Hoyle Ing, Linthwaite

Phase 1 Geo-Environmental Investigation

For: Redwaters Yorkshire Ltd

Geo-Environmental Engineering Services

IGE Consulting
Office 16
Bartle House
Oxford Court
Manchester
M2 3WQ

Tel 0161-914-9170
Email contact@igeconsulting.co.uk

Ref: 3836-01A
Job: 3836
Rev: A
By: AJ

Date: Mar 2023

REVISIONS

Revision	Date	Prepared By	Authorised By	Remarks
First Issue	4th November 2022	 Tom Pudifoot	 Andrew Edwards	-
Revision A	13th March 2023	 Angharad Jones	 Andrew Edwards	Amended following EHO comments

CONTENTS

1.0 INTRODUCTION

1.1 Brief
1.2 Third Parties

2.0 SCOPE OF INVESTIGATION WORK

2.1 Walkover Survey
2.2 Documentation

3.0 FINDINGS

3.1 Site Location and Description
3.2 Walkover Survey
3.3 Site History
3.4 Geology
3.5 Mining
3.6 Previous Reports
3.7 Hydrology and Hydrogeology
3.8 Hazardous Installations, Landfill and Waste
3.9 Radon
3.10 Services
3.11 Unexploded Ordnance (UXO)
3.12 Animal Burial Sites
3.13 Archaeology

4.0 CONCLUSIONS

4.1 General
4.2 Ground Conditions
4.3 Sources of Contamination and Probable Contaminants
4.4 Pathways for Contamination
4.5 Receptors of Contamination
4.6 Conceptual Model For Human Health Risk Assessment
4.7 Conceptual Model For Ground Gas Risk Assessment
4.8 Conceptual Model For Controlled Waters Risk Assessment
4.9 Preliminary Risk Assessment Summary
4.10 Scope of Phase 2 Intrusive Geo-Environmental Ground Investigation

5.0 RECOMMENDATIONS

APPENDICES

APPENDIX 1	LIMITATIONS OF INVESTIGATION WORK AND REPORT AND CONTAMINATED LAND LEGISLATIVE FRAMEWORK

APPENDIX 2	FIGURES AND DRAWINGS

- Proposed Development Plan
- SI – 01 - Site Location Plan
- SI – 02 - Conceptual Site Model Diagram
- SI – 03 - Site Features Plan

APPENDIX 3	WALKOVER SURVEY PHOTOGRAPHS AND PHOTOGRAPH LOCATION PLAN

APPENDIX 4	HISTORICAL ORDNANCE SURVEY MAPS

APPENDIX 5	GROUNDSURE COMBINED ENVIRO + GEO INSIGHT REPORT

APPENDIX 6	BGS BOREHOLE LOGS + BGS MINERAL RESOURCES MAP FOR WEST YORKSHIRE

APPENDIX 7	ZETICA UXO RISK MAP

1.0 INTRODUCTION

This Phase 1 Geo-Environmental Investigation report has been prepared at the request of Redwaters Yorkshire Ltd.

Instructions to proceed were received on 5th September 2022. Phase 1 desk study works were undertaken between 24th October and 4th November 2022.

Proposed Development

This Phase 1 Geo-Environmental Investigation is to be used for submission to the Local Authority as part of a planning application. It is the Client's intention to develop the site into a pair of semi-detached houses with associated access road, private gardens and areas of soft landscaping.

A proposed sketch development plan is contained in Appendix 2.

1.1 Brief

The brief was to carry out a Phase 1 Geo-Environmental Investigation for the site based upon the proposed development outlined in Section 1.0. The site area is shown on the site location plan contained in Appendix 2.

The investigation was to include the following:

a) Assess the probable ground conditions and contaminated land conditions on and below the site based on existing and historic site uses and relevant off-site activities, this is to include a site walkover.

b) Identify probable contaminants / sources of contamination that may be present at the site using current contaminated land guidance and develop a conceptual site model for potential human health, ground gas and controlled waters receptors.

c) Undertake a Preliminary Risk Assessment – which will determine the requirement for further environmental (contaminated land) investigation and assessment.

d) Design, on the basis of the anticipated ground conditions, appropriate ground investigation works and discuss potential development issues (i.e. sub-surface features – obstructions, infilling, compressible ground, faulting, mineral extraction, mining and land instability).

A summary of the information / data sources is detailed in Section 2.2. A report was to be provided to summarise findings and to provide recommendations.

The limitations of this investigation work and report are included in Appendix 1.

1.2 Third Parties

This report has been prepared for the sole use of Redwaters Yorkshire Ltd. It must not be copied or passed onto any third party or used for any purpose other than which it was prepared without the permission of the author. This report is copyright.

2.0 SCOPE OF INVESTIGATION WORK

2.1 Walkover Survey

The site was visited on 5th August 2022 in clear weather conditions and the objectives of the site walkover were, where applicable:

- to identify and assess visual and olfactory evidence of contamination (e.g. staining of concrete / soils, odours, presence of gas protection measures etc.);
- to identify locations of potential sources of contamination and assess their conditions (i.e. tank location, presence / condition of secondary containment / bunds, location of fill points, process areas);
- to identify surrounding land uses and any potentially contaminating activities;
- to identify / verify the presence of potential receptors (on- and off-site) which may be affected by identified sources;
- to obtain information on activities / procedures and standards of housekeeping etc.;
- to assess site access and potential investigation locations and constraints; and
- to assess any visual subsurface geotechnical features / anomalies (e.g. foundations, made ground, subsidence etc.).

Photographs were taken of the site during the walkover survey and these photographs, together with a plan indicating their location and direction, are contained in Appendix 3.

2.2 Documentation

The following documents were obtained and examined during the desk study:

a) A combined Enviro + Geo Insight report was obtained from Groundsure, an environmental database company, which provides a list of recorded past and present activities at or adjacent to the site which could have an impact on the levels of contamination in the soils and groundwater at the site. The report is contained in Appendix 5.

b) Aerial photographs of the site dated: May 2021, July 2018, March 2012, September 2000 and September 1999. The photographs are contained within the Groundsure Enviro + Geo Insight report in Appendix 5.

c) Historical Ordnance Survey maps dated between 1854 and 2022, at scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560. These maps are presented in Appendix 4.

d) Groundsure maps, all dated 2022 as follows:

- Historical Land Use map;
- Environmental Permits, Incidents and Registers map;
- Landfill and other Waste Sites map;
- Current Land Use map;
- Hydrogeology and Hydrology maps;
- Environment Agency / Natural Resources Wales flood maps;
- Designated Environmentally Sensitive Sites map;
- Geological maps and Ground Working map;
- Mining, Extraction & Natural Cavities map;
- Natural Ground Subsidence maps;
- Borehole Records map;
- Railways and Tunnels map.

These maps are contained within the Enviro + Geo Insight report in Appendix 5.

e) The following sources were obtained and examined from the British Geological Survey (BGS). All items were copied under licence; [C18/01] British Geological Survey ©UKRI. All rights reserved:

- The BGS 1:50,000 Solid (2003) and Drift (2003) Geological Maps of the area (Sheet No: 77) 2 No. BGS Borehole logs were also obtained (Ref: SE01SE117 and SE01SE12). These borehole logs are contained in Appendix 6.

f) A Zetica UXO Risk Map is included in Appendix 7.

3.0 FINDINGS

3.1 Site Location and Description

This report pertains to a c. 0.04 Ha site off Hoyle Ing, Linthwaite, located 5.15 km southwest of Huddersfield Town Centre, at the approximate postcode HD7 5RX. The National Ordnance Survey Grid Reference for the centre of the site is 409826E, 414453N.

The site currently comprises a small car park which is bound by Hoyle Ing along the northeastern boundary, residential properties to the southeast and established trees along the southwest and northwest boundaries. An aerial photo of the site is included below:

Figure 1: Aerial image of the site dated May 2021.

The topography of the site was noted to slope from 145.50m AOD in the south to 142.25m AOD in the north (generally 1 in 3 slope). This is shown in the LiDAR image below which also highlights two retaining walls. One runs along the south eastern boundary which is approximately 1.50 – 2.00m and the other runs along the north western boundary and is approximately 2.00 – 2.50m.

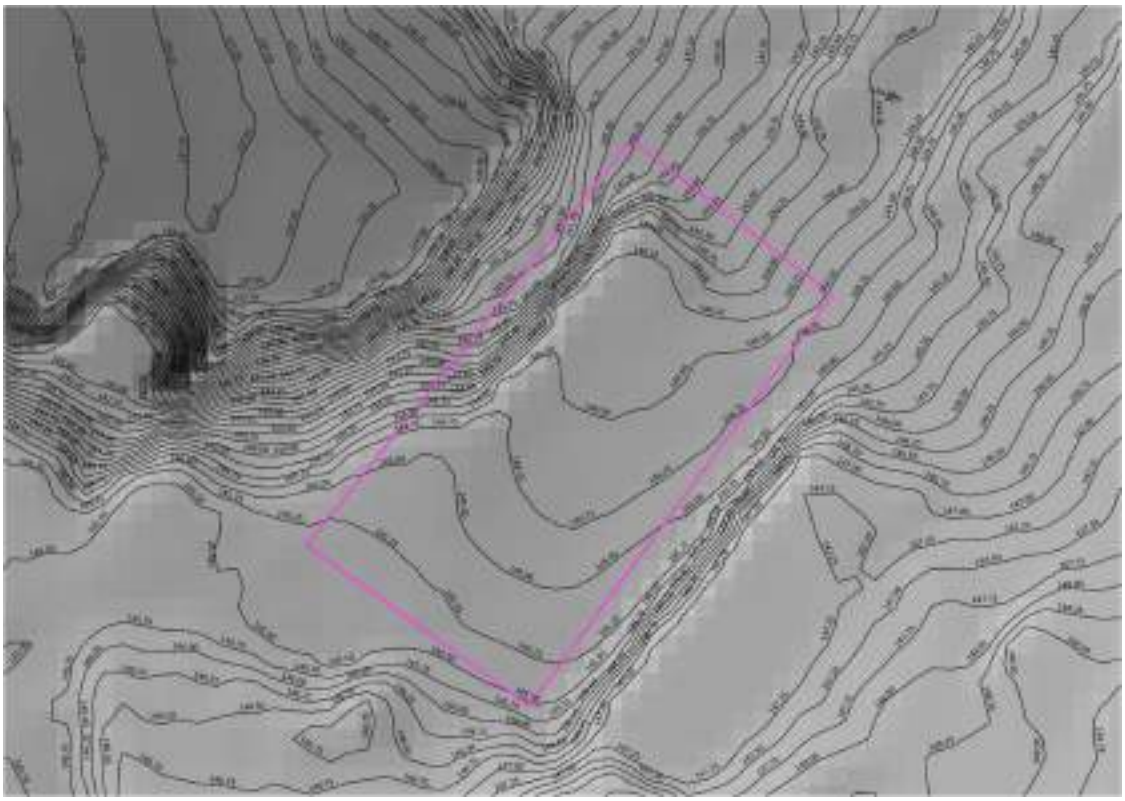


Figure 2: LiDAR image of the site with 0.25m contours.

3.2 Walkover Survey

The walkover survey was carried out on 5th August 2022 during clear weather conditions. Access to the site was via Hoyle Ing to the northeast, which is off Manchester Road to the northwest. The following features were noted.

The site currently comprises a small car park, which is bound by Hoyle Ing to the northeast, residential properties to the southeast and dense vegetation to the southwest and northwest. The ground underfoot was noted to be compacted gravel and asphalt.

Figure 3: Photographs of the site entrance from Hoyle Ing (left) and of the car park looking southwest from the site entrance (right).

As noted above, the site slopes from the northern corner (145.50m AOD) to the southern corner (142.25m AOD). 2 No. retaining walls were also noted along the south eastern and north western site boundaries. These were estimated to be 1.50 – 2.00m and 2.50 – 3.00m high, respectively. The one along the south eastern boundary was noted to be constructed of sandstone blocks, in good condition, retaining the ground above the site. The structure along the north western boundary is retaining the ground on site from the ground below the site, also constructed of sandstone blocks in that appear in good condition.

Figure 4: Photographs showing the 1.50m retaining wall running along the south eastern site boundary. Looking south west (left) and looking north east (right).

Established trees and dense vegetation was noted along the north western boundary of the site.

Figure 5: Photographs showing the 2.50 – 3.00m retaining wall running along the north western boundary. Left shows an established tree near the base of the wall.

No overhead services, manholes or other evidence of underground services were noted during the walkover survey; it is recommended that full service plans are obtained before any intrusive ground investigation works begin.

Contamination

No evidence of contamination (i.e. spillages or leakages) was identified.

3.3 Site History

The site development history has been researched by reference to historical maps, street plans and aerial photographs. The historical maps are included in Appendix 4 to this report and the principal observations, which are divided into on-site history and off-site history, are summarised below:

3.3.1 On-Site History

Date	Site Feature
1892 - 1968	On the earliest reviewed historical map (1892) a suspected small reservoir associated with the adjacent Brick Works lies in the centre of the site. This is recorded on site until 1968 when it was suspected to have been infilled.
1968 - 1993	By 1968, a track runs through the centre of the site from a former Quarry to the south west, which is now recorded as Royd House Tip. Slope features are recorded along the eastern and western boundaries indicating that the quarry / tip may have extended onto site.
1993 – 2022	By 1993 the site is recorded as a car park, no significant change has occurred since.

Figure 6: OS historical maps dated 1892 (top left), 1968 (top right), 1994 (bottom left) and 2003 (bottom right).

3.3.2 Off Site History

Date	Site Feature	Distance (m)	Direction
1968 - 1993	In 1968 a pond is recorded 5m southeast of the site. By 1993 the pond is no longer recorded and is likely to have been infilled.	5	SE
1892 - 1968	From 1892 until 1968 an unspecified quarry is recorded 20m southwest of the site. By 1963 Royd House Tip is recorded in the Quarry location, the tip is no longer recorded by 1993.	20	SW
1930-1956	From 1930 until 1956 an unspecified tank is recorded 25m southeast of the site.	25	SE
1982 - 1985	A Brick Works is recorded 28m west of the site from 1892 until 1985.	28	W
1905 - 1985	Hoyle Ing Dye Works is recorded 29m northwest of the site from 1892 until 1985.	29	NW
1892 - 1968	Unspecified tanks are recorded 29m north of the site from 1892 until 1968	29	N
1968 - 1996	From 1968 to 1996 an electricity substation is recorded 103m west of the site.	103	W
1892 - 1994	Beaufort Mills are recorded 136m northwest from 1892. This is then recorded as a Spinning Mill in 1918, then Lowestwood Mills in 1968, and finally Titanic Mills from 1993 to 1994.	136	NW

Due to the industrial setting of the surrounding area, records of at least 75 industrial land uses have been recorded within 500m of the site. These include mills, quarries, tanks, railway cuttings, unspecified works and refuse heaps.

3.4 Geology

3.4.1 BGS Geological Map

The BGS 1:50,000 scale solid and drift geological maps of the area (Sheet No: 77, 2003) and the Groundsure geology maps show that no superficial deposits are recorded on site. The site is underlain by sandstone bedrock of the Midgely Grit Formation which generally consists of coarse-grained sandstone, commonly with a significant shaly mudstone parting to 6.00m in thickness. The Marsden Formation is also recorded 5.00m south east of the site which typically comprises pebbly feldspathic sandstone interbedded with grey siltstone and mudstone, and black shales.

Figure 7: Extracts of the BGS 1:50,000 Drift (left) and Solid (right) Geological Maps. Yellow = Alluvium, Red = Alluvial Fan Deposits. Orange = Midgely Grit Sandstone Formation, Light Orange = Marsden Mudstone and Siltstone Formation, Green = Millstone Grit Group (mudstone, siltstone and sandstone).

A fault lies 26m north east of the site trending north west to south east which downthrows to the south west. Bedrock dips in the area are recorded to be 3 – 6° to the north east and east respectively, therefore the bedrock subcrops are dictated predominantly by the topography rather than dip of strata.

3.4.2 BGS Borehole Logs

There are no available BGS boreholes on-site. There are 4 No. BGS boreholes that lie within 1km of the site in a comparable geologic setting. The two nearest boreholes are located between 245m and 260m northwest of the site. The pertinent information from these borehole logs is outlined below:

BGS Borehole Reference: SE01SE7/A

This borehole is located approximately c.86m north of the site and was excavated to a depth of 97.84m bgl in 1949. No useful stratigraphy in relation to the site was recorded in the borehole, however, the groundwater resting level in this borehole was noted to be 22.25m bgl.

BGS Borehole Reference: SE01SE8/B

This borehole is located approximately c. 600m south west of the site and was excavated to a depth of 137.77m bgl in 1935. The log recorded the following pertinent information:

- Grey shale to a depth of 16.46m bgl, underlain by;
- Grey shale and sandstone to a depth of 21.18m bgl, underlain by;
- Grey and black shale to a depth of 32.16m bgl, underlain by;
- Grey rock to a depth of 33.15m bgl, underlain by;
- Blue shale to a depth of 40.84m bgl, underlain by;
- Dark shale to a depth of 45.49m bgl, underlain by;
- Blue shale and grey sandstone to a depth of 71.76m bgl, underlain by;
- Sandy marl to a depth of 73.76m bgl, underlain by;
- Blue shale to a depth of 83.86m bgl, underlain by;
- Grey rock to a depth of 103.93m bgl, underlain by;
- Shaly bind to a depth of 109.42m bgl, underlain by;
- Grey rock to a depth of 126.19m bgl, underlain by;
- Grey rock and shale to a depth of 133.50m bgl, underlain by;
- Coarse grit to a depth of 137.77m bgl.

BGS Borehole Reference: SE01SE12

This borehole is located approximately 245m northwest of the site and was excavated to a depth of 64.00m bgl in 1965. The log recorded the following pertinent information:

- **Made Ground** to an unknown depth, underlain by:
- Clayey **sand** and stones to a depth of 5.10m bgl, underlain by:
- **Mudstone** to a depth of 7.60m bgl, underlain by:
- **Coal** (0.30m thick) to a depth of 7.90m bgl, underlain by:
- Grey **sandstone** to a depth of 14.30m bgl, underlain by:
- Grey shaley **sandstone** to a depth of 18.30m bgl, underlain by:
- Grey and blue, interbedded **sandstone** and **mudstone** to a depth of 34.40m bgl, underlain by:
- Black **mudstone** to a depth of 38.70m bgl underlain by:
- Interbedded **sandstone** and **mudstone** to a depth of 48.00m bgl underlain by:
- Mudstone to a depth of 56.00m bgl, underlain by:
- Hard, **sandstone** to a depth of 58.00m bgl, underlain by:
- Interbedded **sandstone** and **mudston**e to a depth of 64.00m bgl

BGS Borehole Reference: SE01SE117

This borehole is located approximately c.260m northwest of the site and was excavated to a depth of 81.00m bgl in 2004. The log recorded the following pertinent information:

- **Clay** and **gravel** to a depth of 3.80m bgl, underlain by:
- **Clay** and **mudstone** to a depth of 5.50m bgl, underlain by:
- Grey **sandstone** with thin mudstone bands to a depth of 17.50m bgl, underlain by:
- Hard, black **mudstone** to a depth of 37.70m bgl, underlain by:
- **Siltstone** to a depth of 43.00m bgl, underlain by:
- Sandy **mudstone** to a depth of 46.50m bgl.

The groundwater in this well was noted to be artesian, encountered at 13.76m bgl.

3.4.3 BGS Geohazards

Data Type	Details
Ground Stability Data	➢ The Potential for Shrinking or Swelling Clay Ground Stability Hazards is negligible. ➢ The Potential for Landslide Ground Stability Hazards is very low. ➢ The Potential for Dissolution Ground Stability Hazards is negligible. ➢ The Potential for Compressible Ground Stability Hazards is very low to negligible. ➢ The Potential for Collapsible Ground Stability Hazards is very low. ➢ The Potential for Running Sand Ground Stability Hazards is very low to negligible.

For further details please see the Groundsure Enviro + Geo Insight report contained in Appendix 5.

3.4.4 BGS Estimated Soil Chemistry

The BGS have estimated that the superficial deposits across the site to naturally comprise the following determinands:

- Arsenic – 15 - 25mg/kg
- Cadmium – 1.8mg/kg
- Chromium – 60 - 90mg/kg
- Nickel – 15 - 30mg/kg
- Lead – 100mg/kg
- Bioaccesible Lead – 60mg/kg

3.5 Mining

3.5.1 Coal Mining

The site lies outside of a Coal Authority Coal Mining Reporting Area.

3.5.2 Non-Coal Mining

The Groundsure Enviro + Geo Insight report indicates that the site lies within an area of known or likely underground non-coal mining. The following extract below shows these areas (highlighted in red hatch) and recorded ‘Brit Pits’ (red points):

Figure 10: Underground mining known or likely within or in close proximity hatched in red.

The on-site feature is classified as a Class A vein mineral commodity. Sporadic underground mining of restricted extent may have occurred. The Groundsure report also states that the potential for difficult ground conditions is unlikely and localised and at a level where they need not be considered.

Given the locations of the recorded underground mining, it is likely that these features pertain to the historical quarries which were located in the surrounding area.

3.5.3 Salt Mining / Brine Extraction

The site lies outside the Cheshire Brine Subsidence Compensation Board Compensation District.

3.5.4 Historical Surface Excavations

1 No. historical surface excavation has been recorded on-site from the earliest historical maps, noted to be a small reservoir associated with the adjacent brick works. The reservoir is no longer shown on historical maps by 1968 and is suspected to have been infilled. An extensive quarry is located to the south west of the site which may have extended onto site as the track to the quarry appeared to cross the site

from the 1960s until the 1980s. Numerous other ponds, reservoirs and pits exist in the surrounding area. Therefore, the presence of other historical on-site surface excavations cannot be completely ruled out.

3.5.5 Mineral Safeguarding

Where mineral resources are present the mineral planning authority may designate areas as Mineral Safeguarding Areas (MSA) and Mineral Consultation Areas (MCA). These are aimed to safeguard mineral resource areas from unnecessary sterilization by non-mineral development. The BGS Mineral Resources maps for West Yorkshire designate the areas of potential mineral resources and where active / lapsed planning permission was granted for mineral extraction of sandstone, relating to the extensive quarry to the south west which may have extended on-site.

The BGS Mineral Resources Map for West Yorkshire is included in Appendix 6.

3.6 Previous Reports

A ground investigation was undertaken by Rodgers Geotehcnical c. 5m south east of the site in December 2014, comprising 4 No. dynamic sample boreholes to depths of between 3.00m and 4.00m bgl. The information was obtained from the planning portal relating to planning ref: 2015/90374. The reports were obtained from the Kirklees planning portal.

The ground conditions encountered can be summarised as follows:

- **Topsoil** or **Made Ground** comprising loose, dark brown to dark grey, slightly sandy gravelly SILT to a depth of between 0.15m and 0.50m bgl, underlain by;
- **Weathered Millstone Grit Group** comprising very soft to soft, orange mottled grey or greyish brown, slightly gravelly CLAY / clayey SILT to a depth of between 1.40m and 3.30m bgl, underlain by;
- **Weathered Millstone Grit Group** comprising firm to stiff thinly laminated silty CLAY to a depth of at least 4.00m bgl.

Chemical testing was undertaken which indicated GAC exceedances for the residential with plant uptake land use scenario of lead, arsenic and PAHs were recorded within the Made Ground. Consequently, remediation in the form of a clean cover system was recommended for the proposed residential dwellings.

3 No. ground gas monitoring wells were installed, and 7 No. subsequent ground gas monitoring visits undertaken. A maximum carbon dioxide concentration of 13.4% (v/v) was recorded. No methane was recorded above detection limit and a maximum flow rate of 0.2l/hr was recorded. Due to the elevated concentrations of carbon dioxide recorded, the site was designated as a Characteristic Situation 2 (CS2).

3.7 Hydrology and Hydrogeology

Environmental data relevant to the site and its immediately surrounding area has been obtained from sources available in the public domain. In addition, an environmental report was obtained from Groundsure. The Enviro + Geo Insight report and associated maps that have been inspected are presented in Appendix 5 and the principal observations in relation to waters and flooding can be summarised as follows:

Data Type	Details
Flooding	➢ With respect to rivers and seas, the site lies in Flood Zone 1. ➢ With respect to surface water flooding, the site is at negligible risk, with the highest risk within 50m being 1 in 100 years, 0.1 – 0.3m. ➢ With respect to groundwater, the site is recorded as being at negligible risk.
Surface Water Features	➢ No surface water features are recorded on site. The only surface water feature recorded within 250m of the site is the River Colne, located 140m northwest.
Surface Water Abstractions	➢ There are no licensed surface water abstractions located on-site. ➢ There are 2 No. licensed surface water abstractions located within 2km of the site, both are historical. The nearest license was located 118m north and pertains to the River Colne for general use relating to Secondary Category.
Superficial Aquifer	➢ No superficial deposits are recorded on site.
Bedrock Aquifer	➢ The underlying bedrock is classified as a **Secondary A Aquifer** – Permeable layers capable of supporting water supplies at 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.

Groundwater Abstractions	➢ There are no recorded groundwater abstraction licenses located on-site. ➢ There are 19 No. groundwater abstraction licenses located within 2km of the site, three are active and sixteen are historical. The nearest active groundwater abstraction is located 273m north of the site. The abstraction is noted to be a borehole - Millstone Grit Titanic Mills, Linthwaite for commercial, industrial and public services.
Source Protection Zones	➢ There are no recorded Source Protection Zones recorded on-site. 2 No. Source Protection Zones are recorded within 500m of the site. The nearest is located 22m north and is a Type 2 Source Protection Zone (outer catchment).
Nitrate Vulnerable Zones	➢ There are no recorded Nitrate Vulnerable Zones recorded on-site or within 2000m of the site.
Licensed Discharge Consents	➢ There are no recorded licensed discharge consents to controlled waters located on site. 12 No. are recorded within 500m of the site. The nearest relates to Bargate CSO, Manchester Road, Linthwaite, located 123m northwest which discharges sewage to the River Colne.
Pollution Incidents to Controlled Waters	➢ There are no recorded pollution incidents to controlled waters located on-site or within 500m of the site.

For further details please see the Groundsure Enviro + Geo Insight report contained in Appendix 5.

3.8 Hazardous Installations, Landfill and Waste

The following information relating to hazardous installations, landfill and waste has been obtained from the Groundsure Enviro + Geo Insight report, published information and the walkover survey and has been summarised as follows:

Data Type	Details
Environment Agency Recorded Active Landfill Sites	➢ There are no Environment Agency recorded landfill sites located on-site or within 500m of the site.
Environment Agency Recorded Historical Landfill Sites	➢ There are no Environment Agency recorded historical landfill sites located on-site. ➢ 1 No. Environment Agency recorded historical landfill site is recorded within 500m of the site. It is listed as Cowersley Lane Quarry with commercial waste types and is located 340m to the east.
BGS Recorded Historical Landfill Sites	➢ There are no BGS recorded landfill sites located on-site or within 500m of the site.
Local Authority Recorded Landfill Sites	➢ There are no Local Authority recorded landfill sites located on site. ➢ 5 No. historical waste sites are located within 500m. The nearest is located 243m southwest and pertains to a Refuse Tip.
Local Authority Pollution Prevention and Control (Part A(2) and Part B Activities and Enforcements)	➢ There are no Local Authority Part A2 or Part B Activities or Enforcements located on-site. A single Part B permit (for pharmaceutical purposes) is recorded 489m west.
Registered Radioactive Substances	➢ There are no Registered Radioactive Substances recorded on-site or within 500m of the site.
Registered Waste Treatment, Transfer or Disposal Sites	➢ There are no registered waste treatment, transfer or disposal sites located on-site.

	➢ There are 31 No. waste exemptions located within 500m of the site. The nearest pertains to the sorting of mixed wastes located at Unit 114 Colne Valley Business Park, 261m southwest of the site.
Industrial Land Use	➢ There are no current industrial land uses recorded on-site. There are 16 No. current industrial land uses recorded within 250m of the site, the nearest is noted to be a vehicle parts and accessories located 65m west. ➢ There are no current or recent petrol stations recorded on-site. 2 No. are recorded within 500m of the site, the nearest is located 248m southwest. ➢ There are no historical industrial land uses recorded on site. There are 75 No. historical industrial land uses recorded within 500m of the site. The nearest relates to a Brick Works recorded 28m west of the site from 1892 until 1985. The remaining industrial land uses include unspecified quarries, dye works, unspecified tanks, refuse heaps, unspecified mills and railway sidings. ➢ There are no historical tanks recorded on-site. However, 53 No. are recorded within 500m of the site, the nearest is located 25m southeast and was recorded from 1930 - 1956. ➢ There are no historical petrol stations recorded on-site. 1 No. is recorded within 500m of the site, located 316m southeast, recorded from 1976 – 1982.
Dangerous Substances	➢ There are no recorded discharges of dangerous substances on-site. ➢ There are 2 No. recorded discharges of List 2 Dangerous Substances recorded within 500m of the site. The nearest active discharge is located 257m northwest, listed as New List 2 Water Site 8, discharging MCPA (herbicide) to the river Colne.
Hazardous Building Materials	➢ No hazardous building materials are anticipated on-site.

For further details please see the Groundsure Enviro + Geo Insight report contained in Appendix 5.

3.9 Radon

The radon map contained in Section 19 of the Groundsure Enviro + Geo Insight report indicates the site lies within a lower probability area as less than 1% of homes are above the action level. Consequently, no radon protection measures are required.

For further details please see Section 19 of the Groundsure Enviro + Geo Insight report contained in Appendix 5.

3.10 Services

No overhead power lines, manholes or evidence of underground services were noted on site. However, full service plans should be obtained prior to any intrusive works.

