys completed by suitably qualified and experienced specialists in these fields.
10. E3P does not warrant work/data undertaken/provided by others.

INTRUSIVE INVESTIGATION REPORTS

11. Coverage: The following report titles (or combination) may cover this category of work: Geoenvironmental Site Investigation; Geotechnical Assessment; GIR (Ground Investigation Reports); Preliminary Environmental and Geotechnical Risk Assessment; Preliminary Summary; Coal Mining Risk Assessment, Ground Gas Addendum; and Geotechnical Risk Register.
12. The investigation has been undertaken to provide information concerning either:
 - I. The type and degree of contamination present at the site in order to allow a generic quantitative risk assessment to be undertaken; or
 - II. Information on the soil properties present at the site to allow for geotechnical development constraints to be considered.
13. The scope of the investigation was selected on the basis of the specific development and land use scenario proposed by the Client and may be inappropriate to another form of development or scheme. If the development layout was not known at the time of the investigation the report findings may need revisiting once the development layout is confirmed.
14. Unless otherwise specified in the scope of works, any site drawing(s) provided in this report is (are) not meant to be an accurate base plan but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (intrusive and sample locations etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for setting out and should be considered indicative only.
15. For contamination purposes, the objectives of the investigation are limited to establishing the risks associated with potential contamination sources with the potential to cause harm to human health, building materials, the environment (including adjacent land), or controlled waters.
16. For geotechnical investigations, the purpose is to broadly consider potential development constraints associated with the physical property of the soils underlying the site within the context of the proposed future or continued use of the site, as stated within the report.
17. The amount of exploratory work, soil property testing, and chemical testing undertaken has necessarily been restricted by various factors which may include accessibility, the presence of services; existing buildings; current site usage or short timescales. The exploratory holes completed assess only a small percentage of the area in relation to the overall size of the site, and as such can only provide a general indication of conditions.



18. The number of sampling points and the methods of sampling and testing do not preclude the possible existence of contamination where concentrations may be significantly higher than those actually encountered or ground conditions that vary from those identified. In addition, there may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.
19. The inspection, testing and monitoring records relate specifically to the investigation points and the timeframe that the works were undertaken. They will also be limited by the techniques employed. As part of this assessment, E3P has used reasonable skill and care to extrapolate conditions between these points based on assumptions to develop our interpretation and conclusions.
20. The assumption made in forming our conclusions is that the ground and groundwater conditions (both chemically and physically) are the same as have been encountered during the works undertaken at the specific points of investigation and at the time of the investigation.
21. Conditions can change between investigation points both spatially and over time and these interpretations should therefore be considered indicative. The assessment of extreme weather events and their impact on ground conditions is not within the scope of E3P's work.
22. The risk assessment and opinions provided are based on currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values. Specific assumptions associated with the risk assessment process have been outlined within the body or associated appendix of the report.
23. Additional investigations may be required in order to satisfy relevant planning conditions or to resolve any engineering and environmental issues.
24. Where soil contamination concentrations recorded as part of this investigation are used for commentary on the potential waste classification of soils for disposal purposes, these should be classed as indicative only. Due consideration should be given to the variability of contaminant concentrations taken from targeted samples versus bulk excavated soils and the potential variability of contaminant concentrations between sampling locations. Where major waste disposal operations are considered, targeted waste classification investigations should be designed, and the waste classification and any subsequent disposal option agreed upon with licenced subcontractors and/or the relevant regulators.
25. The results of the asbestos testing are factually reported, and interpretation is given as to how this relates to the previous use of the site, the types of ground encountered and site conceptualisation. This does not however constitute a formal asbestos assessment. These results should be treated cautiously and should not be relied upon to provide detailed and representative information on the delineation, type and extent of bulk ACMs and/or trace loose asbestos fibres within the soil matrix at the site.
26. If costs have been included in relation to additional site works, and/or site remediation works these must be considered as indicative only and must be confirmed by a qualified quantity surveyor.



EUROCODE 7: GEOTECHNICAL DESIGN

27. On 1st April 2010, BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design – Part 1) became the mandatory baseline standard for geotechnical ground investigations.
28. In terms of geotechnical design for foundations, slopes, retaining walls and earthworks, EC7 sets guidance on design procedures including specific guidance on the numbers and spacings of boreholes for geotechnical design, there are limits to methods of ground investigation and the quality of data obtained and there are also prescriptive methods of assessing soil strengths and methods of design. Unless otherwise explicitly stated, the work has not been undertaken in accordance with EC7. A standard geotechnical interpretative report will not meet the requirements of the Geotechnical Design Report (GDR) under Eurocode 7. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. The report is likely to represent a Ground Investigation Report (GIR) under the Eurocode 7 guidance.

DETAILED QUANTITATIVE RISK ASSESSMENTS AND REMEDIATION AND ENABLING WORK STRATEGY REPORTS

29. These reports build upon previous report versions and associated notes. The scope of the investigation, further testing and monitoring and associated risk assessments were selected based on the specific development and land use scenario proposed by the Client and may not be appropriate to another form of development or scheme layout. The risk assessment and opinions provided are based on currently available approaches in the generation of Site-Specific Assessment Criteria relating to contamination concentrations and are not considered to represent a risk in a specific land use scenario to a specific receptor. No liability can be accepted for the retrospective effects of any future changes or amendments to these values, associated models or associated guidance.
30. The outputs of the Detailed Quantitative Risk Assessments are based upon the manipulation of standard risk assessment models. These are our interpretation of the risk assessment criteria.
31. Before adoption on-site, assessment criteria will need to be discussed and agreed upon with the Regulatory Authorities prior to adoption on site. The regulatory discussion and engagement process may result in an alternative interpretation being determined and agreed. The process and timescales associated with the Regulatory Authority engagement are not within the control of E3P. All costs and programmes presented as a result of this process should be validated by a quantity surveyor and should be presumed to be indicative.
32. E3P does not accept liability for any subcontract work that has not been completed in strict accordance with an approved E3P Remediation and Enabling Works Strategy.

GEOTECHNICAL DESIGN REPORT (GDR)

33. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. All the relevant information needs to be provided to allow for a GDR to be produced.



MONITORING (INCLUDING REMEDIATION MONITORING REPORTS AND BUILD PHASE MITIGATION)

34. These reports are factual and comprise monitoring, normally groundwater and ground gas and data provided by contractors as part of earthworks or remedial works.
35. The data is presented and will be compared with assessment criteria.

APPENDIX II

GLOSSARY





TERMS

ACM	Asbestos-containing material	MMP	Materials management plan
ADS	Acoustic design statement	ND	Not detected
AST	Above-ground storage tank	NDP	Nuclear density probe
BGS	British Geological Survey	NMP	Noise management plan
BSI	British Standards Institute	NPSE	Noise policy statement for England
BTEX	Benzene, toluene, ethylbenzene, xylenes	NR	Not recorded
CA	Coal Authority	PAH	Polycyclic aromatic hydrocarbon
CBR	California bearing ratio	PCB	Polychlorinated biphenyl
CIEH	Chartered Institute of Environmental Health	PI	Plasticity index
CIRIA	Construction Industry Research Association	PID	Photo ionisation detector
CLEA	Contaminated land exposure assessment	POS	Public open space
CML	Council of Mortgage Lenders	PPE	Personnel protective equipment
CoC	Contaminants of concern	ProPG	Professional practice guidance
CSM	Conceptual site model	QA	Quality assurance
DNAPL	Dense non-aqueous phase liquid (chlorinated solvents, PCB)	SGV	Soil guideline value
DWS	Drinking water standard	SPH	Separate-phase hydrocarbon
EA	Environment Agency	SPT	Standard penetration test
EQS	Environmental quality standard	SVOC	Semi-volatile organic compound
FFL	Finished floor level	TPH	Total and speciated petroleum hydrocarbon
GAC	General assessment criteria	TPH CWG	Total Petroleum Hydrocarbon (Criteria Working Group)
GL	Ground level	UKWIR	United Kingdom Water Infrastructure Risk
GSV	Gas screening value	UST	Underground storage tank
HCV	Health criteria value	VCC	Vibro-concrete column
ICSM	Initial conceptual site model	VOC	Volatile organic compound
LEL	Lower explosive limit	VRSC	Vibro-replacement stone columns
LMRL	Lower method reporting limit	VSC	Vibro-stone columns
LNAPL	Light non-aqueous phase liquid (petrol, diesel, kerosene)	WHO	World Health Organisation



MCV	Moisture condition value	WRAP	Waste and Resources Action Programme
MIBK	Methyl isobutyl ketone	WTE	Water table elevation
m	Metres	ppm	Parts per million
km	Kilometres	mg/m³	Milligram per metre cubed
% v/v	Percent volume in air	m bgl bgl	Metres below ground level
mb	Millibars (atmospheric pressure)	m bcl	Metre below cover level
l/hr	Litres per hour	mAOD	Metres above ordnance datum (sea level)
µg/l	Micrograms per litre (parts per billion)	kN/m²	Kilonewtons per metre squared
ppb	Parts per billion	µm	Micrometre
mg/kg	Milligrams per kilogram (parts per million)	SSRT	Site Specific Remediation Target
PSD	Particle Size Distribution	DD	Dry Density
CL:AIRE	Contaminated Land: Applications in Real Environments	Mc	Moisture Content
ρ	Bulk Density	GPR	Ground Penetrating Radar
NDP	Nuclear Density Probe	FFL	Finished Floor Level
LEL	Lower Explosive Limit	UKWIR	UK Water Industry Research
CIRIA	Construction Industry Research and Information Association	LOD	Limit of Detection
PFAS	Per- and Poly-Fluorinated Substances	PFOA	Perfluorooctanoic Acid

APPENDIX III

RISK CLASSIFICATION



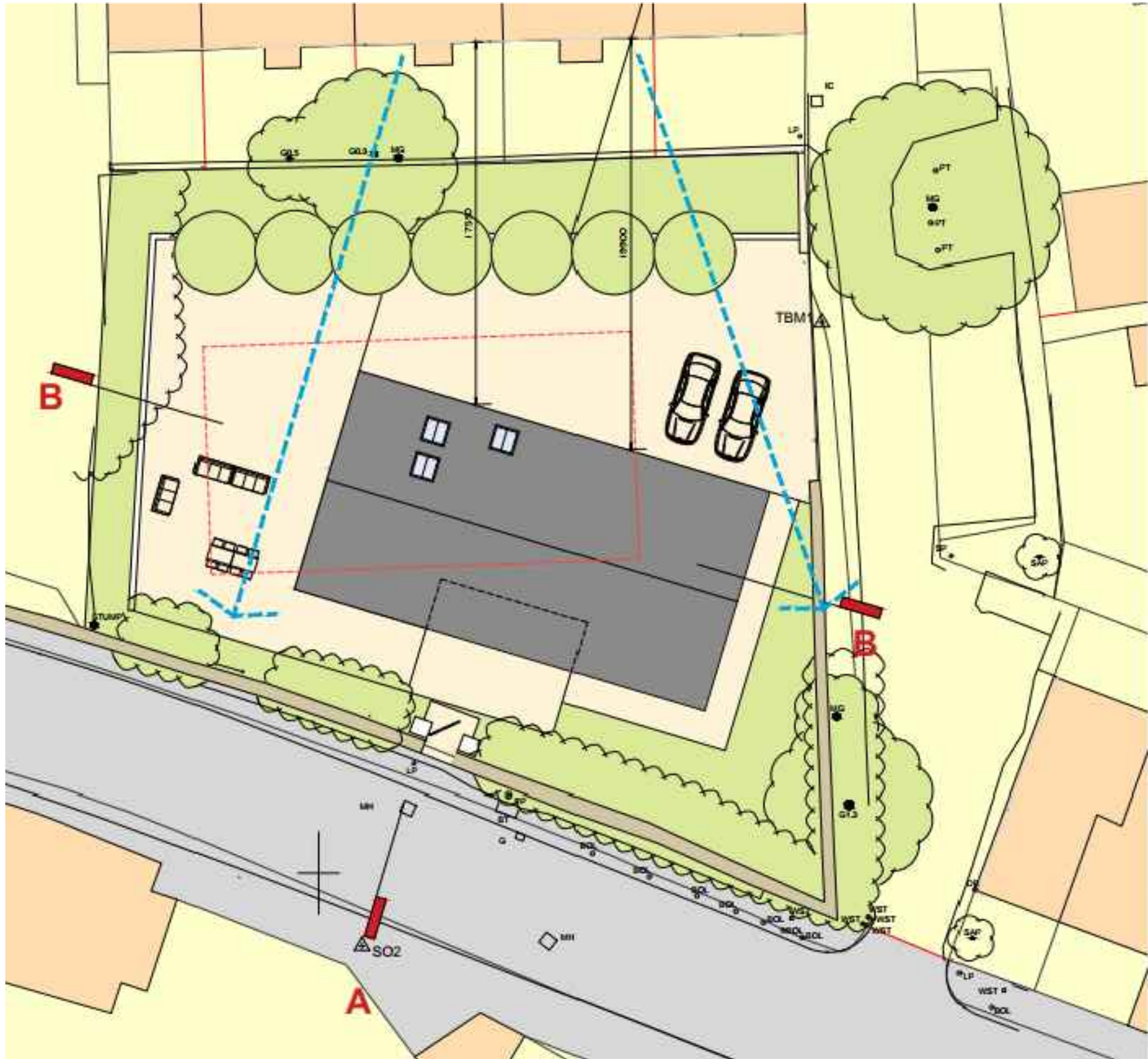
risk classification

RISK	DEFINITION
Low	There are unlikely to be significant contaminated land liabilities/geotechnical constraints associated with the property.
Low Moderate	There are unlikely to be significant contaminated land liabilities/geotechnical constraints associated with the property with regard to the proposed use. However, minor issues may require further consideration in the event of future redevelopment of the site.
Moderate	Some potential contaminated land liabilities/geotechnical constraints are likely to affect the property as a result of historical and/or current activities. The risks identified are unlikely to pose an immediate significant issue, but the purchaser/developer may wish to make further enquiries of the vendor or undertake further environmental improvements. Redevelopment of the site will likely require further site investigation.
Moderate High	Some potentially significant contaminated land liabilities/geotechnical constraints have been identified at the property that requires further assessment, including intrusive ground investigations.
High	Significant potential contaminated land liabilities/geotechnical constraints have been identified at the property. Further assessment including intrusive ground investigation will be required to determine the level of risk and associated liability.

APPENDIX IV

DRAWINGS





Notes:				
P1	REVA	01.08.2024	OW	PW
Phase	Issue	Date	Drawn	Checked

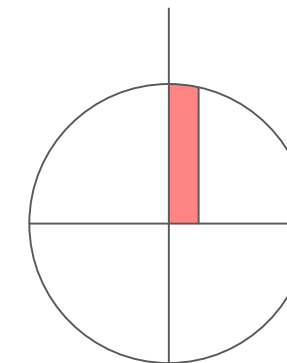
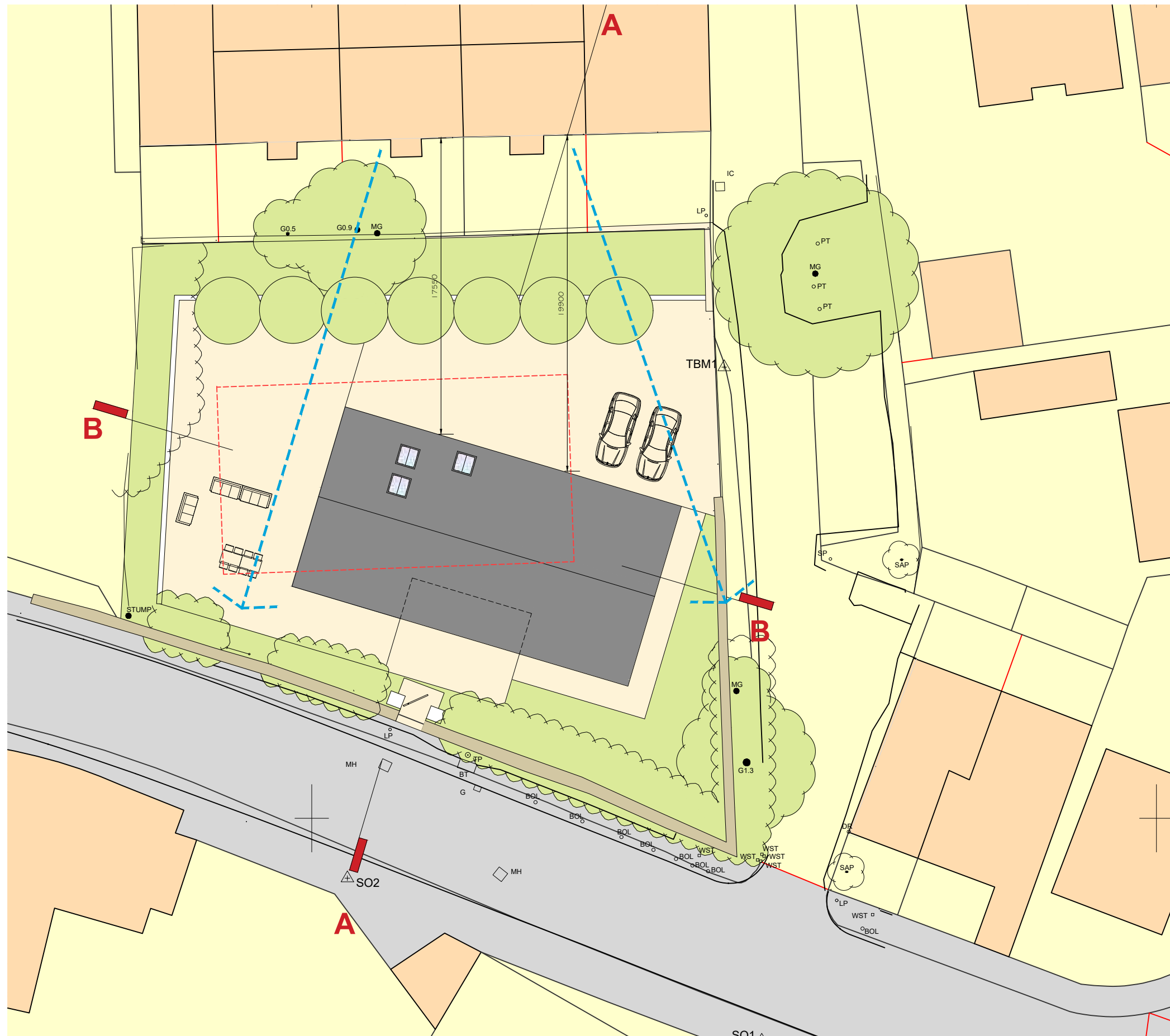
Client:	
JACKSON, JACKSON & SONS LIMITED	
Job Title:	
Edenfield Road, Rochdale	

Job No:	16-702	Date:	01.08.2024
Drawing No:	002	Scale:	NTS
Drawing Title:		Proposed Development Plan	



Environmental Engineering Partnership Ltd
Taylor Road, Trafford Park
Urmston, Manchester, M41 7JQ
Tel: 0161 707 9612
E-mail: info@e3p.co.uk
Website: www.e3p.co.uk

The client must not amend any drawing, design or other intellectual property produced by E3P Ltd without permission in writing from E3P Ltd in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, E3P Ltd shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or intellectual property.



Helen Jackson
Land adjacent to 962
Edenfield Road
Norden
Rochdale

Site Plan as Proposed

work to figured dimensions

© CJ Partnership owns the copyright of this design /
drawing which must not be reproduced in whole or in
part without the written permission of CJ Partnership

contract no

3633

drawn by

drawing no

16

date

July 2022

revision

scale @ A3

1:250

Planning

Revisions:
A.

Blue Pit Mill Queensway
Castleton Rochdale OL11 2PG

+44 (0)1706 631347

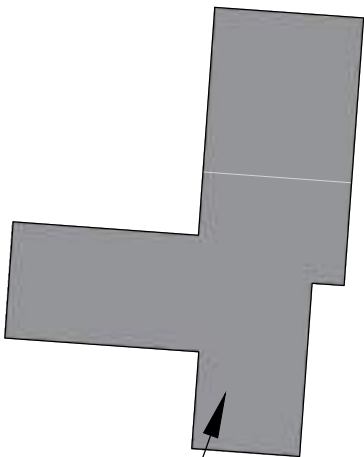
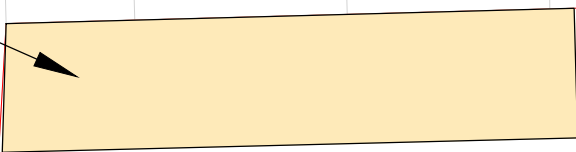
info@cjpartnership.com

www.cjpartnership.com

CJPARTNERSHIP
ENVIRONMENTAL ARCHITECTS



Former Building
Pre 1890 - Pre 1929



Construction of Foundations
Pre 2013 - Present



Historical Features

-  Former Building
-  Construction of Foundations

Notes:

P1	REVB	01.08.2024	OW	PW
P1	REVA	24.04.2023	OW	PW
Phase	Issue	Date	Drawn	Checked

Client:

JACKSON, JACKSON &
SONS LIMITED

Job Title:

Edenfield Road,
Rochdale

Job No:

16-702

Drawing No:

003

Date:

01.08.2024

Scale:

NTS



Environmental Engineering
Partnership Ltd
Taylor Road, Trafford Park
Urmston, Manchester, M41 7JQ
Tel: 0161 707 9612
E-mail: info@e3p.co.uk
Website: www.e3p.co.uk

The client must not amend any drawing, design or other intellectual property produced by E3P Ltd without permission in writing from E3P Ltd in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, E3P Ltd shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or intellectual property.

DRAWING 16-702-R1-001 – Site Location Plan





Site Features

- Old Brick Foundations
- Semi Mature Trees
- Rough Scrub Vegetation and Semi Mature Trees
- Overhead Cables
- Dry Stone Wall
- General Slope Towards the SE

Notes:

P1	REVB	01.08.2024	OW	PW
P1	REVA	24.04.2023	OW	PW
Phase	Issue	Date	Drawn	Checked

Client:

JACKSON, JACKSON &
SONS LIMITED

Job Title:

Edenfield Road,
Rochdale

Job No:

16-702

Drawing No:

004

Date:

01.08.2024

Scale:

NTS

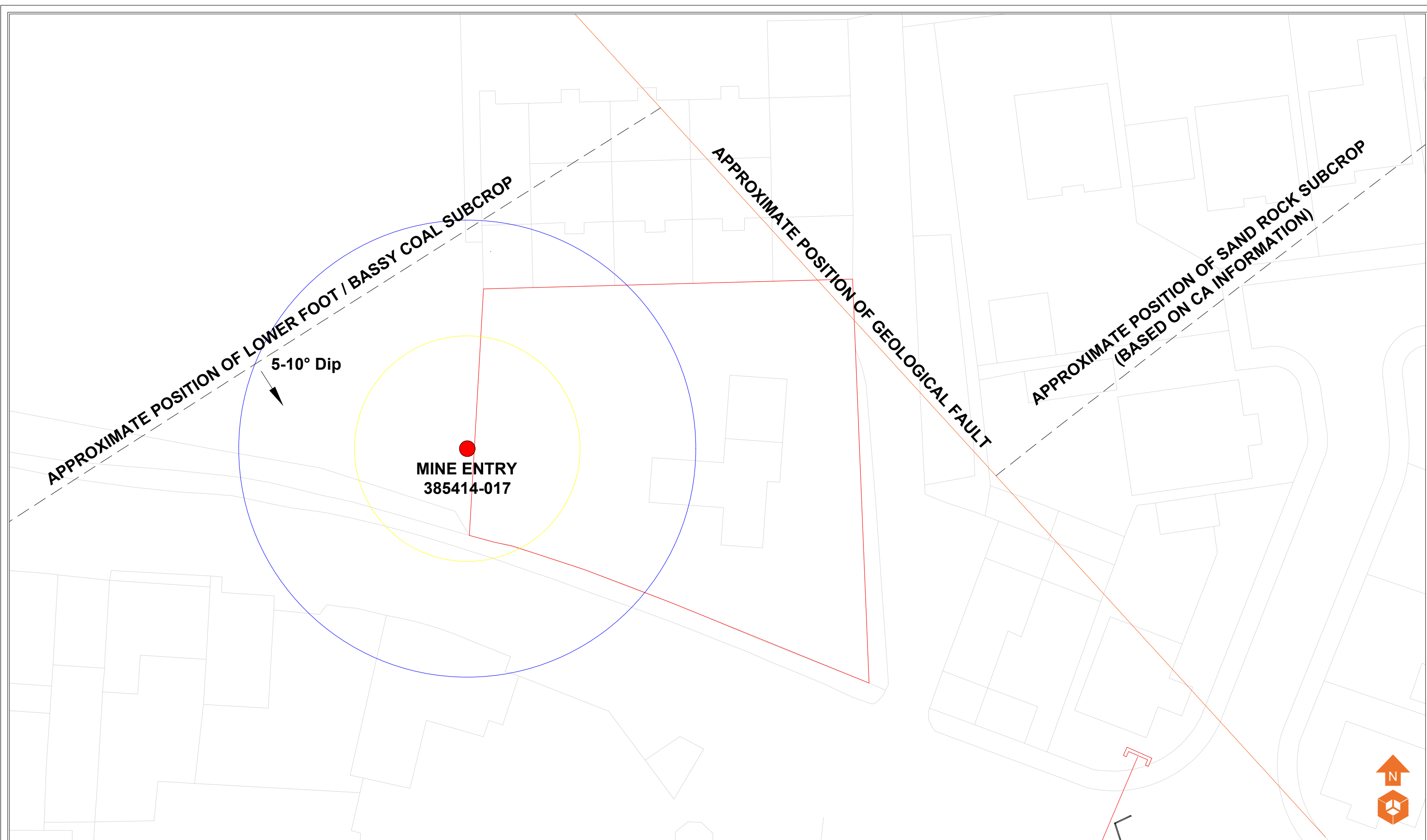
Drawing Title:

Site Features
Plan



Environmental Engineering
Partnership Ltd
Taylor Road, Trafford Park
Urmston, Manchester, M41 7JQ
Tel: 0161 707 9612
E-mail: info@e3p.co.uk
Website: www.e3p.co.uk

The client must not amend any drawing, design or other intellectual property produced by E3P Ltd without permission in writing from E3P Ltd in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, E3P Ltd shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or intellectual property.