3.11 Unexploded Ordnance (UXO)

The Zetica UXO risk map, contained in Appendix 7, indicates that the site lies within an area of low risk.

3.12 Animal Burial Sites

The Animal Health and Veterinary Laboratories Agency (AHVLA) no longer routinely respond to consultations relating to records of animal burial sites. Based upon a review of the site history it is considered unlikely that the site has been subject to recorded animal burials.

3.13 Archaeology

We do not anticipate that the site will be affected by archaeological issues, however consultation with the county archaeologist is recommended.

4.0 CONCLUSIONS

4.1 General

The site comprises a car park. The topography of the site slopes from the northern corner (145.50m AOD) to the southern corner (142.25m AOD) of the site with retaining walls running along the south eastern and north western boundaries. Historically, a small reservoir associated with the adjacent brick works was located in the centre of site from 1892 and was infilled by 1968. A track was shown to run through the centre of the site until 1993, anticipated to be the track to the former quarry and tip to the south west, which may have extended onto site. By 1993 the site became used as a car park until present day.

4.2 Ground Conditions

The anticipated typical ground conditions across the site are as follows:

- **Made Ground** of unknown composition to an unknown depth, underlain by:
- **Midgley Grit Sandstone** comprising coarse grained sandstone.

4.2.1 Geotechnical Hazard Identification

Potential geotechnical hazards based on the expected ground conditions that may require further consideration at the site are outlined below:

Factors	Remarks	Considerations	Risk
Made Ground	Made Ground of unknown composition and thickness is anticipated to be present on-site. Made Ground may be locally deeper in the location of the suspected infilled historical reservoir.	Made Ground may settle variably, have highly inconsistent bearing capacity and may suffer significant movements that may be problematic for foundations, externals and infrastructure elements without treatment. The presence of Made Ground may be problematic for foundations as there may be loose / soft spots within the Made Ground and it may not be suitable to utilise traditional foundations.	**Moderate**
Aggressive Ground and Groundwater	Given the high likelihood of Made Ground there is potential for aggressive ground conditions to be present on-site.	Acidic ground / groundwater and sulfate may attack the concrete and steel used in foundations and react with aggregates. The oxidation of pyrite and other sulfides can also occur due to geotechnical activities. This can lead to the generation of high concentrations of sulfate and low pH that attacks construction materials and may lead to the precipitation of gypsum resulting in the heave of foundations and floor slabs.	**Low to Moderate**

		Pyrite oxidation can also be triggered by mixing susceptible materials with lime or cement resulting in high pH that can lead to the expansion of some sulfates that cause heave of stabilised soils.	
Shallow Bedrock	No superficial deposits are recorded on site, therefore bedrock is anticipated to be at shallow depth bellow the Made Ground.	Rock break may be required in the case of shallow competent bedrock for the installations of foundation and / or services i.e., drainage.	**Low to Moderate**
Slope Instability	The site slopes down from the south eastern corner to the north western corner from 146.75m to 143.75m AOD.	May require specific foundations to mitigate the risk of landslide. May also require retaining walls to hold back sections of the slope to facilitate the proposed development.	**Low**
Retaining Walls	A 1.50m retaining wall runs along the south eastern boundary, as well as a 2.50 – 3.00m retaining wall running along the north western boundary	The retaining walls will need to be inspected and remedial measures may need to be undertaken prior to development, subject to an assessment of the impact upon Third Party assets.	**Low to Moderate**
Historical Non-Coal Mining	The Groundsure Enviro + Geo Insight report indicates that the site lies within an area of known or likely underground non-coal mining associated with a mineral vein.	The Groundsure report states that the potential for difficult ground conditions are unlikely and localised and at a level where they need not be considered. The area is likely to be based on the extent of the historical brick works neighbouring the site.	**Low**
Obstructions	The walls and base of the historical reservoir may remain in-situ.	May act as obstructions to excavations and / or the chosen foundation solution or act as 'hard spots' within the ground if left in-situ.	**Low to Moderate**

4.3 Sources of Contamination and Probable Contaminants

Based on the desk study information the following potentially contaminative sources have been identified:

Potentially Contaminative Source	Associated Determinands	Remarks	Hazard
Made Ground	Unknown - possible wide range of determinants including metals, semi-metals, PAHs, hydrocarbons and asbestos. Ground Gas – carbon dioxide, methane, hydrogen sulphide, VOCs	Made Ground of unknown composition and thickness is anticipated across the site. This may contain contaminants from former off-site industrial uses and from former on-site car park use.	**Low to Moderate**

On-Site Suspected Infilled Historical Reservoir (1892 – 1968)	Ground Gas – carbon dioxide, methane, hydrogen sulphide, VOCs Unknown - possible wide range of determinants including metals, semi-metals, PAHs, hydrocarbons and asbestos.	A small reservoir associated with the adjacent Brick Works was recorded in the centre of the site from 1892 and is absent by 1968, suspected to have been infilled. A ground gas risk arises from possible buried organics from the former base of the reservoir, and from uncontrolled Made Ground fill materials. Made Ground of unknown composition is anticipated within the former reservoir. This may contain contaminants from former off-site industrial uses.	**Moderate**
On-Site Car Park (1993 – Present)	TPH including fuels and oils	Given that the site has been used as a car park in recent years, possible contamination hotspots relating to hydrocarbons are possible. However, much of the site is covered in hardstanding meaning that infiltration and accumulation of possible hydrocarbons into the ground on site into contamination hotspots may have been reduced due to surface runoff.	**Low**
On-Site and Off-site Historical Infilled Quarry (1854 - 1990s)	Unknown - possible wide range of determinants including metals, semi-metals, PAHs, hydrocarbons and asbestos. Ground Gas – carbon dioxide, methane, hydrogen sulphide, VOCs	A quarry is recorded 100m southwest of the site from 1854 and is recorded as Royd House tip by the 1960s. The quarry / tip is no longer recorded by the 1990s therefore landfilling is anticipated to have ceased. It is unclear where the extents of the tip are, however, based on a track leading to the quarry / tip being present on-site until the 1990s, it cannot be discounted that the tip extended onto site or up to the boundaries of the site. A wide range of potential contaminants may be associated with this deep Made Ground. Given this is infilled ground, there is a ground gas risk associated with this feature.	**High**
Off-Site Historical Dye Works (48m NW, 1905 – 1985)	Unknown, anticipated to be metals, semi-metals, chlorinated organic solvents, detergents, pesticides, flame retardants, PCBs and asbestos.	Hoyle Ing Dye Works was recorded 48m northwest of the site from 1905 until 1985. This may have been a source of contamination when active with the potential for contaminants to migrate on to the subject site. However, given the Dye Works was located at least 10m lower in elevation than the site, migration of any possible contaminants is considered unlikely.	**Moderate**
Off-site Historical Unspecified Tank (25m SE, 1930 - 1956)	Unknown - possible wide range of determinants including metals, semi-metals, PAHs, hydrocarbons and asbestos.	A tank was recorded 25m southeast of the site from 1930 until 1956. It is unknown what the tank contained, so various possible contaminants could be associated with it. Given the tank was located at a higher elevation to the site it is possible that potential contaminants could have migrated on site.	**Moderate**
Off-Site Historical Industrial Uses (Mills, tanks, brickworks, electricity substations)	Unknown - possible wide range of determinants including metals, semi-metals, PAHs, hydrocarbons and asbestos	The site has been historically surrounded by numerous historical industrial uses. Any impact, if present, is likely to be found in the Made Ground	**Low**

It should be noted that potentially contaminative unrecorded historic activities may have occurred (e.g. the use or deposition of Made Ground from off-site during historic on-site developments) and in this event, further contaminative sources may be present.

4.3.1 Unknowns

Following the desk study, the areas of uncertainty are summarised as follows:

- Extent, composition and thickness of Made Ground.
- Composition and thickness of an possible superficial deposits.
- Depth to bedrock.
- Extent of quarrying and Royd House Tip to the south west / on-site.

4.4 Pathways for Contamination

4.4.1 Human Health

The pathways along which contamination could potentially reach the receptors on-site during use and after completion of development works are detailed in 'Updated Technical Background to the CLEA Model' (Environment Agency 2009) but can be summarised as follows:

End Users (Residential Land Use Scenario):

- Ingestion of soil directly and indoor dust
- Inhalation of soil dust (indoor and outdoor);
- Dermal contact with soil (indoor and outdoor);
- Inhalation of soil vapours (indoor and outdoor);
- Oral background;
- Inhalation background.

** Treated as one pathway*

4.4.2 Controlled Waters

The pathways along which contamination could potentially reach the controlled waters receptors during use and after completion of development works are as follows:

- Vertical migration along future foundations and pooling at base / beneath foundations.
- Vertical migration through possible granular Made Ground and granular lenses in natural superficial deposits.
- Lateral migration along low permeability natural deposits and pooling at relative low points.
- Negligible infiltration through low-permeability natural cohesive deposits.
- Migration along groundwater flow.
- Overland flow

4.4.3 Ground Gas Pathways

The pathways along which ground gas could potentially reach the receptors on-site during use and after completion of the development works are as follows;

- Migration through fractures and fissures in bedrock
- Preferential migration along foundations, service ducts / trenches
- Migration within groundwater
- Ingress through wall cavities and floors and accumulation
- Inhalation of ground gas and vapours

4.5 Receptors of Contamination

Human Health receptors for these pathways include the following:

- End Users (residential land use scenario)
- Construction workers.
- The general public and adjacent site users.

Controlled waters receptors for these pathways include the following:

- Groundwater contained within the underlying Secondary (A) Aquifer
- Surface Water – river Colne (140m SE)

Other receptors for these pathways include the following:

- Subsurface plastic (e.g. potable plastic water pipe).
- Building fabric (e.g. concrete foundations).

4.6 Conceptual Model for Human Health Risk Assessment

A site conceptual model in the form of a linkage table for the purposes of a preliminary risk assessment for the human health of site occupants has been produced as a result of the probable contaminants, pathways and receptors identified above.

Sources of Contamination	Pathway	Receptor	Hazard (severity)	Likelihood	Risk
On Site Made Ground **On-Site Car Park (1993 – 2022)** **On-Site and Off-Site Quarry and Landfill (1960s - 1990s)** **Off-Site Historical Dye Works (48m NW 1905 – 1985)** **Off-site Historical Unspecified Tank (25m SE, 1930 - 1956)** **Off-Site Historical Industrial Uses (Mills, tanks, brickworks, electricity substations)**	Ingestion of contaminated soil and dust (indoor and outdoor) Dermal contact with contaminated soil (outdoor and indoor) Inhalation of contaminated dust (indoor and outdoor)	End users and general public	Effect on human health **(Medium)**	**Likely:** Made Ground is anticipated across the majority of the site. The composition and thickness of the Made Ground is unknown, though a significant thickness is anticipated in the area of the former reservoir. Although widespread contamination within the Made Ground is not anticipated, low level hotspots of contamination may be present associated with the possible sources discussed below. A quarry was located to the south west of the site since the 19th century which was recorded as a landfill (Royd House Tip) from the 1960s - 1990s. It is unclear whether the quarry and / or Royd House tip extended onto site. As this cannot be discounted, there may be deep Made Ground with contaminative hotspots present on-site. From 1993 to present the site has been used as a car park, giving rise to possible hydrocarbon (petrol, diesel, oils) contamination from possible spills and leaks. However, no evidence of significant contamination or staining was noted on the walkover survey. Also, due the presence of hardstanding over the majority of the site, infiltration and build-up of contamination into 'hotspots' will have been negated. A quarry was located to the south west of the site since the 19th century which was recorded as a landfill (Royd House Tip) from the 1960s - 1990s. It is unclear whether the quarry and / or Royd House Tip extended onto site. As this cannot be discounted, there may be deep Made Ground with contaminative hotspots present on-site. Hoyle Ing Dye Works is recorded 48m northwest of the site from 1905 until 1985, potentially causing widespread contamination that could have migrated on-site. However, given that the site sits at a higher elevation than the Dye Works, it is unlikely that migration on site occurred. A tank was recorded 25m southeast of the site from 1930 until 1956. It is unknown what the tank contained, so various possible contaminants could be associated with it. Given the tank was	**Moderate to High**

	Inhalation of soil vapours (indoors and outdoors)			located to the southwest, at higher elevation to the site, it is possible that associated contaminants could have migrated onto the site. However the presence of hardstanding across the majority of the site will likely have reduced any infiltration and build-up of contamination into soils. Many industrial off-site uses were recorded in the vicinity of the site throughout its history. If any off-site impact is present on site, this is likely to be found within the Made Ground. The migration of contamination from the off-site uses can be negated for many of these sources given they sit at a lower elevation to the site. Although dermal, ingestion and inhalation pathways will be negated across the areas of the site covered in hardstanding, these pathways are feasible in private garden and areas of soft landscaping. Consequently, these areas are at increased risk as contaminative linkages to the above sources are possible.	
		Construction workers		**Likely:** Construction workers will be at increased risk due to their acute interaction with soils. However, given the lack of widespread potentially contaminative sources the risk remains low to moderate. The appropriate use of PPE and good practice Health and Safety Measures will also significantly reduce the risk.	**Moderate to High**

4.7 Conceptual Model for Ground Gas Risk Assessment

A conceptual model in the form of a linkage table for the purposes of a preliminary risk assessment for ground gas has been produced as a result of the probable contaminants, pathways and targets identified above as follows:

Source	Pollutant	Pathway	Receptor	Hazard (severity)	Likelihood of Occurrence	Risk
Possible On-Site Infilled Reservoir **On-Site and Off-Site Infilled Quarry / Landfill (1960s - 1990s)**	Methane Carbon Dioxide Hydrogen Sulphide	Preferential migration along foundations, service ducts / trenches Ingress through wall cavities and floors and accumulation Inhalation of ground gas	Human occupants Site Workers	Effect on human health **(Mild to Severe*)**	**High Likelihood:** A small reservoir, associated with the adjacent brickworks, was recorded in the centre of the site from 1892 and was infilled by 1968. Therefore, it is likely that an area of locally deeper Made Ground exists in this area of the site. This poses a possible ground gas risk from uncontrolled Made Ground fill materials as well as possible organic deposits. An extensive sandstone quarry was present to the south west of the site since the 19th Century. The quarry was recorded as a landfill (Royd House Tip) from the 1960s - 1990s). The extent of the tip is unclear, however, as an access track to the quarry and tip crossed the site, the presence of landfill deposits on-site cannot be discounted. Whether the landfill is on-site or adjacent to the site, based on the date of infilling (1960s - 1990s) and the unknown waste received, based on BS8576 (2013) Figure 6, the ground gas risk associated with the landfill is high. Although no methane was recorded during the ground gas monitoring at the adjacent site and a maximum carbon dioxide concentration of 13.4% was recorded, it remains unknown whether landfill materials exist on-site, so the risk is deemed high.	**High**
			Building and Structures	Damage to building **(Mild)**		

*Due to the risk of explosion.

A diagram of the conceptual site model is included within Appendix 2.

4.8 Conceptual Model for Waters Risk Assessment

A site conceptual model in the form of a linkage table for the purposes of a preliminary risk assessment for pollution of waters has been produced as a result of the probable contaminants, pathways and targets identified above as follows:

Source	Pathway	Receptor	Hazard (severity)	Likelihood of Occurrence	Risk
On Site Made Ground (including possible landfill deposits)	Vertical migration along current and future foundations Vertical migration through granular Made Ground and / or natural deposits Negligible infiltration through low permeability cohesive deposits Migration through porous bedrock	Bedrock Secondary (A) Aquifer	Effects to controlled waters (**Mild)**	**Pre-Development Site** **Low Likelihood**: Contamination, including possible contaminative hotspots may be present on-site, particularly within the infilled reservoir and may be widespread if landfill deposits exist on-site. The site is underlain by a Secondary A Aquifer, which can be considered a sensitive controlled water receptor. No superficial deposits are recorded on-site, therefore, if contamination is present, vertical pathways to the underlying aquifer within the sandstone bedrock may be present. However, groundwater is anticipated at significant depth (>20m bgl), therefore, the likelihood of migration is reduced, but cannot be discounted.	**Moderate to High**
				Post Development Site **Unlikely:** Following development there will be an increase in hardstanding and drainage across the site therefore vertical migration will be reduced. However, infiltration may remain in private gardens and areas of soft landscaping.	**Moderate**
On Site Car Park	Lateral migration along low permeability cohesive deposits Lateral migration along historic drainage Migration along groundwater flow Overland Flow	River Colne	Effects to controlled waters: (**Mild**)	**Pre-Development Site:** **Unlikely**: The river Colne is recorded 140m southeast of the site. The majority of the site is currently covered by hardstanding which increases runoff of possible contaminants into this receptor. Although contaminative sources have been recorded on-site, given the distance between the site and the river (140m) and the presence of significant drainage features between the site and river, the risk is deemed low.	**Low**
				Post Development Site: **Unlikely**: The installation of drainage following development will significantly reduce runoff of possible contaminants such as hydrocarbons into the river Colne.	**Low**

A diagram of the conceptual site model is included within Appendix 2.

4.9 Preliminary Risk Assessment Summary

Human Health

Based on the human heath conceptual model, the risk to human health is deemed moderate to high to end users and construction workers, due to the potential for localised contaminative hotspots as well as possible widespread contamination if landfill deposits exist on-site. The risk to construction workers, though increased due to their acute interaction with soils, can be mitigated through appropriate site management and PPE but the risk remains moderate to high.

Ground Gas

The historical infilled reservoir is considered a potential ground gas source; the risk is deemed high. Therefore, ground gas monitoring is recommended including a minimum of 12 visits over 6 months. The ground gas monitoring results should be reviewed following the initial 12 No. visits and additional gas monitoring undertaken if deemed necessary.

If any organic rich Made Ground deposits are identified, or if previously unrecorded potential ground gas sources are recorded during the ground investigation works, additional ground gas monitoring may be required. The length and frequency of the ground gas monitoring regime and the sampling method, initial results and revisions to the conceptual model are subject to the findings of the ground investigation works and development constraints (i.e. development timescales and liaison with the local authority).

Controlled Waters

No sensitive surface water receptors are present on site or in close proximity to the site, with the nearest being the River Colne, located 140m northwest, therefore, the risk to surface water features is deemed low. However, the site is underlain by a Secondary A Aquifer which is considered a sensitive ground water receptor. No superficial deposits are recorded on site, therefore contaminative linkages to the underlying Secondary A Aquifer may be present, however the groundwater is

anticipated at significant depth (>20m bgl). Therefore, the risk to the underlying aquifer is deemed moderate to high.

If unrecorded contaminative sources are noted, the above conceptual models may require re-assessment / re-appraisal.

4.10 Scope of Phase 2 Intrusive Geo-Environmental Ground Investigation

As a result of the preliminary risk assessment, a Phase 2 intrusive geo-environmental ground investigation should be carried out to quantify the identified risks. This intrusive ground investigation should include the collection of appropriate samples – solid, leachate and / or liquid, if deemed necessary, across the site for appropriate chemical testing as detailed above.

Furthermore, to determine the geotechnical and geological properties of the underlying ground conditions, appropriate intrusive works and associated testing should be undertaken. The rationale and aims for these Phase 2 environmental, geotechnical and geological investigative works are detailed below.

In order to provide adequate assessment in terms of both environmental and geotechnical site parameters, ground investigation works will be required on a spatial basis.

The proposed initial ground investigation works should comprise:

- Dynamic sample boreholes
- Dynamic probe holes

The rationale for the exploratory holes is discussed below:

- To allow the collection of samples from the Made Ground and natural deposits for chemical laboratory testing (solid samples) for an appropriate suite of determinands and for soluble sulfate (2:1 extract) and / or total sulfate and pH testing to determine the suitable concrete classification in associated with relevant guidance e.g. BRE Special Digest 1.

- To allow the installation of ground gas monitoring wells.
- To determine the extent, composition and depth of any Made Ground deposits.
- To determine the nature, thickness and extent of superficial deposits (peat).
- Enable in-situ and ex-situ geotechnical testing, including density testing (SPTs), hand shear vane (HSV) testing and undrained shear strengths of the underlying natural deposits for the purposes of sub-structure design.
- To allow installation of ground gas and groundwater depth monitoring wells.

5.0 RECOMMENDATIONS

5.1 As a result of the information gathered and the risks identified in this report, there is a moderate to high risk to human health on the basis that feasible contaminative linkages have been identified for end users and construction workers. The risk to groundwater is deemed moderate to high.

5.2 A high ground gas risk has been identified based on the presence of possible ground gas sources on-site and off-site, including a landfill which may extend on-site or up to the boundaries of the site. Therefore, ground gas monitoring is recommended with a minimum of 12 visits over 6 months. The ground gas monitoring results should be reviewed following the initial 12 No. visits and additional gas monitoring undertaken if deemed necessary. On the basis that the site lies within an area where between less than 1% of homes are above the action level no radon protection measures are necessary.

5.3 Due to geotechnical requirements, ground investigation works should be undertaken in order to determine the ground conditions with a greater degree of certainty and allow design of the proposed development, drainage, services and immediate external areas to be undertaken. It is therefore recommended that exploratory holes are constructed where access is permitted across the site. The use of soakaways should be considered within the site investigation works.

5.4 From the results of the Phase 2 ground investigation work – if this report identifies a potential risk and / or a requirement for further detailed site-specific assessment, a Phase 3 environmental investigation report and / or a Remedial Strategy (informing on potential remediation solutions) may be required.

5.5 The nature and extent of the proposed targeted chemical and environmental testing should be confirmed, if time / commercial constraints allow, with the relevant Local Authority Environmental Health Officer and the Environment Agency prior to undertaking works on-site. Proceeding without agreement between regulatory authorities may result in further assessment being required.

5.6 It should be noted that, if any visual or olfactory evidence of contamination is encountered during remediation or construction work, then the Local Authority Environmental Health Officer and Environment Agency should be contacted immediately in order to agree any necessary remediation measures.

5.7 Given the possibility of services on-site, full service plans should be obtained prior to any intrusive ground investigation works.

5.8 Due to the presence of established trees on-site and the possibility of cohesive deposits, an arboricultural survey is recommended.

5.9 Due to the site sloping from the south to the north, a slope stability assessment is recommended.

APPENDIX 1

LIMITATIONS OF INVESTIGATION WORK AND REPORT AND CONTAMINATED LAND LEGISLATIVE FRAMEWORK

LIMITATIONS OF REPORT

This consultancy report was compiled and carried out by IGE Consulting Limited ('IGE') for the client, as defined in the main report (the 'client'), on the basis of a defined programme and scope of works and the terms of a contract between IGE and the client. IGE undertook this with all reasonable skill and care, taking into account the limits of the scope of works required by the client, the prevailing site conditions, the time scale involved and the resources, including financial and manpower resources, agreed between IGE and the client. IGE cannot accept responsibility to any parties whatsoever, following the issue of this report, for any matters arising which may be considered outwith the agreed scope of works.

Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted consulting practices. This report may not be relied upon, or transferred to, by any other party without the written agreement of its author. If a third party relies on this report, it does so wholly at its own and sole risk and IGE disclaims any liability to such parties.

It is IGE's understanding that this report is to be used for the purpose described in the 'Brief' section of this report. That purpose was a significant factor in determining the scope and the services to be provided. Should the purpose for which the report is used, or the proposed use of the site change, this report may no longer be valid and any further use of, or reliance upon the report in those circumstances by the client without IGE's review and advice shall be at the client's sole and own risk.

The information contained in this report is protected by disclosure under Part 3 of the Environmental Information Regulations 2004 pursuant to the provisions of Regulation 12(5) without the consent in writing of a Director of IGE.

This report is a function of the date it was written and should be read in light of any subsequent changes in legislation, statutory requirements and industry practices. Ground conditions can also change over time and further investigations or assessment should be made if there is any significant delay in acting on the findings of this report. The passage of time may result in changes in site conditions, regulatory or other legal

provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of IGE. In the absence of such written advice of IGE, reliance on the report in the future shall be at the client's own and sole risk. Should IGE be requested to review the report in the future, IGE shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between IGE and the client.

The observations and conclusions described in this report are based solely upon the scope of works agreed between the client and IGE. IGE has not performed any observations, investigations, studies or testing not specifically set out or mentioned within this report. IGE is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the agreed scope of works. For the avoidance of doubt, this report is strictly limited to the nature of contamination contained within the ground and groundwater at the site. The report does not cover environmental aspects such as air or noise pollution and ground vibrations and the like. In addition, ecological matters relating to wildlife, flora and fauna have not been investigated as part of this report. In particular, the site has not been inspected for the presence or otherwise of invasive species (e.g. Japanese Knotweed). It is recommended that the client appoints a specialist in this subject to carry out a detailed inspection / survey of the site if its presence is suspected. Where mention has been made to the suspected presence asbestos or asbestos-containing materials this is for indicative purposes only and does not constitute or replace full and proper surveys.

Throughout the report the term ‘geotechnical’ is used to describe aspects relating to the physical nature of the site (such as foundation requirements) and the term ‘geo-environmental’ is used to describe aspects relating to ground-related environmental issues (such as potential contamination). However, it should be appreciated that this is an integrated investigation and these two main aspects are inter-related. The geo-environmental sections are written in broad agreement with BS 10175:2011+A2 2017.

LIMITATIONS OF INVESTIGATION WORK

Desk Study References

This report is based upon IGE's observations of existing physical conditions at the site gained from a walkover survey of the site together with IGE's interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. Reliance has been placed on this publicly available data obtained from the sources identified in the main report. When using the information, it has been assumed that it is correct. The findings and recommendations contained in this report are based in part upon information provided by third parties, and whilst IGE have no reason to doubt the accuracy and that it has been provided in full from those it was requested from, the items relied on have not been verified. No responsibility can be accepted for errors within third party items presented in this report. IGE did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services. IGE is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to IGE and including the doing of any independent investigation of the information provided to IGE except when otherwise provided in the terms of the contract between the client and IGE.

Historical Mapping

Historical Ordnance Survey maps do not provide a comprehensive description of a site history. They provide details of the site from a date prior to the publication of the map (i.e. a snapshot in time). The period between map editions can be substantial (i.e. several decades). Not all map series are available for every date range in many areas of the UK and therefore there will be gaps in this mapped record for some sites. Potentially contaminative land uses could have been present and removed during such periods and may therefore not form a part of this particular record. In addition, there will be potentially contaminative land uses which are not identified on the map records such as small scale storage / use of hazardous materials, illegal / unlicensed

waste disposal activities etc. Different map series identify different features utilising different symbols which can result in features that remain on-site being removed from maps. Some features are also not mapped for security reasons (e.g. airfields and other military installations). These areas are mostly shown as blank areas on historical maps.

Site Walkover

During the site walkover reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not be made known or accessible.

Flooding

Flooding in this report is defined as flooding caused by the sea, ditches, rivers, streams, ponds, lakes, reservoirs and the like. It does not extend to flooding caused by surcharged piped drainage systems and investigations into flooding of this nature are excluded from this report.

Extent of Contamination Studies

Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.

The conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the reporting in full. The conclusions resulting from this study are not necessarily indicative of future conditions or operating practices at or adjacent to the site.

PLANNING CONTEXT

The National Planning Policy Framework (NPPF, 2019) states that the purpose of the planning system is to contribute to the achievement of sustainable development. In order to do this the planning system has three overarching objectives, one of which directly relates to the potential for pollution and contaminated land:

- *'**environmental objective** - to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy'.*

In accordance with this environmental objective, Paragraph 118 clarifies that 'making effective use of land' includes to:

- *'give substantial weight to the value of using suitable brownfield land within settlements for homes and other identified needs, and support appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land'*.

In accordance with this environmental objective, Paragraph 170 clarifies that' conserving and enhancing the natural environment includes:

- *'preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability*'; and
- *'remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate'.*

Paragraph 178 of the NPPF states that planning policies and decisions for developments should also ensure that:

- *'a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation)*'; and,

- ‘*after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990’*; and
- ‘*adequate site investigation information, prepared by a competent person, is available to inform these assessments’*.

This report has been prepared and authorised by staff that are competent as defined in the NPPF.

APPENDIX 2

FIGURES AND DRAWINGS

FOR GUIDANCE PURPOSES ONLY

Approximate Site Boundary

N

Manchester Road Hoyle Ing

Manchester Road Hoyle Ing

Hoyle Ing

Royds View

Hoyle Beck Close

0 10 20 30 40 50 m

Rev	Drawn	Date	Description

Drawing Status:
Information

Contract:

Hoyle Ing, Linthwaite

For: Redwaters Yorkshire Ltd

Drawing Title:

Site Location Plan

IGE consulting

Office 16, Bartle House, Manchester, M2 3WQ
Email: contact@igeconsulting.co.uk
Web: www.igeconsulting.co.uk
Tel: 0161 914 9170

Scale: 1:150 @A3	Date: November 2022	
Drawn: TP	Checked: AE	
Contract No. 3836	Drawing No. SI - 01	P1

Notes

1 This drawings is indicative and not to scale.

2 This drawing is to be read in conjunction with all relevant Architects and Service Engineers drawings.

SOURCES

PATHWAYS

RECEPTORS

Sources
1. On-Site Made Ground
2. On-Site Possible Infilled Reservoir (1892 - 1968)
3. On-Site Car Park (1993 - 2022)
4. Off-Site Unspecified Tank (25m SE 1930 - 1956)
5. Off-Site Historical Dye Works (29 NW 1905 -1985)
6. On-Site and Off-Site Infilled Quarry / Royd House Tip (Exact extents unknown, infilled 1960s - 1990s)
7. Off-Site Historical Industrial Activities (30-136m 1892 - 1996)

Secondary Sources
8. Pooling Beneath or Future Foundations
9. Pooling in Relative Low Points Above Low Permeability Deposits
10. Pooling in Granular Lenses

Ground Gas Sources
1. On-Site Made Ground
2. On-Site Possible Infilled Reservior (1892 - 1968)
3. On-Site and Off-Site Infilled Quarry (1960s - 1990s)

Pathways To Human Health
1. Dermal Contact
2. Inhalation of Soil Dust and Vapours
3. Ingestion of Soil Directly

Pathways To Controlled Waters
1. Vertical Migration Along Current and Future Foundations
2. Vertical Migration Through Granular Made Ground, Granular Natural Deposits and Granular Lenses Within Natural Cohesive Deposits
3. Lateral Migration Along Low-Permeability Natural Deposits
4. Migration Through Fractures and Fissures in Bedrock
5. Migration Along Groundwater Flow

Ground Gas Pathways
1. Preferential Migration Beneath Hardstanding, Along Foundations, Service Ducts and Trenches
2. Dissolved Gases Within Groundwater
3. Ingress Through Wall Cavities / Floors and Subsequent Accumulation
4. Inhalation of Ground Gas and Vapours
5. Vertical Migration Through Granular Deposits

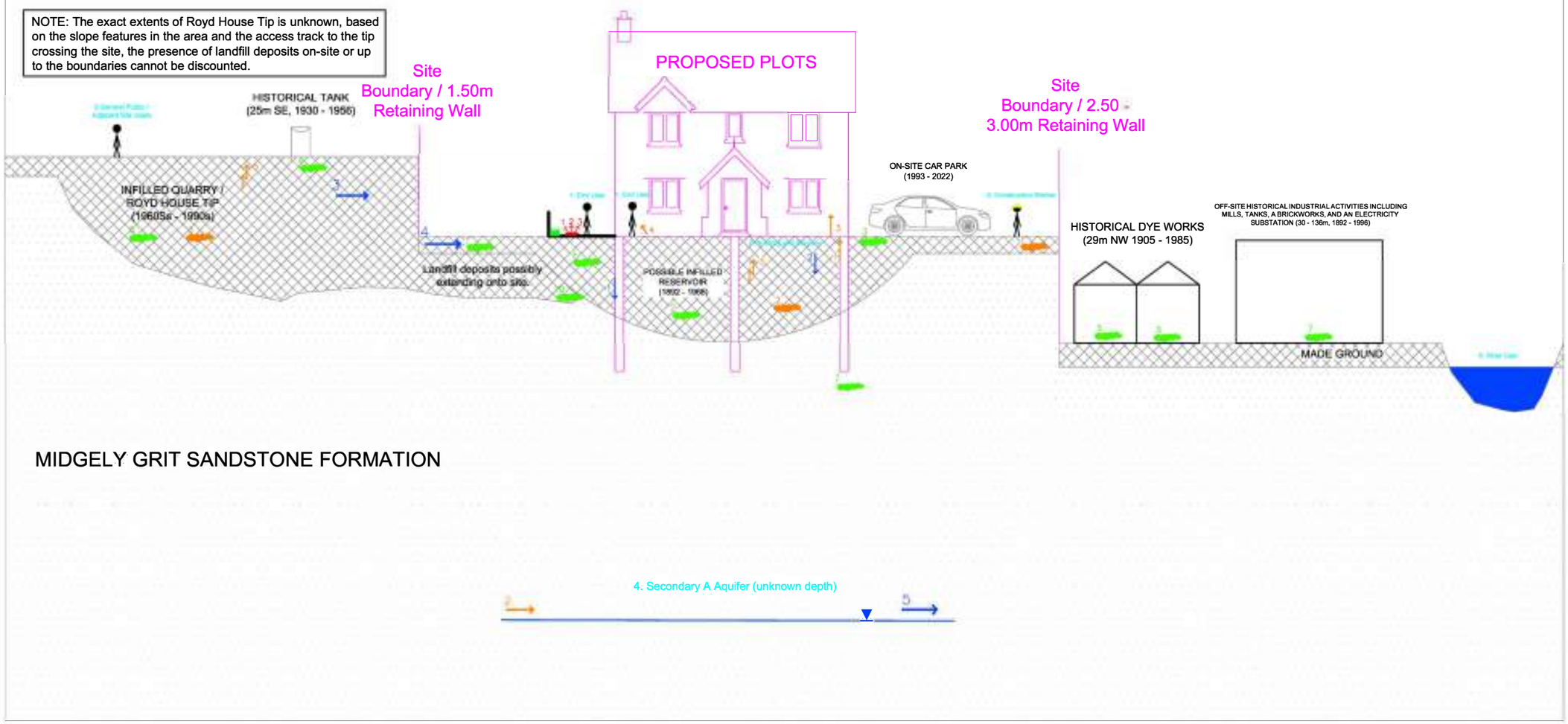
Receptors
1. End User
2. Construction Workers
3. General Public / Adjacent Site Users
4. Secondary A Aquifer within bedrock (c. 22m bgl)
5. Buildings and Services
6. River Colne (140m NW)

Key

Made Ground

Midgely Grit Sandstone Formation

NOTE: The exact extents of Royd House Tip is unknown, based on the slope features in the area and the access track to the tip crossing the site, the presence of landfill deposits on-site or up to the boundaries cannot be discounted.



Rev	Drawn	Date	Description

Drawing Status: Information

Contract: Hoyle Ing, Linthwaite

FOR: Redwaters Norland Ltd

Drawing Title: Conceptual Site Model Diagram

IGE consulting

Office 16, Bartle House, Manchester, M2 3WQ
email: contact@igeconsulting.co.uk
web: www.igeconsulting.co.uk
tel: 0161 914 9170

Scale	Date
NTS	MAR 2023
Drawn: AJ	Checked: AE
Contract No.: 3836	Drawing No.: SI–02 P1

FOR GUIDANCE PURPOSES ONLY

N

Approximate Site Boundary
Royd House Brick Works (1892 - 1918)
Hoyle Ing Dye Works (1892 - 2022)
Historical Sandstone Quarry and Royd House Tip (1960s-1990s)
Historical Resevoir (1892 - 1948)
Track (1968 - 1993)
Slopes

Bargate
Manchester Road
Linthwaite, Manchester Road
Hoyle Ing
Royds View
Hoyle Beck Close
Pennine View
Coldwell Street
Captain's Table
Fortune Cookie Chipes Takeaway

Approximate Extent - Exact extents of Royd House Tip Unknown

0 5 10 15 20 25 m

Rev	Drawn	Date	Description

Drawing Status:
Information

Contract:

Hoyle Ing, Linthwaite

For: Redwaters Norland Ltd

Drawing Title:

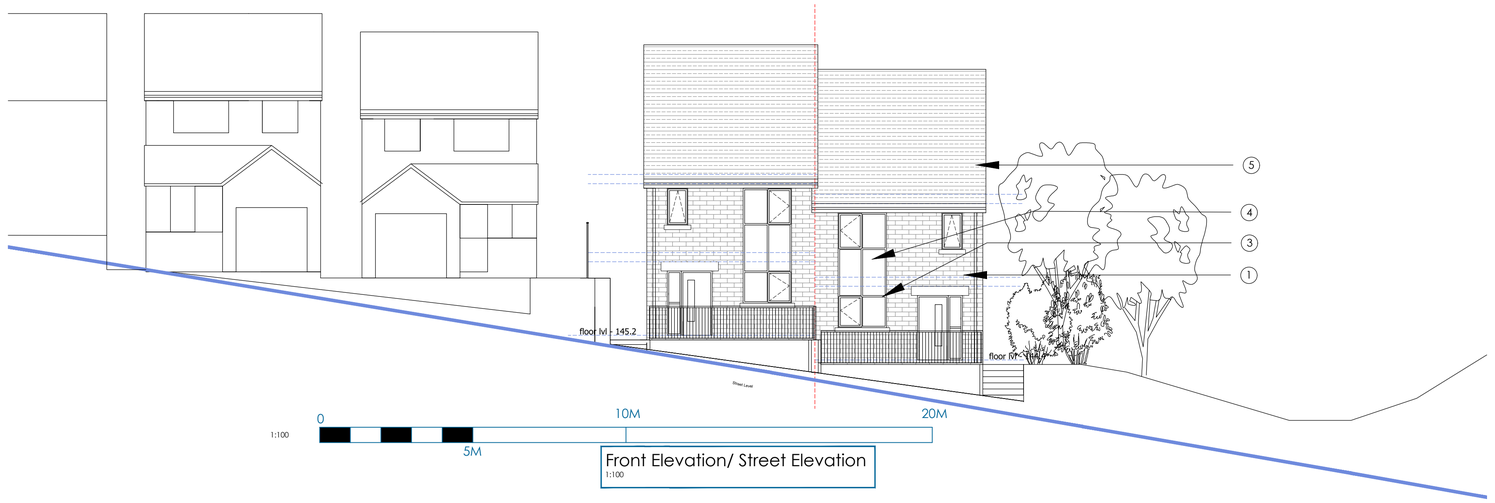
Site Features Plan

IGE consulting

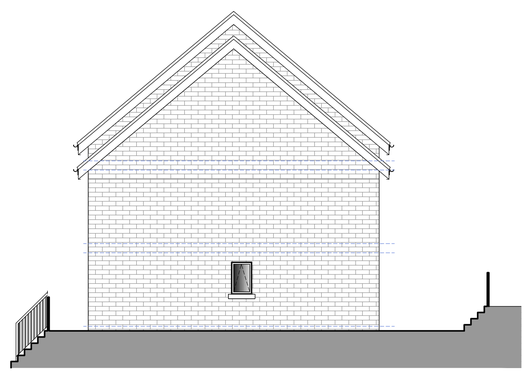
Office 16, Bartle House, Manchester, M2 3WQ
Email: contact@igeconsulting.co.uk
Web: www.igeconsulting.co.uk
Tel: 0161 914 9170

Scale: 1:1500 @A3	Date: March 2023	
Drawn: AS	Checked: AE	
Contract No. 3836	Drawing No. SI - 03	P1

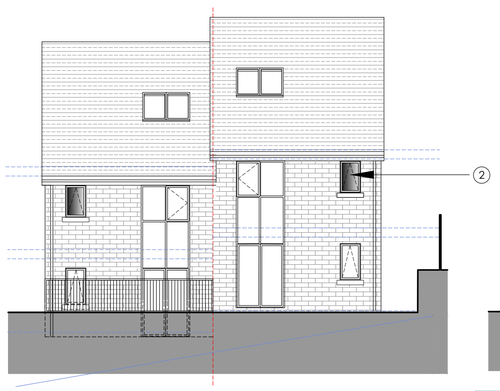
Key:
1 - marshalls epoch stone
2 - obscured glazing
3 - dark grey uPVC windows
4 - Toughened opacified glass
5 - Wienerberger Rivius Antique Slate



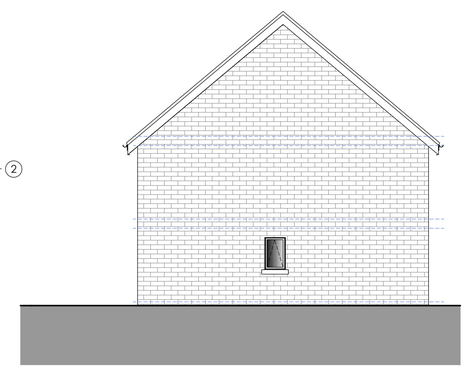
Front Elevation/ Street Elevation
1:100



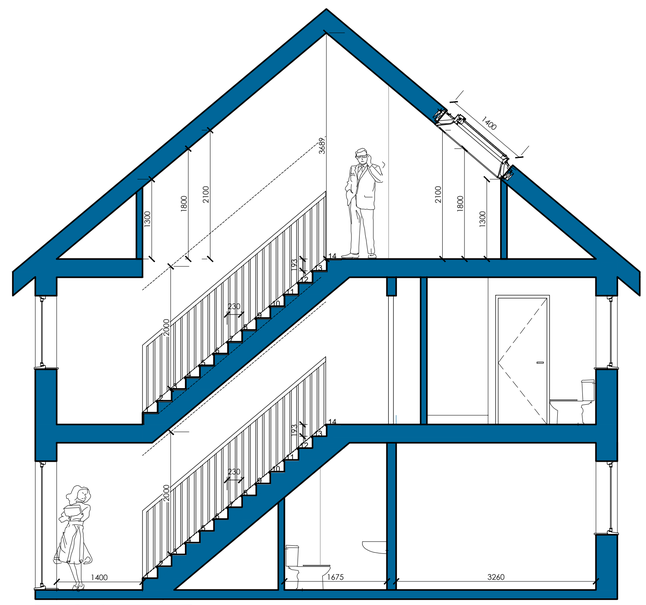
Side Elevation
1:100



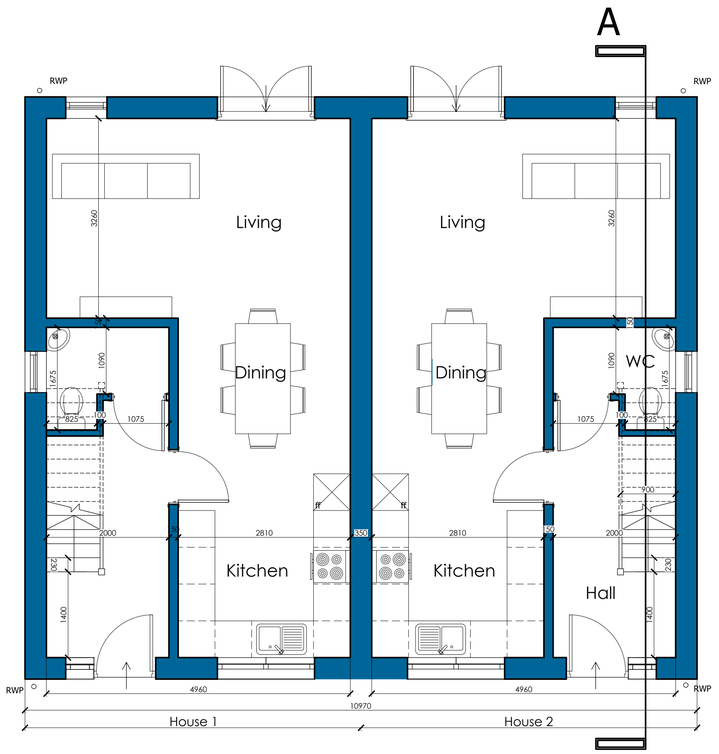
Rear Elevation
1:100



Side Elevation
1:100

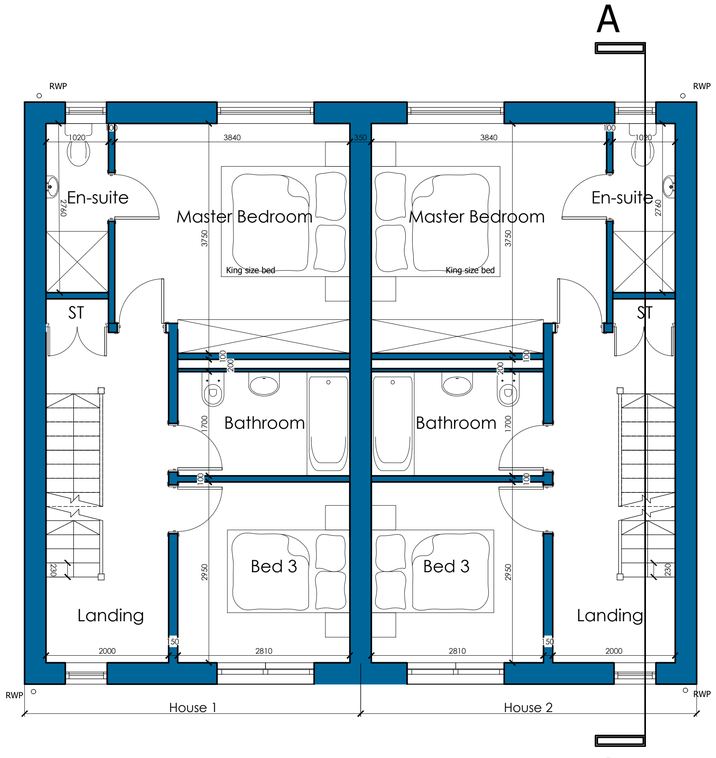


Section
1:50

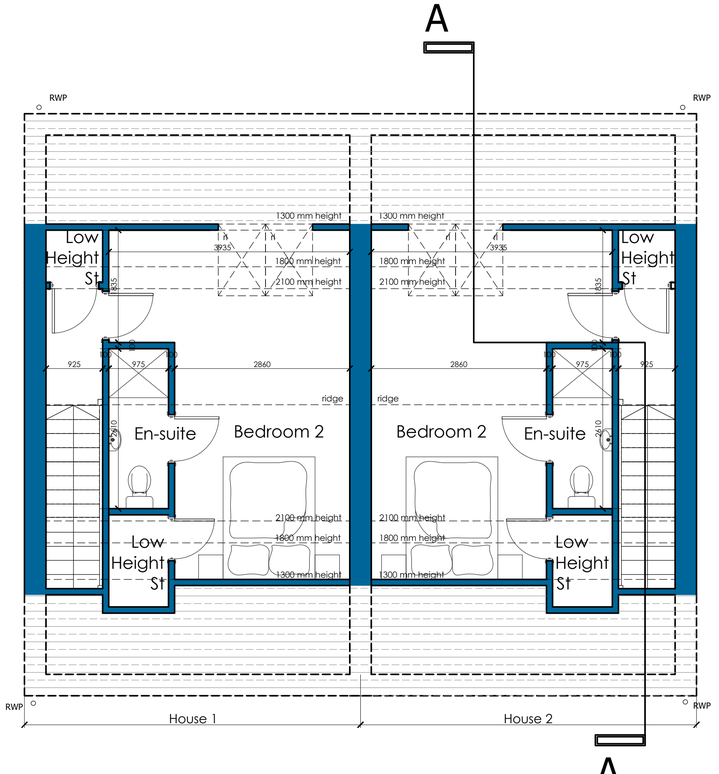


Ground Floor
1:50

0 1M 2 3 4 5M



First Floor
1:50



Second Floor
1:50

Date	Rev	Description	Init.
Revisions			

redwaters

Proposed Development at:
Land adjoining 2 Hoyle Ing,
Linthwaite, Huddersfield HD7 5RX

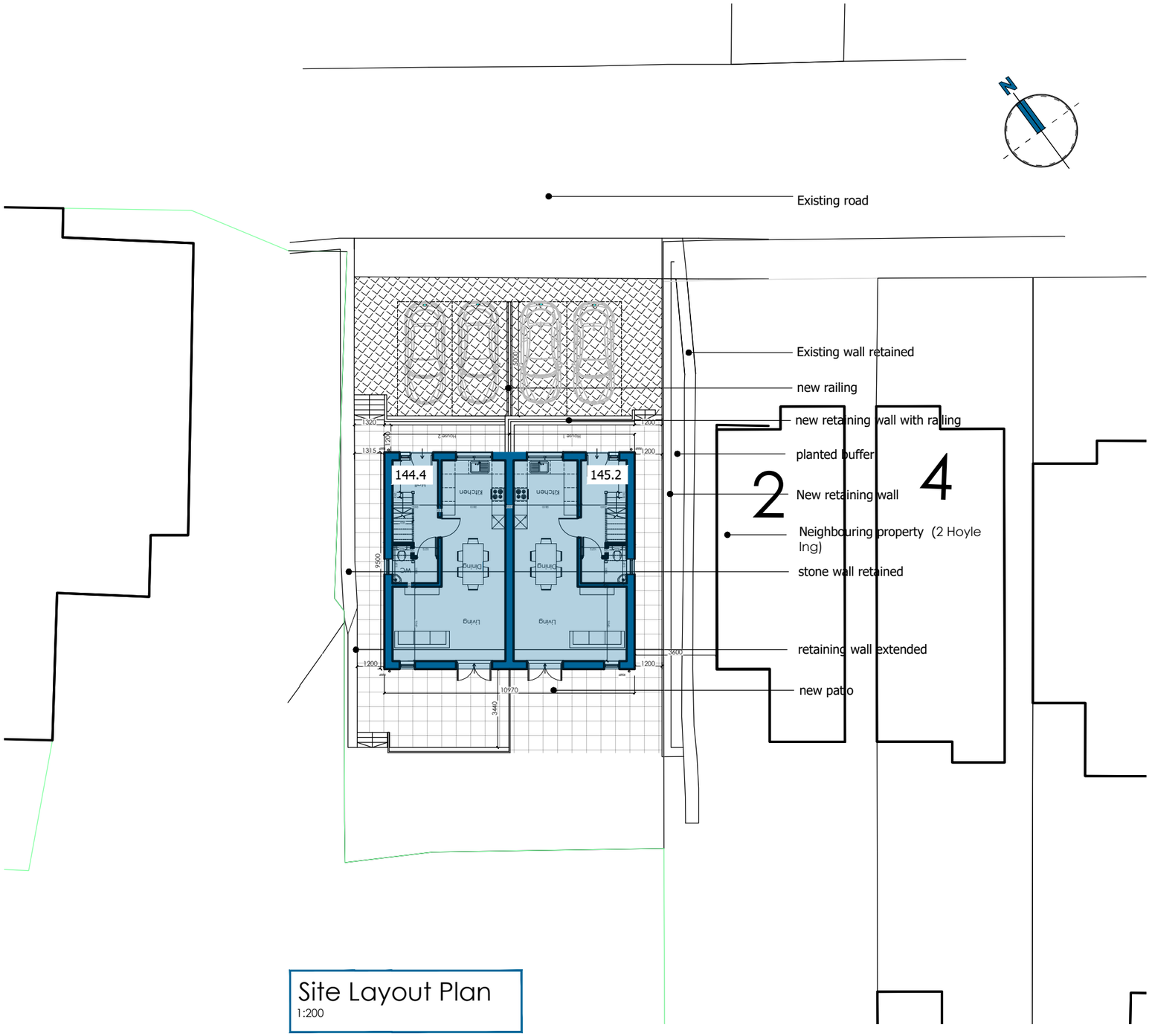
Drawing title:
As Proposed - houses 1 & 2

Project Status:
Planning

THIS DRAWING IS ISSUED FOR THE ABOVE PURPOSE ONLY AND MUST NOT BE USED FOR ANY OTHER PURPOSE

Scale:	Date:	Drawing No:
1:50, 1:100 @A1	2022.10.21	01

Job No:	Drawn by:
22.RED.11	MB



Site Layout Plan
1:200

1:200 0 5M 10M 15M 20M

0 25M 50M 100M

Site Location Plan
1:1250

Date	Rev	Description	Init.
Revisions			

redwaters

Proposed Development at:
Land adjoining 2 Hoyle Ing,
Linthwaite, Huddersfield HD7 5RX

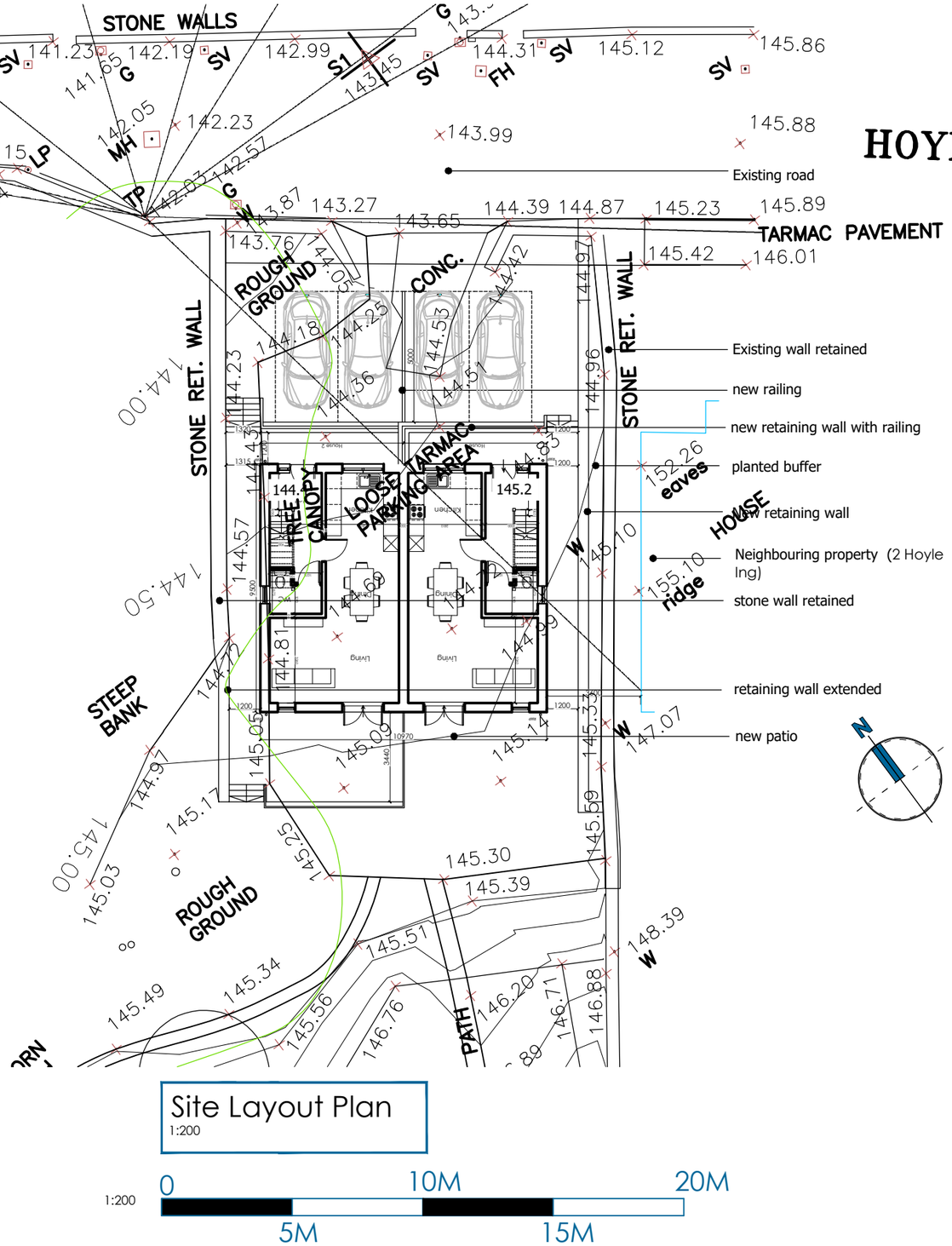
Drawing title:
As Proposed - Site Layout Plan

Project Status:
Planning

THIS DRAWING IS ISSUED FOR THE ABOVE PURPOSE ONLY AND MUST NOT BE USED FOR ANY OTHER PURPOSE

Scale:	Date:	Drawing No:
1:50, 1:100 1:200@A1	2022.10.21	02

Job No:	Drawn by:
22.RED.11	MB



Date	Rev	Description	Init.
Revisions			

redwaters

Proposed Development at:
Land adjoining 2 Hoyle Ing,
Linthwaite, Huddersfield HD7 5RX

Drawing title:

As Proposed -Site layout plan with topographical drawing overlaid

Project Status:

Planning

THIS DRAWING IS ISSUED FOR THE ABOVE PURPOSE ONLY AND MUST NOT BE USED FOR ANY OTHER PURPOSE

Scale:	Date:	Drawing No:
1:50, 1:100 1:200@A1	2022.10.21	03

Job No:	Drawn by:
22.RED.11	MB

APPENDIX 3

WALKOVER SURVEY PHOTOGRAPHS AND PHOTOGRAPH LOCATION PLAN

FOR GUIDANCE PURPOSES ONLY

Approximate Site Boundary

Photograph Locations

Hoyle Ing

1

2

3

4

5

6

0 5 10 15 20 25 m

Rev	Drawn	Date	Description

Drawing Status:
Information

Contract:

Hoyle Ing, Linthwaite

For: Redwaters Norland Ltd

Drawing Title:

Photograph Location Plan

IGE consulting

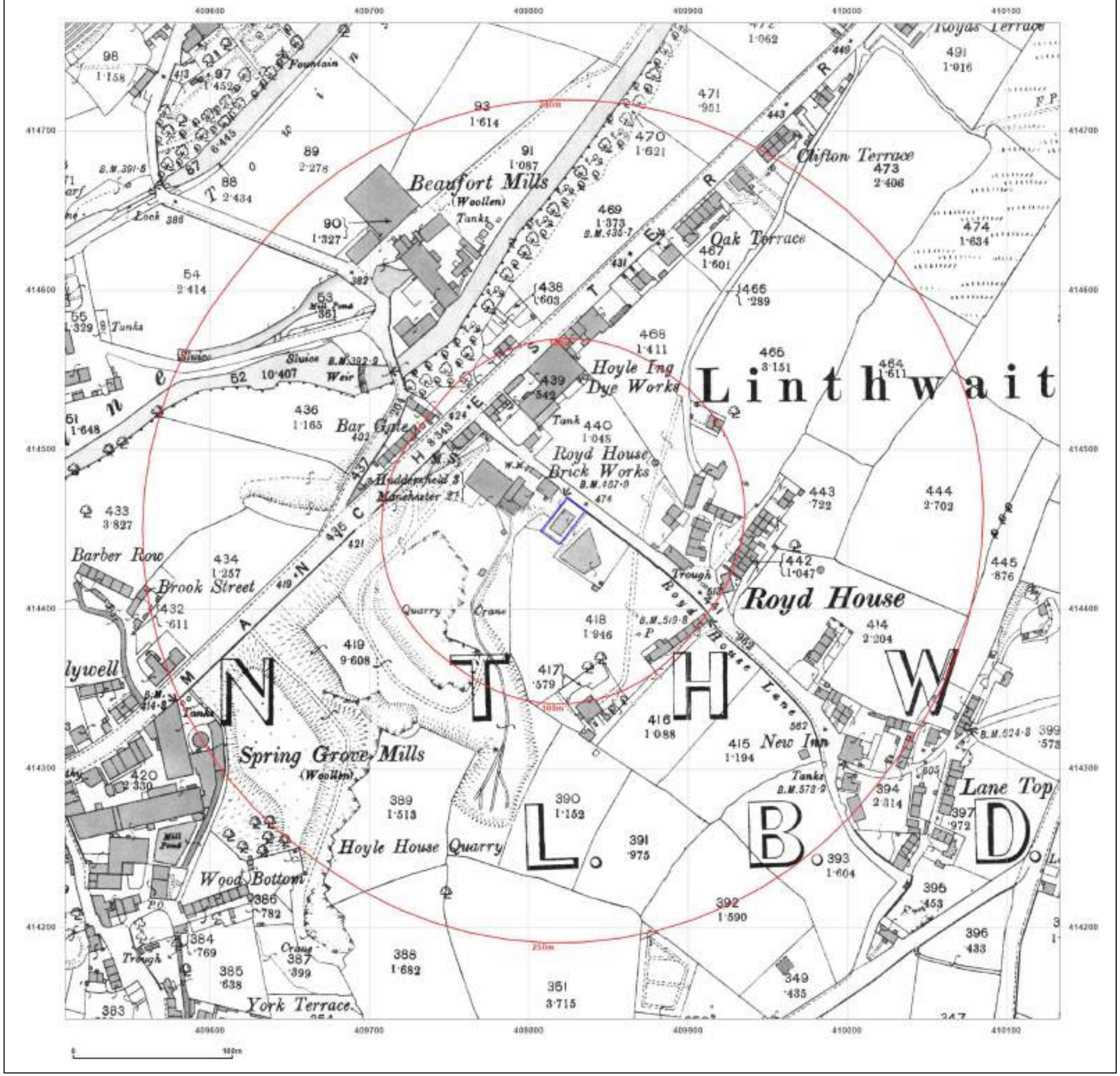
Office 16, Bartle House, Manchester, M2 3WQ
Email: contact@igeconsulting.co.uk
Web: www.igeconsulting.co.uk
Tel: 0161 914 9170

Scale: 1:170 @A3	Date: November 2022
Drawn: TP	Checked: AE
Contract No. 3836	Drawing No. SI - 02 P1

SITE WALKOVER PHOTOGRAPHS – 5th August 2022	
	
Figure 1 – Looking northeast at the site entrace off of Hoyle Ing.	Figure 2 – Looking southwest across the centre of the car park.
	