Location Symbols Approximate Mine Entry Location 10m Departure Zone (Search Area) 25m No Build Zone (Worst Case) Approximate Position of Geological Fault Lower Foot / Bassy Coal Subcrop (Geological Mapping)

APPENDIX VI

HISTORICAL MAPS



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: County Series

Map date: 1890

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1890
Revised 1890
Edition N/A
Copyright N/A
Levelled N/A

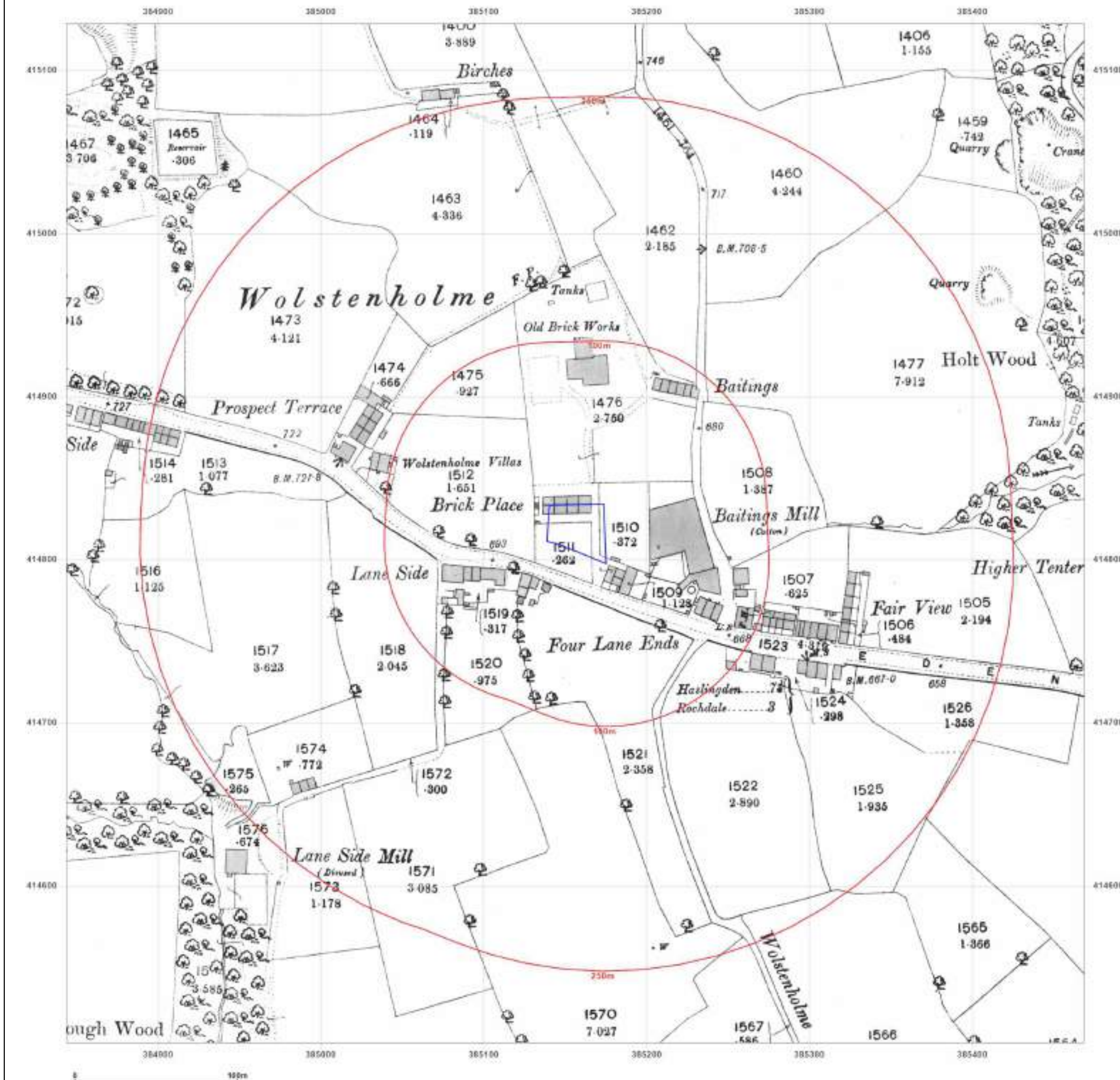


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: County Series

Map date: 1910

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1910
Revised 1910
Edition N/A
Copyright N/A
Levelled N/A

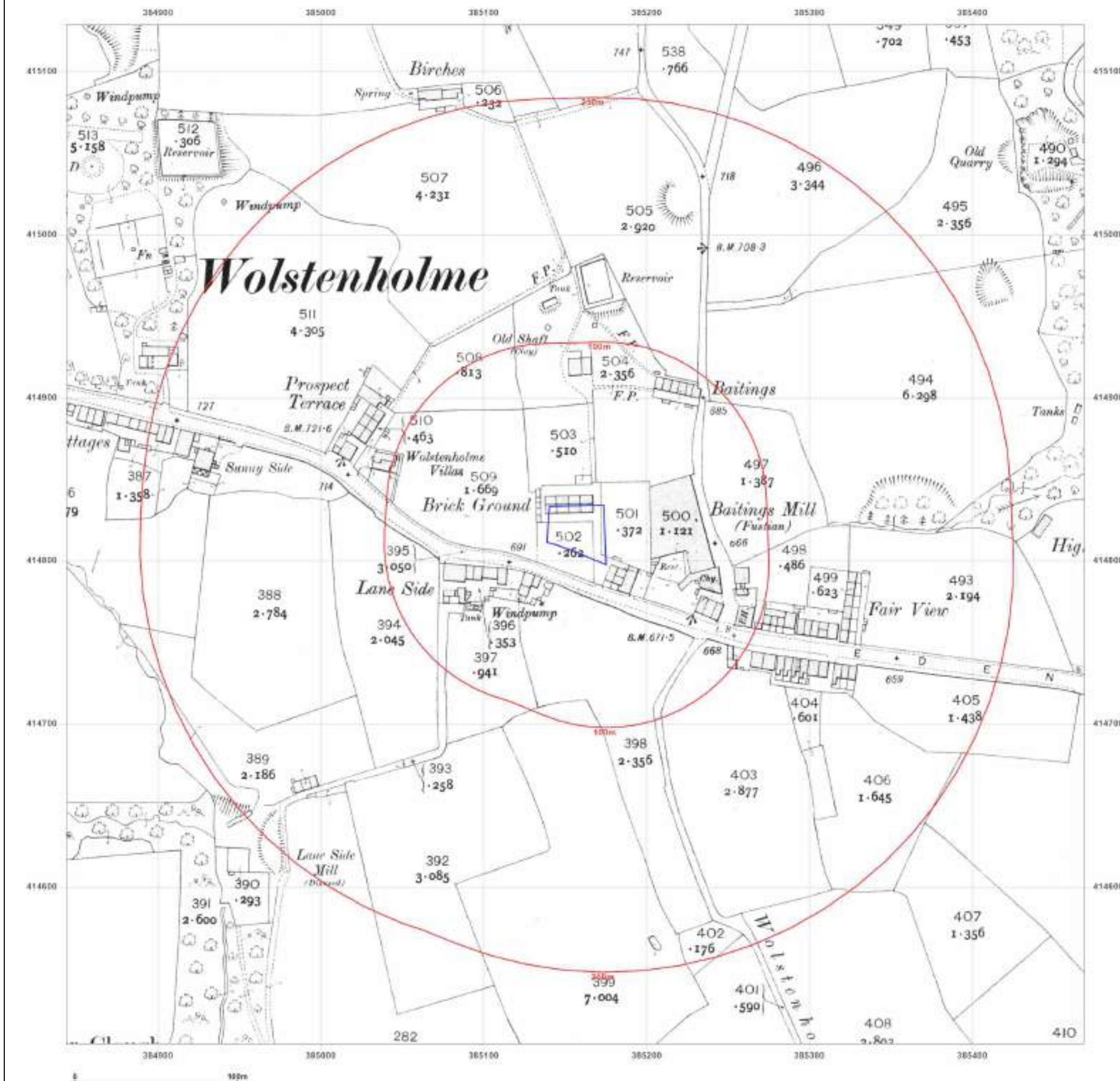


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: County Series

Map date: 1929

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1929
Revised 1929
Edition N/A
Copyright N/A
Levelled N/A

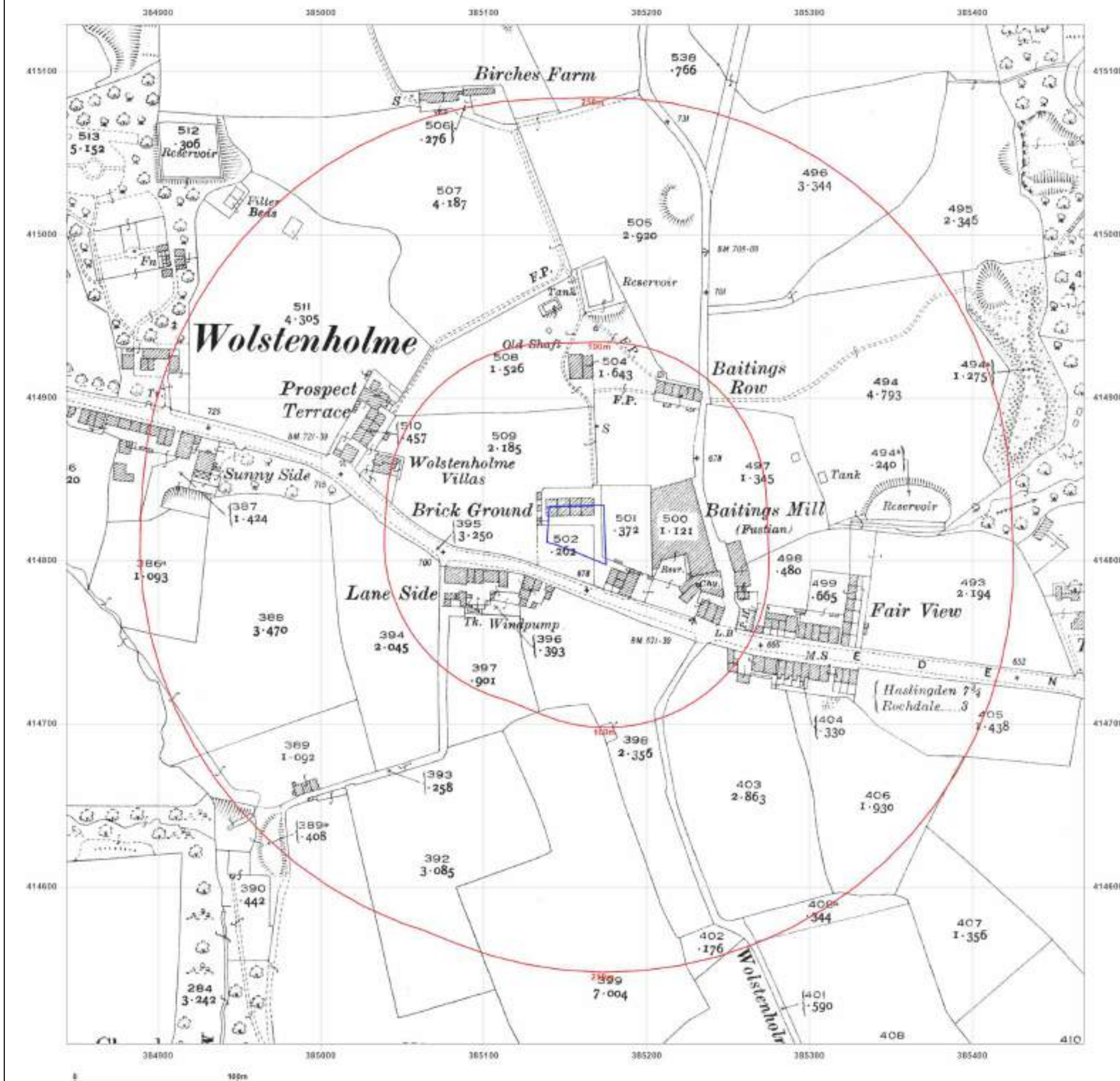


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: National Grid

Map date: 1962-1963

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1962
Revised 1962
Edition N/A
Copyright 1963
Levelled 1958

Surveyed 1962
Revised 1962
Edition N/A
Copyright N/A
Levelled N/A

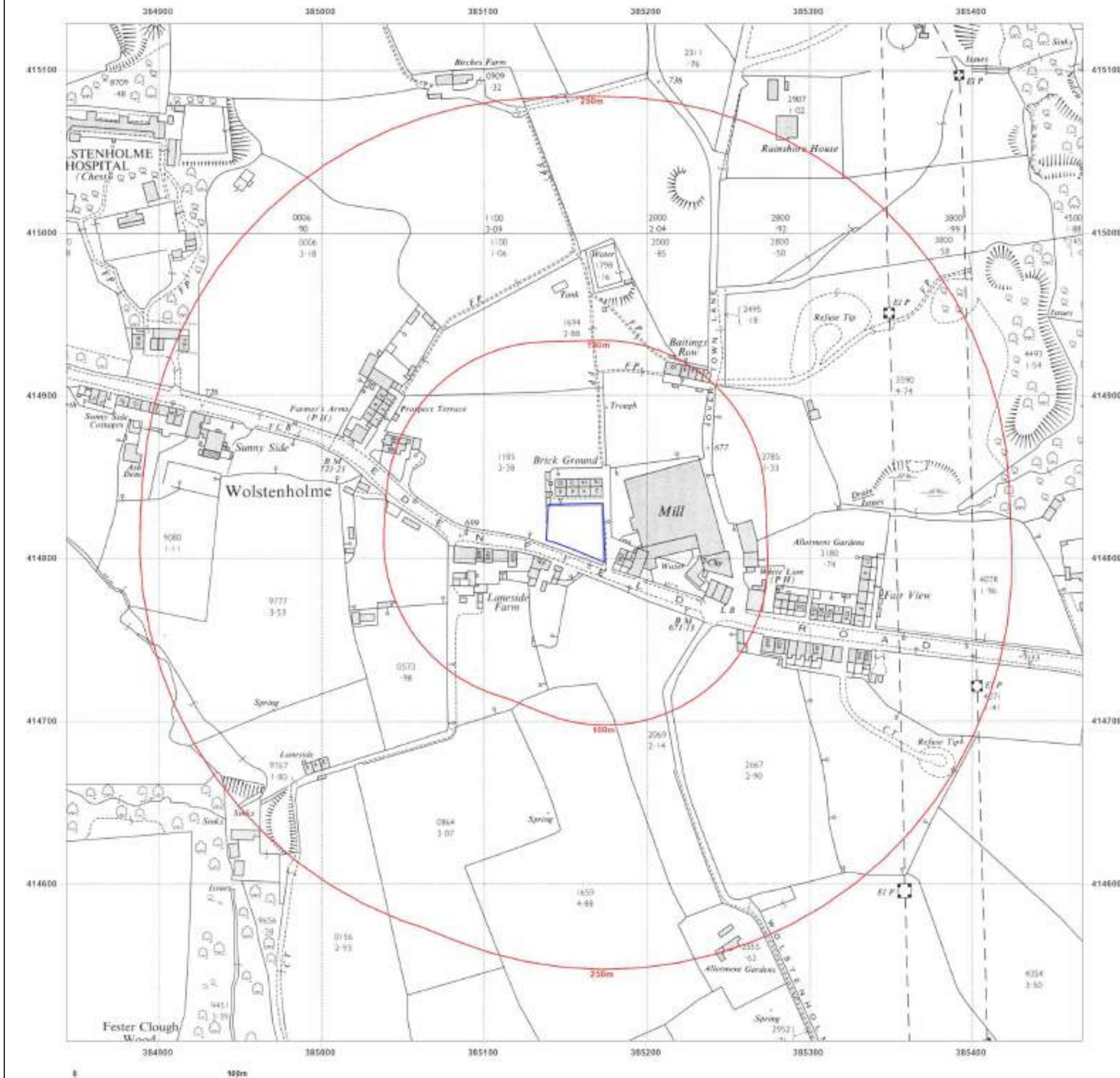


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

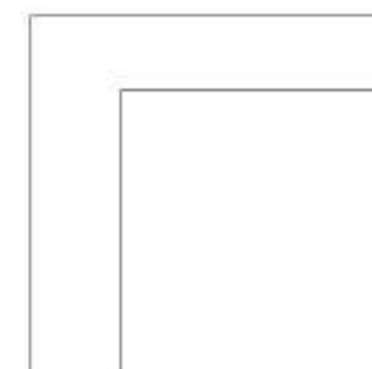
Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: National Grid

Map date: 1963

Scale: 1:2,500

Printed at: 1:2,500



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

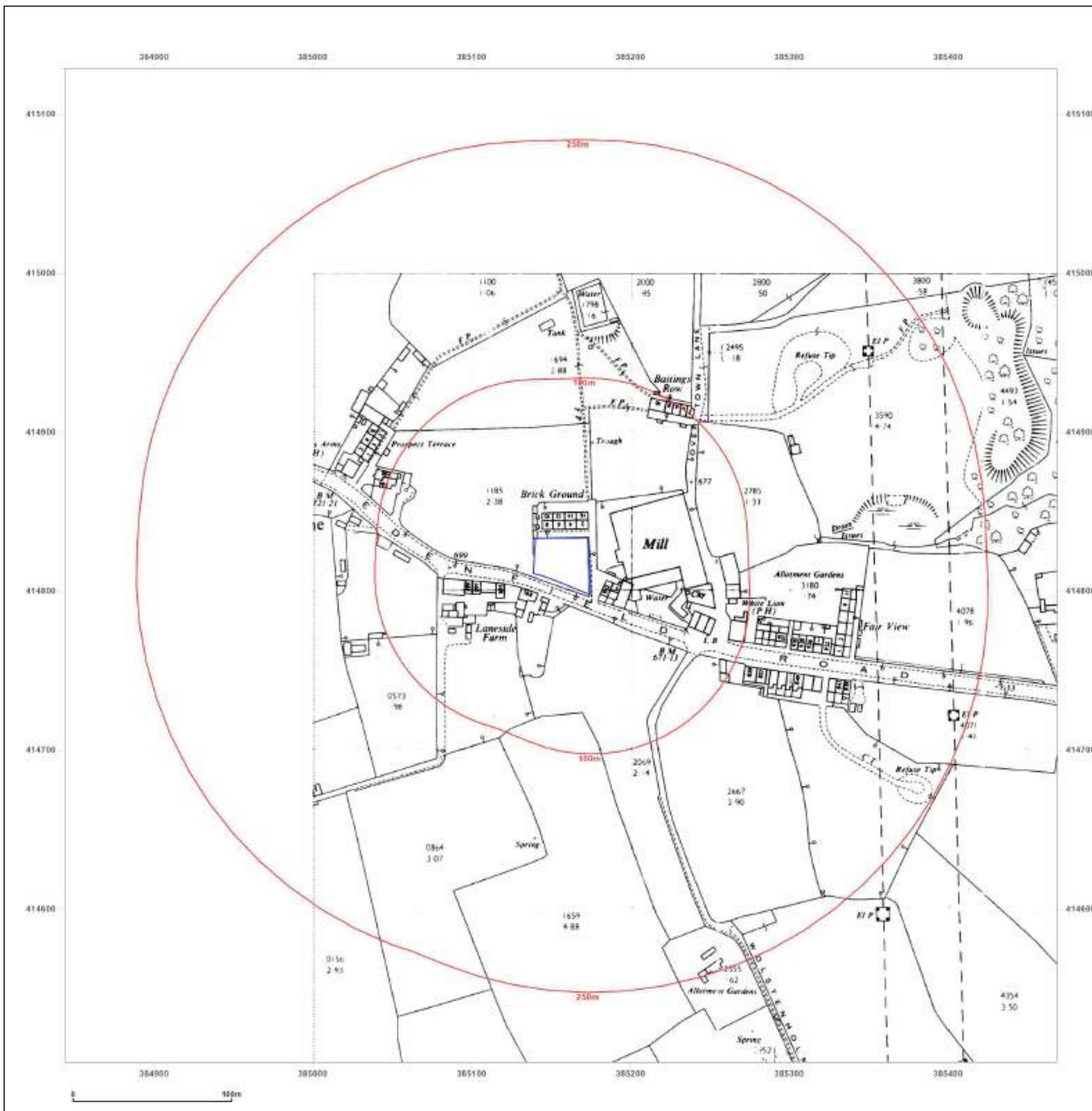


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

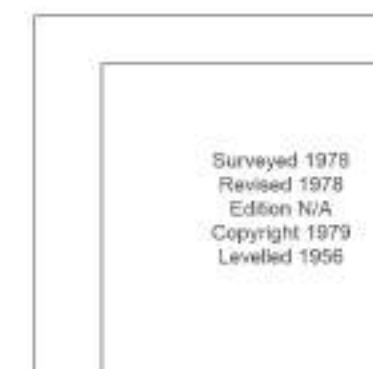
Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: National Grid

Map date: 1979

Scale: 1:1,250

Printed at: 1:2,000

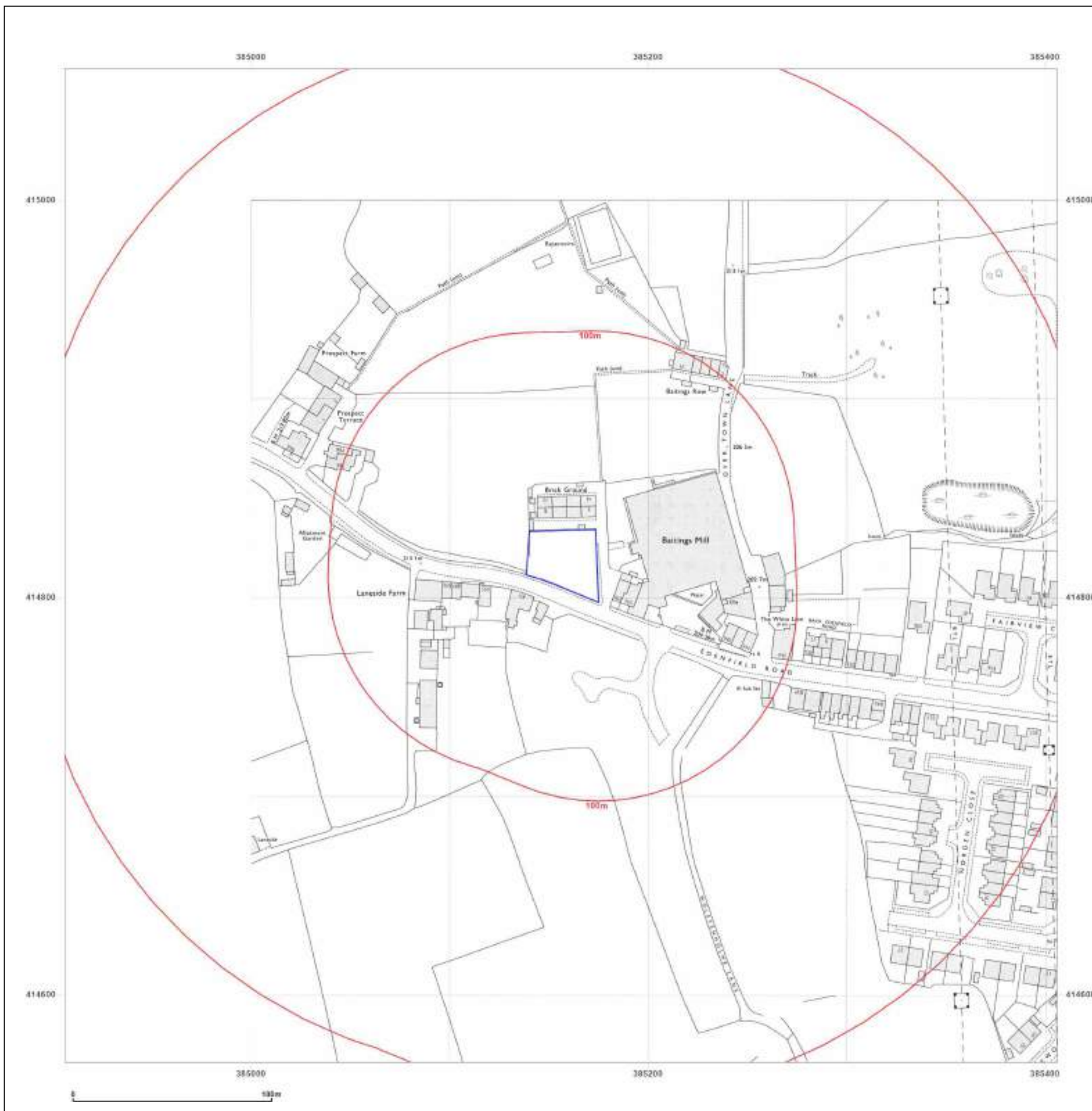


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

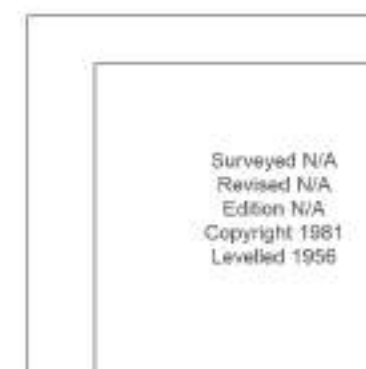
Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: National Grid

Map date: 1981

Scale: 1:1,250

Printed at: 1:2,000

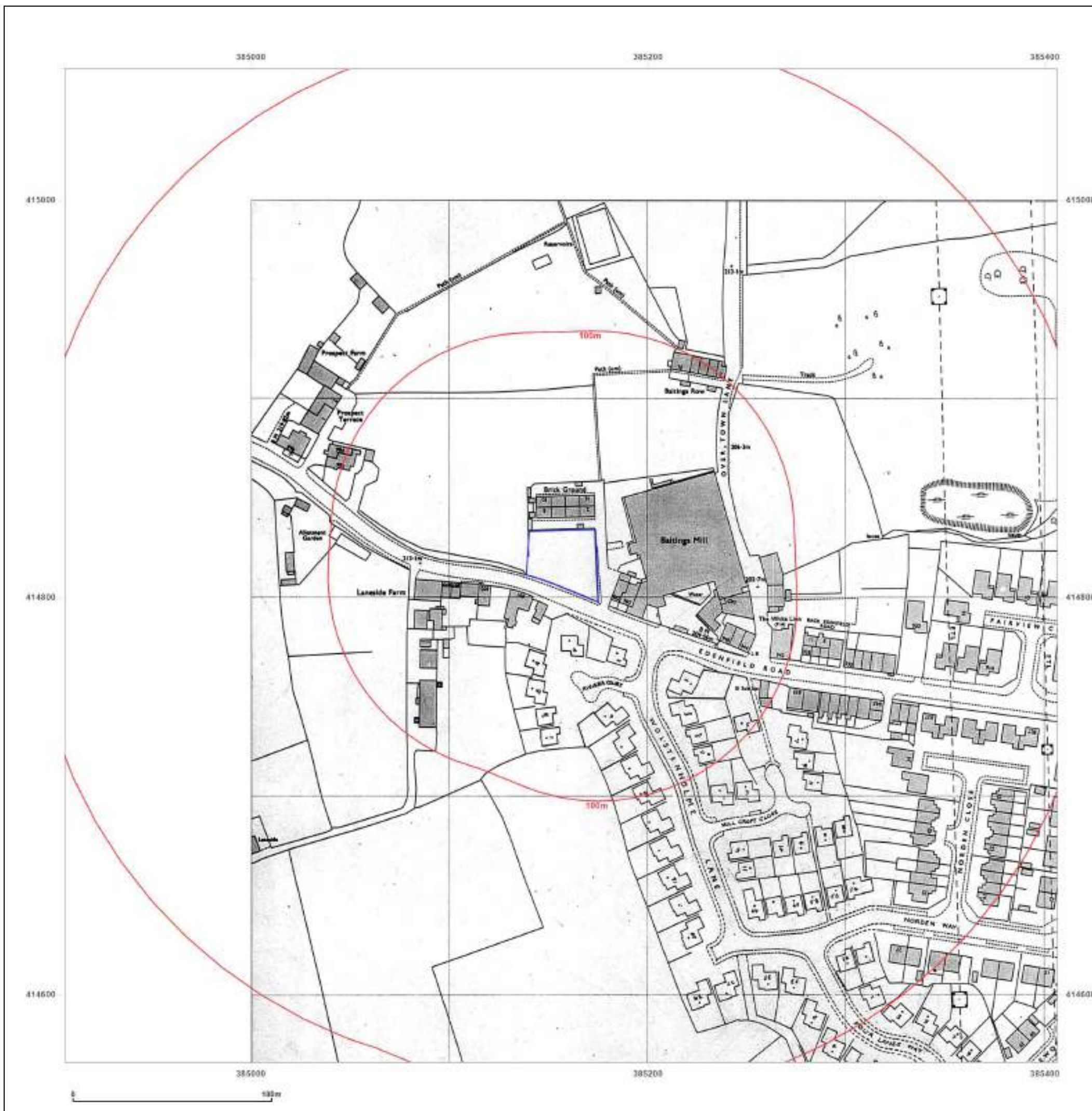


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

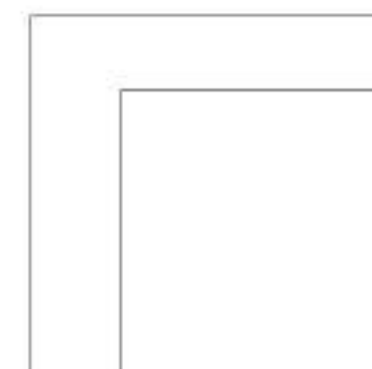
Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: National Grid

Map date: 1984

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1957
Revised 1984
Edition N/A
Copyright 1984
Levelled 1957