Figure 3 – Looking southwest at the 1.50m retaining wall running along the southeastern boundary.	Figure 4 – Looking east at the 1.50m retaining wall.
	
Figure 5 – Looking south at along the northwestern boundary, showing established trees at the base of the retaining wall.	Figure 6 – Looking south at the 2.50 – 3.00m retaining wall along the northwestern boundary.

APPENDIX 4

HISTORICAL ORDNANCE SURVEY MAPS



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: County Series

Map date: **1892**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

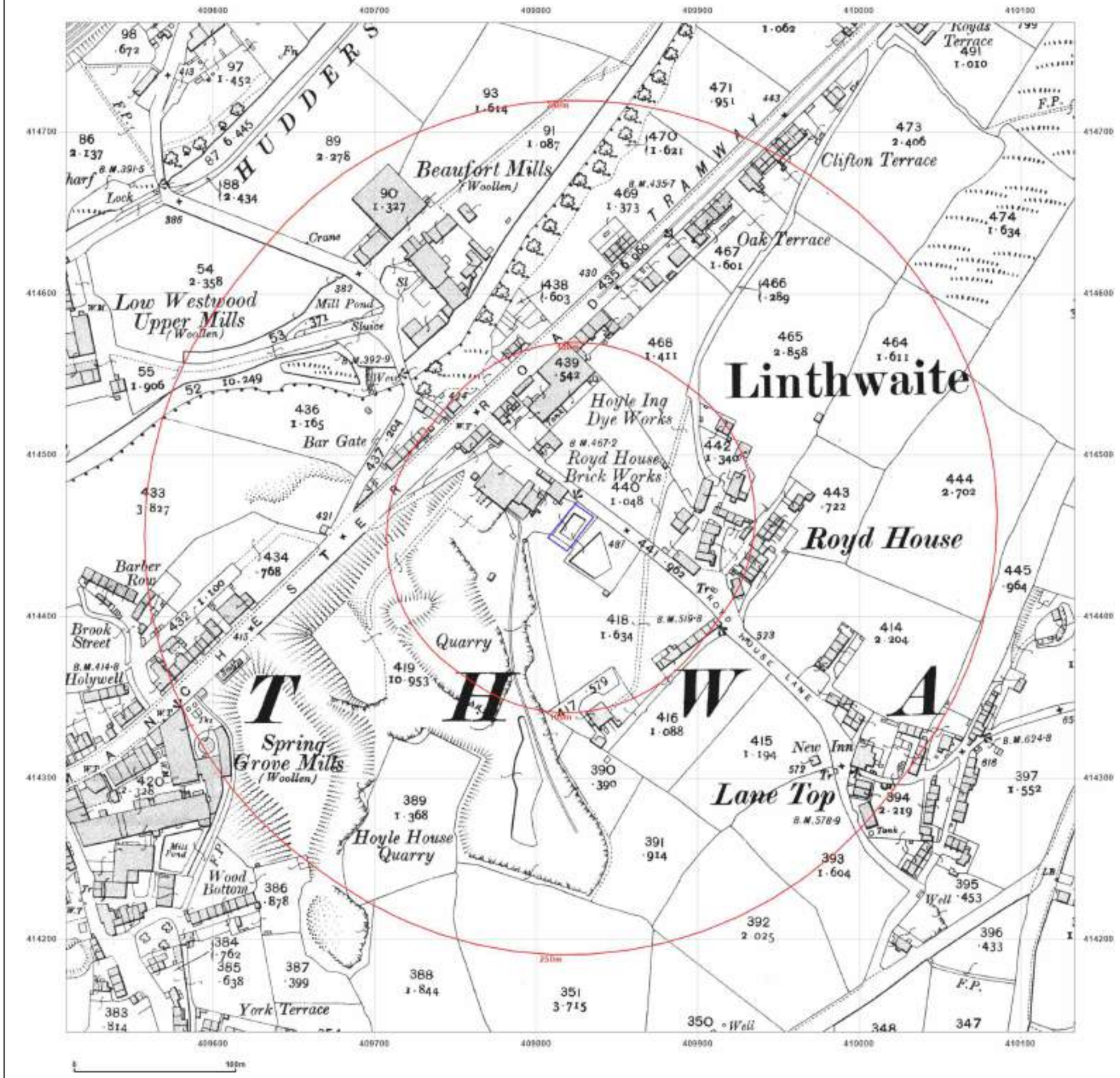
Surveyed 1892
Revised 1892
Edition N/A
Copyright N/A
Levelled N/A

Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: County Series

Map date: **1906**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

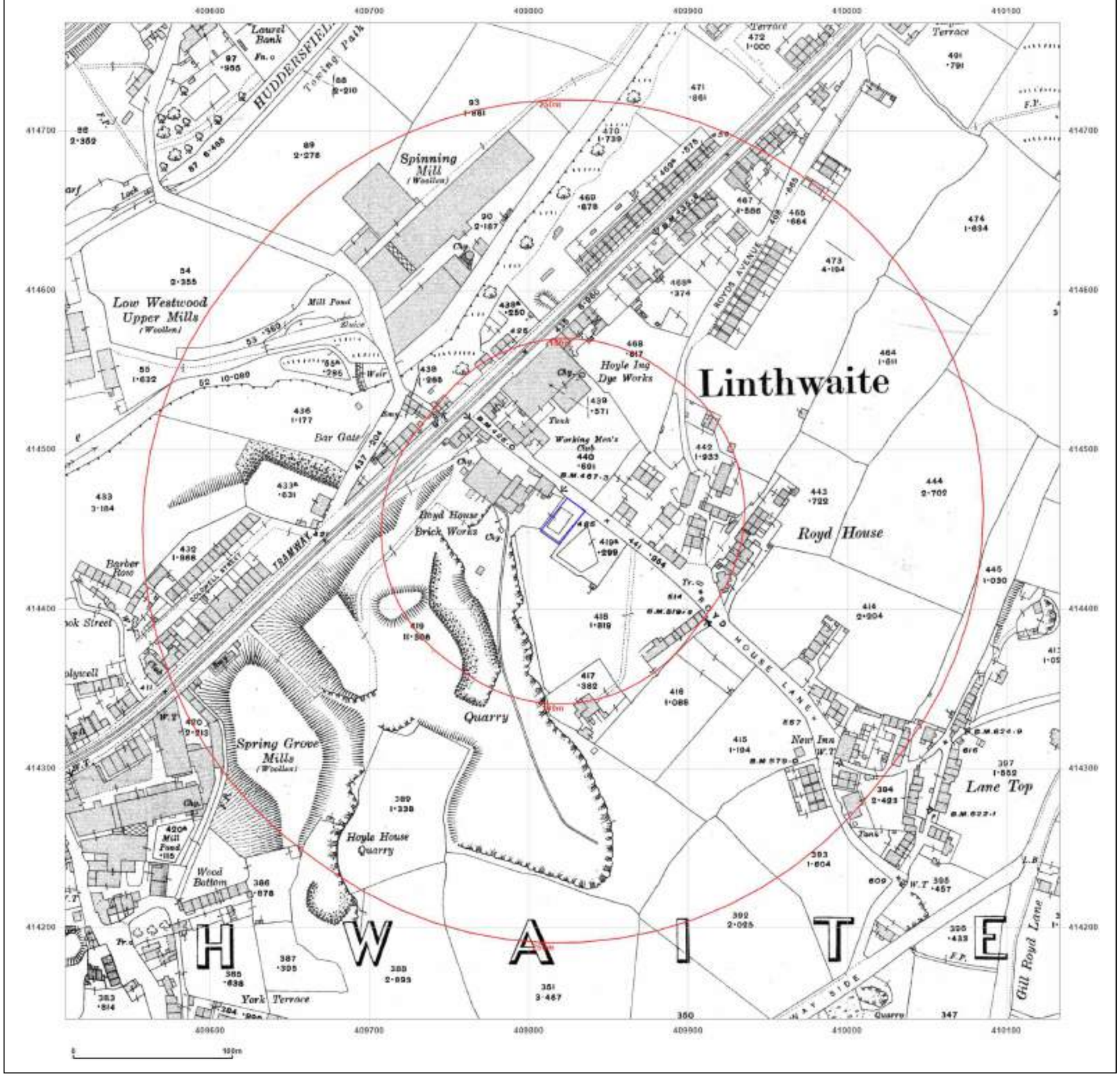
Surveyed 1906
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A

Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: County Series
Map date: **1918**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S

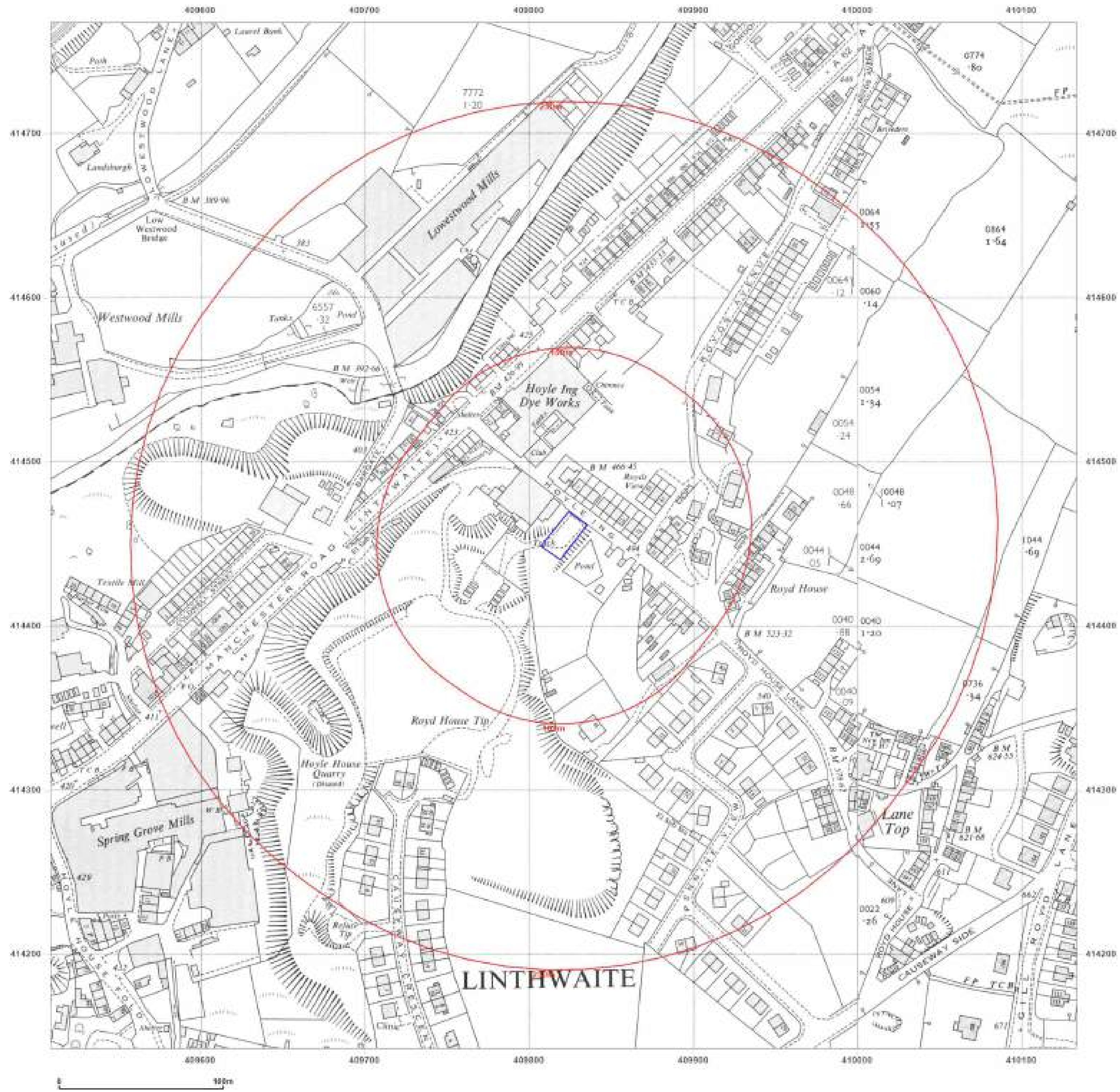
Surveyed 1891
Revised 1913
Edition 1918
Copyright N/A
Levelled 1914

Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: National Grid

Map date: **1963-1968**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1967
Revised 1967
Edition N/A
Copyright 1968
Levelled 1959

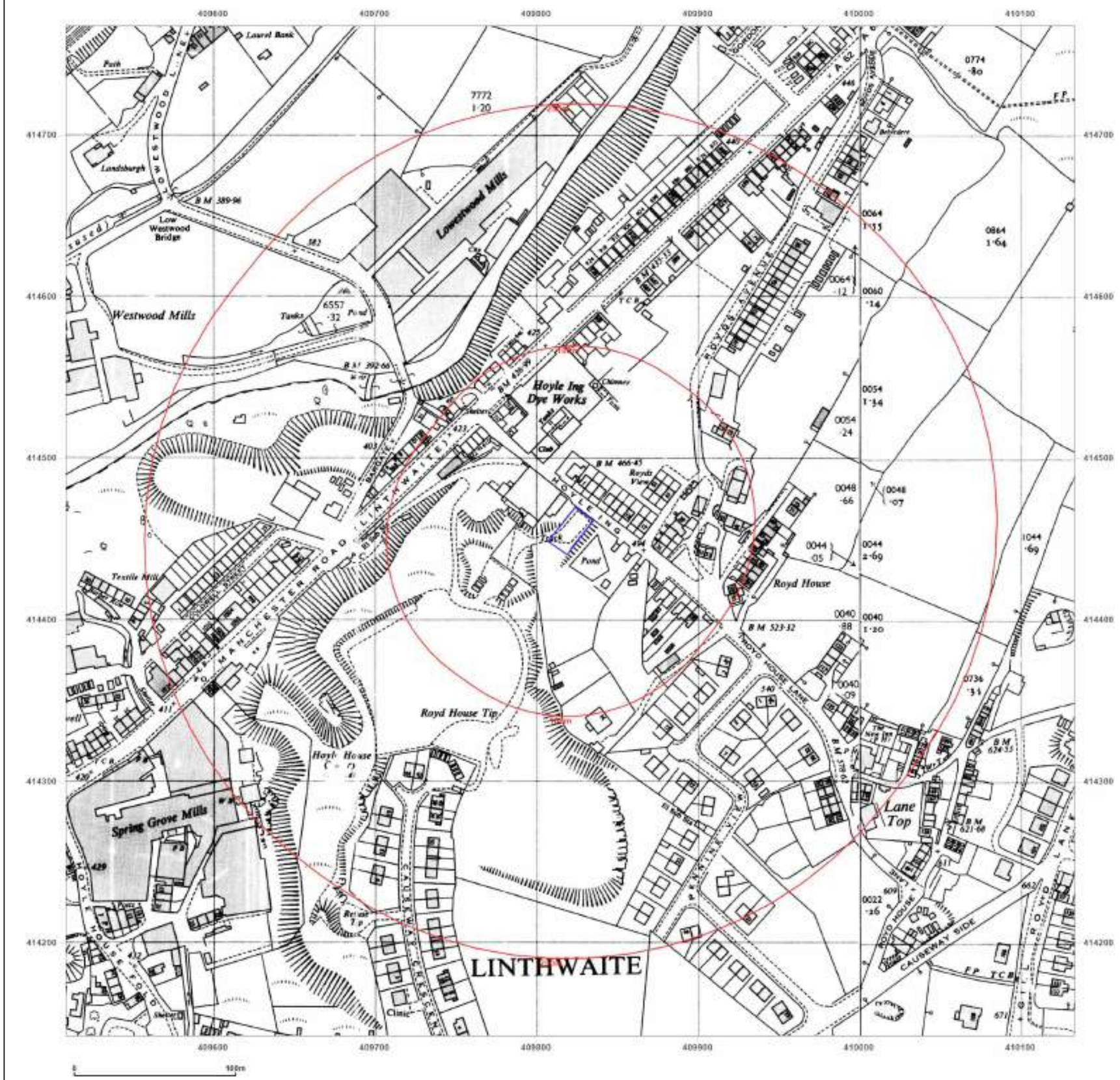
Surveyed 1961
Revised 1961
Edition N/A
Copyright 1963
Levelled 1959

Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: National Grid

Map date: **1963-1968**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

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

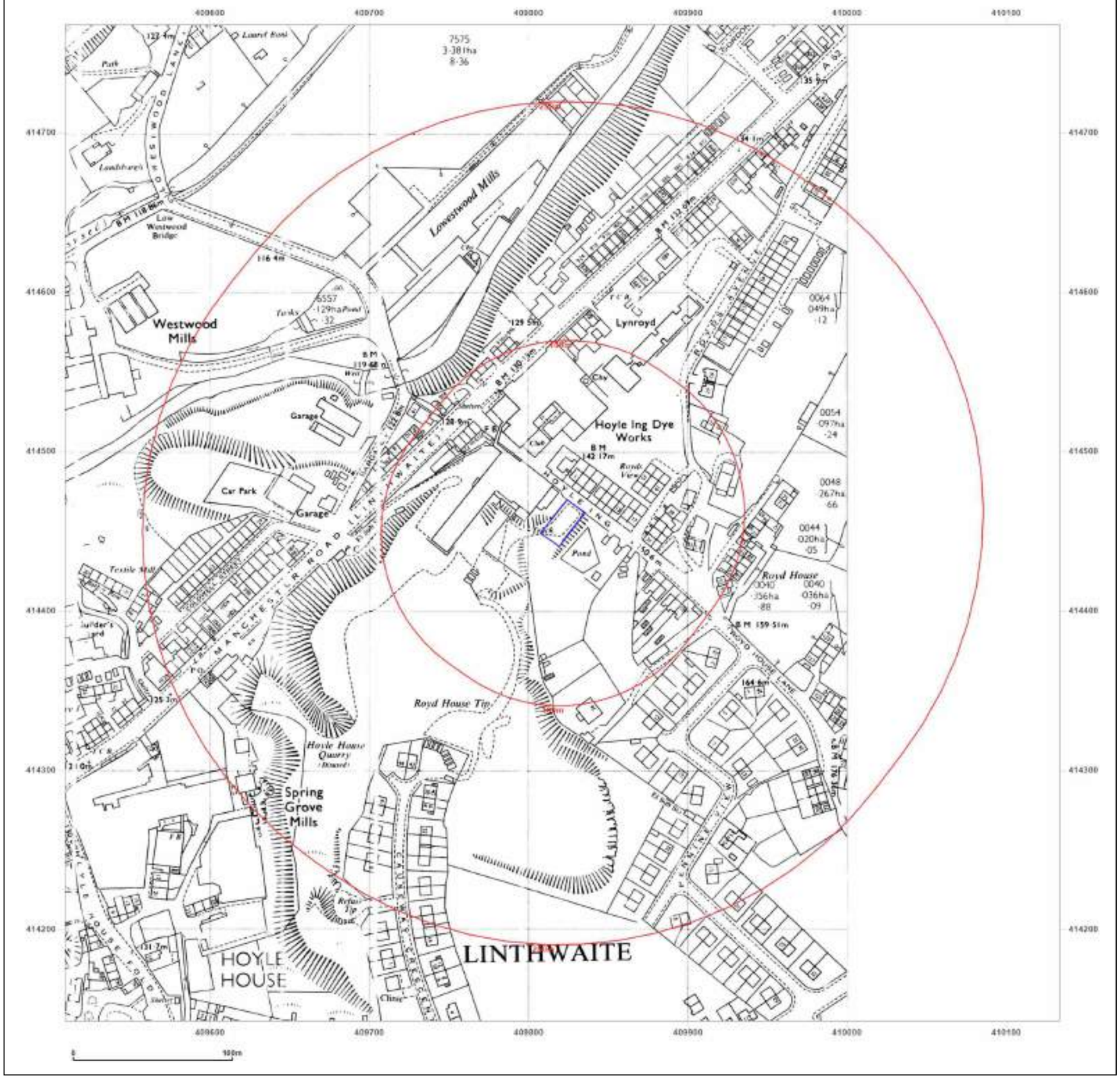
Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: National Grid

Map date: **1968**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

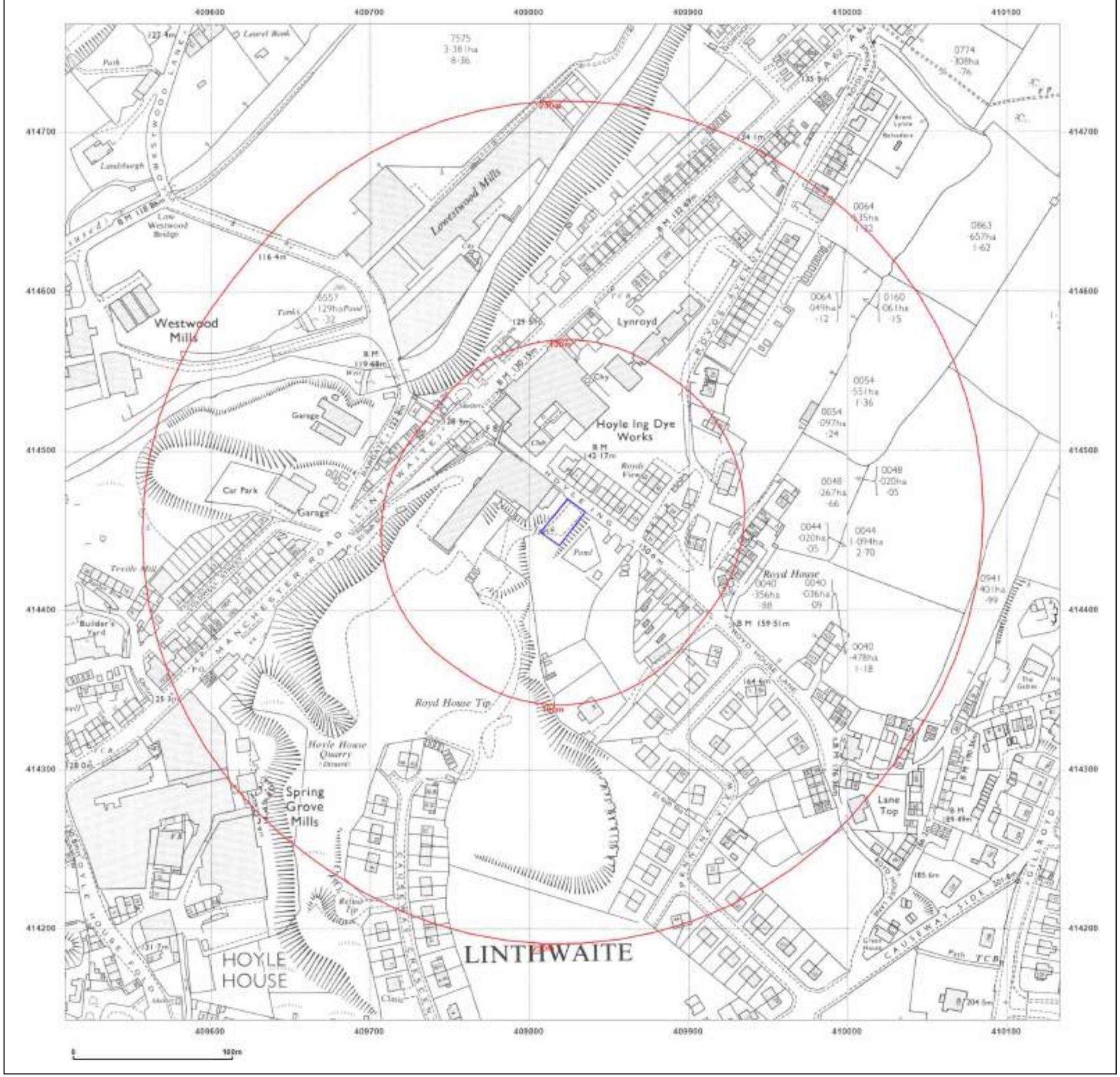
Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: National Grid

Map date: **1977**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1967
Revised 1977
Edition N/A
Copyright 1968
Levelled 1959

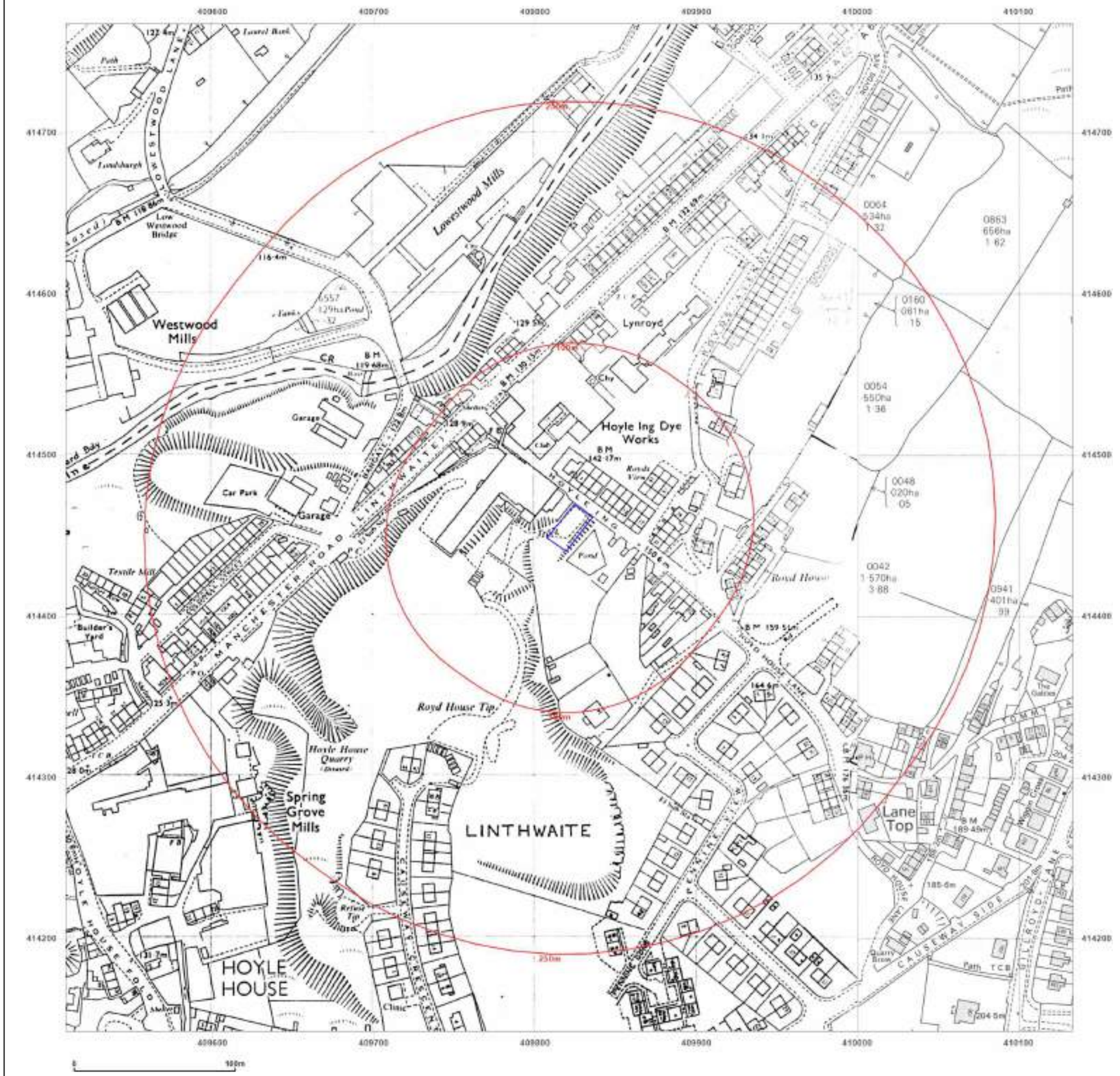
Surveyed 1976
Revised 1978
Edition N/A
Copyright 1977
Levelled 1959

Powered by OS

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

Production date: 07 October 2022

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



Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: National Grid

Map date: **1984-1985**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1959
Revised 1985
Edition N/A
Copyright 1985
Levelled 1959

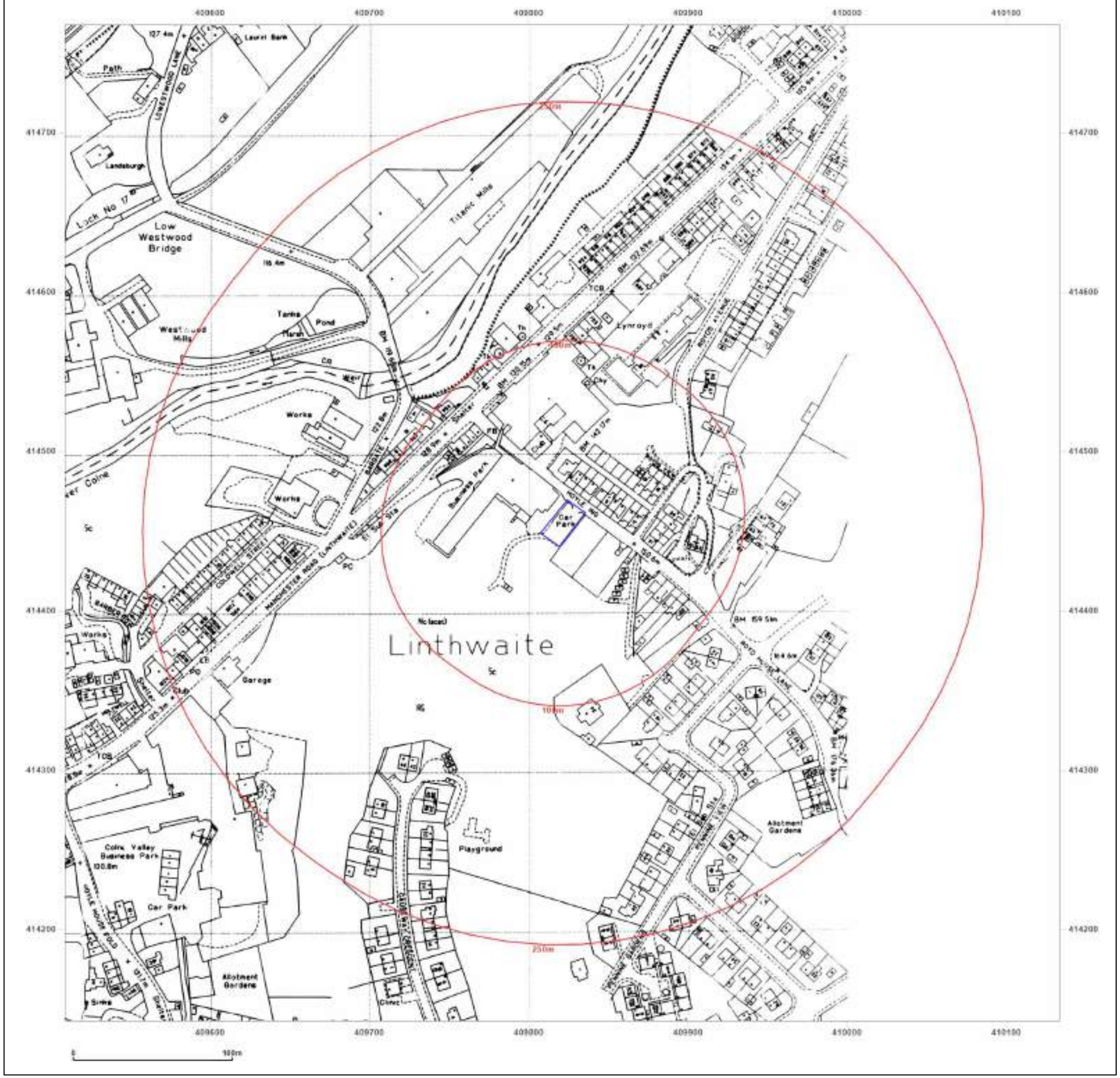
Surveyed 1982
Revised 1982
Edition N/A
Copyright 1984
Levelled 1959

Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

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

Powered by OS

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

Production date: 07 October 2022

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

Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: National Grid

Map date: **1994**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

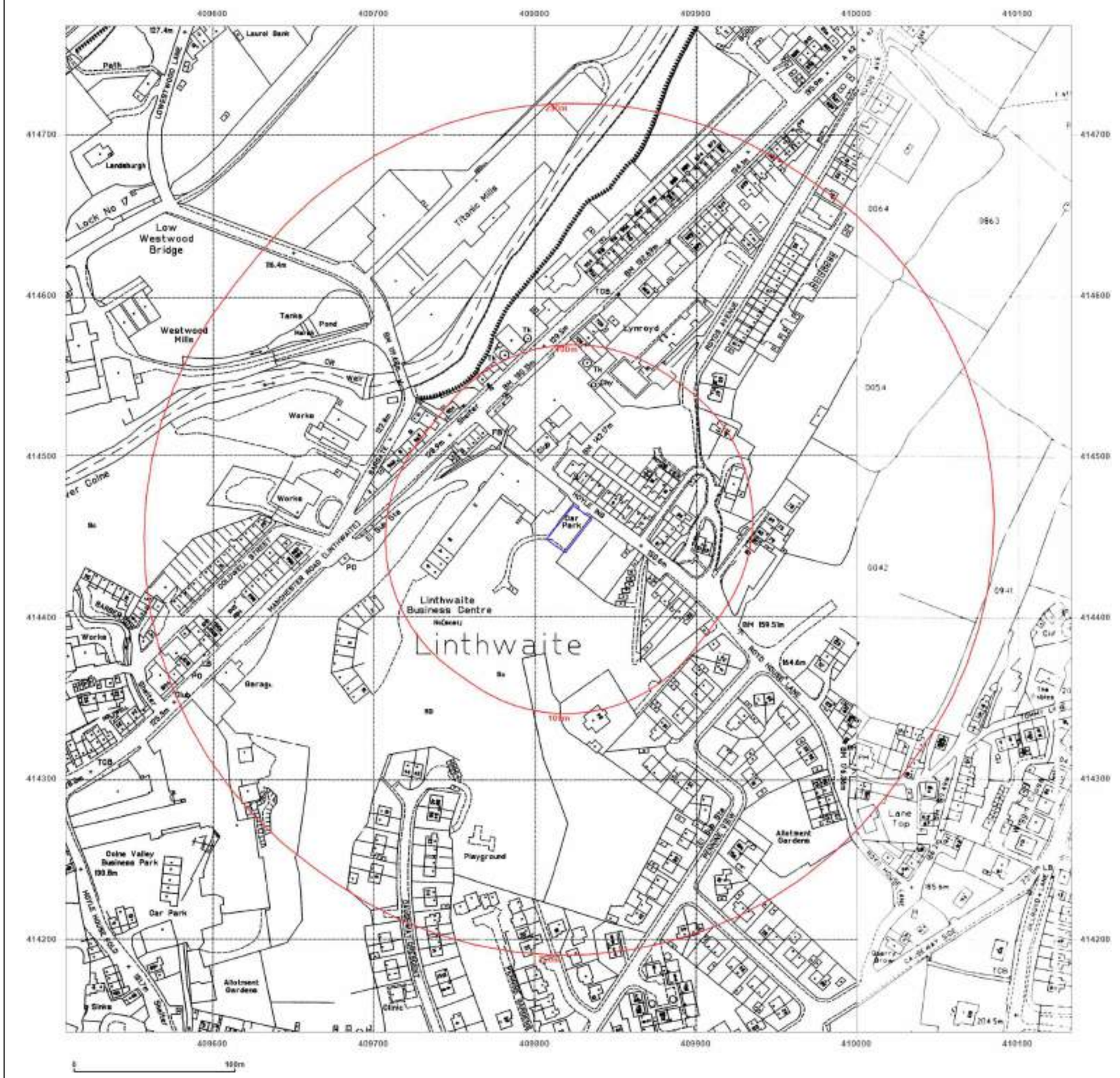
Surveyed N/A
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A

Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: National Grid

Map date: **1993-1994**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

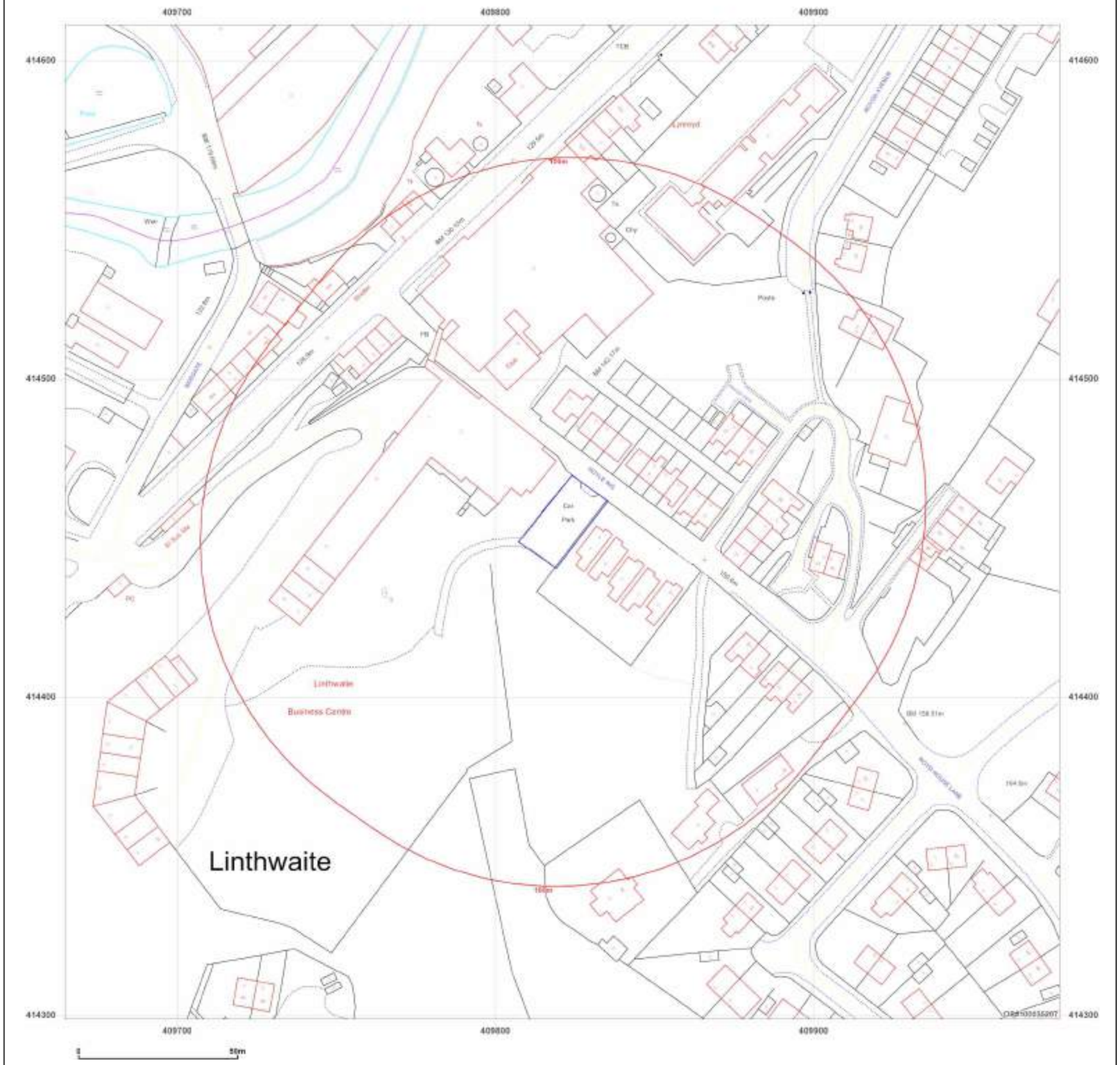
Surveyed 1994	Surveyed N/A
Revised 1994	Revised N/A
Edition N/A	Edition N/A
Copyright 1994	Copyright 1993
Levelled N/A	Levelled N/A

Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

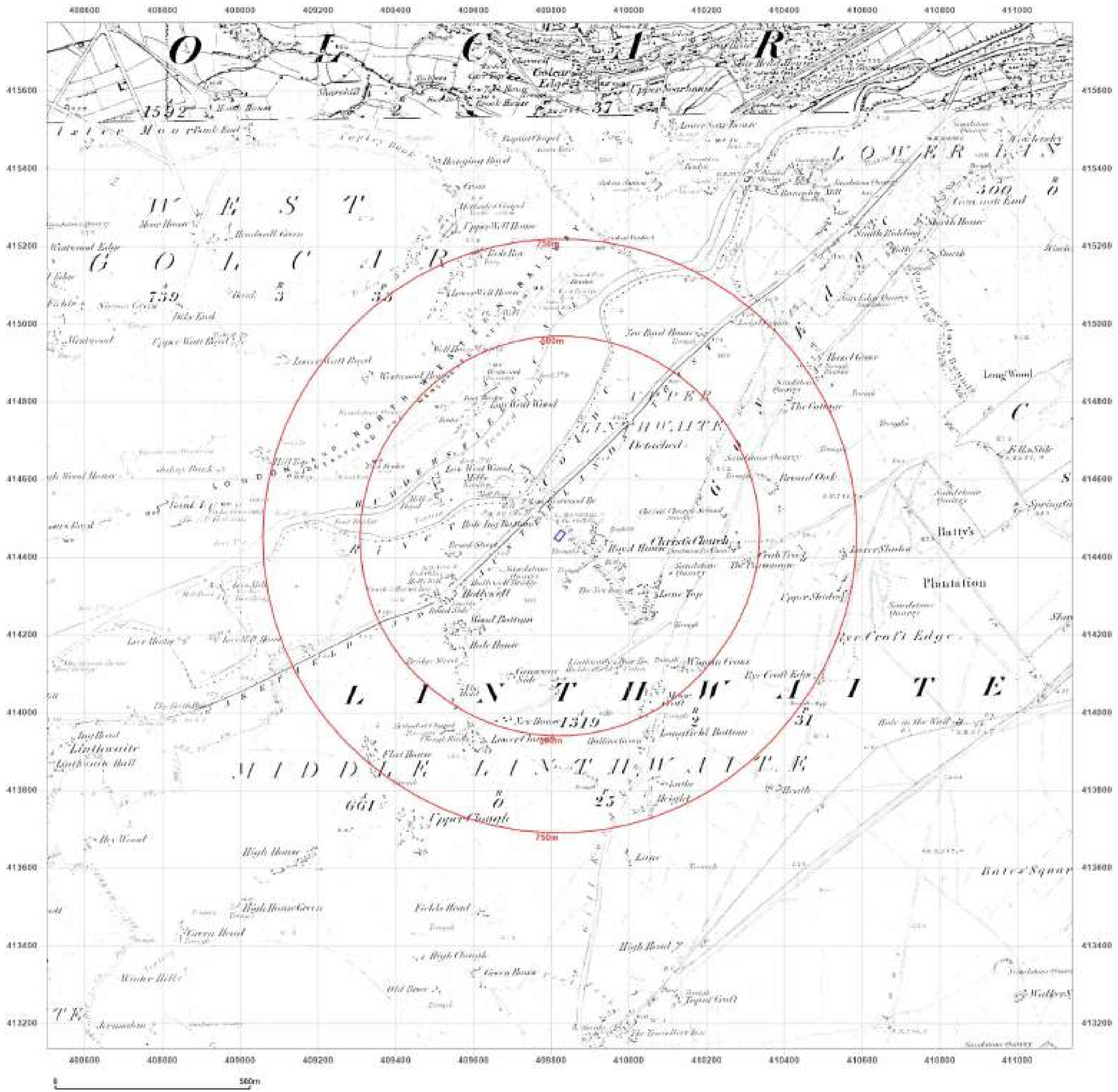
N W E S

Powered by OS

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

Production date: 07 October 2022

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



![Groundsure Insights logo]

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

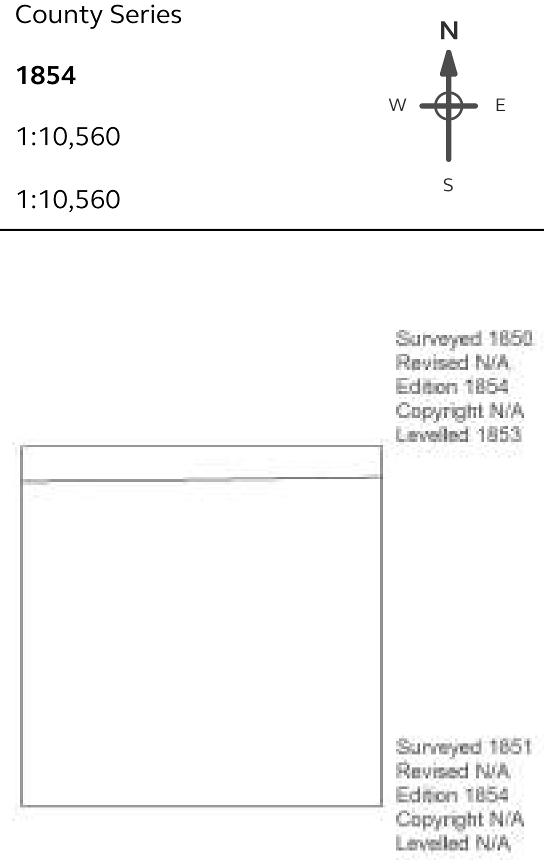
Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: County Series

Map date: **1854**

Scale: 1:10,560

Printed at: 1:10,560

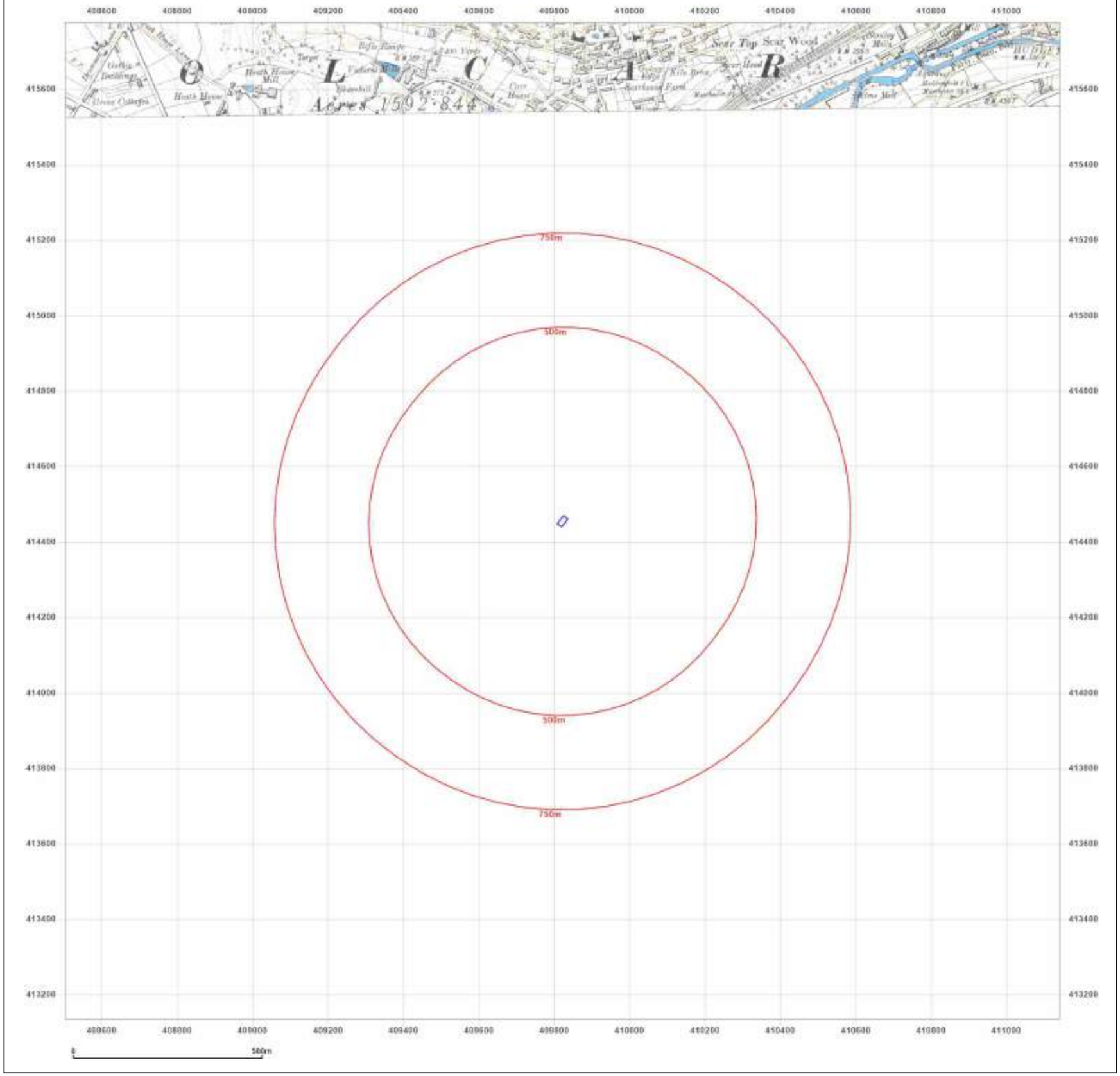


Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

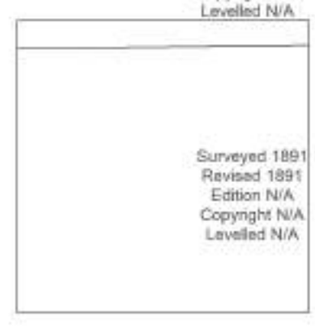
Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: County Series
Map date: **1890-1891**
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S

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



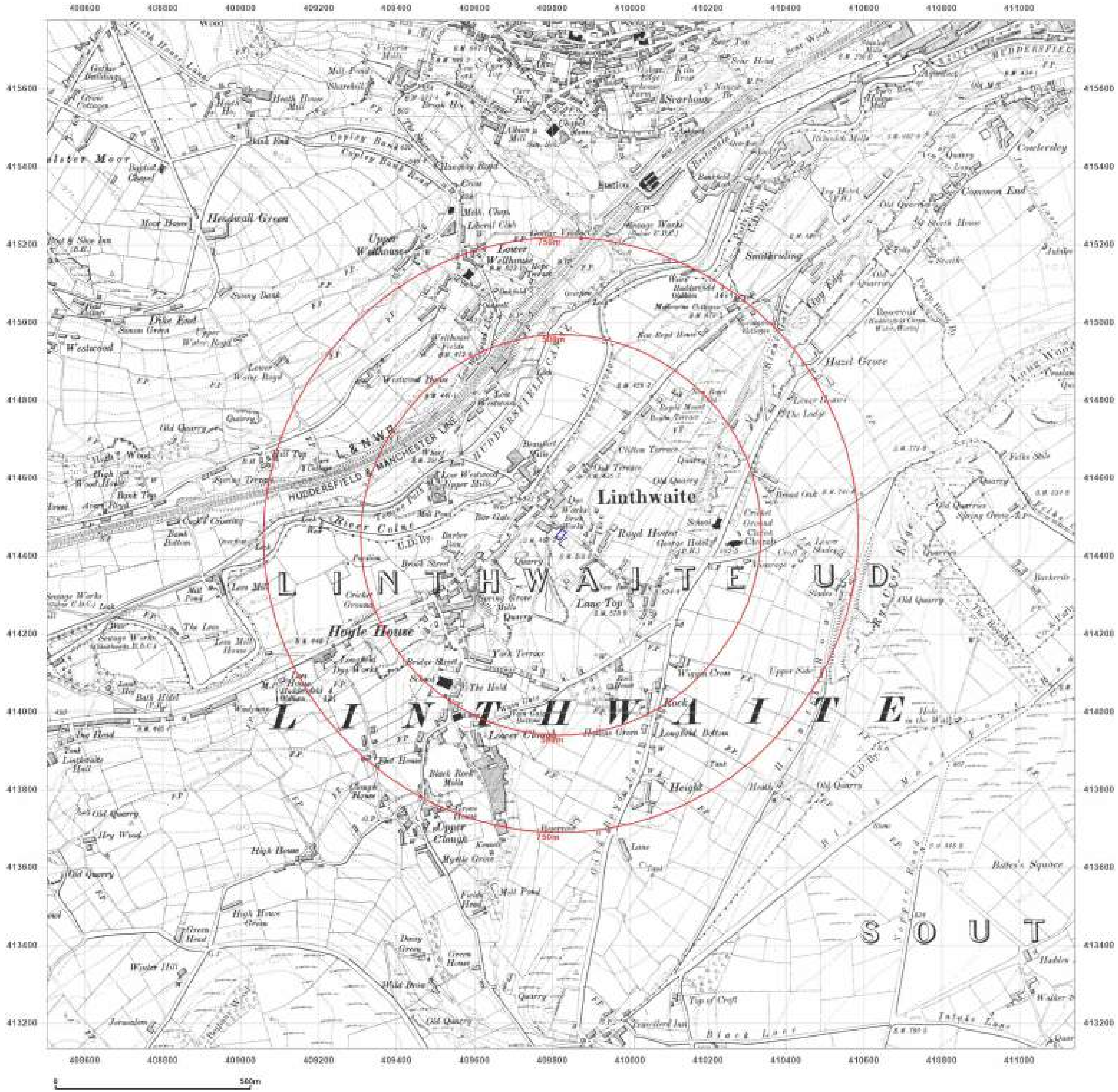
Surveyed 1891
Revised 1891
Edition N/A
Copyright N/A
Levelled N/A

Powered by OS

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

Production date: 07 October 2022

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



Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: County Series

Map date: **1905**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1890
Revised 1905
Edition N/A
Copyright N/A
Levelled N/A

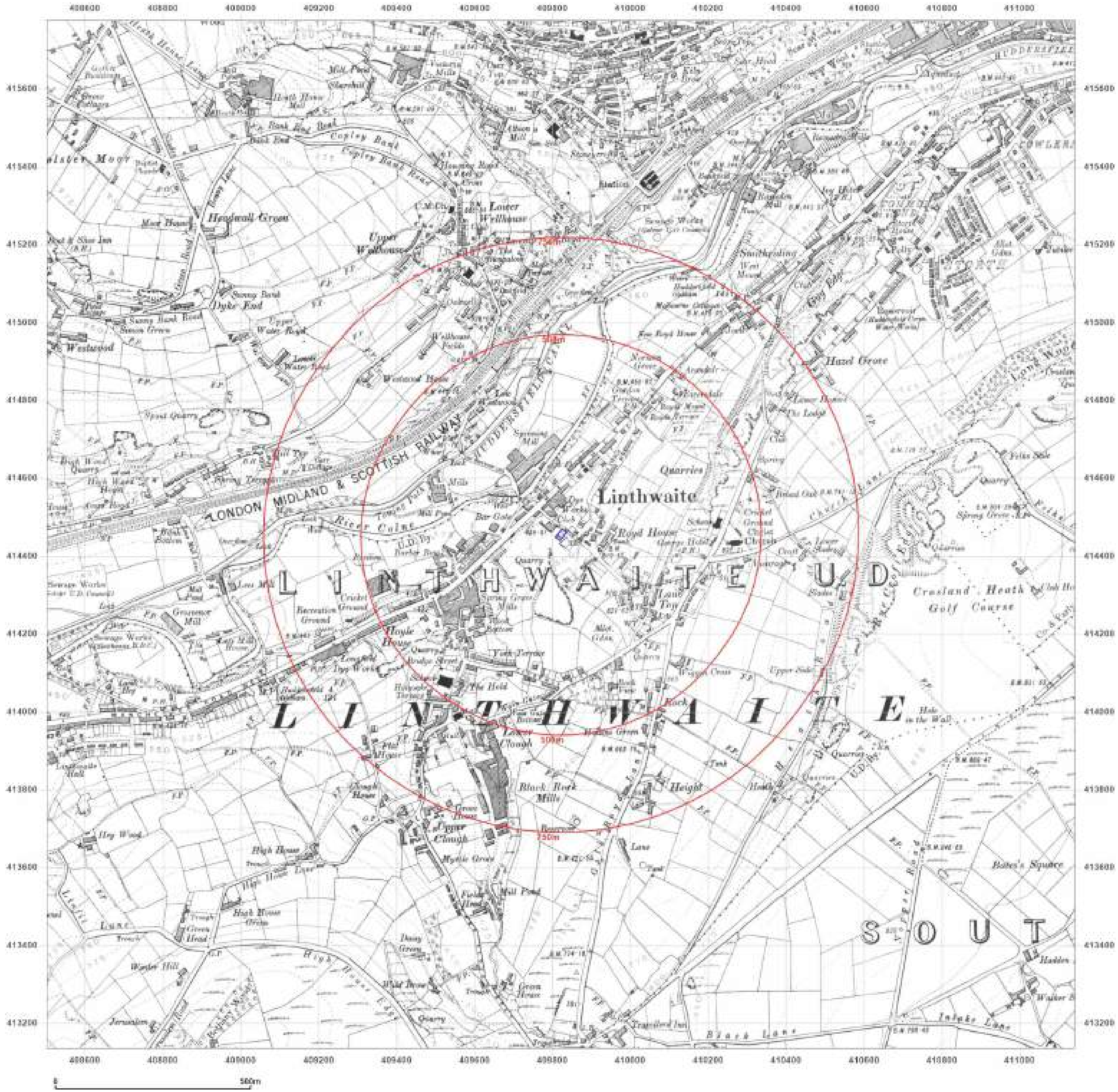
Surveyed 1891
Revised 1905
Edition N/A
Copyright N/A
Levelled N/A