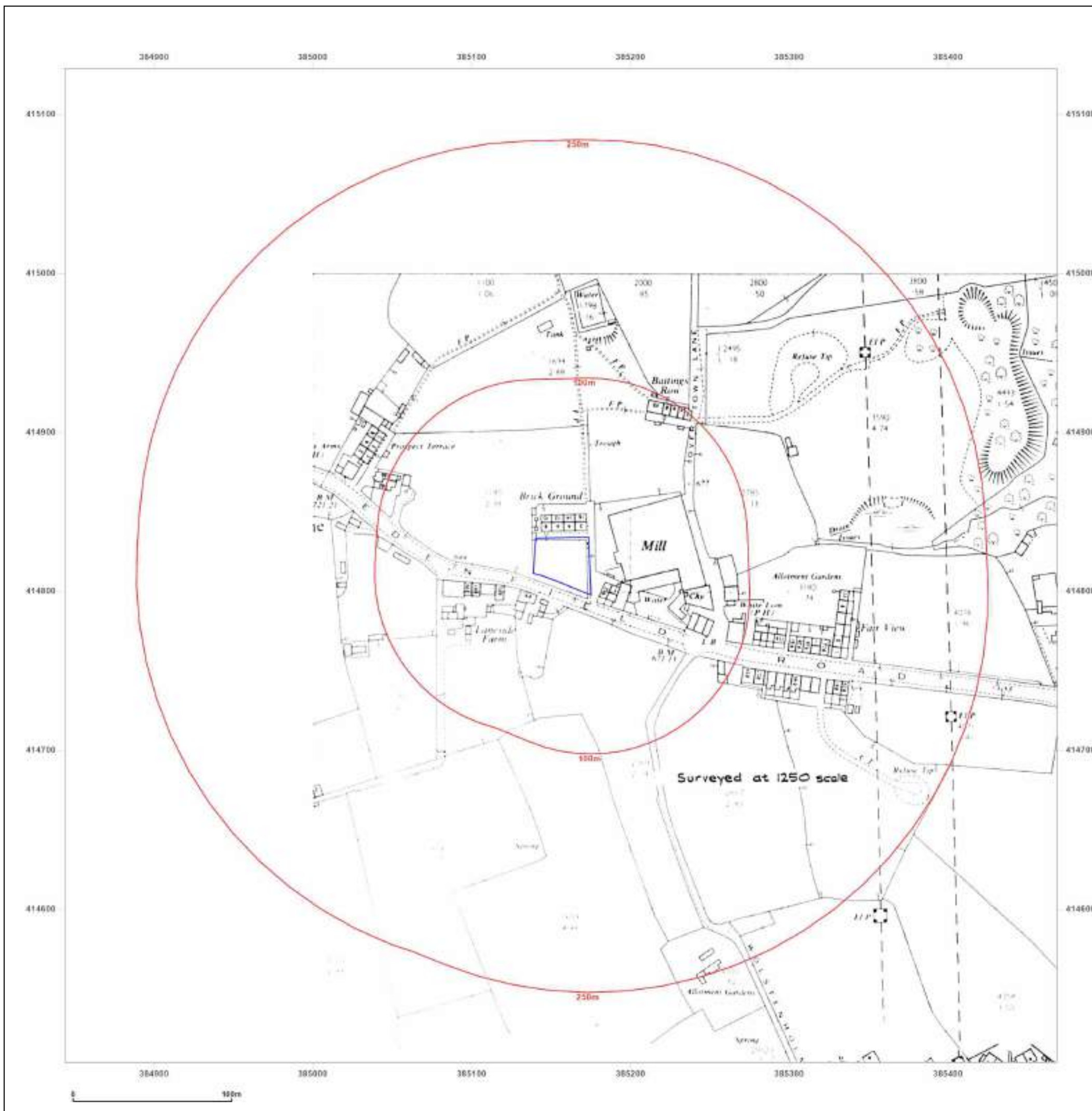


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: National Grid

Map date: 1992

Scale: 1:1,250

Printed at: 1:2,000

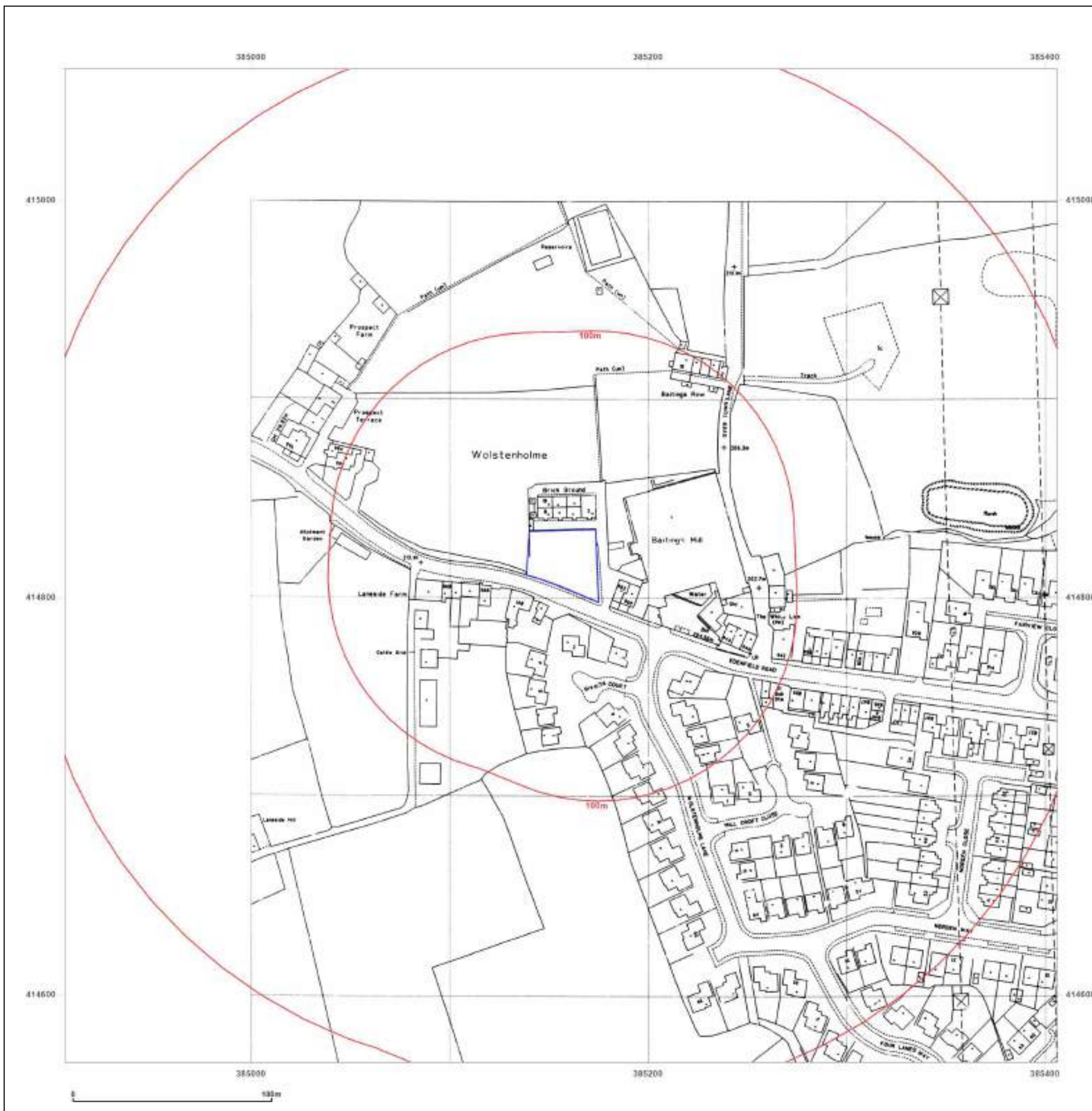


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: National Grid

Map date: 1992

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1992
Revised 1992
Edition N/A
Copyright 1992
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

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

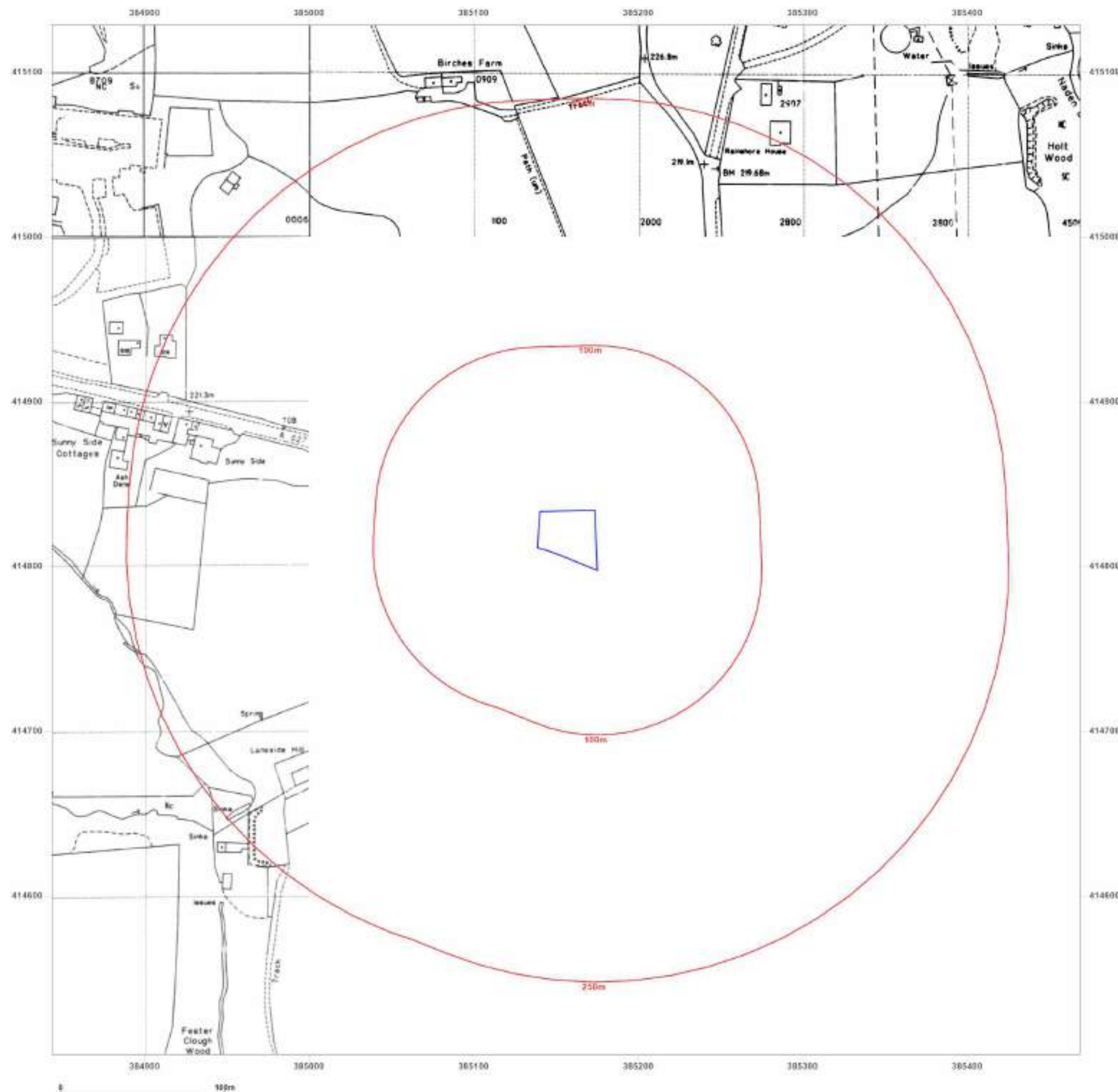


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: National Grid

Map date: 1992-1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1992
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

Surveyed 1993
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed 1992
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

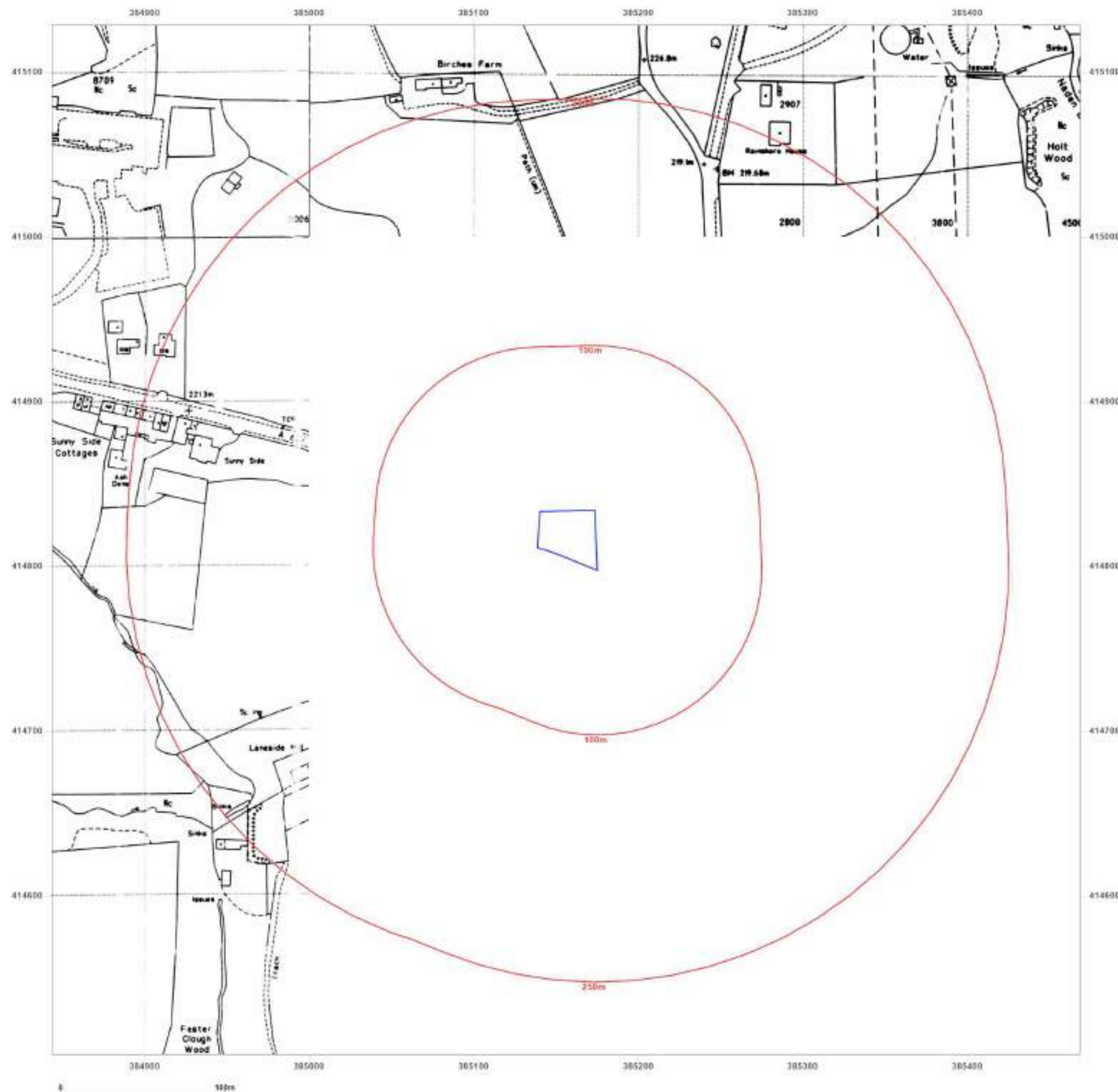


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: County Series

Map date: 1851

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1848
Revised N/A
Edition 1851
Copyright N/A
Levelled N/A

Surveyed 1847
Revised N/A
Edition 1851
Copyright N/A
Levelled N/A

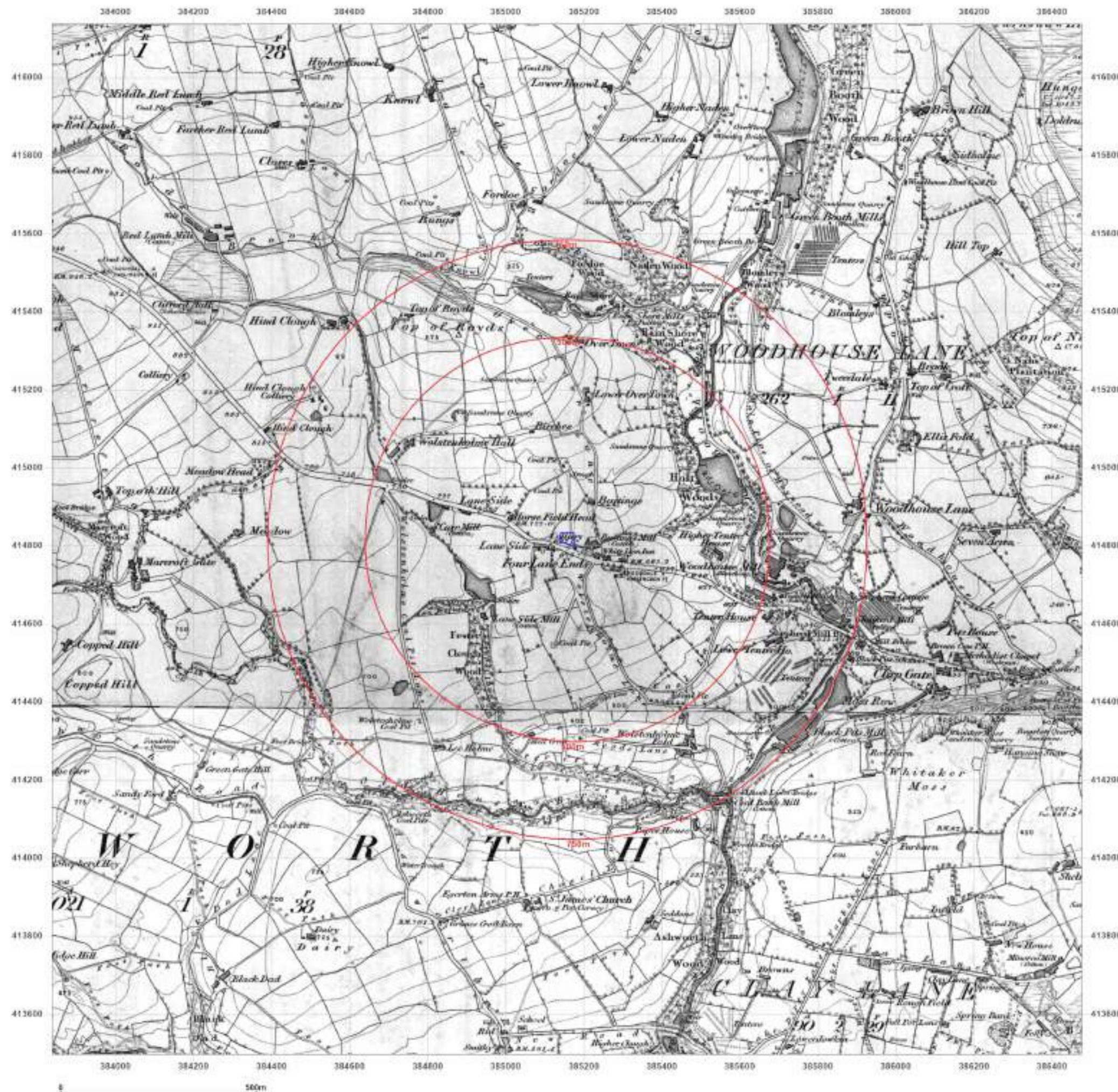


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: County Series

Map date: 1890-1891

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1891
Revised 1891
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1890
Revised 1890
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1891
Revised 1891
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1890
Revised 1890
Edition N/A
Copyright N/A
Levelled N/A

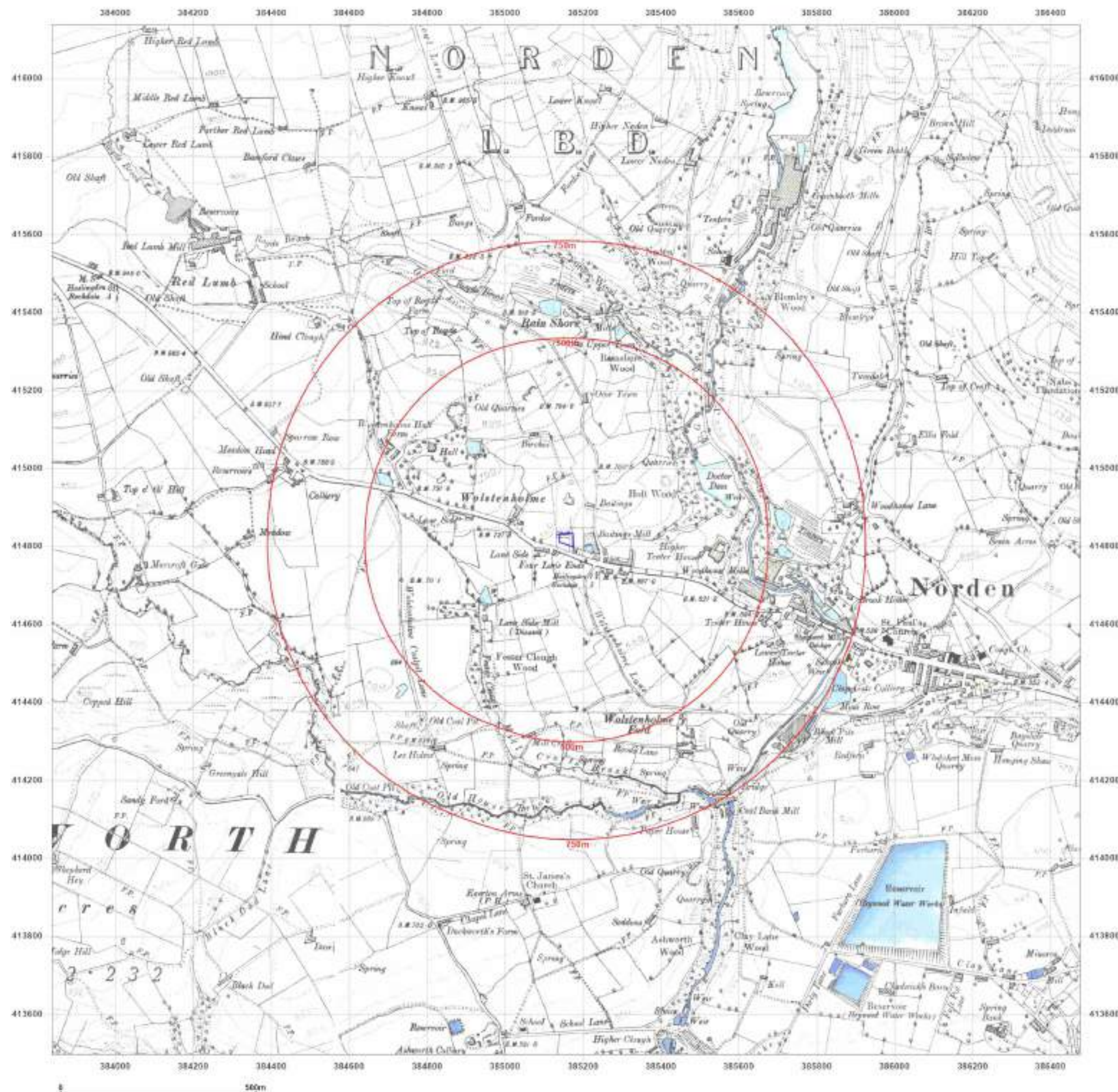


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: County Series

Map date: 1908-1909

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1848
Revised 1908
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1848
Revised 1908
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1848
Revised 1908
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1848
Revised 1908
Edition N/A
Copyright N/A
Levelled N/A

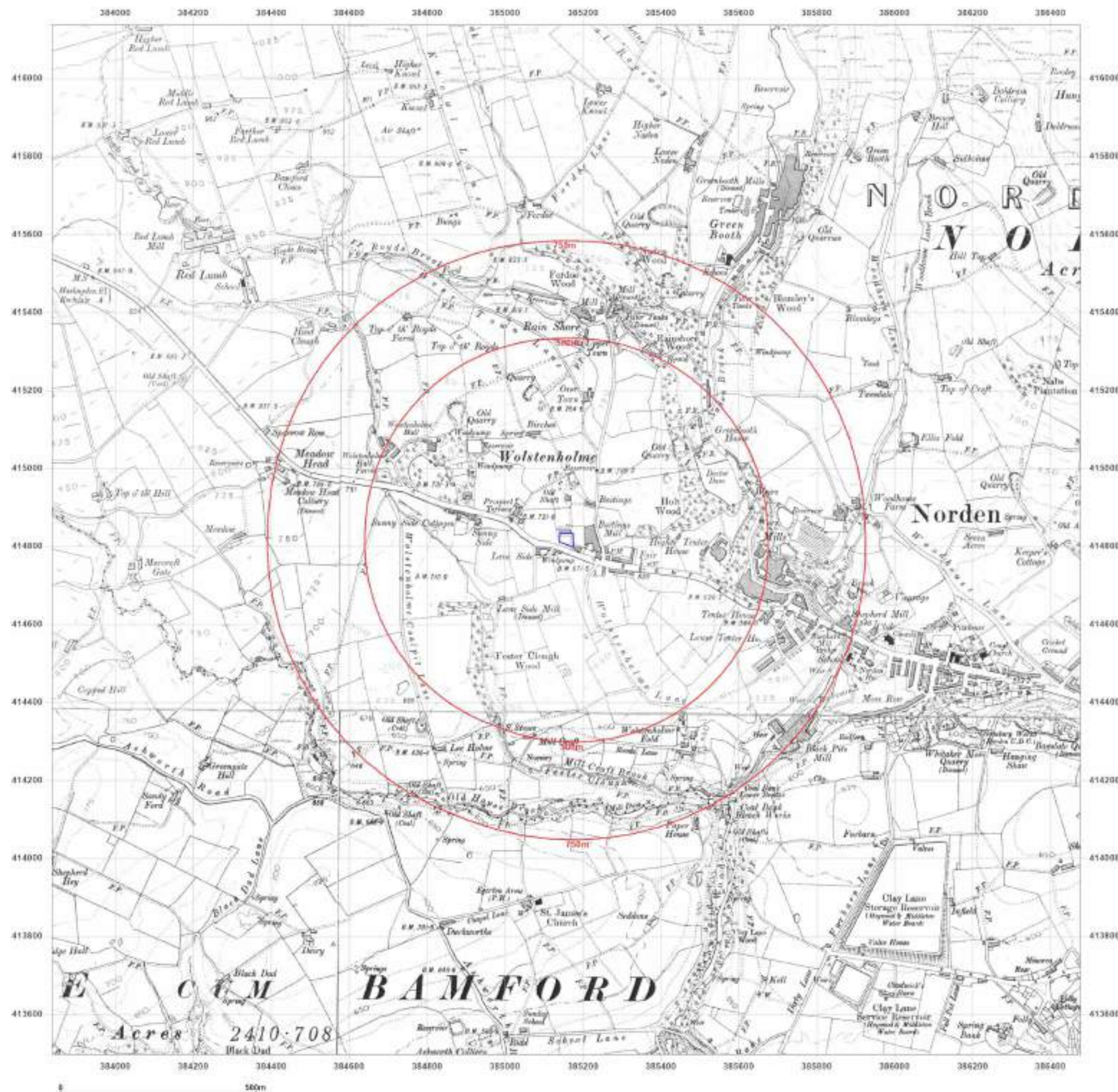


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: County Series

Map date: 1928

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1848
Revised 1928
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1848
Revised 1928
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1848
Revised 1928
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1848
Revised 1928
Edition N/A
Copyright N/A
Levelled N/A

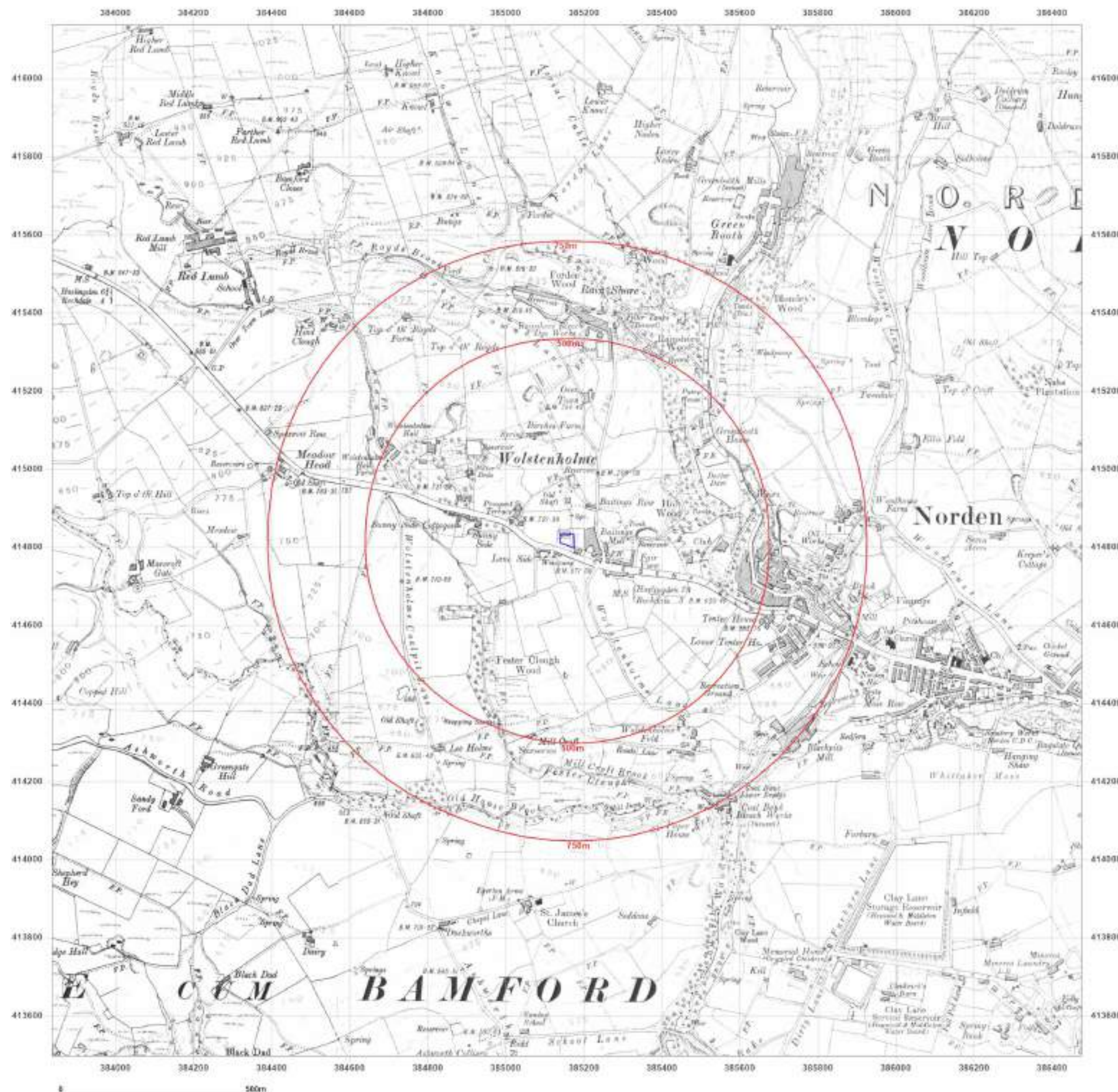


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1848
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1848
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1848
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1848
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

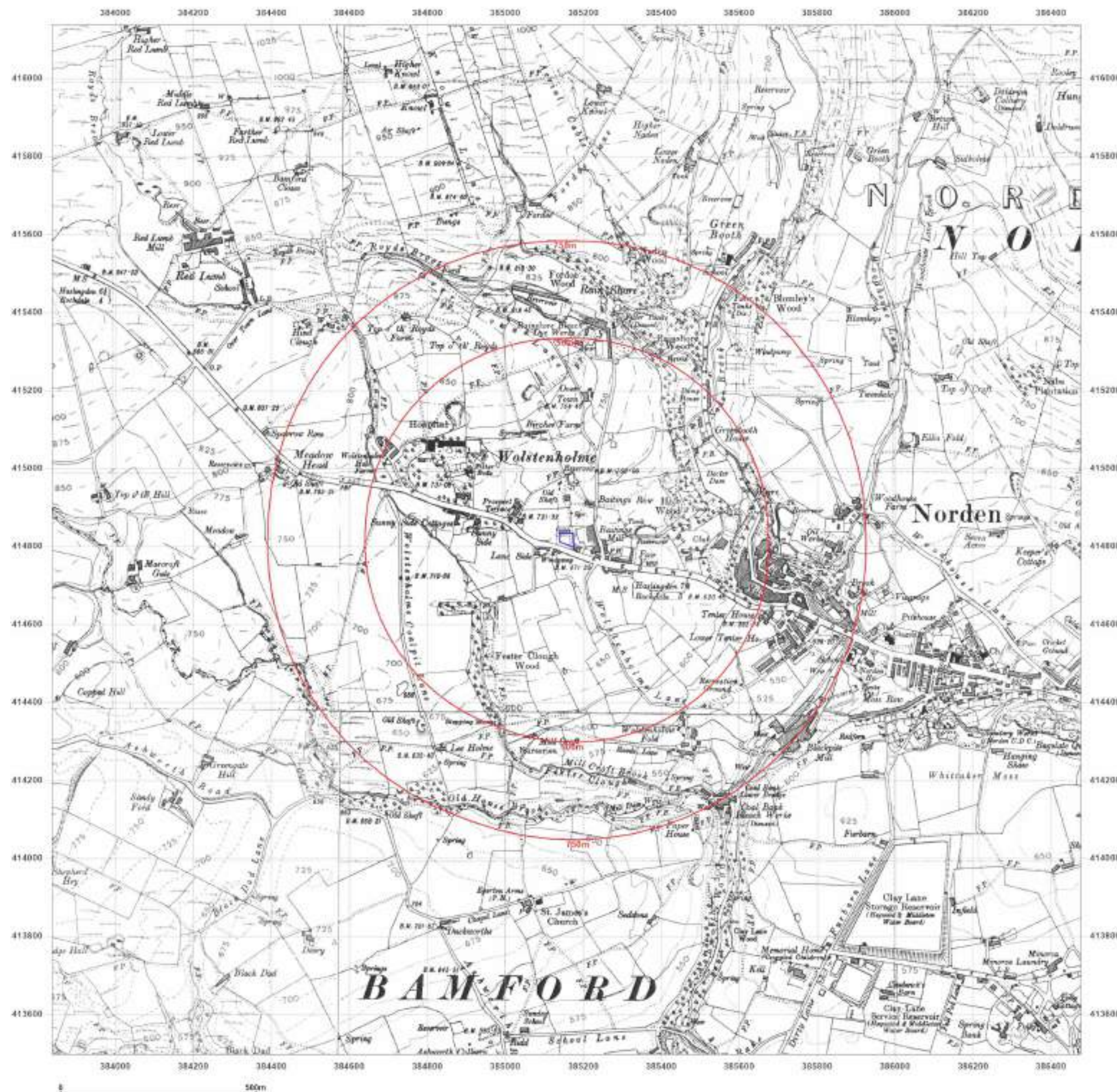


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: Provisional

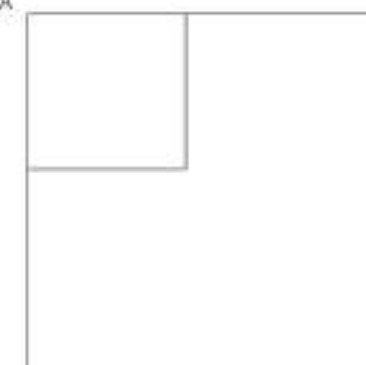
Map date: 1949

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1949
Revised 1949
Edition N/A
Copyright N/A
Levelled N/A



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf

Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: Provisional

Map date: 1956

Scale: 1:10,560

Printed at: 1:10,560



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

Surveyed 1949
Revised 1949
Edition N/A
Copyright 1956
Levelled N/A

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

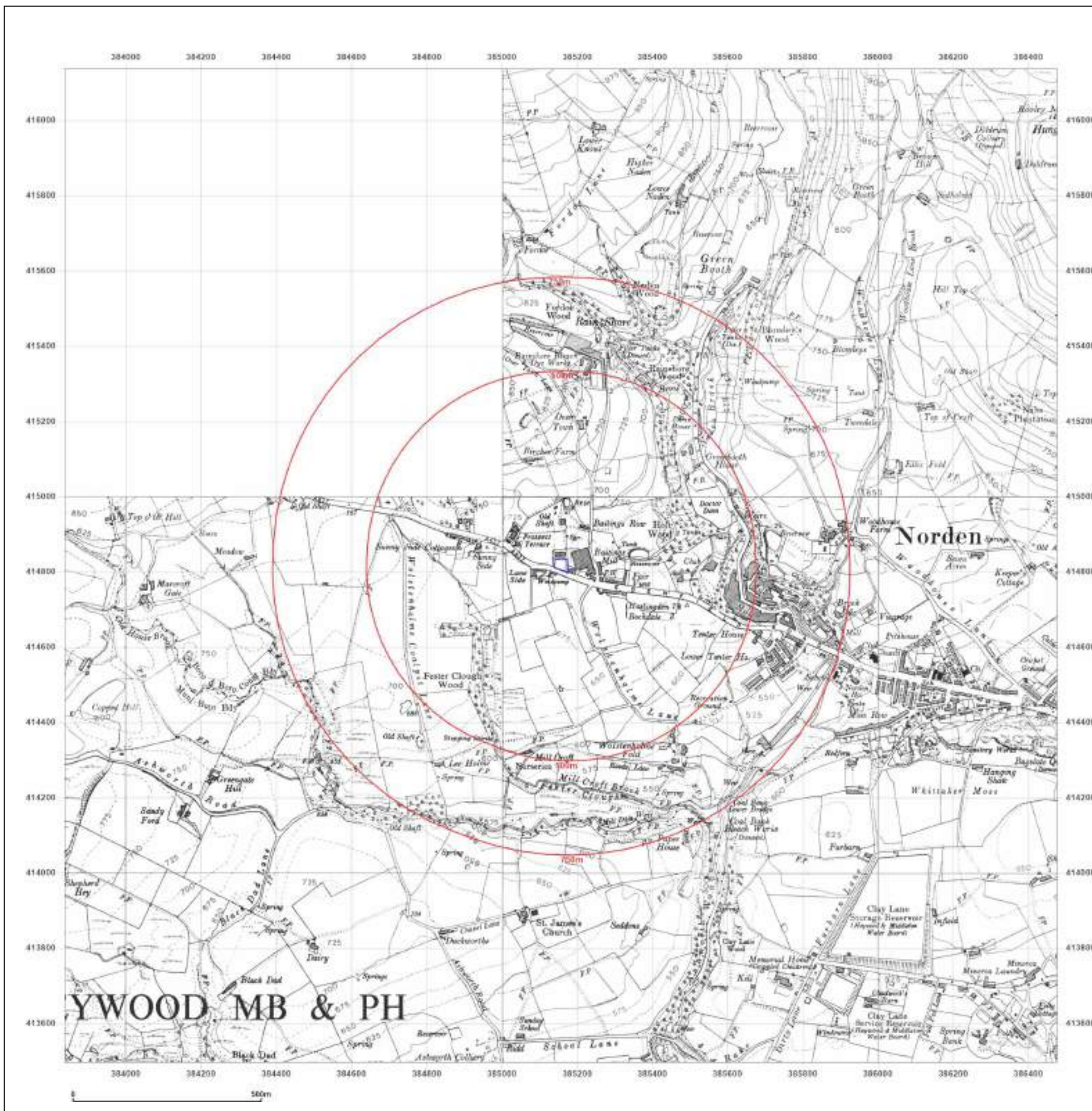


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: Provisional

Map date: 1967-1968

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1967
Revised 1967
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1967
Revised 1967
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1967
Revised 1967
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1968
Revised 1968
Edition N/A
Copyright N/A
Levelled N/A

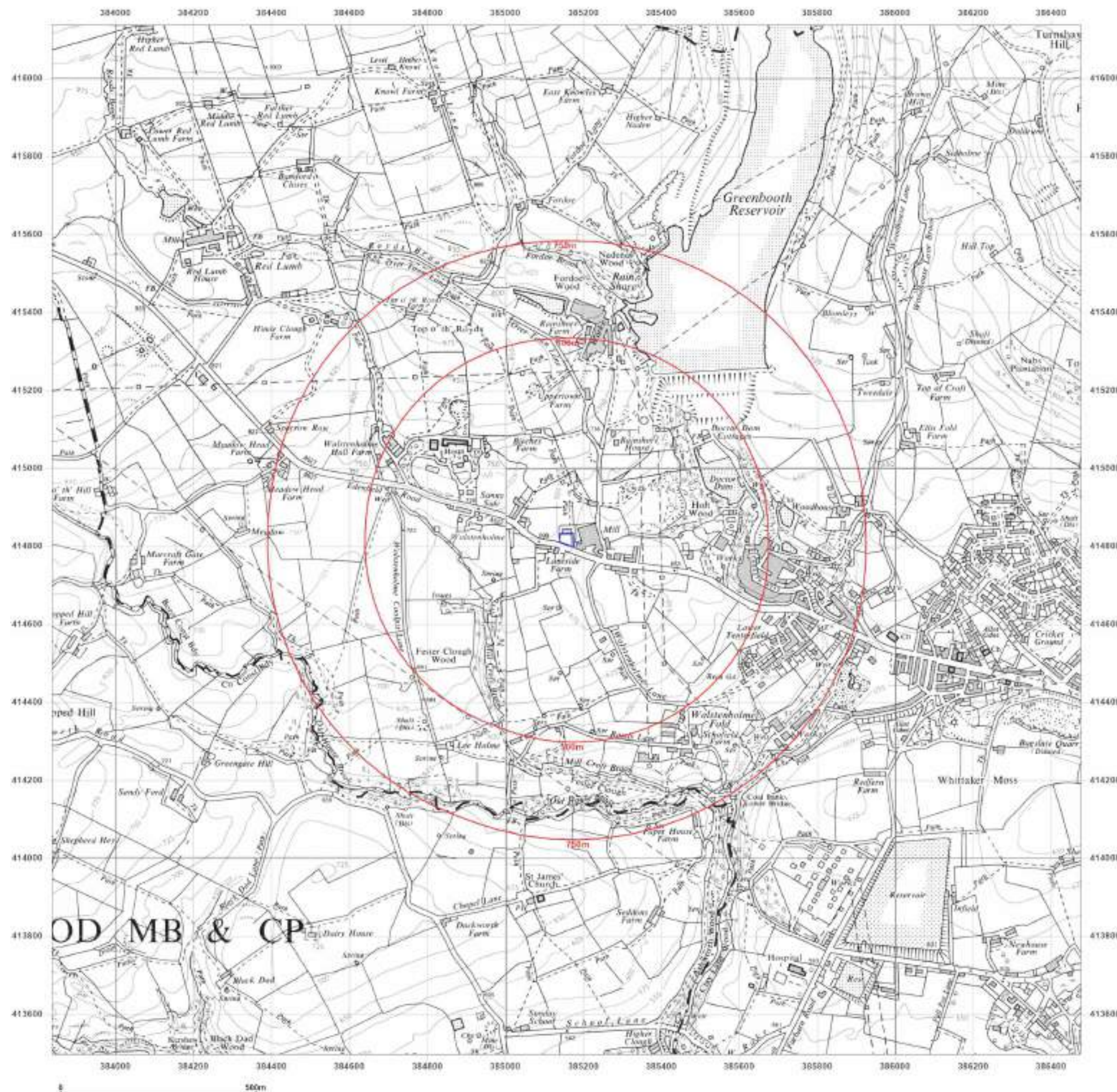


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: National Grid

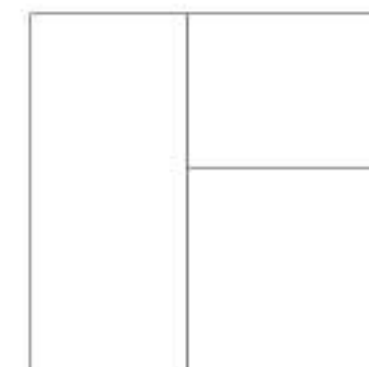
Map date: 1975-1979

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1975
Revised 1979
Edition N/A
Copyright N/A
Levelled N/A



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

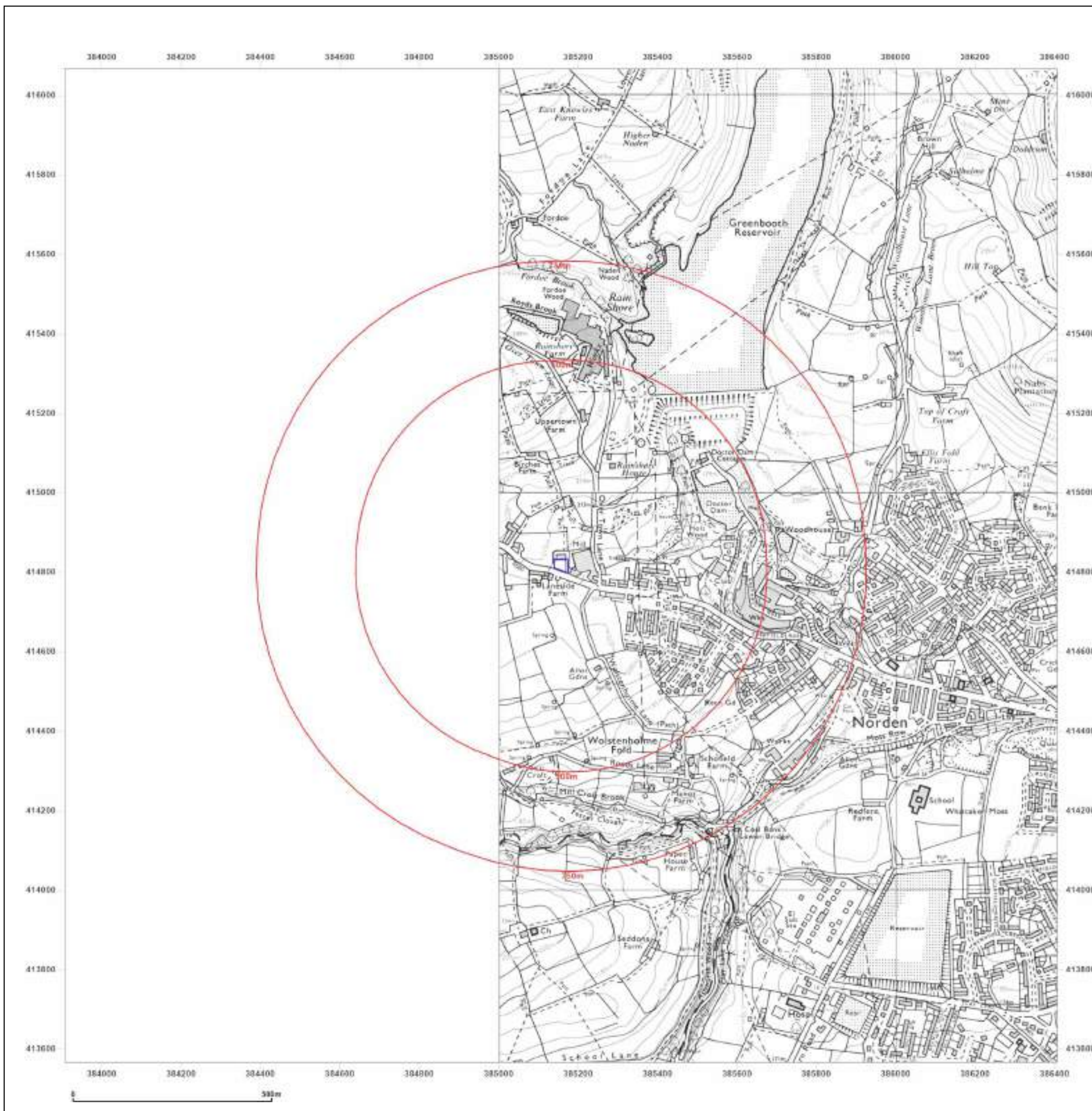


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: National Grid

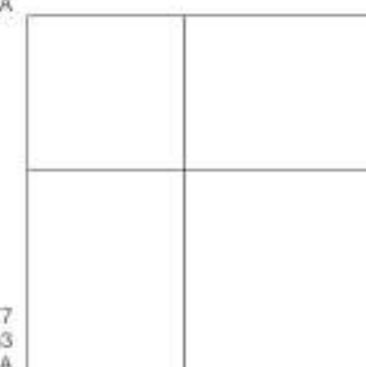
Map date: 1983-1987

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1962
Revised 1987
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1977
Revised 1983
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1984
Revised 1987
Edition N/A
Copyright N/A
Levelled N/A

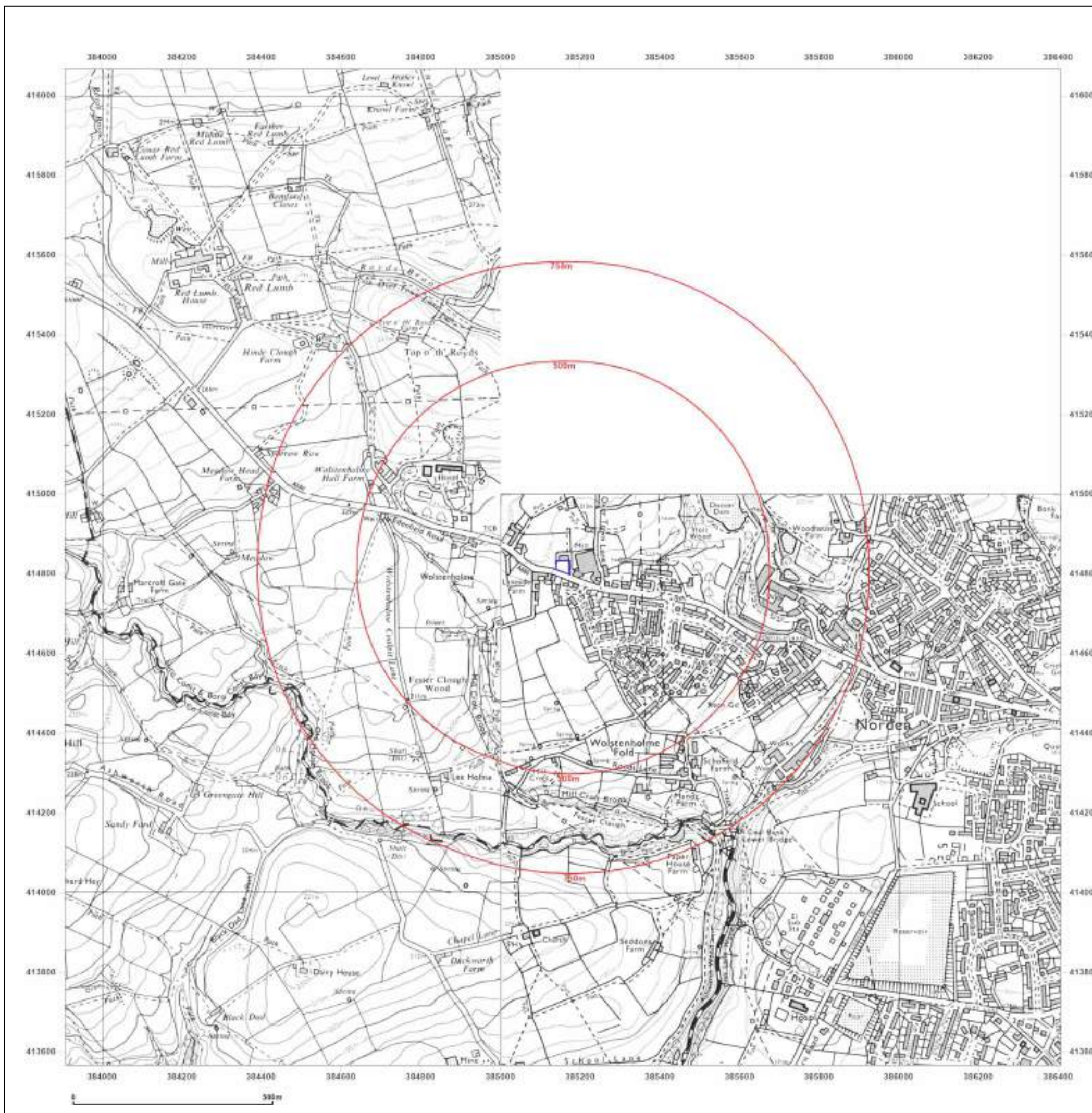


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: National Grid

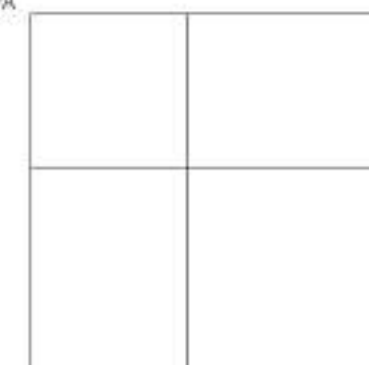
Map date: 1992

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1962
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1984
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