Powered by OS

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

Production date: 07 October 2022

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



Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: County Series

Map date: **1930**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1849
Revised 1930
Edition N/A
Copyright N/A
Levelled N/A

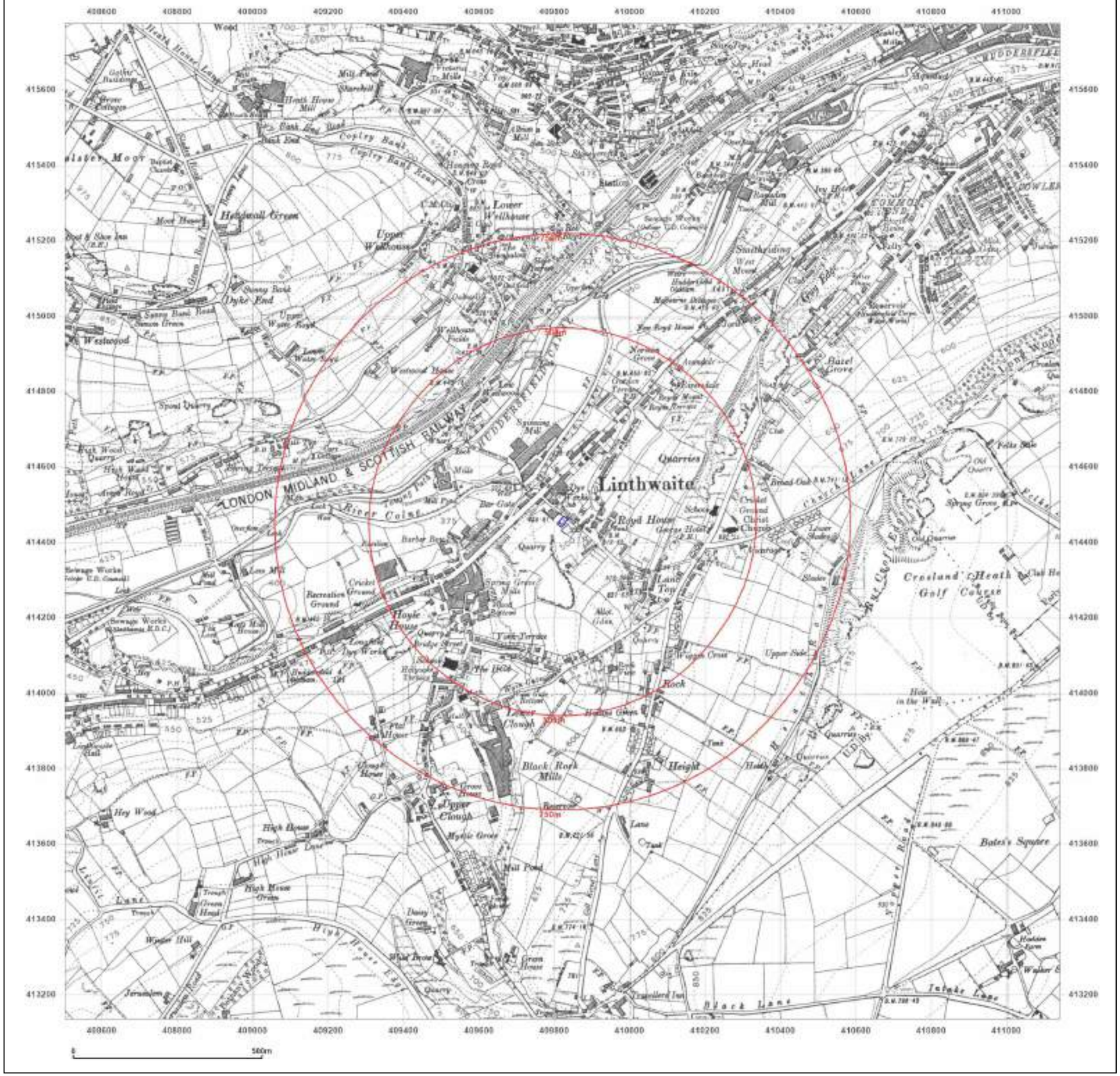
Surveyed 1851
Revised 1930
Edition N/A
Copyright N/A
Levelled N/A

Powered by

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: County Series

Map date: **1948**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

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

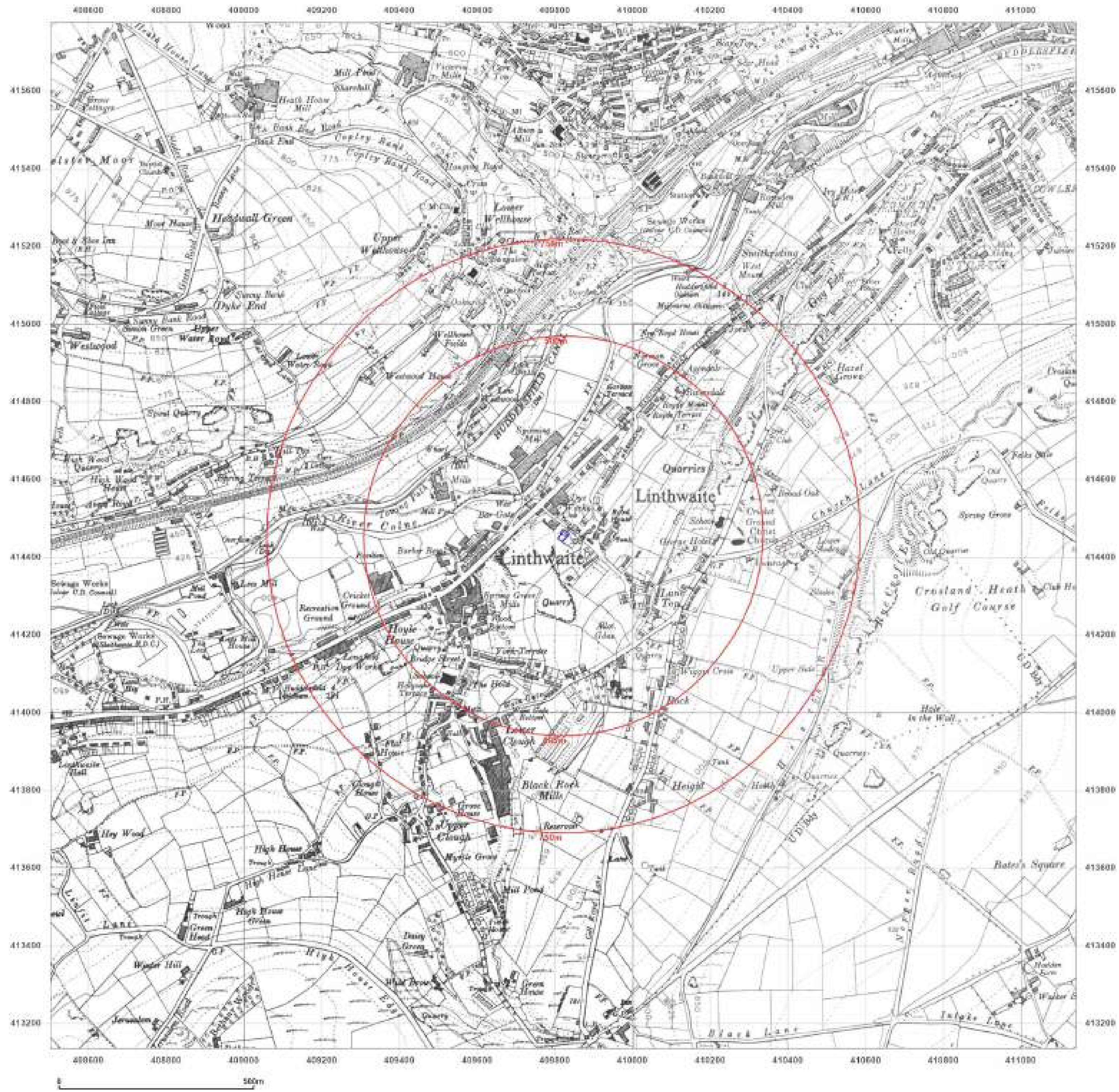
Surveyed 1851
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: Provisional

Map date: **1955-1956**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

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

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

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

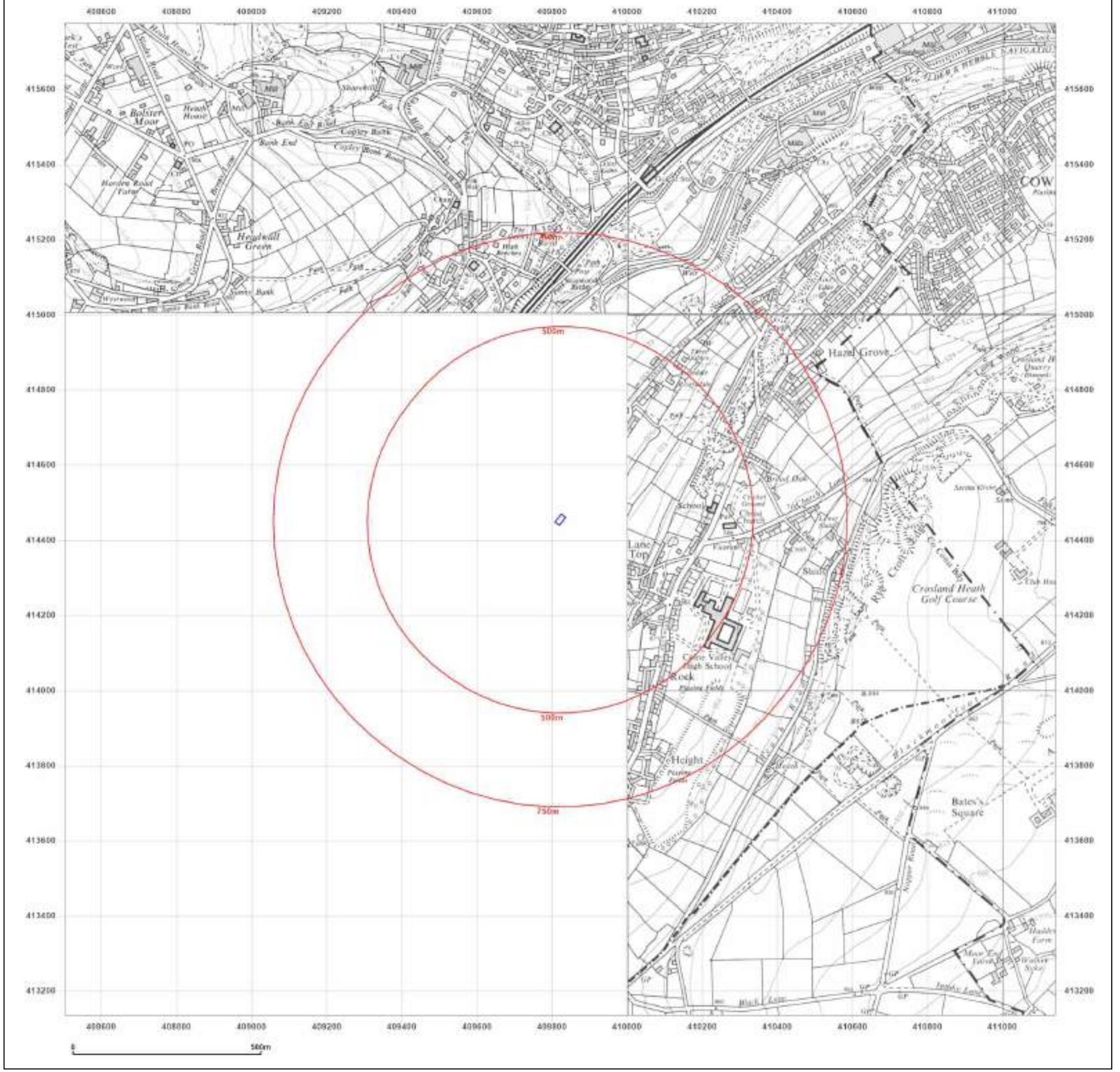
Surveyed N/A
Revised 1955
Edition 1956
Copyright N/A
Levelled N/A

Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

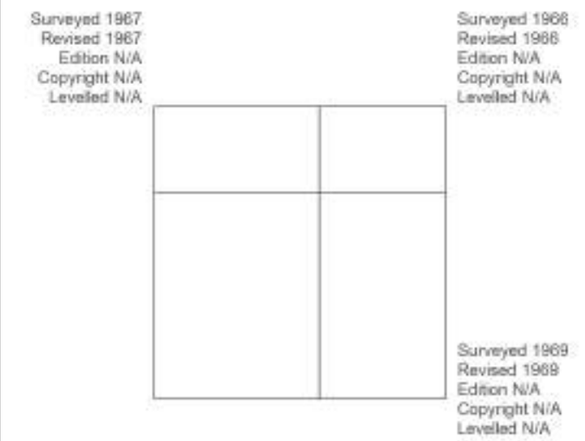
Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: Provisional
Map date: **1966-1969**
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S

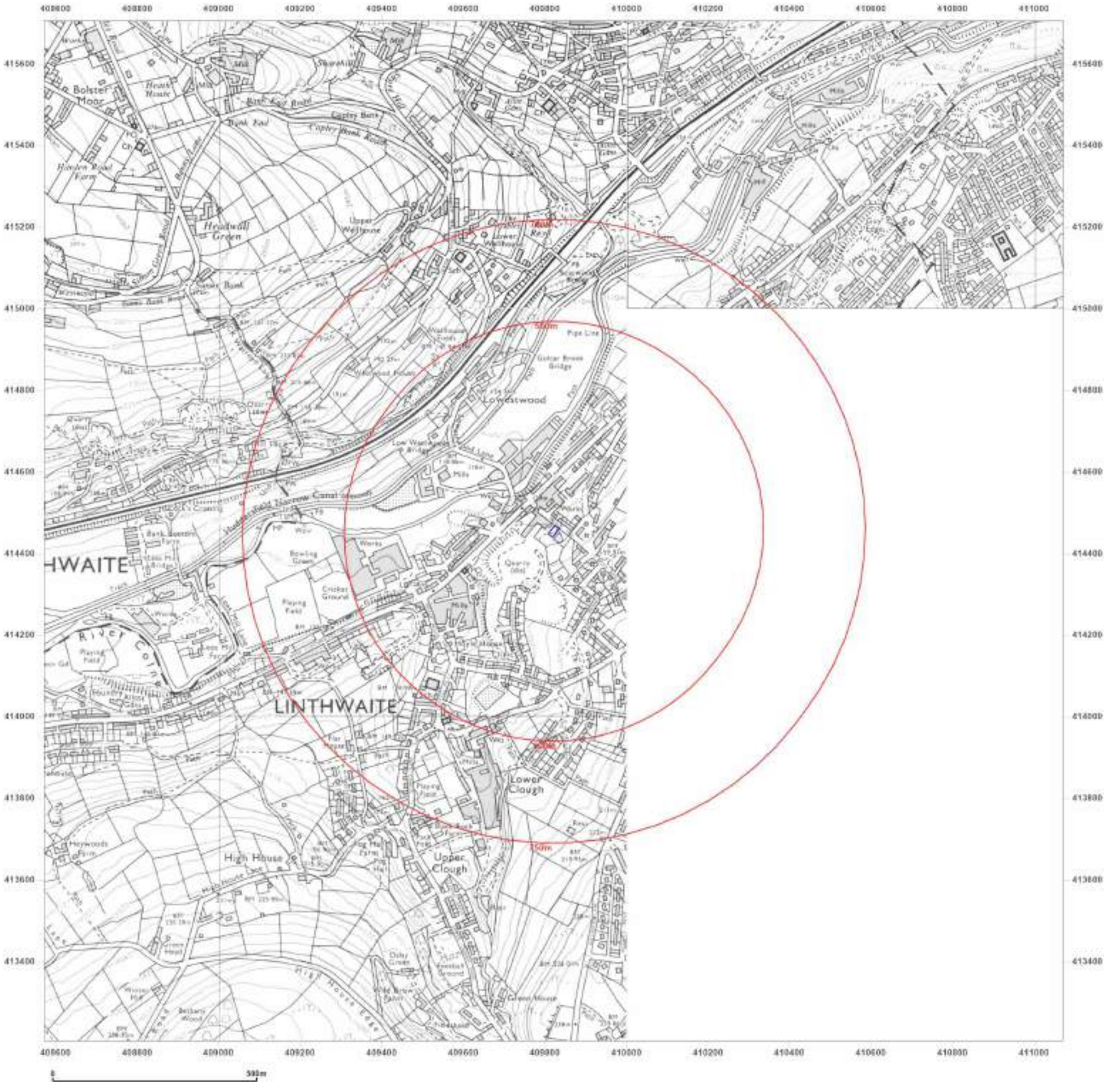


Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: National Grid

Map date: **1975-1978**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

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

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

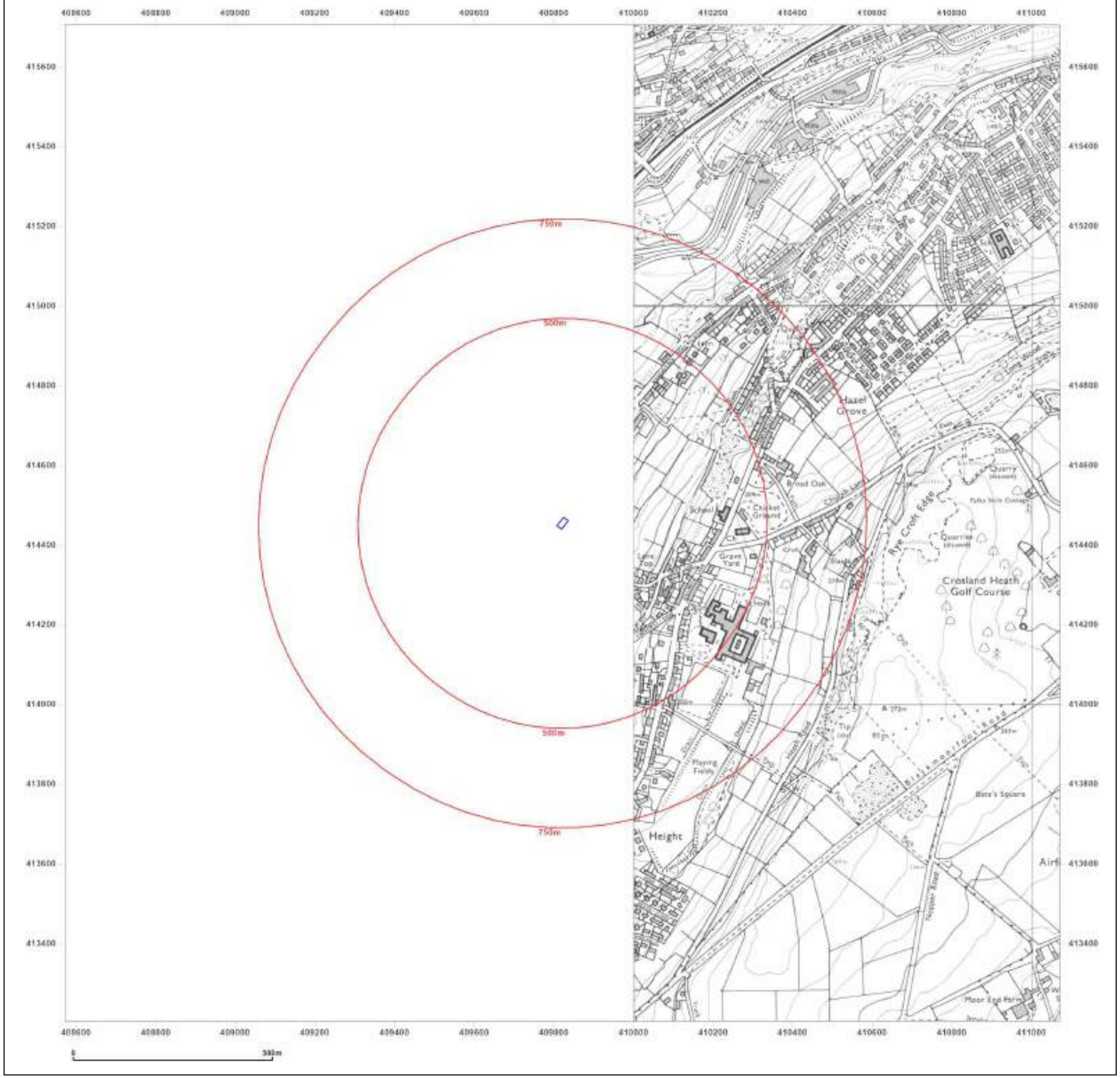
Surveyed 1978
Revised 1978
Edition N/A
Copyright N/A
Levelled N/A

Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

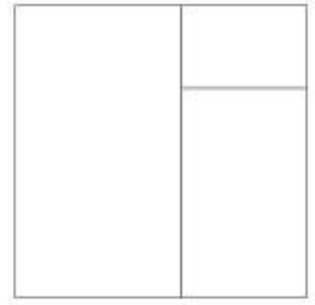
Map Name: National Grid

Map date: **1984-1985**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S



Surveyed 1984
Revised 1985
Edition N/A
Copyright N/A
Levelled N/A

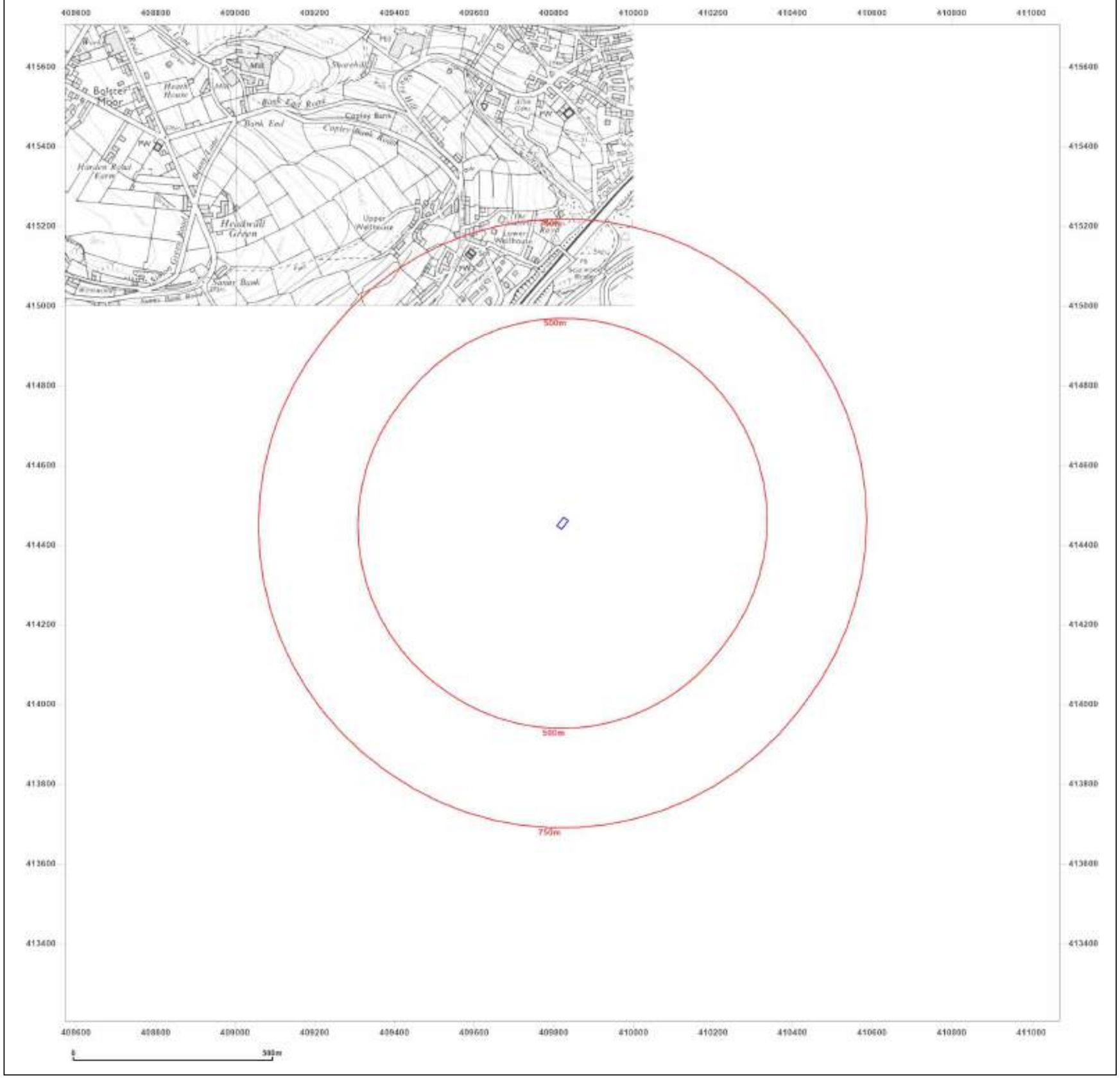
Surveyed 1983
Revised 1984
Edition N/A
Copyright N/A
Levelled N/A

Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

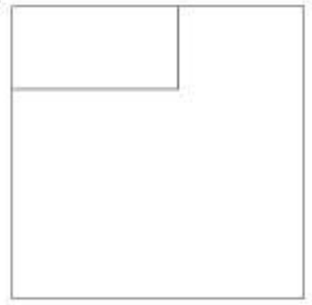
Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: National Grid
Map date: **1993**
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S

Surveyed 1977
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

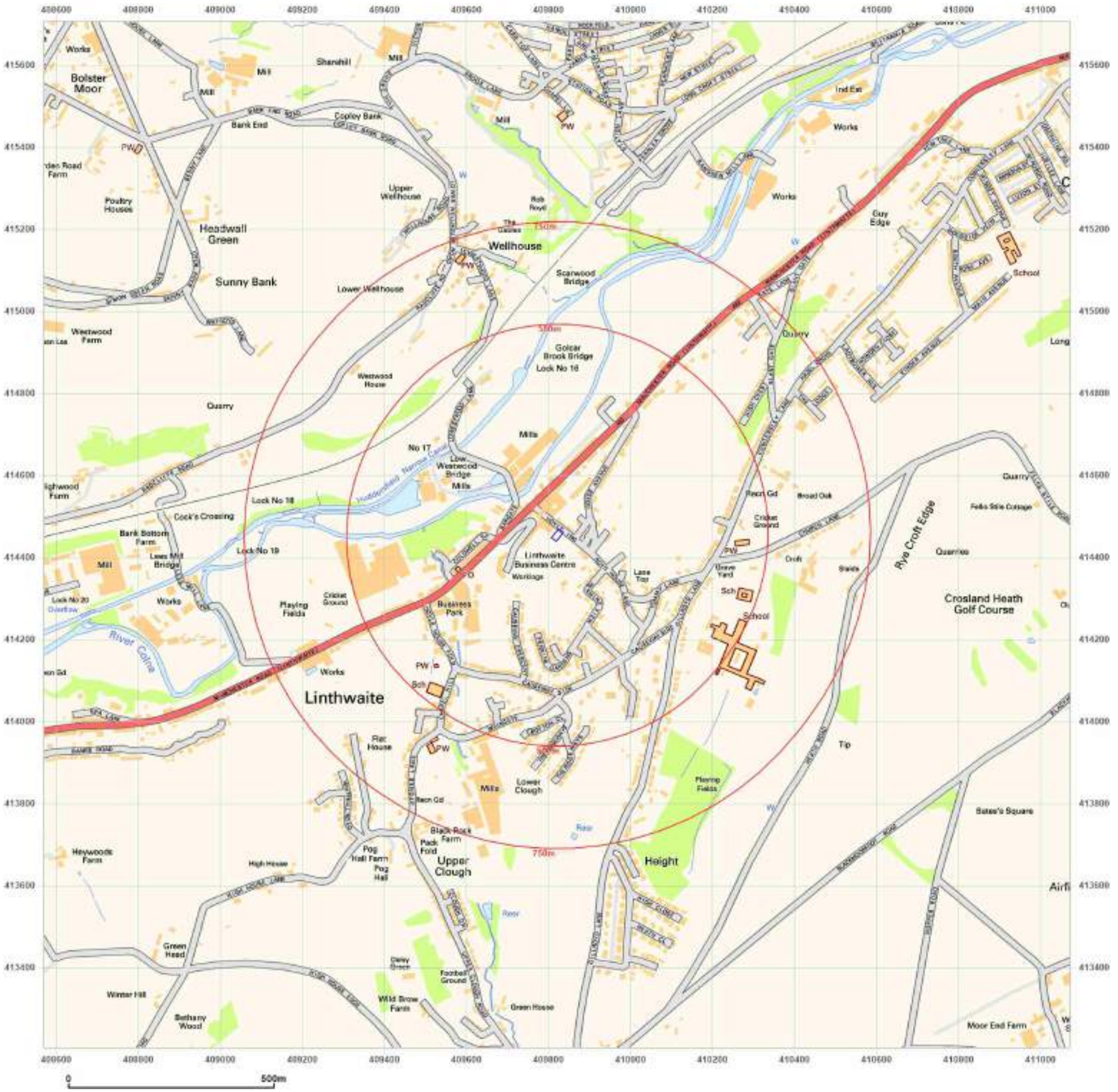


Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

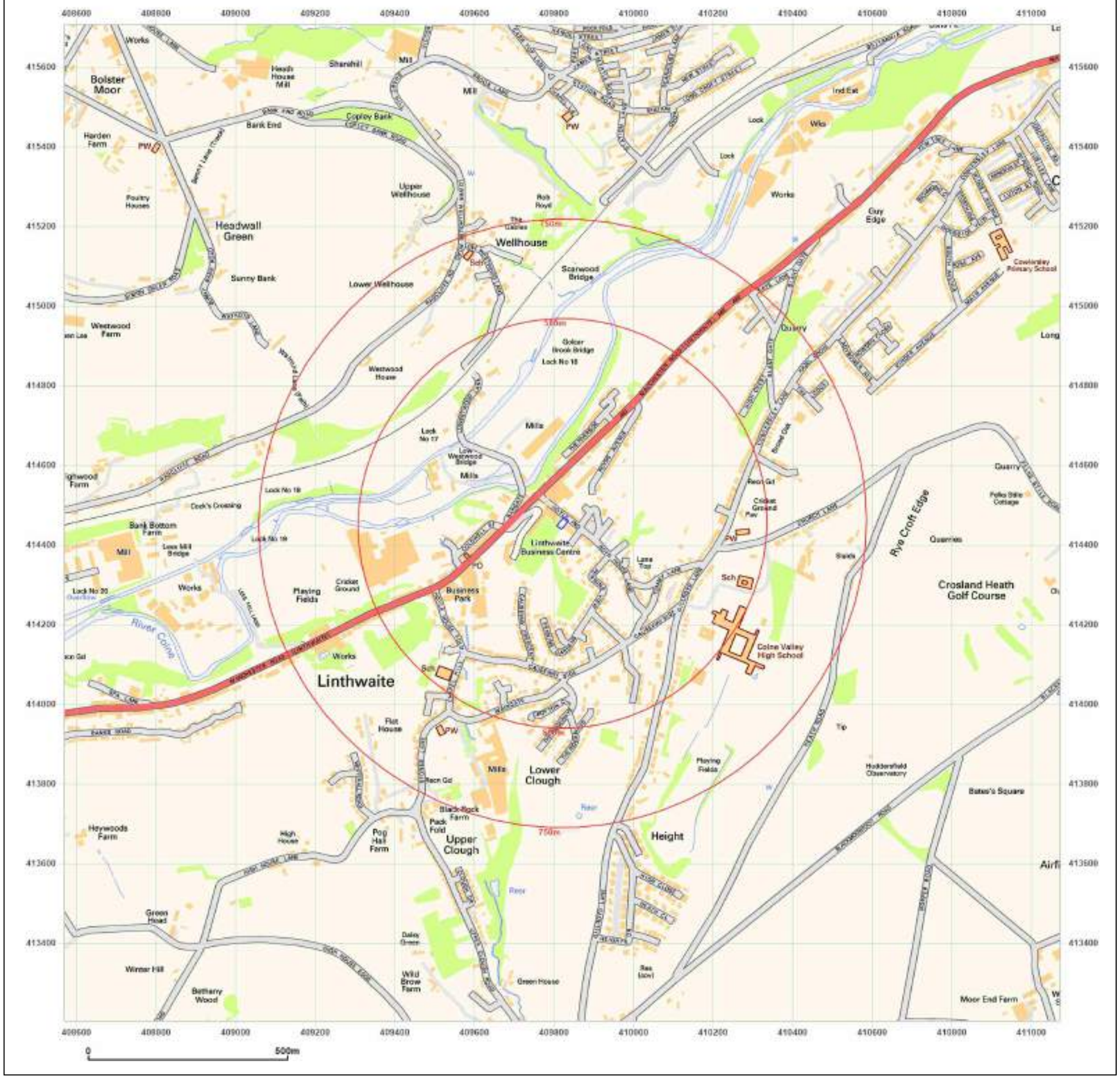
N
W E
S

Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: National Grid
Map date: **2010**
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S