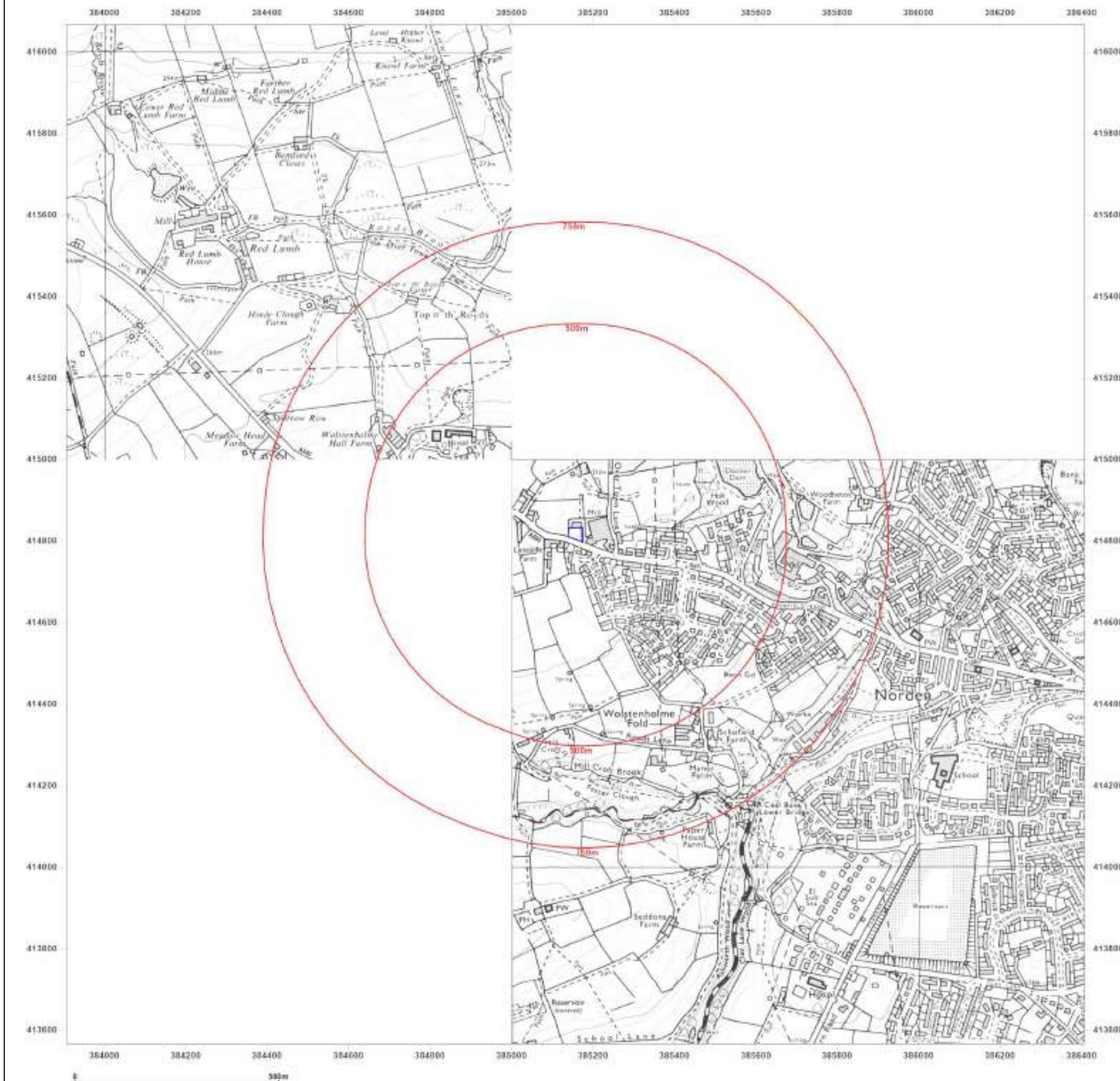


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000

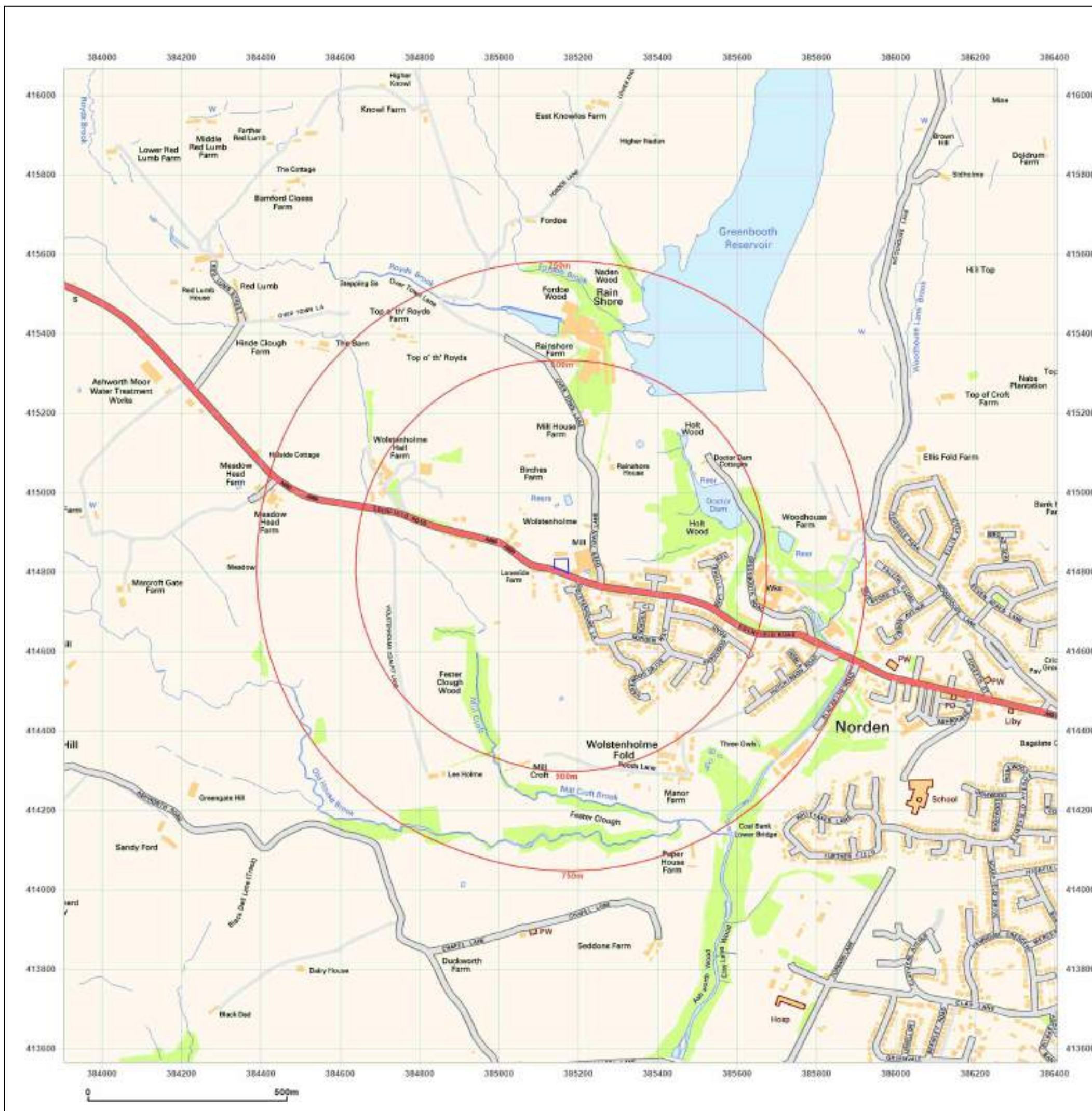


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

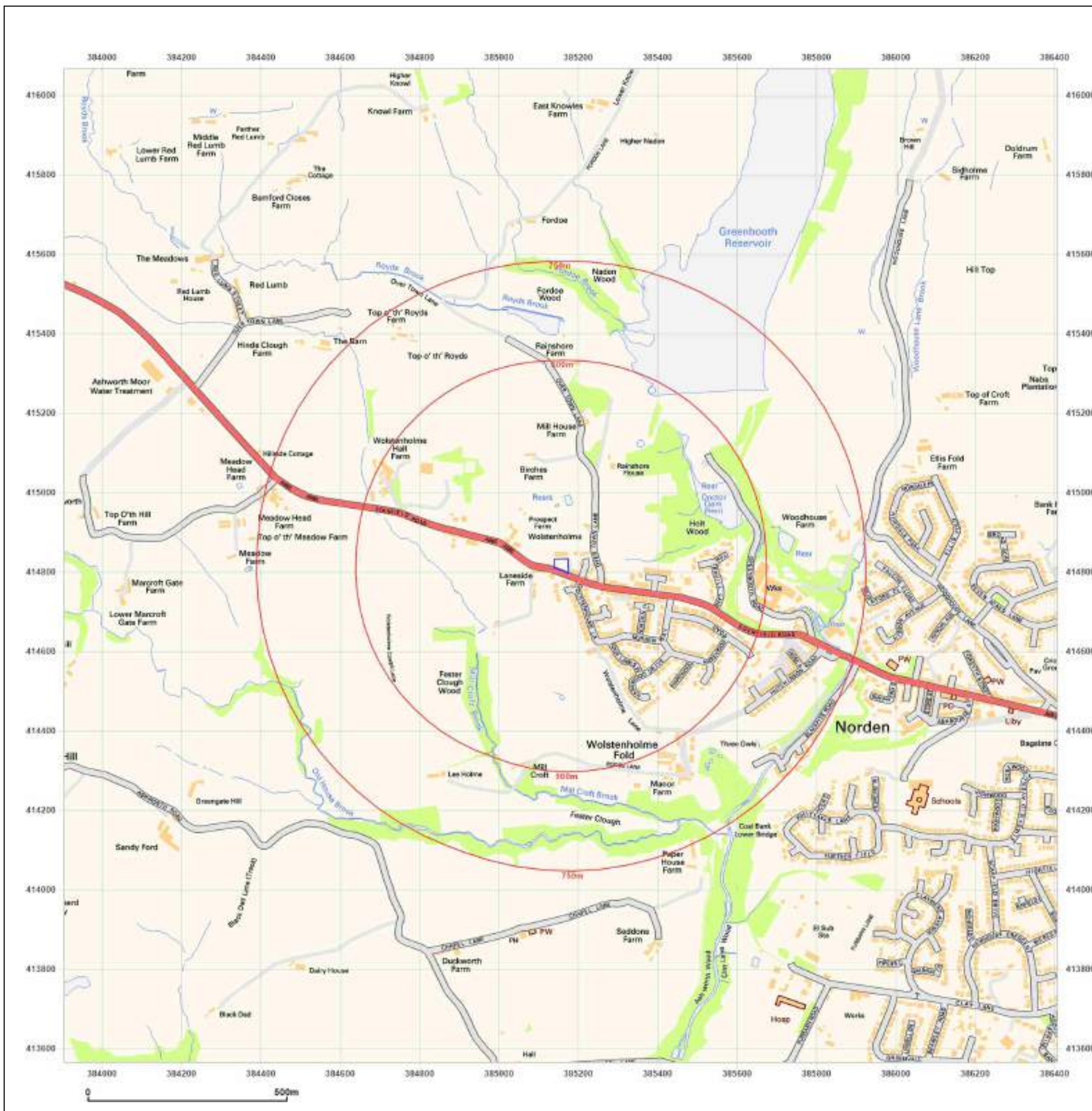


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Endenfield Road, Wolstenholme,
Rochdale, OL12 7TN

Client Ref: 008838
Report Ref: GS-BSS-F51-37B-DF8
Grid Ref: 385156, 414816

Map Name: National Grid

Map date: 2024

Scale: 1:10,000

Printed at: 1:10,000

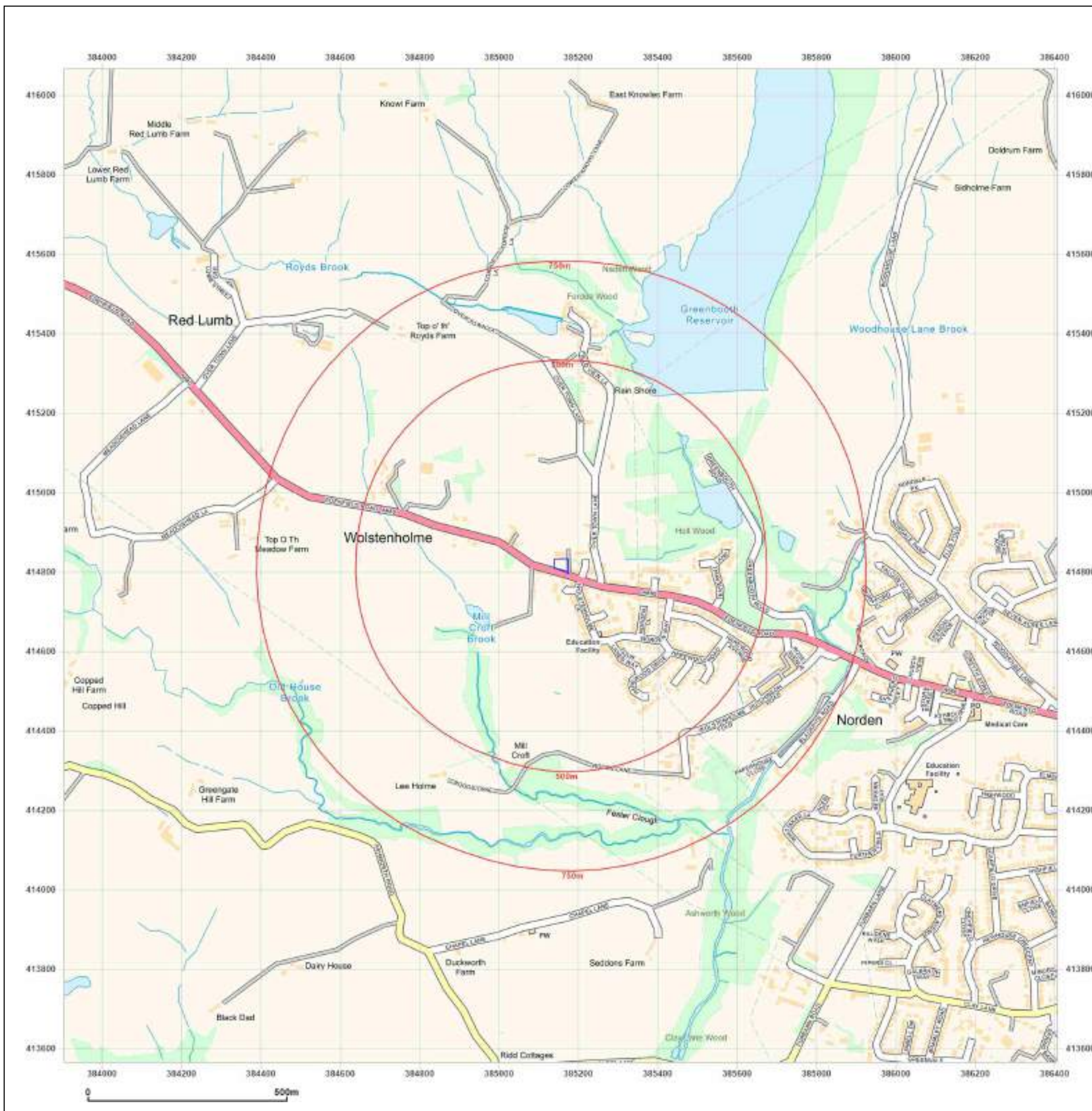


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 18 July 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Endenfield Road, Wolstenholme, Rochdale, OL12 7TN

Order Details

Date: 18/07/2024

Your ref: 008838

Our Ref: GS-MEG-JQ6-ZL8-2B2

Site Details

Location: 385158 414818

Area: 0.1 ha

Authority: [Rochdale Metropolitan Borough Council](#)
[↗](#)



Summary of findings

p. 2 > Aerial image

p. 9 >

OS MasterMap site plan

[p.12 > Insight User Guide ↗](#)

Contact us with any questions at:

info@groundsurre.com ↗

01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
13 >	1.1 >	Historical industrial land uses >	4	3	28	72	-
17 >	1.2 >	Historical tanks >	0	0	10	12	-
19 >	1.3 >	Historical energy features >	0	0	2	2	-
19	1.4	Historical petrol stations	0	0	0	0	-
19	1.5	Historical garages	0	0	0	0	-
20	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
21 >	2.1 >	Historical industrial land uses >	4	7	34	99	-
27 >	2.2 >	Historical tanks >	0	0	12	14	-
28 >	2.3 >	Historical energy features >	0	0	4	2	-
28	2.4	Historical petrol stations	0	0	0	0	-
29	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
30	3.1	Active or recent landfill	0	0	0	0	-
30	3.2	Historical landfill (BGS records)	0	0	0	0	-
31 >	3.3 >	Historical landfill (LA/mapping records) >	0	0	4	2	-
31	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
31	3.5	Historical waste sites	0	0	0	0	-
31	3.6	Licensed waste sites	0	0	0	0	-
32 >	3.7 >	Waste exemptions >	0	0	0	6	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
33 >	4.1 >	Recent industrial land uses >	0	0	7	-	-
34	4.2	Current or recent petrol stations	0	0	0	0	-
34	4.3	Electricity cables	0	0	0	0	-
34	4.4	Gas pipelines	0	0	0	0	-
35	4.5	Sites determined as Contaminated Land	0	0	0	0	-



35	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
35	4.7	Regulated explosive sites	0	0	0	0	-
35	4.8	Hazardous substance storage/usage	0	0	0	0	-
35	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
36	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
36	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
36	4.12	Radioactive Substance Authorisations	0	0	0	0	-
36 >	4.13 >	<u>Licensed Discharges to controlled waters ></u>	0	0	0	1	-
37	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
37	4.15	Pollutant release to public sewer	0	0	0	0	-
37	4.16	List 1 Dangerous Substances	0	0	0	0	-
37	4.17	List 2 Dangerous Substances	0	0	0	0	-
37	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
38	4.19	Pollution inventory substances	0	0	0	0	-
38	4.20	Pollution inventory waste transfers	0	0	0	0	-
38	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	<u>Hydrogeology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
39 >	5.1 >	<u>Superficial aquifer ></u>	Identified (within 500m)				
41 >	5.2 >	<u>Bedrock aquifer ></u>	Identified (within 500m)				
43 >	5.3 >	<u>Groundwater vulnerability ></u>	Identified (within 50m)				
44	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
44	5.5	Groundwater vulnerability- local information	None (within 0m)				
45 >	5.6 >	<u>Groundwater abstractions ></u>	0	0	0	0	23
51 >	5.7 >	<u>Surface water abstractions ></u>	0	0	0	5	6
54 >	5.8 >	<u>Potable abstractions ></u>	0	0	0	3	10
58	5.9	Source Protection Zones	0	0	0	0	-
58	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	<u>Hydrology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
59 >	6.1 >	<u>Water Network (OS MasterMap) ></u>	0	0	9	-	-



60 >	6.2 >	Surface water features >	0	0	5	-	-
61 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
61 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
61 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
63	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
63	7.2	Historical Flood Events	0	0	0	-	-
63	7.3	Flood Defences	0	0	0	-	-
64	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
64	7.5	Flood Storage Areas	0	0	0	-	-
65	7.6	Flood Zone 2	None (within 50m)				
65	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
66 >	8.1 >	Surface water flooding >	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding >					
68 >	9.1 >	Groundwater flooding >	Low (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
69	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
70	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
70	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
70	10.4	Special Protection Areas (SPA)	0	0	0	0	0
70	10.5	National Nature Reserves (NNR)	0	0	0	0	0
71	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
71 >	10.7 >	Designated Ancient Woodland >	0	0	2	0	6
71	10.8	Biosphere Reserves	0	0	0	0	0
72	10.9	Forest Parks	0	0	0	0	0
72	10.10	Marine Conservation Zones	0	0	0	0	0
72 >	10.11 >	Green Belt >	1	0	0	0	0
72	10.12	Proposed Ramsar sites	0	0	0	0	0



73	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
73	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
73	10.15	Nitrate Sensitive Areas	0	0	0	0	0
73	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
74 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
75	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
76	11.1	World Heritage Sites	0	0	0	-	-
76	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
76	11.3	National Parks	0	0	0	-	-
76	11.4	Listed Buildings	0	0	0	-	-
77	11.5	Conservation Areas	0	0	0	-	-
77	11.6	Scheduled Ancient Monuments	0	0	0	-	-
77	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
78 >	12.1 >	Agricultural Land Classification >	Grade 4 (within 250m)				
79	12.2	Open Access Land	0	0	0	-	-
79	12.3	Tree Felling Licences	0	0	0	-	-
79 >	12.4 >	Environmental Stewardship Schemes >	0	0	1	-	-
80	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
81 >	13.1 >	Priority Habitat Inventory >	0	0	6	-	-
82	13.2	Habitat Networks	0	0	0	-	-
82	13.3	Open Mosaic Habitat	0	0	0	-	-
82	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
83 >	14.1 >	10k Availability >	Identified (within 500m)				
85 >	14.2 >	Artificial and made ground (10k) >	0	0	0	5	-
87 >	14.3 >	Superficial geology (10k) >	1	0	3	1	-



88	14.4	Landslip (10k)	0	0	0	0	-
89 >	14.5 >	Bedrock geology (10k) >	2	0	14	11	-
91 >	14.6 >	Bedrock faults and other linear features (10k) >	1	1	10	4	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
92 >	15.1 >	50k Availability >	Identified (within 500m)				
93 >	15.2 >	Artificial and made ground (50k) >	0	0	0	1	-
94	15.3	Artificial ground permeability (50k)	0	0	-	-	-
95 >	15.4 >	Superficial geology (50k) >	1	0	0	0	-
96 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
96	15.6	Landslip (50k)	0	0	0	0	-
96	15.7	Landslip permeability (50k)	None (within 50m)				
97 >	15.8 >	Bedrock geology (50k) >	2	0	3	1	-
98 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
98 >	15.10 >	Bedrock faults and other linear features (50k) >	1	1	2	2	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
99	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence >					
100 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
101 >	17.2 >	Running sands >	Very low (within 50m)				
102 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
103 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
104 >	17.5 >	Landslides >	Very low (within 50m)				
105 >	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
107 >	18.1 >	BritPits >	0	0	0	4	-
108 >	18.2 >	Surface ground workings >	1	0	35	-	-
110 >	18.3 >	Underground workings >	0	0	4	0	24
111	18.4	Underground mining extents	0	0	0	0	-
111	18.5	Historical Mineral Planning Areas	0	0	0	0	-



112 >	18.6 >	Non-coal mining >	1	0	4	0	1
113	18.7	JPB mining areas	None (within 0m)				
113	18.8	The Coal Authority non-coal mining	0	0	0	0	-
113	18.9	Researched mining	0	0	0	0	-
113	18.10	Mining record office plans	0	0	0	0	-
114	18.11	BGS mine plans	0	0	0	0	-
114 >	18.12 >	Coal mining >	Identified (within 0m)				
114	18.13	Brine areas	None (within 0m)				
114	18.14	Gypsum areas	None (within 0m)				
114	18.15	Tin mining	None (within 0m)				
115	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
116	19.1	Natural cavities	0	0	0	0	-
116	19.2	Mining cavities	0	0	0	0	0
116	19.3	Reported recent incidents	0	0	0	0	-
116	19.4	Historical incidents	0	0	0	0	-
117	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
118 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
120 >	21.1 >	BGS Estimated Background Soil Chemistry >	2	0	-	-	-
120	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
120	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
121	22.1	Underground railways (London)	0	0	0	-	-
121	22.2	Underground railways (Non-London)	0	0	0	-	-
121	22.3	Railway tunnels	0	0	0	-	-
121	22.4	Historical railway and tunnel features	0	0	0	-	-
121	22.5	Royal Mail tunnels	0	0	0	-	-



122	22.6	Historical railways	0	0	0	-	-
122	22.7	Railways	0	0	0	-	-
122	22.8	Crossrail 1	0	0	0	0	-
122	22.9	Crossrail 2	0	0	0	0	-
122	22.10	HS2	0	0	0	0	-

Recent aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2024. All Rights Reserved.

Capture Date: 23/05/2019

Site Area: 0.1ha



Recent site history - 2012 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2024. All Rights Reserved.

Capture Date: 26/03/2012

Site Area: 0.1ha



Recent site history - 1999 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2024. All Rights Reserved.

Capture Date: 10/09/1999

Site Area: 0.1ha



OS MasterMap site plan



Site Area: 0.1ha



1 Past land use



© Crown copyright and database rights 2024. Ordnance Survey licence 100035207

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

1.1 Historical industrial land uses

Records within 500m

107

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 13 >](#)

ID	Location	Land use	Dates present	Group ID
A	On site	Colliery	1851	690123



ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Mill	1956	728623
A	On site	Unspecified Mill	1928	748657
A	On site	Unspecified Mill	1938	802886
A	2m E	Unspecified Mill	1968 - 1992	743001
A	24m SE	Cotton Mill	1851	654629
A	25m SE	Unspecified Mill	1890 - 1909	746365
C	107m N	Unspecified Old Shaft	1928	786232
C	109m N	Unspecified Old Shaft	1938	772814
C	111m N	Unspecified Old Shaft	1909	791731
C	112m N	Coal Pit	1851	679282
C	120m N	Unspecified Old Shaft	1956	671295
C	124m N	Unspecified Tank	1975	697452
D	132m E	Unspecified Tank	1928 - 1938	708522
D	138m E	Unspecified Tank	1956	697453
1	140m NE	Refuse Heap	1968 - 1975	707384
2	147m SW	Unspecified Disused Mill	1909	658151
E	157m E	Unspecified Ground Workings	1909	660705
E	162m E	Unspecified Pit	1968 - 1975	734400
F	174m N	Unspecified Heap	1928	744260
C	175m N	Coal Pit	1851	679281
F	180m N	Unspecified Heap	1938	712719
F	181m N	Unspecified Heap	1909	782116
F	184m N	Unspecified Heap	1967	750203
G	196m W	Unspecified Pit	1956	757878
G	211m W	Unspecified Pit	1928	801903
H	211m SW	Unspecified Heap	1983	733509
H	220m SW	Unspecified Heap	1956 - 1967	720729
H	227m SW	Unspecified Heap	1928 - 1938	737127



ID	Location	Land use	Dates present	Group ID
H	228m SW	Unspecified Ground Workings	1909	662560
H	230m SW	Cotton Mill	1851	654961
I	232m NW	Filter Beds	1938	685166
J	234m E	Refuse Heap	1928	778897
J	238m E	Refuse Heap	1968 - 1975	755022
J	238m E	Refuse Heap	1956	757947
4	254m S	Coal Pit	1851	679301
H	263m SW	Unspecified Disused Mill	1890	658216
K	264m NE	Unspecified Pit	1890 - 1956	731240
I	269m NW	Filter Beds	1928 - 1938	728246
K	269m NE	Unspecified Pit	1968 - 1975	795931
J	291m E	Unspecified Tanks	1928	753017
J	291m E	Unspecified Tanks	1938 - 1956	753986
L	292m N	Unspecified Heap	1928	732372
L	292m N	Unspecified Heaps	1938	684587
L	292m N	Unspecified Heap	1909	764653
M	300m NW	Hospital	1938 - 1949	754430
L	301m N	Unspecified Heap	1956	780739
M	309m NW	Hospital	1967 - 1992	769868
L	312m N	Unspecified Pit	1928	675383
L	313m N	Unspecified Ground Workings	1909	660703
6	322m W	Cotton Mill	1851	654630
L	322m N	Unspecified Heap	1956	688282
N	323m NE	Unspecified Pit	1938	675382
N	323m NE	Unspecified Quarries	1890	779194
N	323m NE	Unspecified Quarries	1928	803042
N	324m NE	Unspecified Ground Workings	1909	660704
N	326m NE	Unspecified Quarries	1890	691915



ID	Location	Land use	Dates present	Group ID
N	326m NE	Unspecified Quarry	1928 - 1938	755080
N	328m NE	Unspecified Old Quarry	1909	659469
N	331m NE	Unspecified Quarry	1956	750916
N	332m NE	Unspecified Quarry	1967	757489
N	333m NE	Unspecified Heap	1928 - 1938	718679
N	334m NE	Unspecified Quarry	1979	775621
N	334m NE	Unspecified Pit	1890	675384
N	336m NE	Sandstone Quarry	1851	667437
L	348m N	Unspecified Pit	1928	764738
L	349m N	Unspecified Old Quarries	1890	678745
L	349m N	Unspecified Quarry	1938	732429
L	350m N	Unspecified Quarry	1909	771127
L	355m N	Refuse Heap	1967 - 1979	755251
L	356m N	Unspecified Pit	1956	732869
O	373m NW	Unspecified Quarry	1949 - 1992	728211
O	373m NW	Unspecified Old Quarry	1909 - 1928	758081
O	374m NW	Sandstone Quarry	1851	667436
O	377m NW	Unspecified Old Quarries	1890	678746
O	377m NW	Unspecified Quarry	1938	793879
L	390m N	Sandstone Quarry	1851	667434
P	393m E	Sandstone Quarry	1851	667465
Q	416m E	Unspecified Mill	1938 - 1956	769097
Q	417m E	Unspecified Works	1968 - 1975	802978
Q	417m E	Unspecified Mill	1928	799140
Q	428m E	Unspecified Mills	1909	777159
R	432m NE	Pump House	1928	805693
R	432m NE	Pump House	1938	796978
Q	433m E	Unspecified Mills	1890	723700



ID	Location	Land use	Dates present	Group ID
R	440m NE	Pump House	1956	740742
T	445m N	Unspecified Works	1967 - 1979	769399
T	449m N	Bleach and Dye works	1938 - 1956	798278
Q	450m E	Fulling Mill	1851	668486
T	450m N	Bleach and Dye works	1928	786991
U	453m S	Nurseries	1956	779272
10	455m SE	Coal Pit	1851	679298
V	459m N	Unspecified Heap	1928	745597
Q	460m E	Unspecified Mills	1928 - 1938	717229
V	462m N	Unspecified Heap	1938 - 1956	734867
Q	463m E	Unspecified Commercial/Industrial	1968 - 1975	739666
U	463m S	Nursery	1908	678274
Q	463m E	Unspecified Mills	1956	776475
U	467m S	Nurseries	1928 - 1938	709450
X	468m E	Unspecified Quarry	1968 - 1975	754210
X	468m E	Unspecified Quarry	1956	767751
Q	468m E	Unspecified Works	1987 - 1992	777049
S	468m E	Refuse Heap	1928	656034
Q	470m E	Bleaching Mill	1851	669382
S	472m E	Sandstone Quarry	1851	667464
V	475m N	Unspecified Ground Workings	1909	660700
11	488m S	Coal Pit	1851	679300

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

22

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or



succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 13 >](#)

ID	Location	Land use	Dates present	Group ID
A	53m SE	Unspecified Tank	1890	88819
B	58m SW	Unspecified Tank	1910 - 1929	103576
B	70m SW	Unspecified Tank	1979	88807
B	91m SW	Unspecified Tank	1979	88808
C	121m N	Unspecified Tank	1910 - 1929	105802
C	123m N	Tanks	1890	82150
C	124m N	Tanks	1890	82149
C	129m N	Unspecified Tank	1962	99333
C	129m N	Unspecified Tank	1984	98918
D	133m E	Unspecified Tank	1929	88778
5	271m W	Unspecified Tank	1910	88785
J	285m E	Tanks	1890	100028
J	291m E	Tanks	1910 - 1929	95361
7	333m NE	Unspecified Tank	1963	88774
P	401m E	Unspecified Tank	1984	88772
S	442m E	Tanks	1984	104962
S	445m E	Tanks	1962	91567
S	449m E	Unspecified Tank	1979	88804
W	462m NE	Unspecified Tank	1993	95602
W	464m NE	Unspecified Tank	1963	105870
S	482m E	Tanks	1910	82162
W	483m NE	Unspecified Tank	1963 - 1969	99317

This data is sourced from Ordnance Survey / Groundsure.