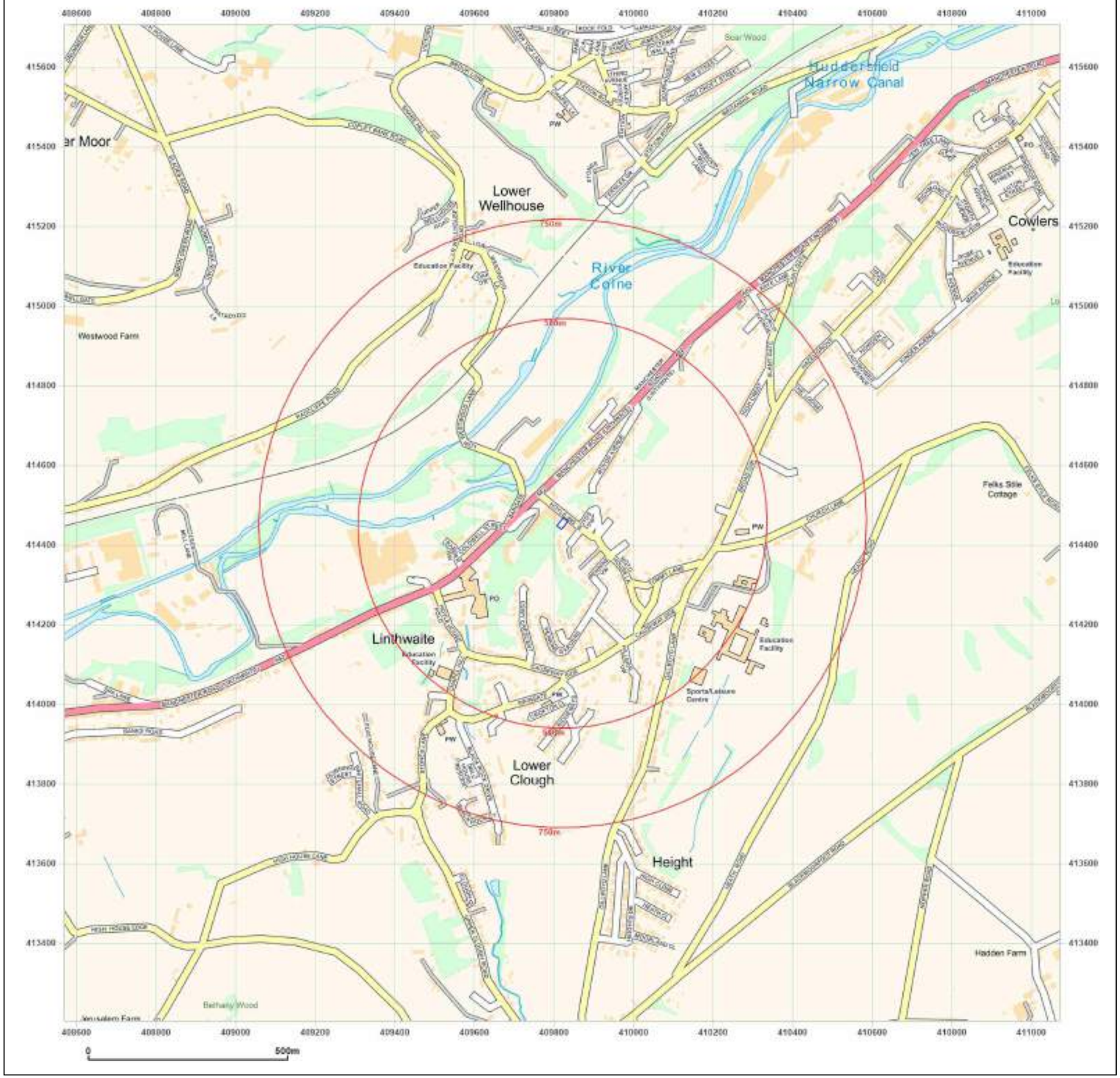
2010

Powered by OS

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

Production date: 07 October 2022

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



Groundsure INSIGHTS

Site Details:

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Client Ref: 3836
Report Ref: GS-9110998
Grid Ref: 409821, 414455

Map Name: National Grid
Map date: **2022**
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S

2022

Powered by OS

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

Production date: 07 October 2022

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

APPENDIX 5

GROUNDSURE COMBINED ENVIRO + GEO INSIGHT REPORT

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

Hoyle Inge, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, HD7 5QS

Order Details

Date: 07/10/2022

Your ref: 3836

Our Ref: GS-9110999

Site Details

Location: 409823 414456

Area: 0.04 ha

Authority: Kirklees Council

Summary of findings p. 2

OS MasterMap site plan p.13

Aerial image p. 8

groundsure.com/insightuserguide

Contact us with any questions at:
info@groundsure.com
08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	Historical industrial land uses	2	8	22	43	-
17	1.2	Historical tanks	0	2	23	28	-
20	1.3	Historical energy features	0	0	7	13	-
21	1.4	Historical petrol stations	0	0	0	1	-
21	1.5	Historical garages	0	0	6	0	-
22	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
23	2.1	Historical industrial land uses	2	10	25	54	-
27	2.2	Historical tanks	0	3	29	34	-
29	2.3	Historical energy features	0	0	12	28	-
31	2.4	Historical petrol stations	0	0	0	2	-
32	2.5	Historical garages	0	0	7	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
33	3.1	Active or recent landfill	0	0	0	0	-
33	3.2	Historical landfill (BGS records)	0	0	0	0	-
34	3.3	Historical landfill (LA/mapping records)	0	0	1	4	-
34	3.4	Historical landfill (EA/NRW records)	0	0	0	1	-
35	3.5	Historical waste sites	0	0	2	0	-
35	3.6	Licensed waste sites	0	0	5	0	-
37	3.7	Waste exemptions	0	0	0	31	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
41	4.1	Recent industrial land uses	0	0	16	-	-
43	4.2	Current or recent petrol stations	0	0	1	1	-
43	4.3	Electricity cables	0	0	0	0	-
43	4.4	Gas pipelines	0	0	0	0	-
43	4.5	Sites determined as Contaminated Land	0	0	0	0	-

43	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
44	4.7	Regulated explosive sites	0	0	0	0	-
44	4.8	Hazardous substance storage/usage	0	0	0	0	-
44	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
44	**4.10**	**Licensed industrial activities (Part A(1))**	0	0	5	0	-
45	**4.11**	**Licensed pollutant release (Part A(2)/B)**	0	0	0	1	-
46	4.12	Radioactive Substance Authorisations	0	0	0	0	-
46	**4.13**	**Licensed Discharges to controlled waters**	0	0	2	10	-
48	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
48	4.15	Pollutant release to public sewer	0	0	0	0	-
48	4.16	List 1 Dangerous Substances	0	0	0	0	-
48	**4.17**	**List 2 Dangerous Substances**	0	0	1	1	-
49	**4.18**	**Pollution Incidents (EA/NRW)**	0	0	0	8	-
50	4.19	Pollution inventory substances	0	0	0	0	-
50	4.20	Pollution inventory waste transfers	0	0	0	0	-
51	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
52	**5.1**	**Superficial aquifer**	Identified (within 500m)				
53	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
55	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
56	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
56	5.5	Groundwater vulnerability- local information	None (within 0m)				
57	**5.6**	**Groundwater abstractions**	0	0	1	4	14
62	**5.7**	**Surface water abstractions**	0	0	2	6	14
68	**5.8**	**Potable abstractions**	0	0	0	6	1
70	**5.9**	**Source Protection Zones**	0	1	1	0	-
70	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
71	**6.1**	**Water Network (OS MasterMap)**	0	0	2	-	-

72	**6.2**	**Surface water features**	0	0	3	-	-
72	**6.3**	**WFD Surface water body catchments**	1	-	-	-	-
72	**6.4**	**WFD Surface water bodies**	0	0	1	-	-
73	**6.5**	**WFD Groundwater bodies**	1	-	-	-	-

Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
74	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
74	7.2	Historical Flood Events	0	0	0	-	-
74	7.3	Flood Defences	0	0	0	-	-
75	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
75	7.5	Flood Storage Areas	0	0	0	-	-
76	7.6	Flood Zone 2	None (within 50m)				
76	7.7	Flood Zone 3	None (within 50m)				

Page	Section	Surface water flooding	
77	**8.1**	**Surface water flooding**	1 in 100 year, 0.1m - 0.3m (within 50m)

Page	Section	Groundwater flooding	
79	**9.1**	**Groundwater flooding**	Negligible (within 50m)

Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
80	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
81	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
81	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
81	10.4	Special Protection Areas (SPA)	0	0	0	0	0
81	10.5	National Nature Reserves (NNR)	0	0	0	0	0
82	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
82	10.7	Designated Ancient Woodland	0	0	0	0	0
82	10.8	Biosphere Reserves	0	0	0	0	0
82	10.9	Forest Parks	0	0	0	0	0
83	10.10	Marine Conservation Zones	0	0	0	0	0
83	**10.11**	**Green Belt**	0	0	1	0	0
83	10.12	Proposed Ramsar sites	0	0	0	0	0

83	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
84	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
84	10.15	Nitrate Sensitive Areas	0	0	0	0	0
84	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
85	**10.17**	**SSSI Impact Risk Zones**	1	-	-	-	-
86	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
87	11.1	World Heritage Sites	0	0	0	-	-
88	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
88	11.3	National Parks	0	0	0	-	-
88	**11.4**	**Listed Buildings**	0	0	3	-	-
89	**11.5**	**Conservation Areas**	1	0	0	-	-
89	11.6	Scheduled Ancient Monuments	0	0	0	-	-
89	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
90	**12.1**	**Agricultural Land Classification**	Grade 4 (within 250m)				
91	12.2	Open Access Land	0	0	0	-	-
91	12.3	Tree Felling Licences	0	0	0	-	-
91	**12.4**	**Environmental Stewardship Schemes**	0	0	1	-	-
92	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
93	**13.1**	**Priority Habitat Inventory**	0	0	1	-	-
94	13.2	Habitat Networks	0	0	0	-	-
94	13.3	Open Mosaic Habitat	0	0	0	-	-
94	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
95	**14.1**	**10k Availability**	Identified (within 500m)				
96	**14.2**	**Artificial and made ground (10k)**	1	1	2	9	-
98	**14.3**	**Superficial geology (10k)**	0	0	2	0	-

99	14.4	Landslip (10k)	0	0	0	1	-
100	14.5	Bedrock geology (10k)	1	5	10	6	-
102	14.6	Bedrock faults and other linear features (10k)	0	1	1	1	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
103	15.1	50k Availability	Identified (within 500m)				
104	15.2	Artificial and made ground (50k)	1	1	0	2	-
105	15.3	Artificial ground permeability (50k)	1	1	-	-	-
106	15.4	Superficial geology (50k)	0	0	2	0	-
107	15.5	Superficial permeability (50k)	None (within 50m)				
107	15.6	Landslip (50k)	0	0	0	1	-
107	15.7	Landslip permeability (50k)	None (within 50m)				
108	15.8	Bedrock geology (50k)	1	3	6	3	-
109	15.9	Bedrock permeability (50k)	Identified (within 50m)				
110	15.10	Bedrock faults and other linear features (50k)	0	1	0	1	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
111	16.1	BGS Boreholes	0	0	2	-	-
Page	Section	Natural ground subsidence					
112	17.1	Shrink swell clays	Very low (within 50m)				
113	17.2	Running sands	Very low (within 50m)				
115	17.3	Compressible deposits	Moderate (within 50m)				
117	17.4	Collapsible deposits	Very low (within 50m)				
118	17.5	Landslides	Low (within 50m)				
120	17.6	Ground dissolution of soluble rocks	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
122	18.1	Natural cavities	0	0	0	0	-
123	18.2	BritPits	0	0	3	8	-
125	18.3	Surface ground workings	1	4	15	-	-
126	18.4	Underground workings	0	0	0	0	0
126	18.5	Historical Mineral Planning Areas	0	0	0	0	-

126	**18.6**	**Non-coal mining**	1	0	1	0	2
127	18.7	Mining cavities	0	0	0	0	0
127	18.8	JPB mining areas	None (within 0m)				
127	18.9	Coal mining	None (within 0m)				
127	18.10	Brine areas	None (within 0m)				
127	18.11	Gypsum areas	None (within 0m)				
128	18.12	Tin mining	None (within 0m)				
128	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
129	**19.1**	**Radon**	Less than 1% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
130	**20.1**	**BGS Estimated Background Soil Chemistry**	1	5	-	-	-
130	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
131	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-

Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
132	21.1	Underground railways (London)	0	0	0	-	-
132	21.2	Underground railways (Non-London)	0	0	0	-	-
133	21.3	Railway tunnels	0	0	0	-	-
133	**21.4**	**Historical railway and tunnel features**	0	3	0	-	-
133	21.5	Royal Mail tunnels	0	0	0	-	-
133	21.6	Historical railways	0	0	0	-	-
134	21.7	Railways	0	0	0	-	-
134	21.8	Crossrail 1	0	0	0	0	-
134	21.9	Crossrail 2	0	0	0	0	-
134	21.10	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 30/05/2021

Site Area: 0.04ha

Recent site history - 2018 aerial photograph

Capture Date: 01/07/2018

Site Area: 0.04ha

Recent site history - 2012 aerial photograph

Capture Date: 26/03/2012

Site Area: 0.04ha

Recent site history - 2000 aerial photograph

Capture Date: 21/09/2000

Site Area: 0.04ha

Recent site history - 1999 aerial photograph

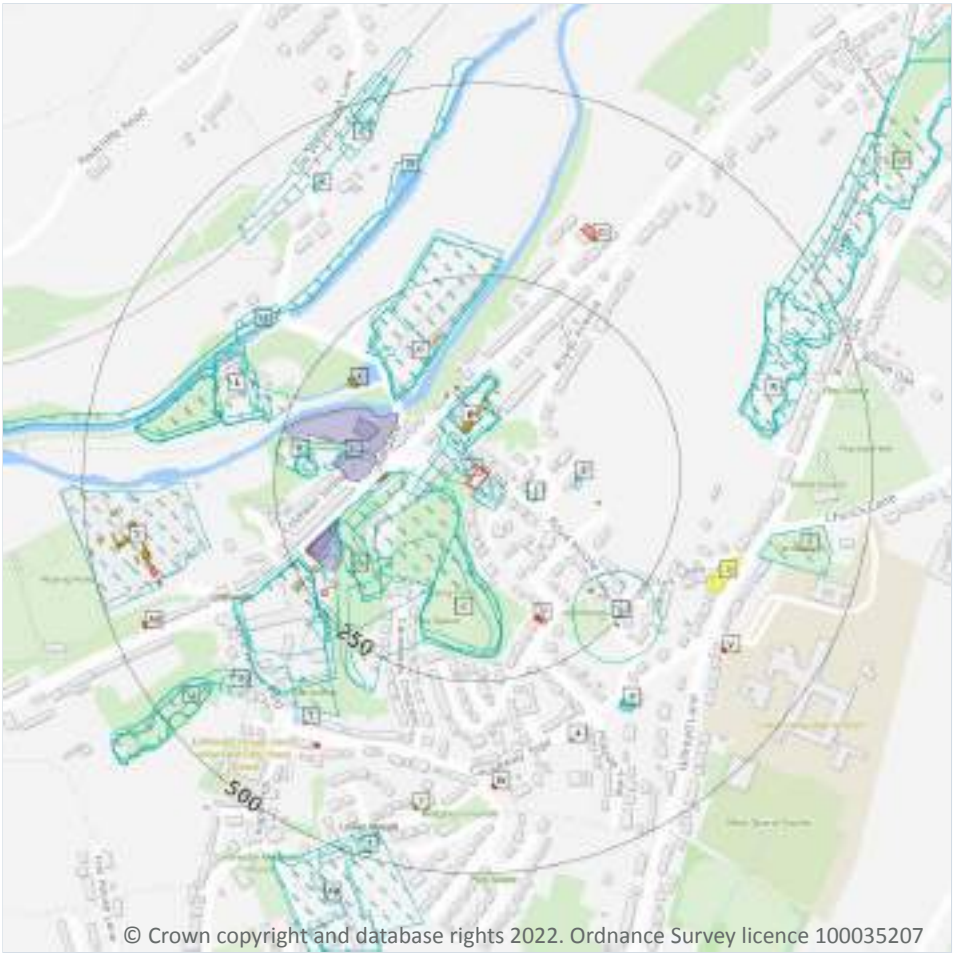
Capture Date: 10/09/1999

Site Area: 0.04ha

OS MasterMap site plan

Site Area: 0.04ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical petrol stations

Historical garages

1.1 Historical industrial land uses

Records within 500m	75

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 14**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Brick Works**	**1905**	**1428862**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Tank**	**1955**	**1549021**
A	5m SE	Unspecified Tank	1930	1515836
B	7m NW	Unspecified Works	1978	1438146
C	20m SW	Unspecified Quarry	1905 - 1930	1551540
C	26m SW	Unspecified Quarry	1948	1494207
B	29m NW	Dye Works	1930	1541313
C	30m SW	Unspecified Disused Quarry	1978	1448505
B	31m NW	Dye Works	1948 - 1955	1495676
B	48m NW	Dye Works	1905	1528367
1	52m SE	Unspecified Tank	1948	1433292
C	63m S	Unspecified Quarry	1955	1483946
D	77m W	Unspecified Ground Workings	1978	1412105
2	83m SW	Unspecified Quarry	1905	1495610
F	113m E	Unspecified Tank	1955	1544950
F	113m E	Unspecified Tank	1930 - 1948	1489501
D	127m W	Unspecified Quarry	1930	1552133
E	129m W	Refuse Heap	1905	1436498
G	136m NW	Unspecified Mills	1905	1419103
G	136m NW	Spinning Mills	1930	1441798
G	137m NW	Unspecified Mill	1948	1421193
G	143m NW	Spinning Mill	1955	1411062
H	167m W	Unspecified Ground Workings	1978	1412092
J	187m SE	Unspecified Tank	1948	1471210
H	192m W	Refuse Heap	1955	1549325
H	194m W	Refuse Heap	1930	1484109
H	195m W	Unspecified Heap	1948	1414994
D	231m SW	Unspecified Mills	1955	1496206
D	233m SW	Unspecified Mills	1948	1505389

ID	Location	Land use	Dates present	Group ID
D	234m SW	Unspecified Mills	1978	1528649
D	234m SW	Unspecified Mills	1905 - 1930	1505883
J	236m SE	Unspecified Tank	1951	1478362
L	251m NW	Unspecified Mills	1955	1475108
J	254m SE	Unspecified Tank	1930	1461640
L	270m W	Unspecified Mills	1978	1531256
L	278m W	Unspecified Mills	1948	1497214
L	278m W	Unspecified Mills	1905	1550045
L	292m W	Unspecified Mills	1930	1490608
M	309m NW	Disused Canal	1978	1515293
M	309m NW	Disused Canal	1955	1537791
N	325m NW	Unspecified Wharf	1905 - 1948	1463953
L	330m W	Mill Pond	1930	1509485
L	330m W	Mill Pond	1948	1524392
L	330m W	Mill Pond	1905	1556132
L	332m W	Mill Pond	1955	1465464
N	332m NW	Unspecified Wharf	1955	1514110
P	333m SE	Unspecified Quarry	1951	1475282
P	336m SE	Unspecified Quarry	1930	1482595
Q	336m E	Unspecified Quarries	1930	1492947
P	337m SE	Unspecified Quarry	1948	1529818
R	340m E	Unspecified Old Quarry	1905	1440656
R	340m E	Unspecified Quarries	1948	1499449
R	341m E	Refuse Heap	1984	1436539
S	345m W	Unspecified Works	1978	1438147
Q	355m E	Unspecified Quarries	1951	1480851
Q	355m E	Unspecified Quarries	1969	1542349
5	367m E	Grave Yard	1984	1428169

ID	Location	Land use	Dates present	Group ID
U	376m SW	Unspecified Quarry	1948 - 1955	1557735
6	382m SW	Unspecified Heap	1905 - 1948	1467512
R	404m NE	Unspecified Quarry	1905	1426575
X	417m NW	Railway Building	1930	1428985
X	418m NW	Railway Sidings	1955	1516723
U	419m SW	Unspecified Quarry	1905	1460480
U	421m SW	Unspecified Quarry	1930	1537340
U	426m SW	Unspecified Quarry	1978	1535014
X	427m NW	Railway Building	1955	1428986
Z	434m NW	Railway Building	1905 - 1955	1550106
Z	456m N	Railway Sidings	1948	1472165
Z	456m N	Railway Sidings	1905	1492995
AB	457m S	Unspecified Mills	1948 - 1955	1479314
AB	463m S	Unspecified Mills	1930	1521804
Z	467m N	Railway Sidings	1930	1555200
7	477m S	Unspecified Works	1978	1438133
8	486m NE	Unspecified Quarry	1948	1426577
AB	491m S	Unspecified Mills	1978	1539597

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**53**

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
B	49m N	Tanks	1967	230260
B	50m NW	Unspecified Tank	1892 - 1913	237724
B	66m N	Unspecified Tank	1906	249399
B	70m N	Unspecified Tank	1967	222864
B	75m N	Unspecified Tank	1892	249919
B	86m N	Unspecified Tank	1991 - 1996	239481
B	99m N	Unspecified Tank	1906	222858
B	100m NW	Unspecified Tank	1991 - 1996	238892
B	105m N	Unspecified Tank	1994 - 1996	244369
B	106m N	Unspecified Tank	1991	244121
F	146m E	Unspecified Tank	1892	222863
G	155m NW	Unspecified Tank	1892	222857
G	170m N	Tanks	1892	230268
K	189m NW	Tanks	1991	235728
K	190m NW	Tanks	1994 - 1996	247342
K	190m NW	Tanks	1968	235758
K	190m NW	Tanks	1967	240711
K	192m NW	Tanks	1985	239175
J	195m SE	Tanks	1892	230239
J	212m SE	Tanks	1892	230237
D	220m SW	Tanks	1906	230238
D	221m SW	Tanks	1906	230241
D	222m SW	Unspecified Tank	1906	222910
D	247m SW	Tanks	1892	230240
D	249m SW	Unspecified Tank	1892	222912
J	253m SE	Unspecified Tank	1913	222867
J	254m SE	Unspecified Tank	1906	222868
L	305m NW	Tanks	1892	230261

ID	Location	Land use	Dates present	Group ID
4	347m S	Unspecified Tank	1913	222865
T	373m SW	Unspecified Tank	1906	222911
Y	417m S	Tanks	1968 - 1985	243365
Y	418m S	Tanks	1967	238374
S	420m W	Unspecified Tank	1994 - 1996	236759
S	420m W	Unspecified Tank	1968	240150
S	420m W	Unspecified Tank	1967	246895
S	420m W	Unspecified Tank	1991	249109
S	421m W	Unspecified Tank	1985	239640
S	423m W	Tanks	1968	235123
S	423m W	Tanks	1967	236751
S	424m W	Tanks	1985	245909
S	434m W	Tanks	1994 - 1996	236942
S	435m W	Tanks	1991	238549
S	436m W	Tanks	1985	242529
S	439m W	Tanks	1968	230242
S	445m W	Tanks	1994	242952
S	445m W	Tanks	1996	238497
S	446m W	Tanks	1991	248211
S	446m W	Tanks	1985	235272
S	454m W	Tanks	1985	247097
S	456m W	Unspecified Tank	1991 - 1996	240647
S	460m W	Tanks	1991 - 1996	243392
S	477m W	Tanks	1967	230259
S	496m W	Unspecified Tank	1967	222915

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	20

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
E	103m W	Electricity Substation	1967	137041
E	103m W	Electricity Substation	1968 - 1996	141463
I	182m SE	Electricity Substation	1985	132651
I	183m SE	Electricity Substation	1968 - 1991	136291
I	183m SE	Electricity Substation	1967	140313
I	184m SE	Electricity Substation	1994 - 1996	144146
D	230m SW	Electricity Substation	1996	128888
O	329m NE	Electricity Substation	1996	128886
O	331m NE	Electricity Substation	1994	128887
V	381m SE	Electricity Substation	1996	143727
V	382m SE	Electricity Substation	1976 - 1982	139845
W	384m S	Electricity Substation	1968 - 1996	138208
W	385m S	Electricity Substation	1967	144048
T	389m SW	Electricity Substation	1968 - 1996	142701
T	389m SW	Electricity Substation	1985	144855
T	390m SW	Electricity Substation	1967	135005
S	420m W	Electricity Substation	1968 - 1991	146358
S	421m W	Electricity Substation	1994 - 1996	138830
AA	456m SW	Electricity Substation	1967	140882
AA	456m SW	Electricity Substation	1968 - 1996	143821

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	1

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
3	316m SE	Filling Station	1976 - 1982	2648

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	6

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
E	119m NW	Garage	1968	42062
E	121m W	Garage	1968 - 1985	44983
E	134m NW	Garage	1985	42962
D	173m W	Garage	1991	42061
D	173m W	Garage	1994	42594
D	174m W	Garage	1996	42868

This data is sourced from Ordnance Survey / Groundsure.