1.3 Historical energy features

Records within 500m**4**

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

Features are displayed on the Past land use map on [page 13 >](#)

ID	Location	Land use	Dates present	Group ID
A	90m SE	Electricity Substation	1979 - 1981	64217
3	248m E	Electricity Substation	1979 - 1981	54998
8	377m W	Electricity Substation	1992	47933
9	404m N	Electricity Substation	1993	47922

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m**0**

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m**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 ungrouped 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
- Historical energy features

2.1 Historical industrial land uses

Records within 500m

144

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 21](#) >

ID	Location	Land Use	Date	Group ID
A	On site	Colliery	1851	690123
A	On site	Unspecified Mill	1956	728623
A	On site	Unspecified Mill	1938	802886



ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Mill	1928	748657
A	2m E	Unspecified Mill	1992	743001
A	2m E	Unspecified Mill	1987	743001
A	2m E	Unspecified Mill	1975	743001
A	2m E	Unspecified Mill	1968	743001
A	24m SE	Cotton Mill	1851	654629
A	25m SE	Unspecified Mill	1890	746365
A	29m SE	Unspecified Mill	1909	746365
C	107m N	Unspecified Old Shaft	1928	786232
C	109m N	Unspecified Old Shaft	1938	772814
C	111m N	Unspecified Old Shaft	1909	791731
C	112m N	Coal Pit	1851	679282
C	120m N	Unspecified Old Shaft	1956	671295
C	124m N	Unspecified Tank	1975	697452
D	132m E	Unspecified Tank	1938	708522
D	133m E	Unspecified Tank	1928	708522
D	138m E	Unspecified Tank	1956	697453
E	140m NE	Refuse Heap	1975	707384
E	140m NE	Refuse Heap	1968	707384
1	147m SW	Unspecified Disused Mill	1909	658151
F	157m E	Unspecified Ground Workings	1909	660705
F	162m E	Unspecified Pit	1975	734400
F	162m E	Unspecified Pit	1968	734400
G	174m N	Unspecified Heap	1928	744260
C	175m N	Coal Pit	1851	679281
G	180m N	Unspecified Heap	1938	712719
G	181m N	Unspecified Heap	1909	782116
G	184m N	Unspecified Heap	1967	750203



ID	Location	Land Use	Date	Group ID
H	196m W	Unspecified Pit	1956	757878
H	211m W	Unspecified Pit	1928	801903
I	211m SW	Unspecified Heap	1983	733509
I	220m SW	Unspecified Heap	1956	720729
I	220m SW	Unspecified Heap	1967	720729
I	227m SW	Unspecified Heap	1938	737127
I	228m SW	Unspecified Ground Workings	1909	662560
I	230m SW	Cotton Mill	1851	654961
J	232m NW	Filter Beds	1938	685166
I	233m SW	Unspecified Heap	1928	737127
K	234m E	Refuse Heap	1928	778897
K	238m E	Refuse Heap	1975	755022
K	238m E	Refuse Heap	1956	757947
K	238m E	Refuse Heap	1968	755022
2	254m S	Coal Pit	1851	679301
I	263m SW	Unspecified Disused Mill	1890	658216
M	264m NE	Unspecified Pit	1938	731240
M	264m NE	Unspecified Pit	1928	731240
M	264m NE	Unspecified Pit	1890	731240
M	265m NE	Unspecified Pit	1909	731240
J	269m NW	Filter Beds	1928	728246
M	269m NE	Unspecified Pit	1975	795931
M	269m NE	Unspecified Pit	1956	731240
M	269m NE	Unspecified Pit	1968	795931
J	271m NW	Filter Beds	1938	728246
K	291m E	Unspecified Tanks	1928	753017
K	291m E	Unspecified Tanks	1938	753986
N	292m N	Unspecified Heap	1928	732372



ID	Location	Land Use	Date	Group ID
N	292m N	Unspecified Heaps	1938	684587
N	292m N	Unspecified Heap	1909	764653
K	296m E	Unspecified Tanks	1956	753986
O	300m NW	Hospital	1949	754430
N	301m N	Unspecified Heap	1956	780739
O	305m NW	Hospital	1938	754430
O	309m NW	Hospital	1992	769868
O	309m NW	Hospital	1967	769868
O	309m NW	Hospital	1987	769868
N	312m N	Unspecified Pit	1928	675383
N	313m N	Unspecified Ground Workings	1909	660703
4	322m W	Cotton Mill	1851	654630
N	322m N	Unspecified Heap	1956	688282
P	323m NE	Unspecified Quarries	1928	803042
P	323m NE	Unspecified Quarries	1890	779194
P	323m NE	Unspecified Pit	1938	675382
P	324m NE	Unspecified Ground Workings	1909	660704
P	326m NE	Unspecified Quarry	1938	755080
P	326m NE	Unspecified Quarry	1928	755080
P	326m NE	Unspecified Quarries	1890	691915
P	328m NE	Unspecified Old Quarry	1909	659469
P	331m NE	Unspecified Quarry	1956	750916
P	332m NE	Unspecified Quarry	1967	757489
P	333m NE	Unspecified Heap	1928	718679
P	334m NE	Unspecified Quarry	1979	775621
P	334m NE	Unspecified Heap	1938	718679
P	334m NE	Unspecified Pit	1890	675384
P	336m NE	Sandstone Quarry	1851	667437



ID	Location	Land Use	Date	Group ID
N	348m N	Unspecified Pit	1928	764738
N	349m N	Unspecified Quarry	1938	732429
N	349m N	Unspecified Old Quarries	1890	678745
N	350m N	Unspecified Quarry	1909	771127
N	355m N	Refuse Heap	1967	755251
N	356m N	Unspecified Pit	1956	732869
N	356m N	Refuse Heap	1979	755251
Q	373m NW	Unspecified Quarry	1992	728211
Q	373m NW	Unspecified Quarry	1967	728211
Q	373m NW	Unspecified Quarry	1949	728211
Q	373m NW	Unspecified Quarry	1987	728211
Q	373m NW	Unspecified Old Quarry	1909	758081
Q	374m NW	Sandstone Quarry	1851	667436
Q	377m NW	Unspecified Quarry	1938	793879
Q	377m NW	Unspecified Old Quarry	1928	758081
Q	377m NW	Unspecified Old Quarries	1890	678746
N	390m N	Sandstone Quarry	1851	667434
R	393m E	Sandstone Quarry	1851	667465
S	416m E	Unspecified Mill	1938	769097
S	417m E	Unspecified Works	1975	802978
S	417m E	Unspecified Mill	1956	769097
S	417m E	Unspecified Works	1968	802978
S	417m E	Unspecified Mill	1928	799140
S	428m E	Unspecified Mills	1909	777159
T	432m NE	Pump House	1928	805693
T	432m NE	Pump House	1938	796978
S	433m E	Unspecified Mills	1890	723700
T	440m NE	Pump House	1956	740742



ID	Location	Land Use	Date	Group ID
V	445m N	Unspecified Works	1967	769399
V	447m N	Unspecified Works	1979	769399
V	449m N	Bleach and Dye works	1938	798278
S	450m E	Fulling Mill	1851	668486
V	450m N	Bleach and Dye works	1928	786991
W	453m S	Nurseries	1956	779272
8	455m SE	Coal Pit	1851	679298
V	457m N	Bleach and Dye works	1956	798278
X	459m N	Unspecified Heap	1928	745597
S	460m E	Unspecified Mills	1938	717229
X	462m N	Unspecified Heap	1938	734867
S	463m E	Unspecified Commercial/Industrial	1975	739666
S	463m E	Unspecified Commercial/Industrial	1968	739666
W	463m S	Nursery	1908	678274
S	463m E	Unspecified Mills	1956	776475
S	463m E	Unspecified Mills	1928	717229
W	467m S	Nurseries	1938	709450
W	467m S	Nurseries	1928	709450
Z	468m E	Unspecified Quarry	1975	754210
Z	468m E	Unspecified Quarry	1956	767751
Z	468m E	Unspecified Quarry	1968	754210
S	468m E	Unspecified Works	1992	777049
S	468m E	Unspecified Works	1987	777049
U	468m E	Refuse Heap	1928	656034
S	470m E	Bleaching Mill	1851	669382
U	472m E	Sandstone Quarry	1851	667464
X	474m N	Unspecified Heap	1956	734867
X	475m N	Unspecified Ground Workings	1909	660700



ID	Location	Land Use	Date	Group ID
9	488m S	Coal Pit	1851	679300

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	26
----------------------------	-----------

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 21 >](#)

ID	Location	Land Use	Date	Group ID
A	53m SE	Unspecified Tank	1890	88819
B	58m SW	Unspecified Tank	1910	103576
B	58m SW	Unspecified Tank	1929	103576
B	70m SW	Unspecified Tank	1979	88807
B	91m SW	Unspecified Tank	1979	88808
C	121m N	Unspecified Tank	1910	105802
C	121m N	Unspecified Tank	1929	105802
C	123m N	Tanks	1890	82150
C	124m N	Tanks	1890	82149
C	129m N	Unspecified Tank	1962	99333
C	129m N	Unspecified Tank	1984	98918
D	133m E	Unspecified Tank	1929	88778
3	271m W	Unspecified Tank	1910	88785
K	285m E	Tanks	1890	100028
K	291m E	Tanks	1910	95361
K	291m E	Tanks	1929	95361
5	333m NE	Unspecified Tank	1963	88774
R	401m E	Unspecified Tank	1984	88772
U	442m E	Tanks	1984	104962



ID	Location	Land Use	Date	Group ID
U	445m E	Tanks	1962	91567
U	449m E	Unspecified Tank	1979	88804
Y	462m NE	Unspecified Tank	1993	95602
Y	464m NE	Unspecified Tank	1963	105870
U	482m E	Tanks	1910	82162
Y	483m NE	Unspecified Tank	1963	99317
Y	483m NE	Unspecified Tank	1969	99317

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	6
----------------------------	----------

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

Features are displayed on the Past land use - un-grouped map on [page 21 >](#)

ID	Location	Land Use	Date	Group ID
A	90m SE	Electricity Substation	1981	64217
A	92m SE	Electricity Substation	1979	64217
L	248m E	Electricity Substation	1981	54998
L	249m E	Electricity Substation	1979	54998
6	377m W	Electricity Substation	1992	47933
7	404m N	Electricity Substation	1993	47922

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

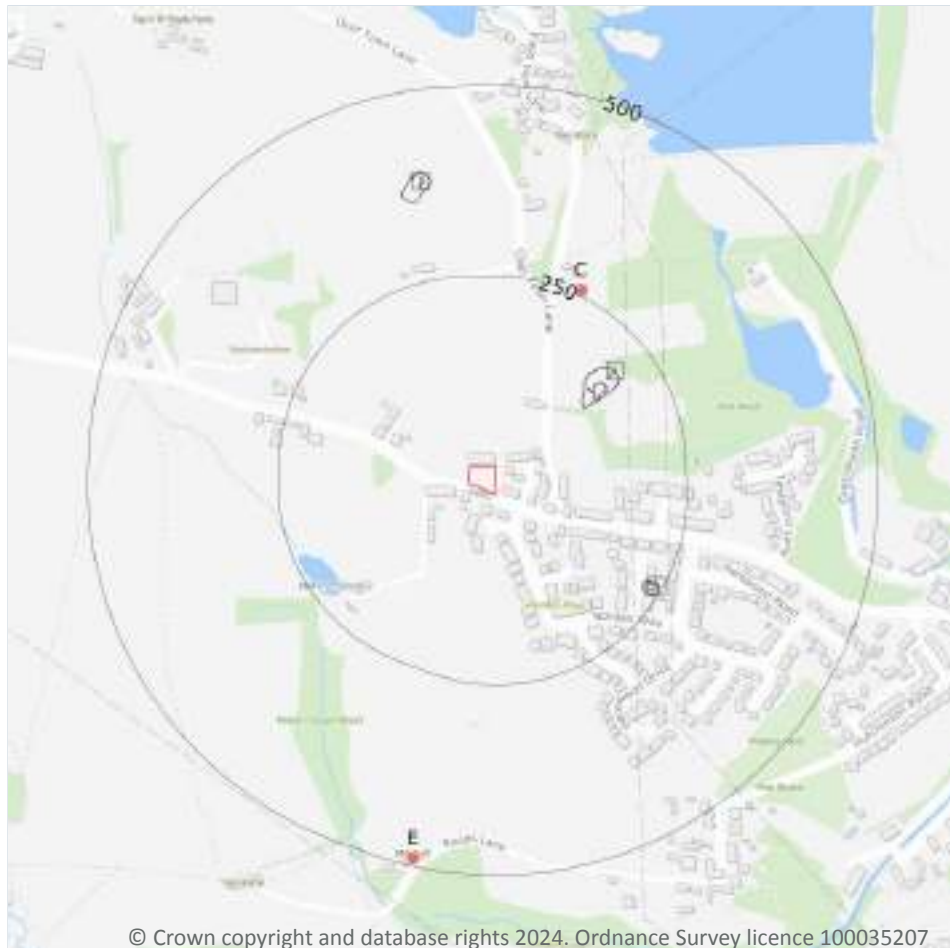
0

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)
- 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

6

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

Features are displayed on the Waste and landfill map on [page 30](#) >

ID	Location	Site address	Source	Data type
A	138m NE	Refuse Tip	1984 mapping	Polygon
A	140m NE	Refuse Tip	1962 mapping	Polygon
B	224m SE	Refuse Tip	1984 mapping	Polygon
B	226m SE	Refuse Tip	1962 mapping	Polygon
D	355m N	Refuse Tip	1962 mapping	Polygon
D	355m N	Refuse Tip	1969 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

0

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

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

3.7 Waste exemptions

Records within 500m

6

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 30](#) >

ID	Location	Site	Reference	Category	Sub-Category	Description
C	257m NE	Baitings Mill Over Town Lane Rochdale Rochdale OL12 7tq	EPR/FF0601HK /A001	Using waste exemption	Non-agricultural waste only	Use of waste in construction
C	257m NE	Baitings Mill Over Town Lane Rochdale Rochdale OL12 7tq	EPR/FF0601HK /A001	Treating waste exemption	Non-agricultural waste only	Screening and blending of waste
E	490m S	Lea Holmes Farm Roods Lane Rochdale Lancashire OL11 5ue	EPR/DF0033LU /A001	Using waste exemption	Both agricultural and non-agricultural waste	Burning of waste as a fuel in a small appliance
E	490m S	Lea Holmes Farm Roods Lane Rochdale Lancashire OL11 5ue	EPR/DF0033LU /A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose
E	490m S	Lea Holmes Farm Roods Lane Rochdale Lancashire OL11 5ue	EPR/DF0033LU /A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Burning waste in the open
E	490m S	Lea Holmes Farm Roods Lane Rochdale Lancashire OL11 5ue	EPR/DF0033LU /A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading waste on agricultural land to confer benefit

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Licensed Discharges to controlled waters

4.1 Recent industrial land uses

Records within 250m

7

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 33](#) >

ID	Location	Company	Address	Activity	Category
A	101m SE	Electricity Sub Station	Greater Manchester, OL11	Electrical Features	Infrastructure and Facilities
A	110m SE	Abacuss Alarms & Security	859, Edenfield Road, Rochdale, Greater Manchester, OL11 5TA	Electronic Equipment	Industrial Products



ID	Location	Company	Address	Activity	Category
A	129m SE	A J Alty	853, Edenfield Road, Rochdale, Greater Manchester, OL11 5TA	Sports and Leisure Equipment Repair	Repair and Servicing
A	140m E	Chippendale Hearing Services Ltd	675, Edenfield Road, Rochdale, Greater Manchester, OL11 5XE	Disability and Mobility Equipment	Consumer Products
1	210m NE	Pylon	Greater Manchester, OL12	Electrical Features	Infrastructure and Facilities
B	239m E	Pylon	Greater Manchester, OL11	Electrical Features	Infrastructure and Facilities
B	245m E	Electricity Sub Station	Greater Manchester, OL11	Electrical Features	Infrastructure and Facilities

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 33 >](#)

ID	Location	Address	Details	
2	325m E	LONGDEN RES DEVELOPMENT SWO, ADJACENT GREENBOOTH ROAD, NORDEN, LANCASHIRE	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991231 Permit Version: 1 Receiving Water: NADEN BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/11/1994 Revocation Date: 01/11/1994

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

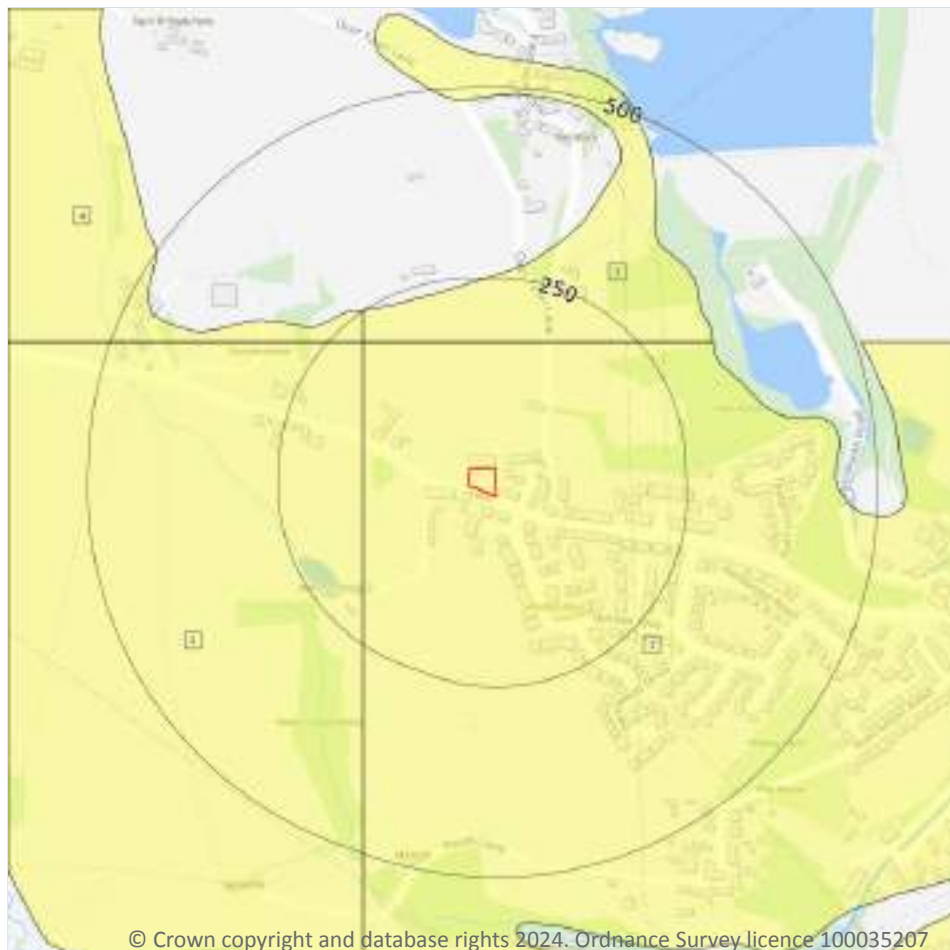
0

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



- Site Outline**
- Search buffers in metres (m)**
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive
 - Unknown

5.1 Superficial aquifer

Records within 500m

4

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 39](#) >

ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	139m W	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type



ID	Location	Designation	Description
3	166m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	218m NW	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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

© Crown copyright and database rights 2024. Ordnance Survey licence 100035207

5.2 Bedrock aquifer

Records within 500m

4

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on [page 41](#) >

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	139m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

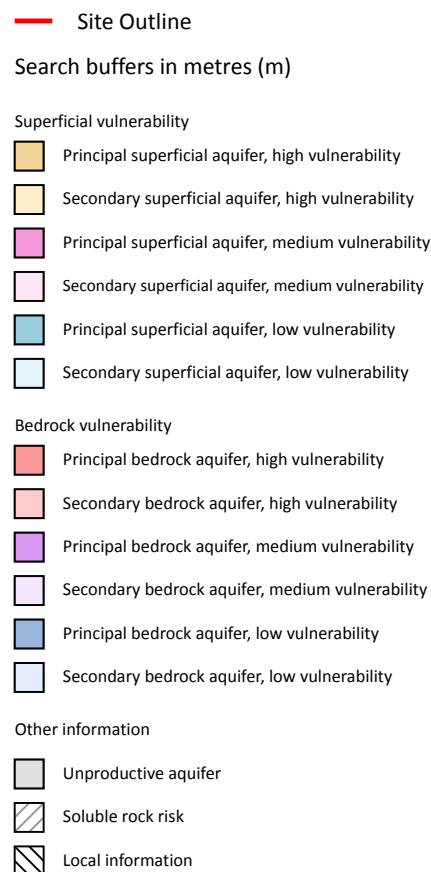


ID	Location	Designation	Description
3	166m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	218m NW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

1

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 43](#) >

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low 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.

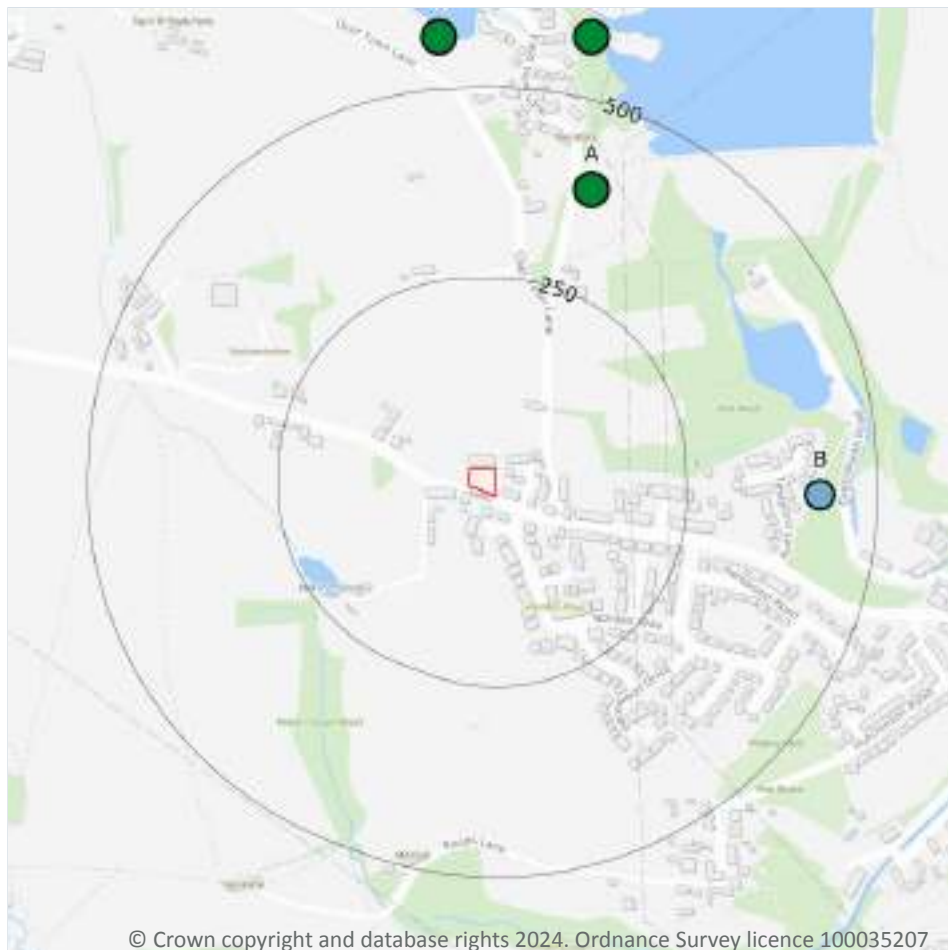
5.5 Groundwater vulnerability- local information

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
Point features
- 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

23

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

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

ID	Location	Details	
C	568m N	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE 106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
C	568m N	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE 106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
C	568m N	Status: Historical Licence No: 2569002187 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE \$106" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
C	568m N	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE \$106" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -



ID	Location	Details	
C	568m N	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE S106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
C	568m N	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE S106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
C	568m N	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
C	568m N	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -



ID	Location	Details	
D	579m N	Status: Historical Licence No: 2569002187 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
D	579m N	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
D	579m N	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
D	579m N	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -



ID	Location	Details	
-	1205m SW	Status: Historical Licence No: 2569002224 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, ASHWORTH" Data Type: Point Name: TOMLINSON Easting: 384100 Northing: 414200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/11/1982 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1982 Version End Date: -
-	1205m SW	Status: Historical Licence No: 2569002224 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, ASHWORTH Data Type: Point Name: TOMLINSON Easting: 384100 Northing: 414200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/11/1982 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1982 Version End Date: -
-	1205m SW	Status: Historical Licence No: 2569002224 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, ASHWORTH Data Type: Point Name: TOMLINSON Easting: 384100 Northing: 414200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/11/1982 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1982 Version End Date: -
-	1847m S	Status: Historical Licence No: 2569002180 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "WELL AT MOOR EDGE FARM, BAMFORD, ROCHDALE" Data Type: Point Name: BLACKBOROUGH Easting: 385600 Northing: 413000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 21/02/1966 Version End Date: -



ID	Location	Details	
-	1847m S	Status: Historical Licence No: 2569002183 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "WELL AT MOOR EDGE FARM, BAMFORD, ROCHDALE" Data Type: Point Name: MILLS Easting: 385600 Northing: 413000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 21/02/1966 Version End Date: -
-	1847m S	Status: Historical Licence No: 2569002180 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: WELL AT MOOR EDGE FARM, BAMFORD, ROCHDALE Data Type: Point Name: BLACKBOROUGH Easting: 385600 Northing: 413000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 21/02/1966 Version End Date: -
-	1847m S	Status: Historical Licence No: 2569002183 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: WELL AT MOOR EDGE FARM, BAMFORD, ROCHDALE Data Type: Point Name: MILLS Easting: 385600 Northing: 413000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 21/02/1966 Version End Date: -
-	1950m W	Status: Active Licence No: 2569002220 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, ASHWORTH, NEARROCHDALE, LANCASHIRE Data Type: Point Name: EDUS LTD Easting: 383200 Northing: 414600	Annual Volume (m ³): 22732.73 Max Daily Volume (m ³): 62.28 Original Application No: 2541 Original Start Date: 20/10/1981 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2006 Version End Date: -



ID	Location	Details	
-	1950m W	Status: Active Licence No: 2569002220 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, ASHWORTH, NEARROCHDALE, LANCASHIRE Data Type: Point Name: EDUS LTD Easting: 383200 Northing: 414600	Annual Volume (m ³): 22732.73 Max Daily Volume (m ³): 62.28 Original Application No: 2541 Original Start Date: 20/10/1981 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2006 Version End Date: -
-	1950m W	Status: Historical Licence No: 2569002220 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, ASHWORTH, NEARROCHDALE, LANCASHIRE" Data Type: Point Name: EDUS LTD Easting: 383200 Northing: 414600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/10/1981 Expiry Date: - Issue No: 100 Version Start Date: 05/02/1988 Version End Date: -
-	1950m W	Status: Historical Licence No: 2569002220 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, ASHWORTH, NEARROCHDALE, LANCASHIRE" Data Type: Point Name: EDUS LTD Easting: 383200 Northing: 414600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/10/1981 Expiry Date: - Issue No: 100 Version Start Date: 05/02/1988 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

11

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

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



ID	Location	Details	
A	387m N	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE*31" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385300 Northing: 415200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
A	387m N	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE*31 Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385300 Northing: 415200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
A	387m N	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 385300 Northing: 415200	Annual Volume (m ³): 9092000 Max Daily Volume (m ³): 40914 Original Application No: 1613 Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
B	425m E	Status: Historical Licence No: 2569002221 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "NADEN BRK AT NORDERN, NR ROCHDALE" Data Type: Point Name: TACKLEA WORKS LTD Easting: 385600 Northing: 414800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/11/1981 Expiry Date: - Issue No: 100 Version Start Date: 05/02/1988 Version End Date: -



ID	Location	Details	
B	425m E	Status: Historical Licence No: 2569002221 Details: Process Water Direct Source: Surface, Non-Tidal - North West Region Point: NADEN BRK AT NORDERN, NR ROCHDALE Data Type: Point Name: TACKLEA WORKS LTD Easting: 385600 Northing: 414800	Annual Volume (m ³): 150018 Max Daily Volume (m ³): 590.98 Original Application No: - Original Start Date: 04/11/1981 Expiry Date: - Issue No: 100 Version Start Date: 05/02/1988 Version End Date: -
C	568m N	Status: Historical Licence No: 2569002188 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "RESERVOIR FED BY ROYDS BRK AT PREMISES, NORDEN, ROCHDA" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
C	568m N	Status: Historical Licence No: 2569002188 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY ROYDS BRK AT PREMISES, NORDEN, ROCHDA Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	1430m N	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE108 Data Type: Point Name: NORTH WEST WATER LTD Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -



ID	Location	Details	
-	1430m N	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE\$108" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1430m N	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE\$108 Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1430m N	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 385600 Northing: 416200	Annual Volume (m ³): 9092000 Max Daily Volume (m ³): 40914 Original Application No: 1613 Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

13

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 45](#) >



ID	Location	Details	
A	387m N	Status: Active Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 385300 Northing: 415200	Annual Volume (m ³): 9092000 Max Daily Volume (m ³): 40914 Original Application No: 1613 Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
A	387m N	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE*31" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385300 Northing: 415200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
A	387m N	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE*31 Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385300 Northing: 415200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
C	568m N	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE 106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -



ID	Location	Details	
C	568m N	Status: Historical Licence No: 2569002187 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE S106" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
C	568m N	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE S106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
C	568m N	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
D	579m N	Status: Historical Licence No: 2569002187 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -



ID	Location	Details	
D	579m N	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	1430m N	Status: Active Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 385600 Northing: 416200	Annual Volume (m ³): 9092000 Max Daily Volume (m ³): 40914 Original Application No: 1613 Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1430m N	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE108 Data Type: Point Name: NORTH WEST WATER LTD Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1430m N	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE\$108" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -



ID	Location	Details	
-	1430m N	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE\$108 Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 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



- 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

9

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 59 >](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
B	145m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
B	216m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	219m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	226m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Mill Croft Brook
C	227m SW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	Mill Croft Brook
C	229m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Mill Croft Brook
C	234m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Mill Croft Brook
D	240m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Mill Croft Brook
D	249m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Mill Croft Brook

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

5

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 59](#) >

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 59 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River	Naden Brook	GB112069064710	Roch Irk Medlock	Irwell

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 59 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
3	379m NE	River	Naden Brook	GB112069064710 ↗	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 59 >](#)



ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Northern Manchester Carboniferous Aquifers	GB41202G101800 ↗	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

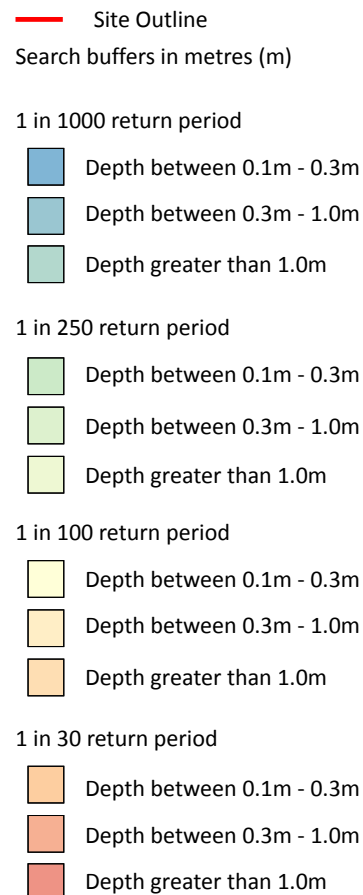
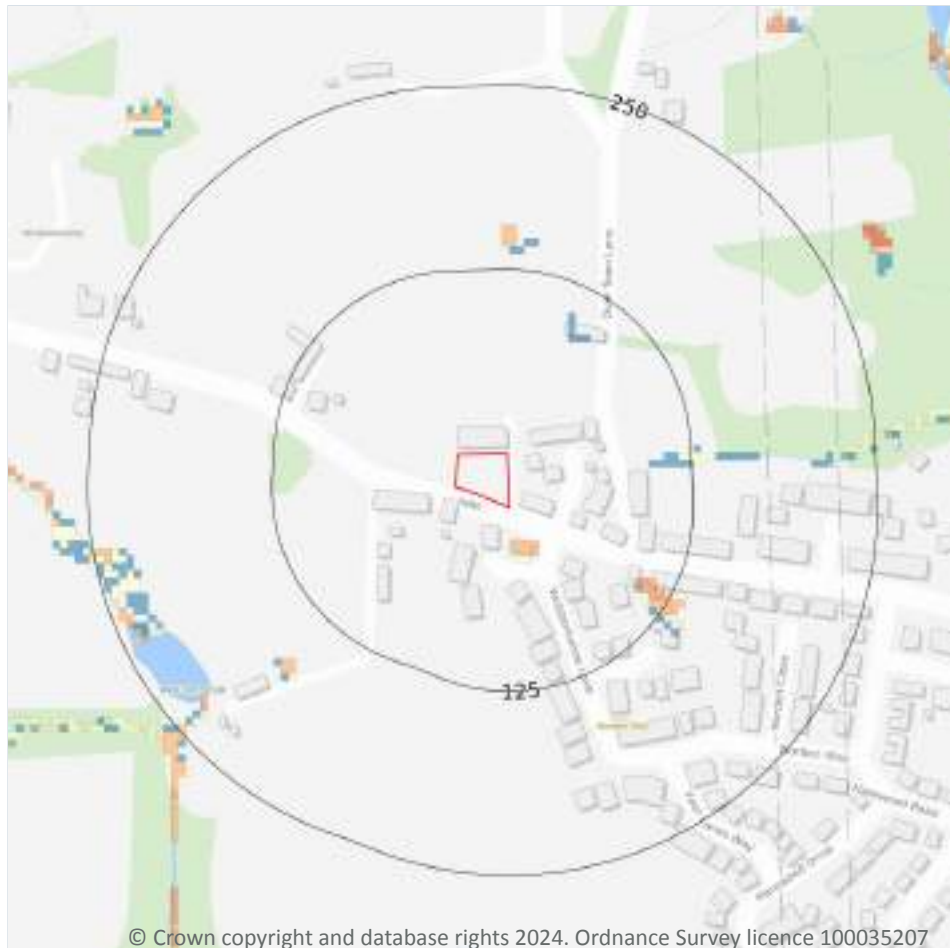
0

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



8.1 Surface water flooding

Highest risk on site

Negligible

Highest risk within 50m

1 in 30 year, 0.1m - 0.3m

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 66](#) >

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.

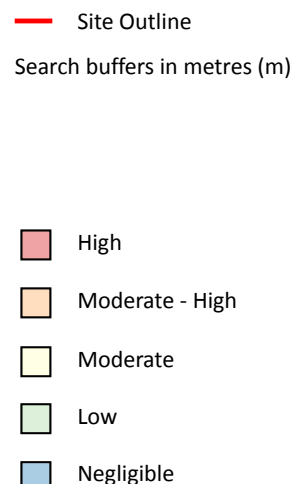
The table below shows the maximum flood depths for a range of return periods for the site.

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 Ambiantal Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

Low

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

Features are displayed on the Groundwater flooding map on [page 68](#) >

This data is sourced from Ambiantal 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

8

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 69](#) >

ID	Location	Name	Woodland Type
2	216m E	Wolstenholme Wood	Ancient & Semi-Natural Woodland
3	230m SW	Fester Clough Wood	Ancient & Semi-Natural Woodland
4	555m S	Naden Brook Wood	Ancient & Semi-Natural Woodland
-	1451m S	Jowkin Wood	Ancient & Semi-Natural Woodland
-	1486m S	Jowkin Wood	Ancient & Semi-Natural Woodland
-	1556m SW	Jowkin Wood	Ancient & Semi-Natural Woodland
-	1812m SW	Unknown	Ancient & Semi-Natural Woodland
-	1948m S	Jowkin Wood	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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



10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

1

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

Features are displayed on the Environmental designations map on [page 69](#) >

ID	Location	Name	Local Authority name
1	On site	Merseyside and Greater Manchester	Rochdale

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



- 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 74 >](#)

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Airports, helipads and other aviation proposals. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 4000m². 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

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

0

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



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

0

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

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



12 Agricultural designations



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

12.1 Agricultural Land Classification

Records within 250m

2

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

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

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

ID	Location	Classification	Description
2	82m N	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

1

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.

Location	Reference	Scheme	Start Date	End date
244m W	AG00456735	Organic Entry Level Stewardship	01/05/2013	30/04/2018

This data is sourced from Natural England.



12.5 Countryside Stewardship Schemes

Records within 250m

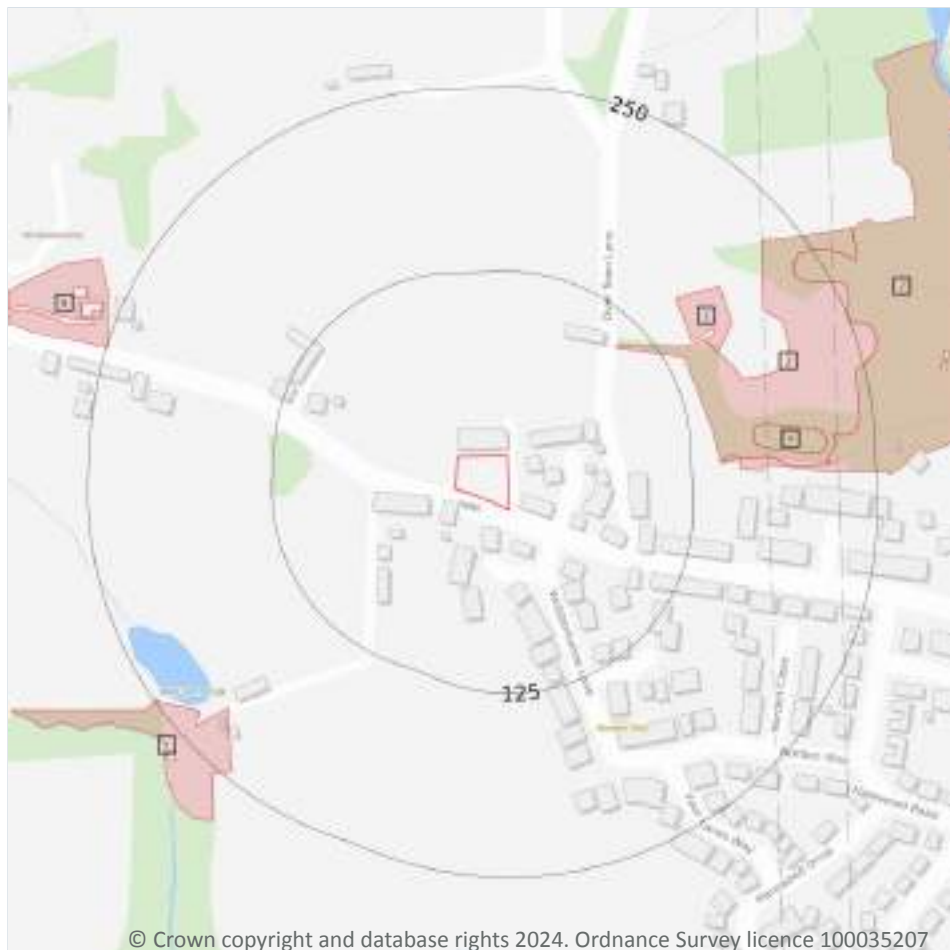
0

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

6

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 81](#) >

ID	Location	Main Habitat	Other habitats
1	105m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	145m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	148m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	168m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
5	215m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	249m W	No main habitat but additional habitats present	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

4

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 83](#) >

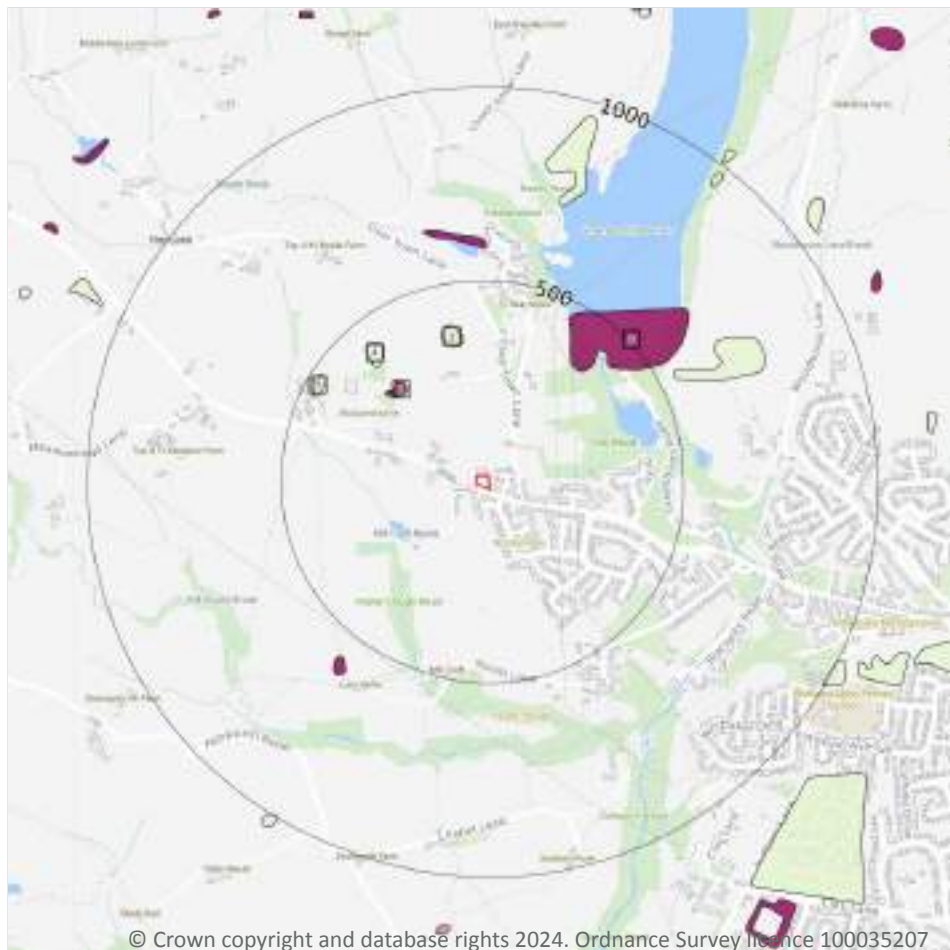
ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SD81SE
2	139m W	Full	Full	Full	Full	SD81SW
3	166m N	Full	Full	Full	Full	SD81NE
4	218m NW	Full	Full	Full	Full	SD81NW



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

5

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 85](#) >

ID	Location	LEX Code	Description	Rock description
1	280m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	337m N	WMGR-ARTDP	Infilled Ground	Artificial Deposit
3	355m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	376m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit

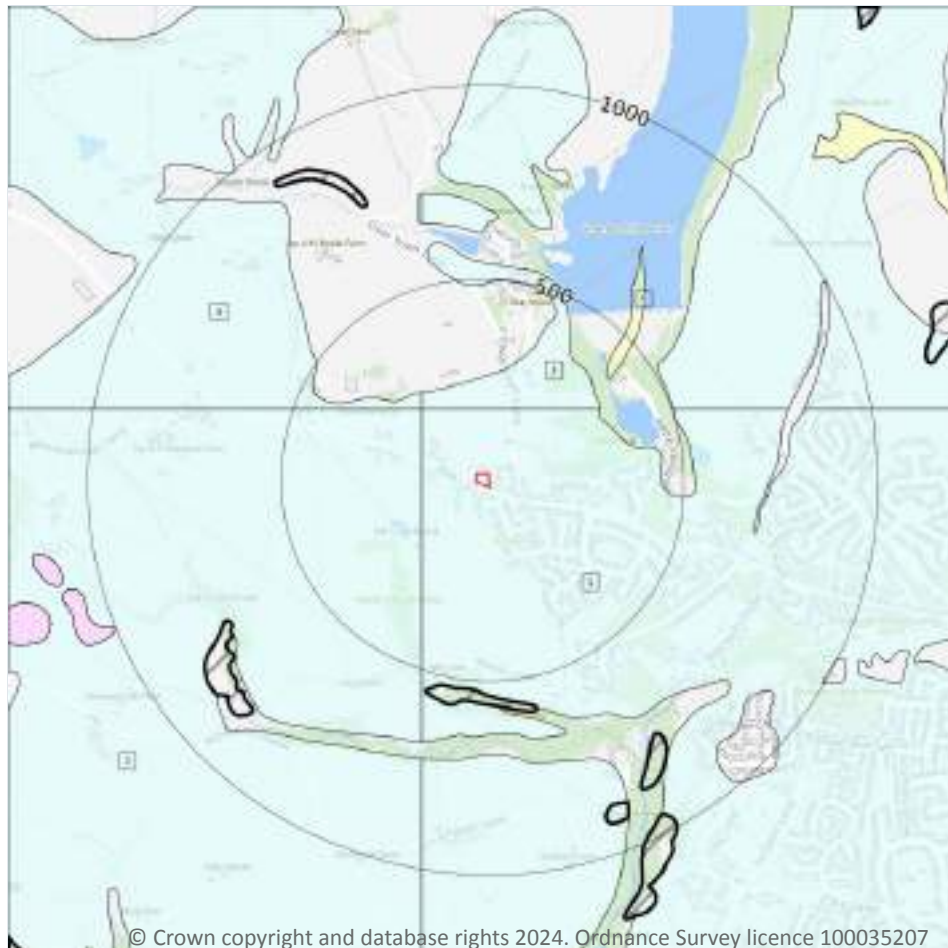


ID	Location	LEX Code	Description	Rock description
5	453m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline
Search buffers in metres (m)

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

14.3 Superficial geology (10k)

Records within 500m

5

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on [page 87](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
2	139m W	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
3	166m N	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

ID	Location	LEX Code	Description	Rock description
4	218m NW	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
5	393m NE	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

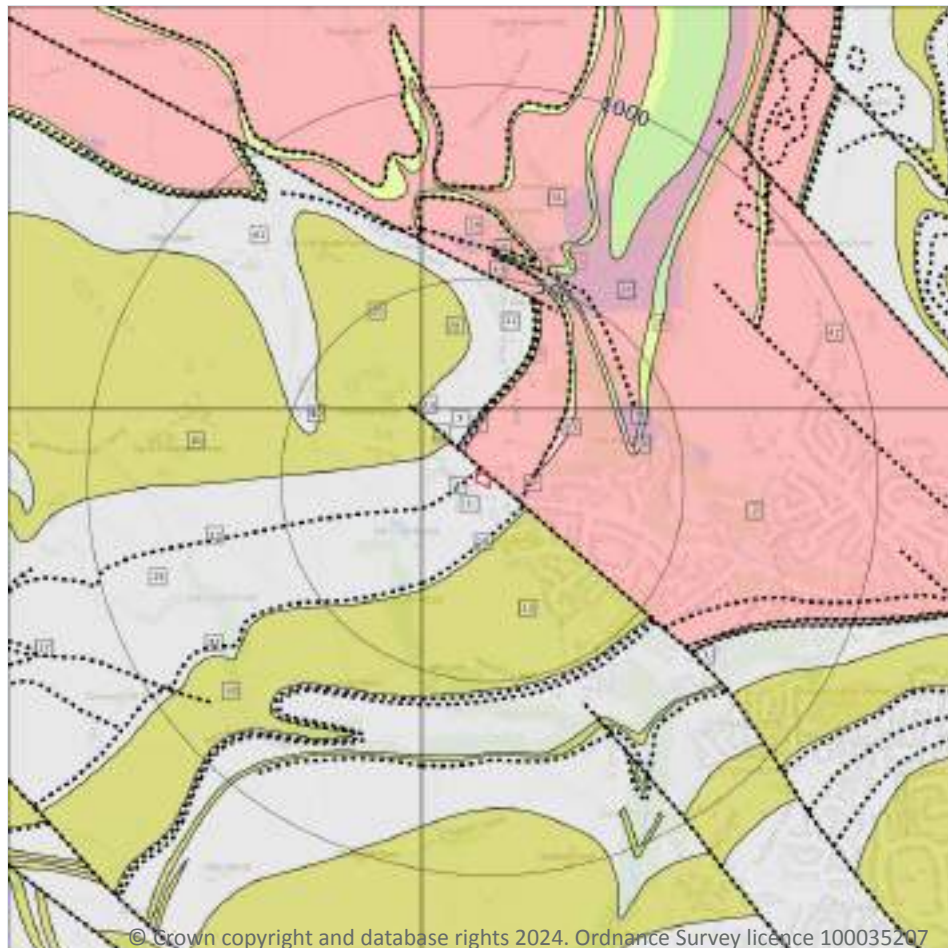
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



— Site Outline
Search buffers in metres (m)
.... Bedrock faults and other linear features (10k)
Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m

27

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 89](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
2	On site	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age
5	63m NW	ROSSE-MDSI	Rossendale Formation - Mudstone And Siltstone	Yeadonian Sub-age

ID	Location	LEX Code	Description	Rock age
7	83m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
11	107m NW	WH-SDST	Woodhead Hill Rock - Sandstone	Langsettian Sub-age
12	107m SE	GAS-SDST	Great Arc Sandstone - Sandstone	Langsettian Sub-age
13	118m E	ROSSE-MDSI	Rossendale Formation - Mudstone And Siltstone	Yeadonian Sub-age
15	139m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
16	146m W	WH-SDST	Woodhead Hill Rock - Sandstone	Langsettian Sub-age
18	166m N	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
20	166m N	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age
21	166m N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
23	205m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
25	218m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
26	233m NW	WH-SDST	Woodhead Hill Rock - Sandstone	Langsettian Sub-age
28	235m NW	WH-SDST	Woodhead Hill Rock - Sandstone	Langsettian Sub-age
29	259m NE	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
31	280m NE	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age
33	310m SW	GAS-SDST	Great Arc Sandstone - Sandstone	Langsettian Sub-age
34	358m E	ROSSE-MDSI	Rossendale Formation - Mudstone And Siltstone	Yeadonian Sub-age
35	363m NE	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
36	371m E	UH-SDST	Upper Haslingden Flags - Sandstone	Yeadonian Sub-age
37	376m NE	UH-SDST	Upper Haslingden Flags - Sandstone	Yeadonian Sub-age
39	426m NE	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
40	427m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age



ID	Location	LEX Code	Description	Rock age
41	439m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
42	441m NE	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

16

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.

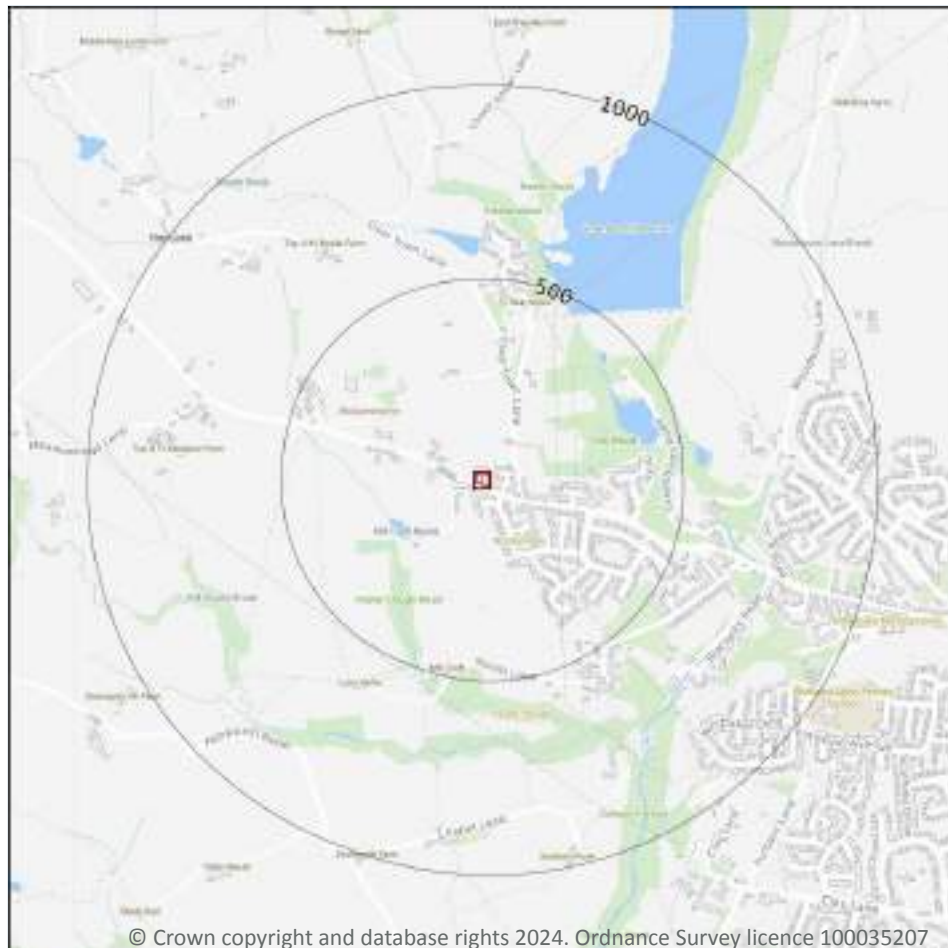
Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 89](#) >

ID	Location	Category	Description
3	On site	FAULT	Normal fault, inferred; crossmarks on downthrow side
4	3m NW	ROCK	Coal seam, inferred
6	72m NW	ROCK	Coal seam, inferred
8	83m NW	FOSSIL_HORIZON	Fossil horizon, marine band coincident with bedrock geology boundary
9	85m SE	ROCK	Coal seam, inferred
10	95m SE	ROCK	Coal seam, inferred
14	118m E	ROCK	Coal seam, inferred coincident with bedrock geology boundary
17	154m SW	ROCK	Coal seam, inferred
19	166m N	ROCK	Coal seam, inferred
22	166m N	FOSSIL_HORIZON	Fossil horizon, marine band coincident with bedrock geology boundary
24	205m NW	FAULT	Normal fault, inferred; crossmarks on downthrow side
27	233m NW	FAULT	Normal fault, inferred
30	259m NE	ROCK	Coal seam, inferred coincident with bedrock geology boundary
32	295m SW	ROCK	Coal seam, inferred
38	413m NE	LANDFORM	Glacial meltwater channel, undifferentiated, centre line
43	451m NE	FAULT	Normal fault, inferred

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 92](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	Full	EW076_rochdale_v4

This data is sourced from the British Geological Survey.



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



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

© Crown copyright and database rights 2024. Ordnance Survey licence 100035207

15.2 Artificial and made ground (50k)

Records within 500m

1

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.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on [page 93](#) >

ID	Location	LEX Code	Description	Rock description
1	355m NE	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.



15.3 Artificial ground permeability (50k)

Records within 50m

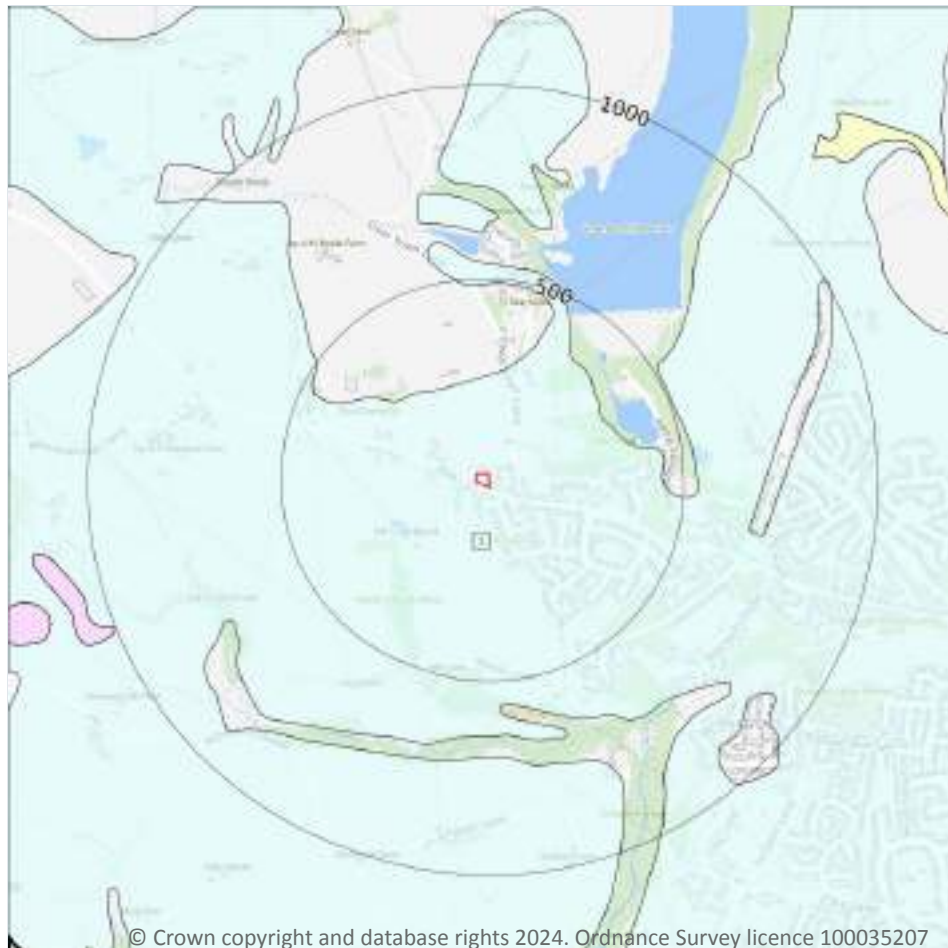
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



— Site Outline

Search buffers in metres (m)

 Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 95](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON

This data is sourced from the British Geological Survey.



15.5 Superficial permeability (50k)

Records within 50m

1

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	High	Low

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

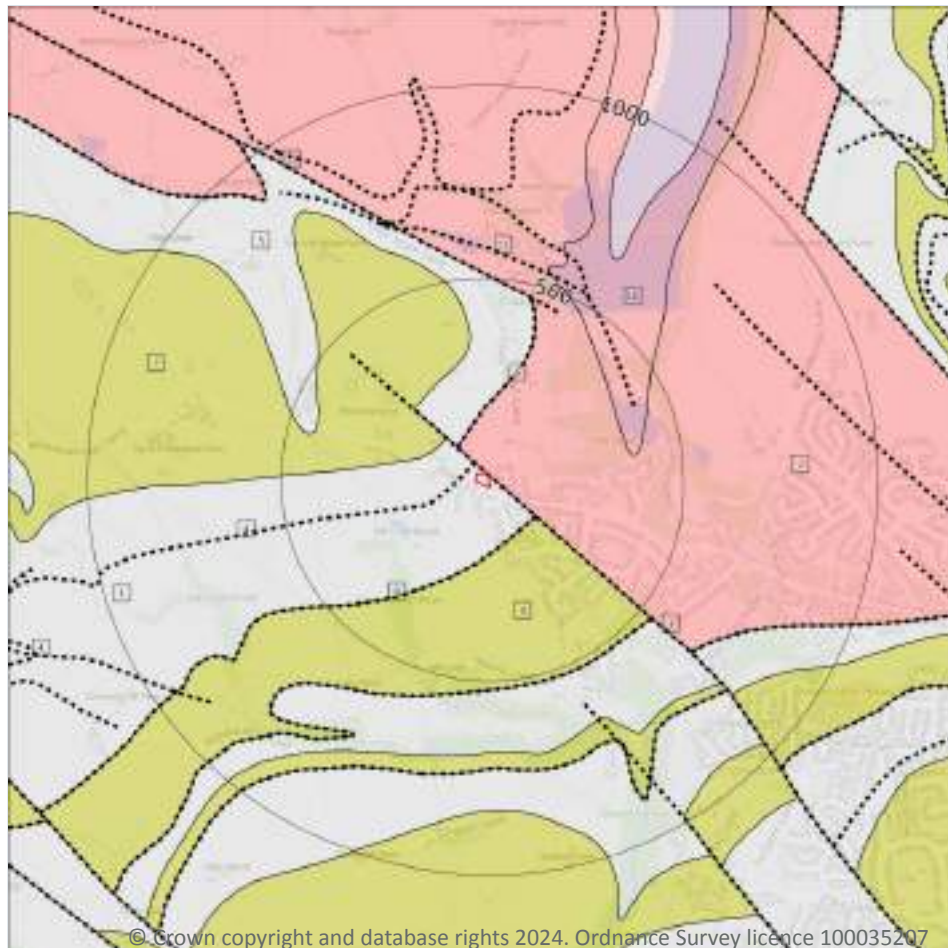
0

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

6

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 97](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	On site	RR-SDST	ROUGH ROCK - SANDSTONE	NAMURIAN
5	83m NW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN



ID	Location	LEX Code	Description	Rock age
7	117m NW	WH-SDST	WOODHEAD HILL ROCK - SANDSTONE	WESTPHALIAN
8	134m SE	GAS-SDST	GREAT ARC SANDSTONE - SANDSTONE	WESTPHALIAN
10	358m E	UH-SDST	UPPER HASLINGDEN FLAGS - SANDSTONE	NAMURIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m

2

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

6

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 97](#) >

ID	Location	Category	Description
3	On site	FAULT	Fault, inferred
4	21m NW	ROCK	Coal seam, inferred
6	83m NW	FOSSIL_HORIZON	Marine band
9	134m SE	ROCK	Coal seam, inferred
11	412m NE	LANDFORM	Glacial meltwater channel centre line, undifferentiated
12	452m NE	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.



16 Boreholes

16.1 BGS Boreholes

Records within 250m

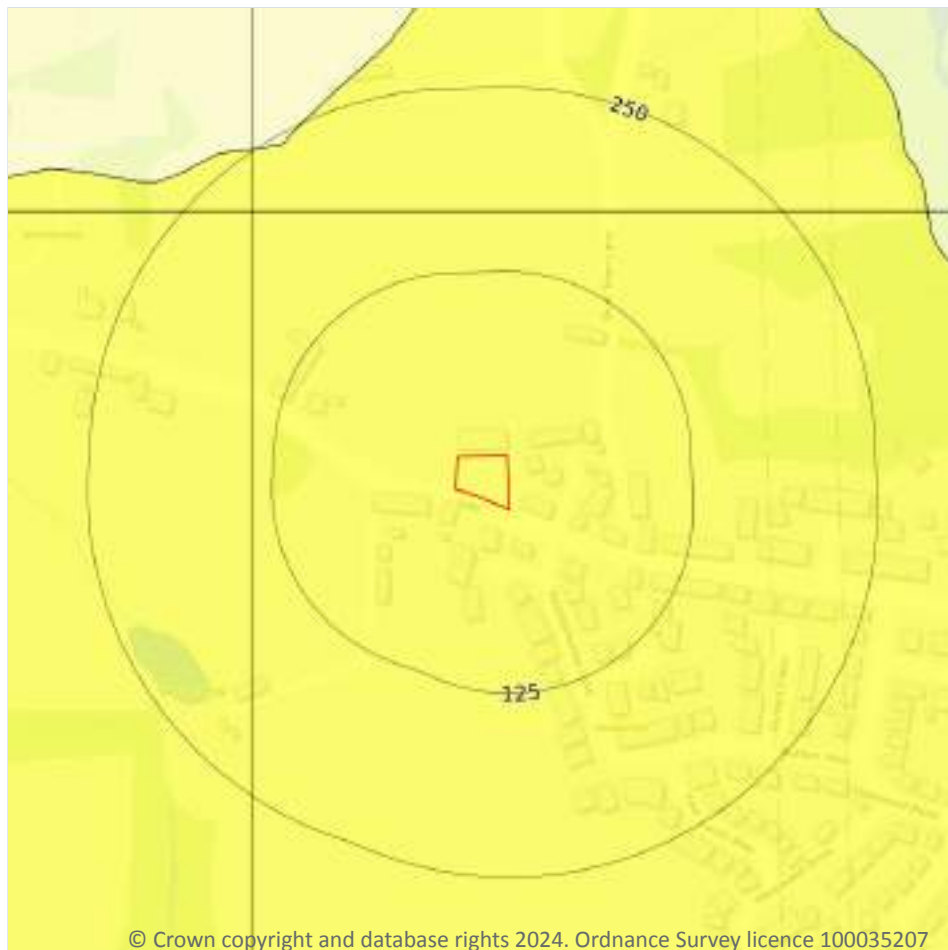
0

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.

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

© Crown copyright and database rights 2024. Ordnance Survey licence 100035207

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).

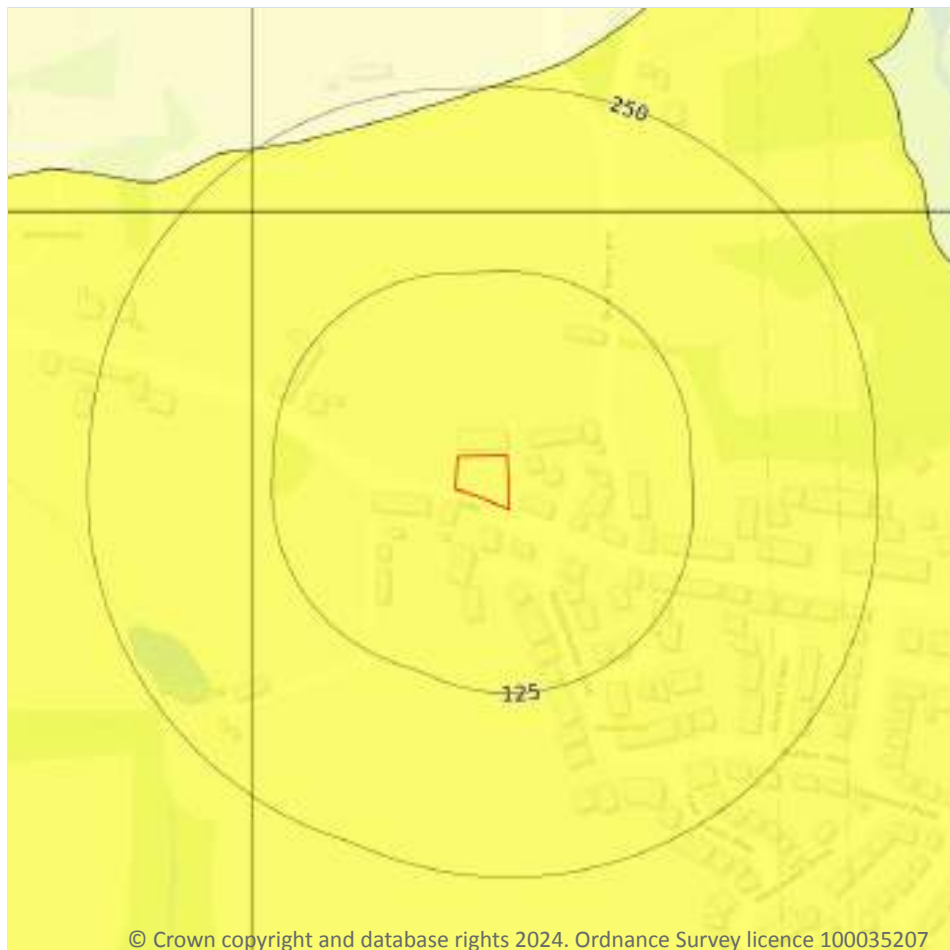
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 100](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



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

17.2 Running sands

Records within 50m

1

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

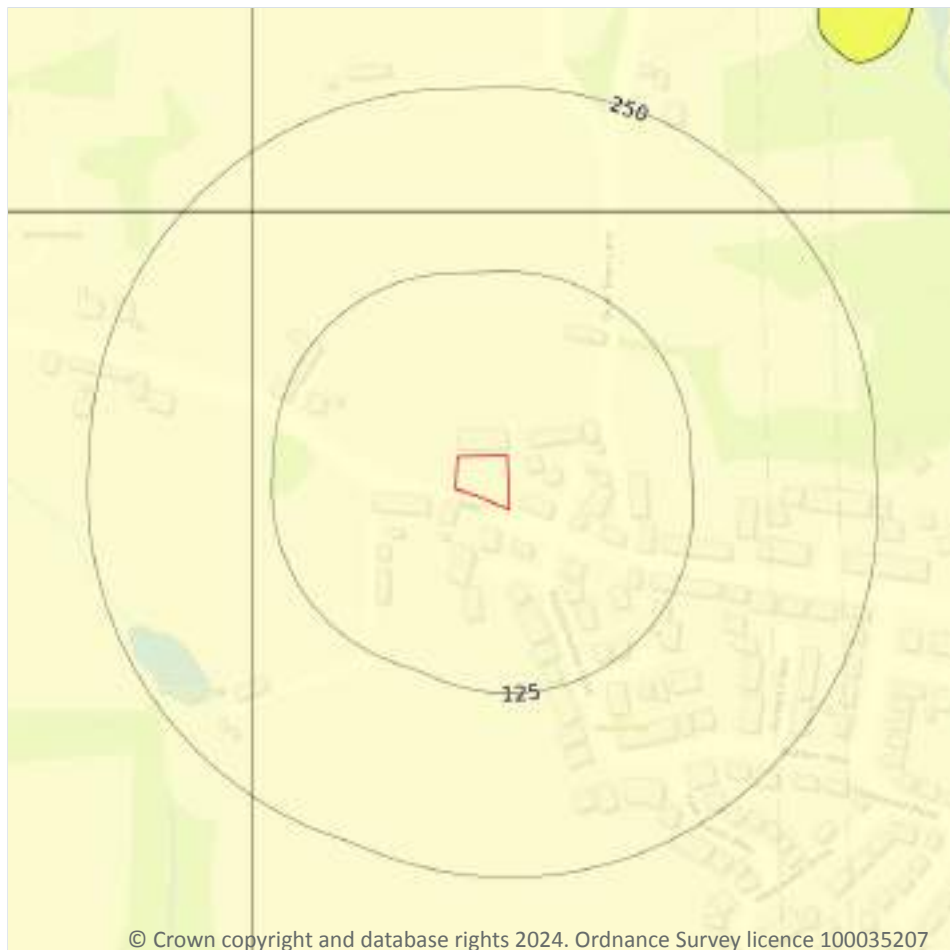
Features are displayed on the Natural ground subsidence - Running sands map on [page 101](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



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

17.3 Compressible deposits

Records within 50m

1

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

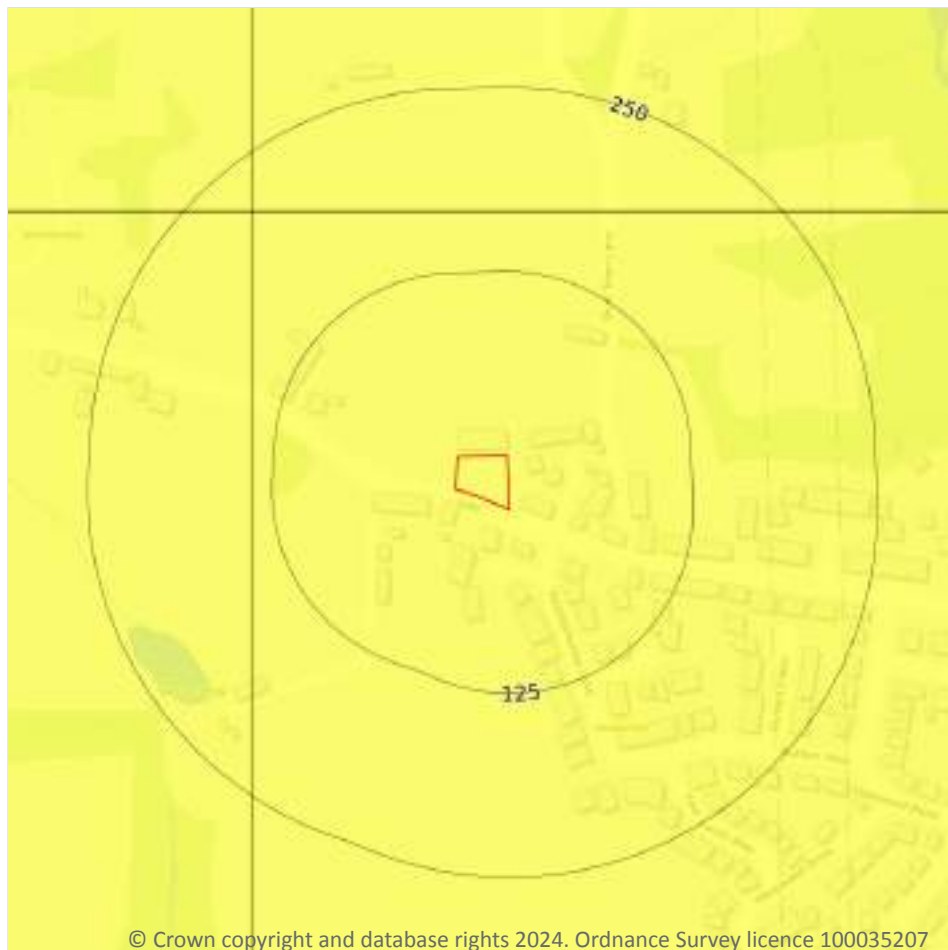
Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 102 >](#)

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



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

17.4 Collapsible deposits

Records within 50m

1

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

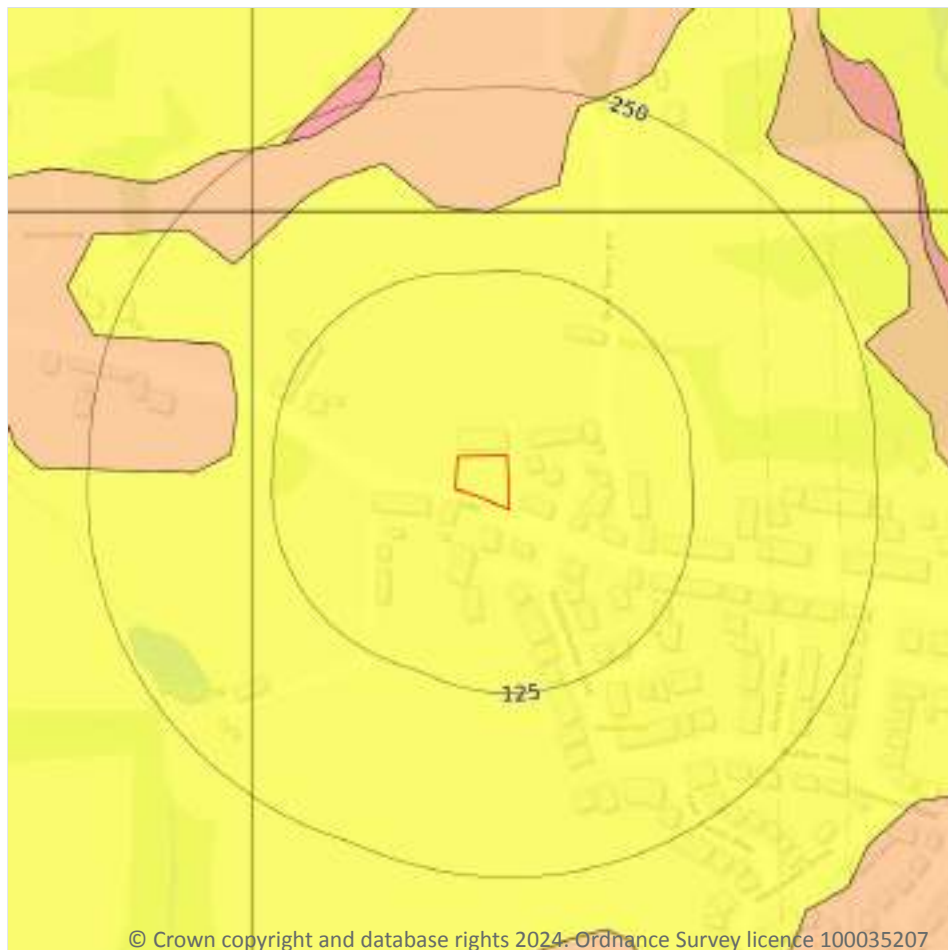
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 103 >](#)

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.

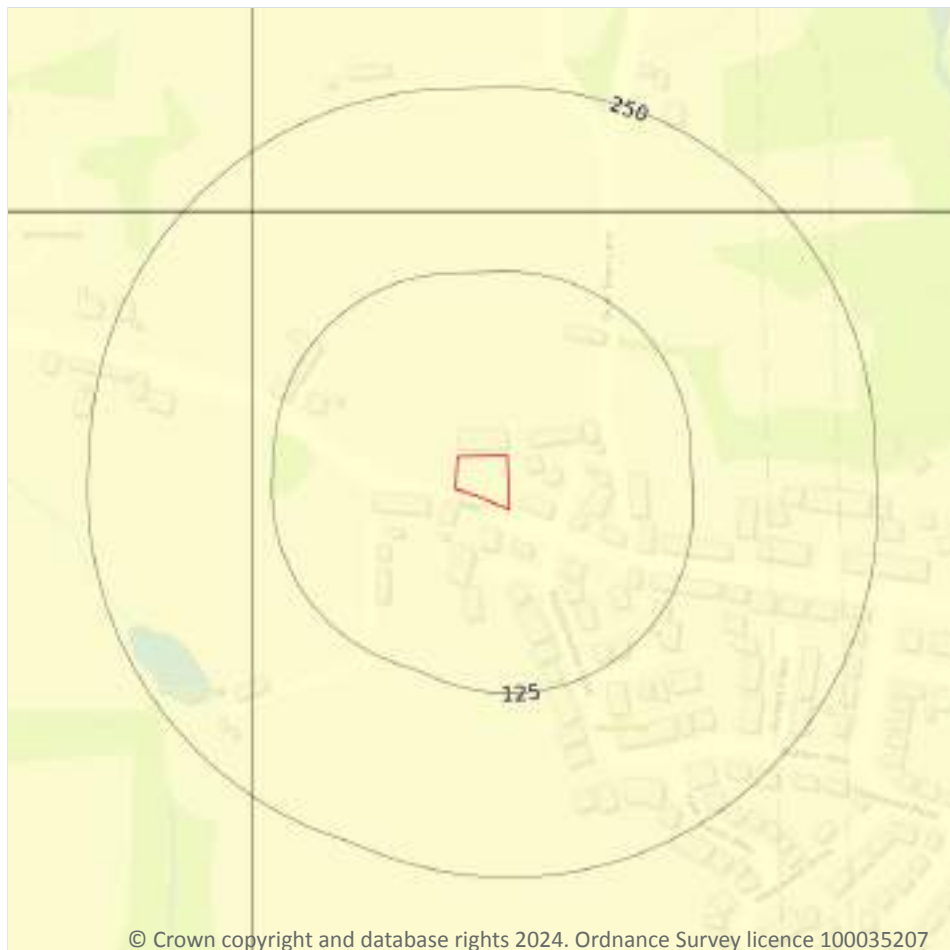
Features are displayed on the Natural ground subsidence - Landslides map on [page 104](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



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

© Crown copyright and database rights 2024. Ordnance Survey licence 100035207

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 105 >](#)

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



This data is sourced from the British Geological Survey.



18 Mining and ground workings



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

18.1 BritPits

Records within 500m

4

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 107](#) >

ID	Location	Details	Description
L	360m NE	Name: Rainshore Wood Address: Wolstenholme, ROCHDALE, Lancashire 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
N	393m NW	Name: Wolstenholmes Hall Address: Wolstenholme, ROCHDALE, Lancashire 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
K	393m N	Name: Over Town Address: Wolstenholme, ROCHDALE, Lancashire 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
S	466m E	Name: Holt Wood Address: Wolstenholme, ROCHDALE, Lancashire 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	36
----------------------------	-----------

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 107 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
1	On site	Colliery	1851	1:10560
B	123m N	Reservoir	1928	1:10560
B	127m N	Reservoir	1938	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
B	128m N	Reservoir	1909	1:10560
B	136m N	Pond	1992	1:10000
B	136m N	Pond	1987	1:10000
B	136m N	Pond	1975	1:10000
B	136m N	Reservoir	1956	1:10560
B	136m N	Pond	1968	1:10560
C	140m NE	Refuse Heap	1975	1:10000
C	140m NE	Refuse Heap	1968	1:10560
D	155m E	Reservoir	1938	1:10560
D	155m E	Reservoir	1928	1:10560
D	157m E	Unspecified Ground Workings	1909	1:10560
D	160m E	Reservoir	1956	1:10560
D	162m E	Unspecified Pit	1975	1:10000
D	162m E	Unspecified Pit	1968	1:10560
E	174m N	Unspecified Heap	1928	1:10560
E	180m N	Unspecified Heap	1938	1:10560
E	181m N	Unspecified Heap	1909	1:10560
E	184m N	Unspecified Heap	1967	1:10560
G	196m W	Unspecified Pit	1956	1:10560
H	204m SW	Pond	1851	1:10560
G	211m W	Unspecified Pit	1928	1:10560
H	211m SW	Unspecified Heap	1983	1:10000
H	217m SW	Pond	1890	1:10560
H	220m SW	Unspecified Heap	1956	1:10560
H	220m SW	Unspecified Heap	1967	1:10560
H	227m SW	Unspecified Heap	1938	1:10560
H	228m SW	Unspecified Ground Workings	1909	1:10560
F	232m NW	Filter Beds	1938	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
H	233m SW	Unspecified Heap	1928	1:10560
I	234m E	Refuse Heap	1928	1:10560
I	238m E	Refuse Heap	1975	1:10000
I	238m E	Refuse Heap	1956	1:10560
I	238m E	Refuse Heap	1968	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	28
-----------------------------	-----------

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

Features are displayed on the Mining and ground workings map on [page 107 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
B	107m N	Unspecified Old Shaft	1928	1:10560
B	109m N	Unspecified Old Shaft	1938	1:10560
B	111m N	Unspecified Old Shaft	1909	1:10560
B	120m N	Unspecified Old Shaft	1956	1:10560
W	568m SW	Old Coal Pit	1890	1:10560
W	572m SW	Unspecified Disused Shaft	1983	1:10000
W	572m SW	Unspecified Disused Shaft	1967	1:10560
W	576m SW	Unspecified Old Shaft	1956	1:10560
W	582m SW	Unspecified Old Shaft	1938	1:10560
W	583m SW	Unspecified Old Shaft	1928	1:10560
W	584m SW	Old Coal Shaft	1908	1:10560
W	584m SW	Unspecified Shaft	1890	1:10560
-	685m W	Disused Colliery	1908	1:10560
-	701m W	Unspecified Old Shaft	1928	1:10560
-	704m W	Unspecified Old Shaft	1956	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
-	706m W	Unspecified Old Shaft	1938	1:10560
-	742m SW	Old Coal Pit	1890	1:10560
-	748m SW	Old Coal Shaft	1908	1:10560
-	782m SE	Colliery	1890	1:10560
-	807m SW	Unspecified Disused Shaft	1983	1:10000
-	807m SW	Unspecified Disused Shaft	1967	1:10560
-	813m SW	Unspecified Old Shaft	1956	1:10560
-	819m SW	Old Coal Shaft	1908	1:10560
-	820m SW	Unspecified Old Shaft	1938	1:10560
-	820m SW	Unspecified Old Shaft	1928	1:10560
-	865m SE	Old Coal Shafts	1908	1:10560
-	904m NW	Unspecified Shaft	1890	1:10560
-	952m NE	Unspecified Old Shaft	1890	1:10560

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.



18.6 Non-coal mining

Records within 1000m

6

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 107 >](#)

ID	Location	Name	Commodity	Class	Likelihood
A	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.
2	166m N	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.
F	186m NW	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.
F	193m NW	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.
F	218m NW	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.
6	605m N	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**1**

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

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

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site**0**

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

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

18.14 Gypsum areas

Records on site**0**

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site**0**

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.



18.16 Clay mining

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

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

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



19 Ground cavities and sinkholes

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.

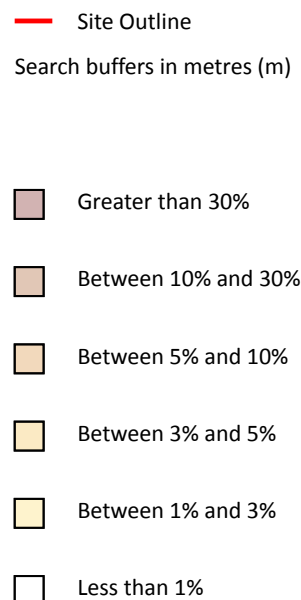
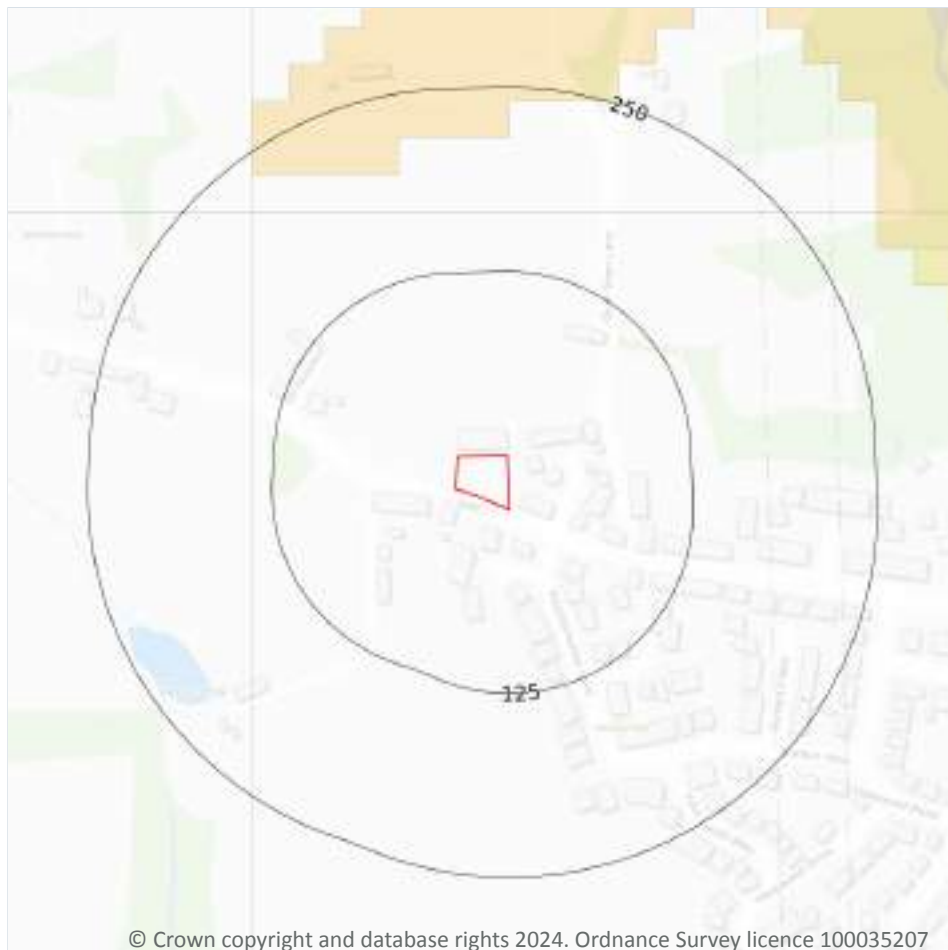
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over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



20.1 Radon

Records on site

1

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 118](#) >

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

2

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

22.1 Underground railways (London)

Records within 250m**0**

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m**0**

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m**0**

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m**0**

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

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m**0**

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



This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

Terms and conditions

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



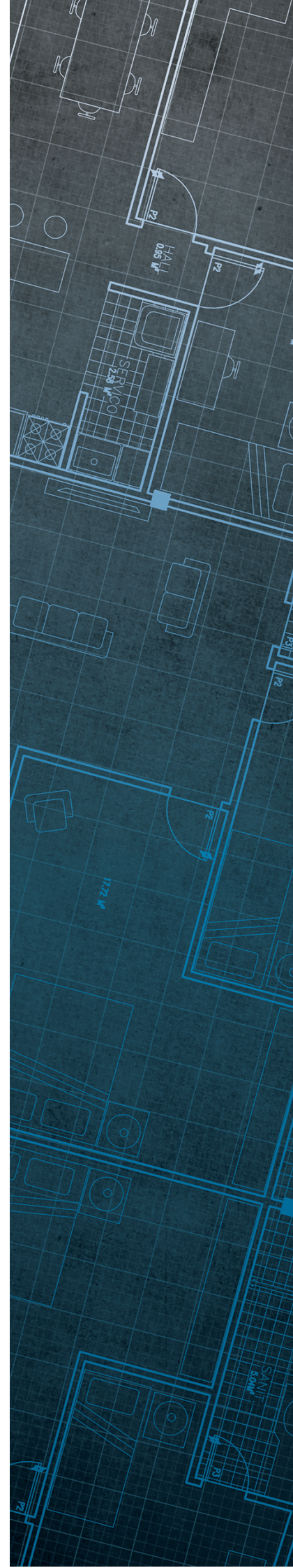


The Coal
Authority

Consultants Coal Mining Report

8 Brick Ground
Rochdale
OL12 7TN

Date of enquiry:	13 March 2023
Date enquiry received:	13 March 2023
Issue date:	13 March 2023
Our reference:	51003343608001
Your reference:	16702- 004334



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

E3P

Enquiry address

8 Brick Ground
Rochdale
OL12 7TN

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2018. All rights reserved.

Ordnance Survey Licence number: 100020315

Section 1 – Mining activity and geology

Past underground mining

No past mining recorded.

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	385414-017	385138 414822		Coal	

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

0	NW160	16820
PO0		

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
SAND ROCK	Coal	Yes	13.6	East	235

Geological faults, fissures and breaklines

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Fault under or close to the property recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

Based on the responses in this report, no further information has been highlighted.

Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

MINE GAS: Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices

Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com