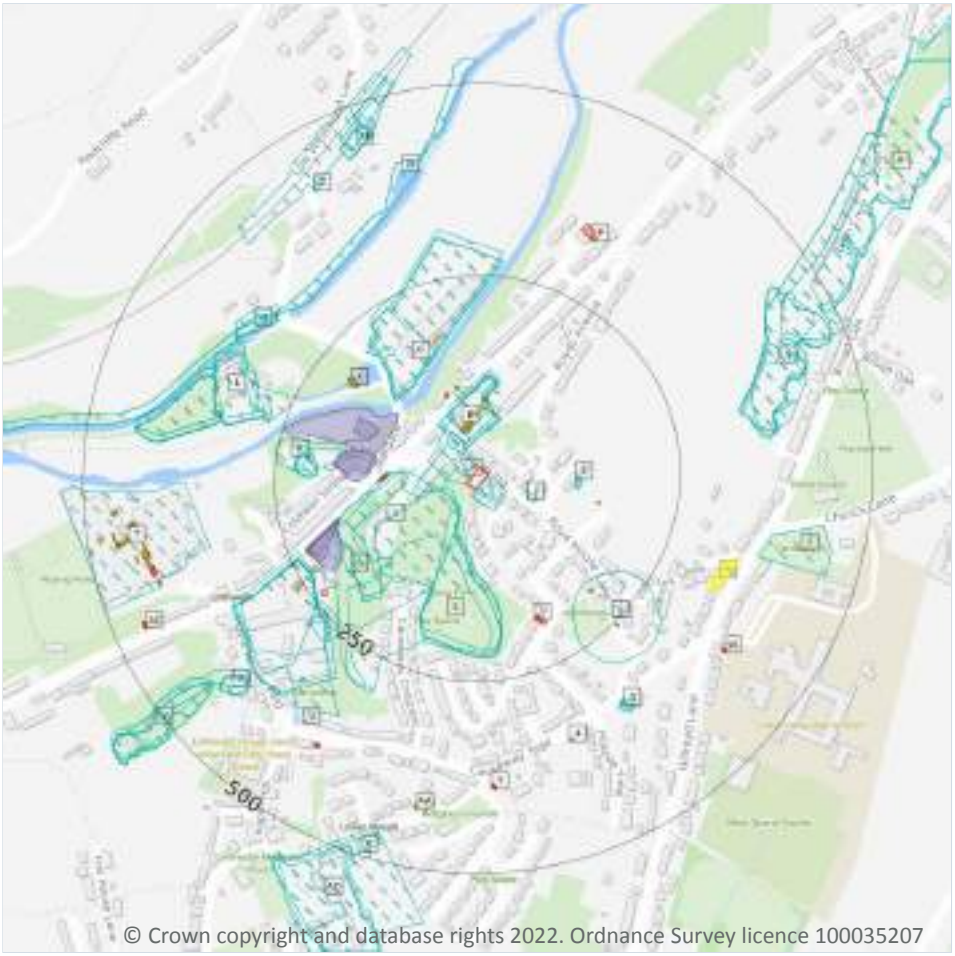
1.6 Historical military land

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

Historical petrol stations

Historical garages

2.1 Historical industrial land uses

Records within 500m	91

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 23**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Brick Works**	**1905**	**1428862**
A	**On site**	**Unspecified Tank**	**1955**	**1549021**
A	5m SE	Unspecified Tank	1930	1515836

ID	Location	Land Use	Date	Group ID
B	7m NW	Unspecified Works	1978	1438146
1	20m SW	Unspecified Quarry	1905	1551540
C	26m SW	Unspecified Quarry	1948	1494207
C	28m SW	Unspecified Quarry	1930	1551540
B	29m NW	Dye Works	1930	1541313
C	30m SW	Unspecified Disused Quarry	1978	1448505
B	31m NW	Dye Works	1948	1495676
B	36m NW	Dye Works	1955	1495676
B	48m NW	Dye Works	1905	1528367
2	52m SE	Unspecified Tank	1948	1433292
C	63m S	Unspecified Quarry	1955	1483946
D	77m W	Unspecified Ground Workings	1978	1412105
3	83m SW	Unspecified Quarry	1905	1495610
F	113m E	Unspecified Tank	1955	1544950
F	113m E	Unspecified Tank	1930	1489501
F	113m E	Unspecified Tank	1948	1489501
D	127m W	Unspecified Quarry	1930	1552133
E	129m W	Refuse Heap	1905	1436498
G	136m NW	Unspecified Mills	1905	1419103
G	136m NW	Spinning Mills	1930	1441798
G	137m NW	Unspecified Mill	1948	1421193
G	143m NW	Spinning Mill	1955	1411062
H	167m W	Unspecified Ground Workings	1978	1412092
J	187m SE	Unspecified Tank	1948	1471210
H	192m W	Refuse Heap	1955	1549325
H	194m W	Refuse Heap	1930	1484109
H	194m W	Refuse Heap	1930	1484109
H	195m W	Unspecified Heap	1948	1414994

ID	Location	Land Use	Date	Group ID
D	231m SW	Unspecified Mills	1955	1496206
D	233m SW	Unspecified Mills	1948	1505389
D	234m SW	Unspecified Mills	1978	1528649
D	234m SW	Unspecified Mills	1905	1505883
D	235m SW	Unspecified Mills	1930	1505883
J	236m SE	Unspecified Tank	1951	1478362
L	251m NW	Unspecified Mills	1955	1475108
J	254m SE	Unspecified Tank	1930	1461640
L	270m W	Unspecified Mills	1978	1531256
L	278m W	Unspecified Mills	1948	1497214
L	278m W	Unspecified Mills	1905	1550045
L	292m W	Unspecified Mills	1930	1490608
M	309m NW	Disused Canal	1978	1515293
M	309m NW	Disused Canal	1955	1537791
O	325m NW	Unspecified Wharf	1930	1463953
O	325m NW	Unspecified Wharf	1930	1463953
O	326m NW	Unspecified Wharf	1948	1463953
O	326m NW	Unspecified Wharf	1905	1463953
L	330m W	Mill Pond	1930	1509485
L	330m W	Mill Pond	1948	1524392
L	330m W	Mill Pond	1905	1556132
L	332m W	Mill Pond	1955	1465464
O	332m NW	Unspecified Wharf	1955	1514110
Q	333m SE	Unspecified Quarry	1951	1475282
Q	336m SE	Unspecified Quarry	1930	1482595
R	336m E	Unspecified Quarries	1930	1492947
Q	337m SE	Unspecified Quarry	1948	1529818
S	340m E	Unspecified Quarries	1948	1499449

ID	Location	Land Use	Date	Group ID
S	340m E	Unspecified Old Quarry	1905	1440656
S	341m E	Refuse Heap	1984	1436539
T	345m W	Unspecified Works	1978	1438147
R	355m E	Unspecified Quarries	1969	1542349
R	355m E	Unspecified Quarries	1951	1480851
5	367m E	Grave Yard	1984	1428169
V	376m SW	Unspecified Quarry	1955	1557735
X	382m SW	Unspecified Heap	1930	1467512
X	382m SW	Unspecified Heap	1930	1467512
X	385m SW	Unspecified Heap	1948	1467512
X	385m SW	Unspecified Heap	1905	1467512
S	404m NE	Unspecified Quarry	1905	1426575
Z	417m NW	Railway Building	1930	1428985
Z	418m NW	Railway Sidings	1955	1516723
V	419m SW	Unspecified Quarry	1948	1557735
V	419m SW	Unspecified Quarry	1905	1460480
V	421m SW	Unspecified Quarry	1930	1537340
V	426m SW	Unspecified Quarry	1978	1535014
Z	427m NW	Railway Building	1955	1428986
AB	434m NW	Railway Building	1948	1550106
AB	434m NW	Railway Building	1905	1550106
AB	435m NW	Railway Building	1930	1550106
AB	444m N	Railway Building	1955	1550106
AB	456m N	Railway Sidings	1948	1472165
AB	456m N	Railway Sidings	1905	1492995
AD	457m S	Unspecified Mills	1955	1479314
AD	463m S	Unspecified Mills	1930	1521804
AB	467m N	Railway Sidings	1930	1555200

ID	Location	Land Use	Date	Group ID
6	477m S	Unspecified Works	1978	1438133
7	486m NE	Unspecified Quarry	1948	1426577
AD	489m S	Unspecified Mills	1948	1479314
AD	491m S	Unspecified Mills	1978	1539597

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**66**

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 23**

ID	Location	Land Use	Date	Group ID
B	49m N	Tanks	1967	230260
B	50m NW	Unspecified Tank	1892	237724
B	50m NW	Unspecified Tank	1913	237724
B	66m N	Unspecified Tank	1906	249399
B	70m N	Unspecified Tank	1967	222864
B	75m N	Unspecified Tank	1892	249919
B	86m N	Unspecified Tank	1991	239481
B	87m N	Unspecified Tank	1994	239481
B	87m N	Unspecified Tank	1996	239481
B	99m N	Unspecified Tank	1906	222858
B	100m NW	Unspecified Tank	1994	238892
B	100m NW	Unspecified Tank	1996	238892
B	100m NW	Unspecified Tank	1991	238892
B	105m N	Unspecified Tank	1994	244369
B	105m N	Unspecified Tank	1996	244369
B	106m N	Unspecified Tank	1991	244121

ID	Location	Land Use	Date	Group ID
F	146m E	Unspecified Tank	1892	222863
G	155m NW	Unspecified Tank	1892	222857
G	170m N	Tanks	1892	230268
K	189m NW	Tanks	1991	235728
K	190m NW	Tanks	1994	247342
K	190m NW	Tanks	1996	247342
K	190m NW	Tanks	1967	240711
K	190m NW	Tanks	1968	235758
K	192m NW	Tanks	1985	239175
J	195m SE	Tanks	1892	230239
J	212m SE	Tanks	1892	230237
D	220m SW	Tanks	1906	230238
D	221m SW	Tanks	1906	230241
D	222m SW	Unspecified Tank	1906	222910
D	247m SW	Tanks	1892	230240
D	249m SW	Unspecified Tank	1892	222912
J	253m SE	Unspecified Tank	1913	222867
J	254m SE	Unspecified Tank	1906	222868
L	305m NW	Tanks	1892	230261
4	347m S	Unspecified Tank	1913	222865
U	373m SW	Unspecified Tank	1906	222911
AA	417m S	Tanks	1985	243365
AA	418m S	Tanks	1967	238374
AA	418m S	Tanks	1968	243365
T	420m W	Unspecified Tank	1994	236759
T	420m W	Unspecified Tank	1996	236759
T	420m W	Unspecified Tank	1967	246895
T	420m W	Unspecified Tank	1991	249109

ID	Location	Land Use	Date	Group ID
T	420m W	Unspecified Tank	1968	240150
T	421m W	Unspecified Tank	1985	239640
T	423m W	Tanks	1968	235123
T	423m W	Tanks	1967	236751
T	424m W	Tanks	1985	245909
T	434m W	Tanks	1994	236942
T	434m W	Tanks	1996	236942
T	435m W	Tanks	1991	238549
T	436m W	Tanks	1985	242529
T	439m W	Tanks	1968	230242
T	445m W	Tanks	1994	242952
T	445m W	Tanks	1996	238497
T	446m W	Tanks	1991	248211
T	446m W	Tanks	1985	235272
T	454m W	Tanks	1985	247097
T	456m W	Unspecified Tank	1994	240647
T	456m W	Unspecified Tank	1996	240647
T	457m W	Unspecified Tank	1991	240647
T	460m W	Tanks	1996	243392
T	461m W	Tanks	1991	243392
T	477m W	Tanks	1967	230259
T	496m W	Unspecified Tank	1967	222915

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	40

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 23**

ID	Location	Land Use	Date	Group ID
E	103m W	Electricity Substation	1967	137041
E	103m W	Electricity Substation	1991	141463
E	103m W	Electricity Substation	1968	141463
E	103m W	Electricity Substation	1994	141463
E	103m W	Electricity Substation	1996	141463
I	182m SE	Electricity Substation	1985	132651
I	183m SE	Electricity Substation	1967	140313
I	183m SE	Electricity Substation	1991	136291
I	183m SE	Electricity Substation	1968	136291
I	184m SE	Electricity Substation	1994	144146
I	184m SE	Electricity Substation	1996	144146
D	230m SW	Electricity Substation	1996	128888
P	329m NE	Electricity Substation	1996	128886
P	331m NE	Electricity Substation	1994	128887
W	381m SE	Electricity Substation	1996	143727
W	382m SE	Electricity Substation	1976	139845
W	382m SE	Electricity Substation	1982	139845
Y	384m S	Electricity Substation	1994	138208
Y	384m S	Electricity Substation	1996	138208
Y	384m S	Electricity Substation	1985	138208
Y	385m S	Electricity Substation	1967	144048
Y	385m S	Electricity Substation	1991	138208
Y	385m S	Electricity Substation	1968	138208
U	389m SW	Electricity Substation	1994	142701
U	389m SW	Electricity Substation	1996	142701
U	389m SW	Electricity Substation	1985	144855
U	390m SW	Electricity Substation	1967	135005

ID	Location	Land Use	Date	Group ID
U	390m SW	Electricity Substation	1991	142701
U	390m SW	Electricity Substation	1968	142701
T	420m W	Electricity Substation	1968	146358
T	421m W	Electricity Substation	1991	146358
T	421m W	Electricity Substation	1994	138830
T	421m W	Electricity Substation	1996	138830
T	422m W	Electricity Substation	1985	146358
AC	456m SW	Electricity Substation	1994	143821
AC	456m SW	Electricity Substation	1967	140882
AC	456m SW	Electricity Substation	1991	143821
AC	456m SW	Electricity Substation	1968	143821
AC	456m SW	Electricity Substation	1996	143821
AC	457m SW	Electricity Substation	1985	143821

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	**2**

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'.

Features are displayed on the Past land use - un-grouped map on **page 23**

ID	Location	Land Use	Date	Group ID
N	316m SE	Filling Station	1976	2648
N	323m SE	Filling Station	1982	2648

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	**7**

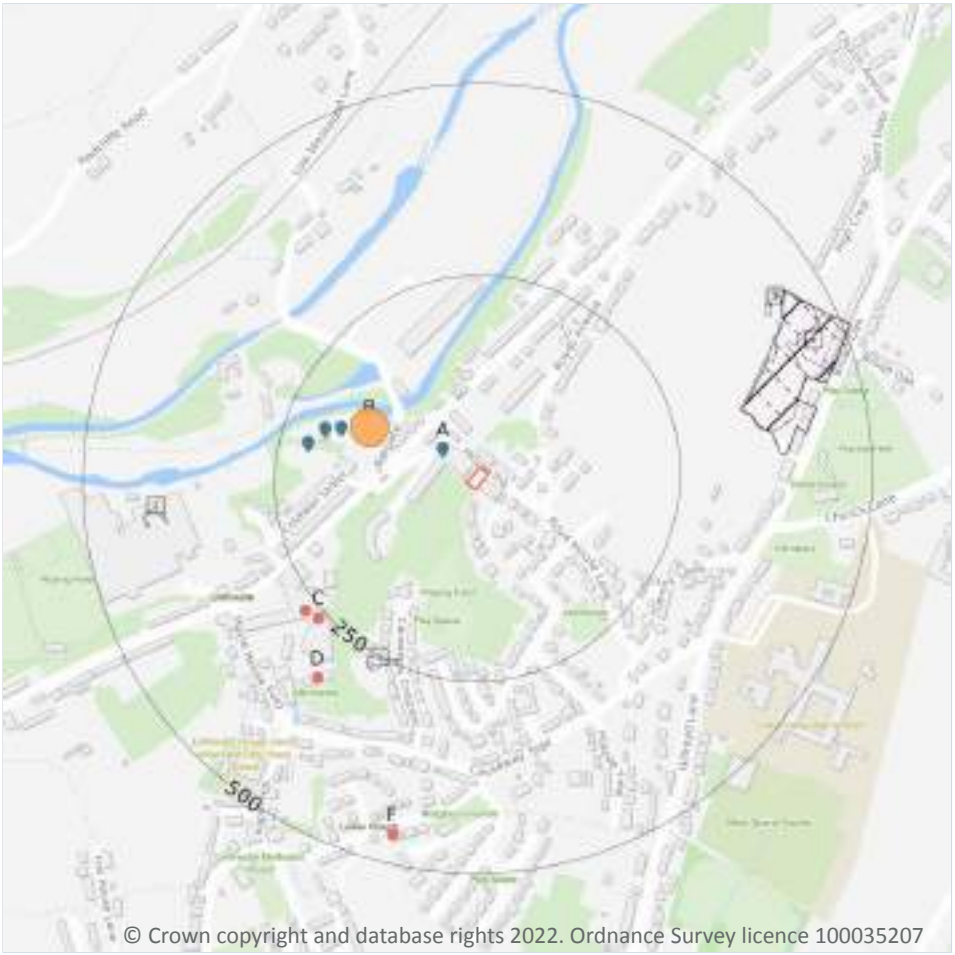
Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 23**

ID	Location	Land Use	Date	Group ID
E	119m NW	Garage	1968	42062
E	121m W	Garage	1968	44983
E	125m W	Garage	1985	44983
E	134m NW	Garage	1985	42962
D	173m W	Garage	1991	42061
D	173m W	Garage	1994	42594
D	174m W	Garage	1996	42868

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



Site Outline

Search buffers in metres (m)

Historical landfill (EA/NRW)

Historical landfill (LA/OS)

Historical waste sites

Licensed waste sites

Waste exemptions

3.1 Active or recent landfill

Records within 500m	0

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

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

3.2 Historical landfill (BGS records)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	5

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

Features are displayed on the Waste and landfill map on **page 33**

ID	Location	Site address	Source	Data type
1	243m SW	Refuse Tip	1967 mapping	Polygon
E	339m E	Refuse Tip	1982 mapping	Polygon
2	394m W	Refuse Tip	1967 mapping	Polygon
3	416m NE	Refuse Tip	1961 mapping	Polygon
E	437m NE	Refuse Tip	1976 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	1

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.

Features are displayed on the Waste and landfill map on **page 33**

ID	Location	Details		
E	340m E	Site Address: Cowersley Lane Quarry, Cowersley Lane, Linthwaite, Huddersfield Licence Holder Address: Ryefields Estate, Scholes, Holmfirth, Huddersfield	Waste Licence: Yes Site Reference: 4700/0361 Waste Type: Inert, Commercial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 07/04/1983 Licence Surrender: 17/03/1997	Operator: - Licence Holder: Messrs Conroy and Booth First Recorded 01/01/1969 Last Recorded: 31/12/1994

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

3.5 Historical waste sites

Records within 500m	2

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

Features are displayed on the Waste and landfill map on **page 33**

ID	Location	Address	Further Details	Date
B	120m NW	Site Address: Linthwaite Business Centre,1, Manchester Road, Linthwaite, HUDDERSFIELD, West Yorkshire, HD7 5QS	Type of Site: Waste Transfer Centre Planning application reference: 2010/91709 Description: Scheme comprises change of use from B8 to waste transfer centre and alterations (within a conservation area). An application (ref: 2010/91709) for detailed planning permission was submitted to Kirklees B.C. A detailed planning application has been submit ted. Data source: Historic Planning Application Data Type: Point	03/07/2011
B	120m NW	Site Address: Linthwaite Business Centre, Manchester Road, Linthwaite, HUDDERSFIELD, West Yorkshire, HD7 5QS	Type of Site: Waste Transfer Centre Planning application reference: 2010/62/91709/W0 Description: Scheme comprises change of use from B8 to waste transfer centre and alterations (within a conservation area). An application (ref: 2010/62/91709/W0) for detailed planning permission was granted by Kirklees B.C. A detailed planning application has been gr anted. Data source: Historic Planning Application Data Type: Point	10/05/2011

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

3.6 Licensed waste sites

Records within 500m	5

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

Features are displayed on the Waste and landfill map on **page 33**

ID	Location	Details		
A	51m NW	Site Name: Ruby Skip Hire Ltd Site Address: Unit 1 Linthwaite Business Centre, Manchester Road, Linthwaite, Huddersfield, West Yorkshire, HD7 5QS Correspondence Address: -	Type of Site: 75kte HCI Waste Transfer Station Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: RUB021 EPR reference: EA/EPR/WP3494EK/V002 Operator: Ruby Skip Hire Ltd Waste Management licence No: 102648 Annual Tonnage: 74999	Issue Date: 21/04/2011 Effective Date: - Modified: 30/08/2012 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired
A	51m NW	Site Name: Ruby Skip Hire Ltd Site Address: Unit 1 Linthwaite Business Centre, Manchester Road, Linthwaite, Huddersfield, West Yorkshire, HD7 5QS Correspondence Address: -	Type of Site: 75kte HCI Waste Transfer Station Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: RUB021 EPR reference: EA/EPR/WP3494EK/V002 Operator: Ruby Skip Hire Ltd Waste Management licence No: 102648 Annual Tonnage: 74999	Issue Date: 21/04/2011 Effective Date: - Modified: 30/08/2012 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired
B	178m NW	Site Name: Bargate Motor Spares Site Address: Bargate Motor Spares, Manchester Road, Linthwaite, Huddersfield, West Yorkshire, HD7 5QW Correspondence Address: -	Type of Site: ELV Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 000132 EPR reference: EA/EPR/HP3192ZM/A001 Operator: Crowther Robert Waste Management licence No: 65348 Annual Tonnage: 2500	Issue Date: 10/02/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked
B	197m W	Site Name: Bargate Motors Spares Ltd Site Address: Unit 1, Bargate Yard, Bargate, Huddersfield, West Yorkshire, HD7 5QW Correspondence Address: -	Type of Site: Vehicle Depollution Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ANI001 EPR reference: EA/EPR/EB3405TA/A001 Operator: Nasaar Anik Waste Management licence No: 403498 Annual Tonnage: 5000	Issue Date: 22/12/2016 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued

ID	Location	Details		
B	213m W	Site Name: Bargate Motor Spares Site Address: Bargate Motor Spares, Bargate, Huddersfield, West Yorkshire, HD7 5QW Correspondence Address: -	Type of Site: Metal Recycling Site (Vehicle Dismantler) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BAR003 EPR reference: EA/EPR/GP3595ZW/S002 Operator: Bargate Motor Spares Waste Management licence No: 61010 Annual Tonnage: 336	Issue Date: 25/02/1992 Effective Date: - Modified: - Surrendered Date: Jan 8 2001 12:00AM Expiry Date: - Cancelled Date: - Status: Surrendered

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

3.7 Waste exemptions

Records within 500m	**31**

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 33**

ID	Location	Site	Reference	Category	Sub-Category	Description
C	261m SW	Unit 114 Colne Valley Business Park HUDDERSFIELD HD7 5QG	EPR/TF0809PS/A001	Treating waste exemption	Non-Agricultural Waste Only	Sorting mixed waste
C	261m SW	Unit 114 Colne Valley Business Park HUDDERSFIELD HD7 5QG	EPR/TF0809PS/A001	Treating waste exemption	Non-Agricultural Waste Only	Recovery of textiles
C	261m SW	Unit 114 Colne Valley Business Park HUDDERSFIELD HD7 5QG	EPR/TF0809PS/A001	Treating waste exemption	Non-Agricultural Waste Only	Recovery of scrap metal
C	268m SW	UNIT 10, COLNE VALLEY BUSINESS PARK MCR RD, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX157944	Storing waste exemption	Not on a Farm	Storage of waste in a secure place
C	268m SW	UNIT 10, COLNE VALLEY BUSINESS PARK MCR RD, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX157944	Treating waste exemption	Not on a Farm	Recovery of textiles

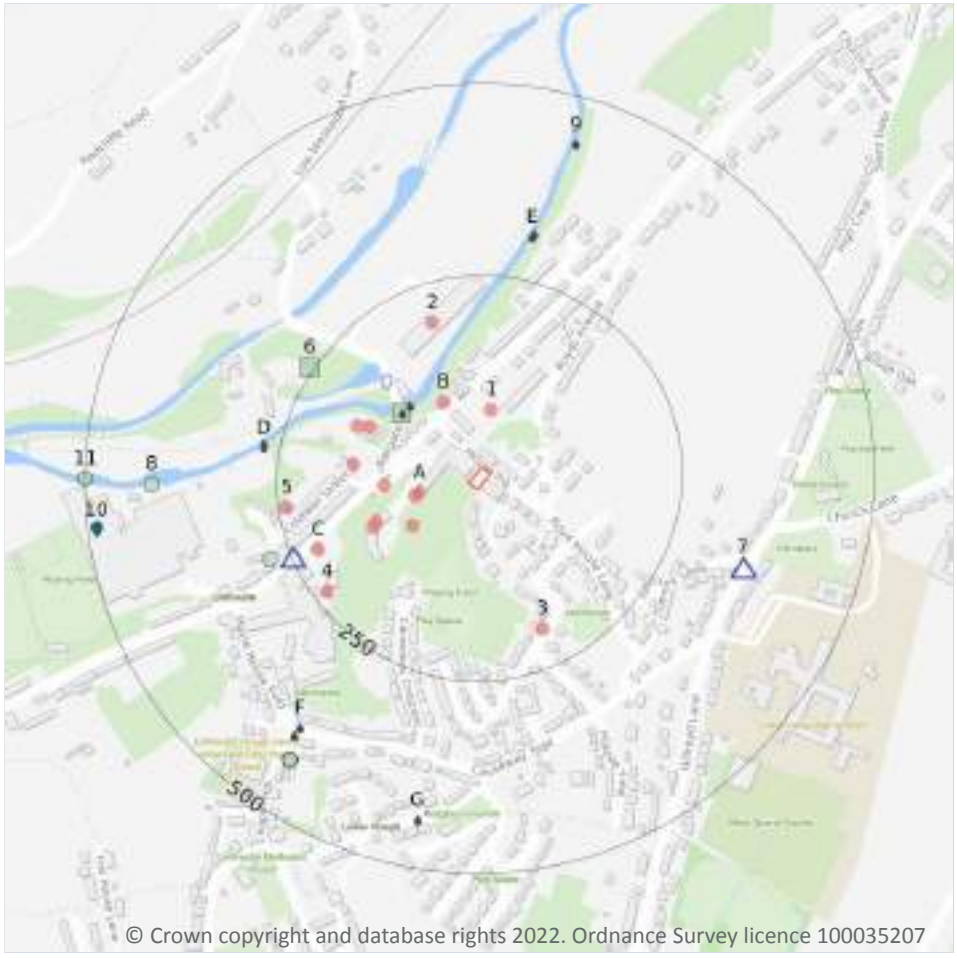
ID	Location	Site	Reference	Category	Sub-Category	Description
C	268m SW	UNIT 10, COLNE VALLEY BUSINESS PARK MCR RD, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX157944	Storing waste exemption	Not on a Farm	Storage of waste in secure containers
C	268m SW	UNIT 10, COLNE VALLEY BUSINESS PARK MCR RD, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX157944	Treating waste exemption	Not on a Farm	Sorting mixed waste
C	268m SW	UNIT 10, COLNE VALLEY BUSINESS PARK MCR RD, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX157944	Treating waste exemption	Not on a Farm	Preparatory treatments (baling, sorting, shredding etc)
C	268m SW	UNIT 10, COLNE VALLEY BUSINESS PARK MCR RD, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX157944	Using waste exemption	Not on a Farm	Use of waste to manufacture finished goods
C	268m SW	UNIT 10, COLNE VALLEY BUSINESS PARK MCR RD, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX157944	Treating waste exemption	Not on a Farm	Manual treatment of waste
C	268m SW	UNIT 10, COLNE VALLEY BUSINESS PARK MCR RD, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX157944	Treating waste exemption	Not on a Farm	Recovery of scrap metal
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX314221	Disposing of waste exemption	Not on a Farm	Burning waste in the open
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX314221	Treating waste exemption	Not on a Farm	Sorting mixed waste
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX314221	Treating waste exemption	Not on a Farm	Recovery of scrap metal
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX314221	Treating waste exemption	Not on a Farm	Recovery of textiles

ID	Location	Site	Reference	Category	Sub-Category	Description
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX315541	Storing waste exemption	Not on a Farm	Storage of waste in a secure place
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX315541	Treating waste exemption	Not on a Farm	Manual treatment of waste
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX247311	Treating waste exemption	Not on a farm	Recovery of textiles
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX247311	Treating waste exemption	Not on a farm	Recovery of scrap metal
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX247311	Disposing of waste exemption	Not on a farm	Burning waste in the open
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX185320	Treating waste exemption	Not on a farm	Recovery of textiles
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX185320	Treating waste exemption	Not on a farm	Sorting mixed waste
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX185320	Disposing of waste exemption	Not on a farm	Burning waste in the open
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX185320	Treating waste exemption	Not on a farm	Recovery of scrap metal
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX186637	Treating waste exemption	Not on a farm	Manual treatment of waste

ID	Location	Site	Reference	Category	Sub-Category	Description
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX186637	Storing waste exemption	Not on a farm	Storage of waste in a secure place
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX105125	Disposing of waste exemption	Not on a farm	Burning waste in the open
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX105125	Treating waste exemption	Not on a farm	Recovery of textiles
D	321m SW	UNIT 114, COLNE VALLEY BUSINESS PARK, LINTHWAITE, HUDDERSFIELD, HD7 5QG	WEX105125	Treating waste exemption	Not on a farm	Recovery of scrap metal
F	463m S	Black Rock Mill, Waingate, Linthwait, Huddersfield, HD75NR	WEX061224	Treating waste exemption	Not on a farm	Screening and blending of waste
F	463m S	Black Rock Mill, Waingate, Linthwait, Huddersfield, HD75NR	WEX061224	Using waste exemption	Not on a farm	Use of waste in construction

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

Current or recent petrol stations

Part A(1) industrial activities

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

Licensed Discharges to controlled waters

List 2 Dangerous Substances

Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	**16**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 41**

ID	Location	Company	Address	Activity	Category
A	65m W	Genesis Tyres & Alloys	Unit 4 Linthwaite Business Centre, Manchester Road, Linthwaite, Huddersfield, West Yorkshire, HD7 5QS	Vehicle Parts and Accessories	Motoring
A	71m W	Forktruck Services UK Ltd	Unit 5 Linthwaite Business Centre, Manchester Road, Huddersfield, West Yorkshire, HD7 5QS	Lifting and Handling Equipment	Industrial Products

ID	Location	Company	Address	Activity	Category
1	76m N	Chimney	West Yorkshire, HD7	Chimneys	Industrial Features
A	92m SW	Linthwaite Business Centre	West Yorkshire, HD7	Business Parks and Industrial Estates	Industrial Features
B	99m NW	Phantom Head Dental	950, Manchester Road, Linthwaite, Huddersfield, West Yorkshire, HD7 5QS	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
A	110m W	Electricity Sub Station	West Yorkshire, HD7	Electrical Features	Infrastructure and Facilities
A	130m SW	J T Refinishing	Unit 9 Linthwaite Business Centre, Manchester Road, Linthwaite, Huddersfield, West Yorkshire, HD7 5QS	Vehicle Repair, Testing and Servicing	Repair and Servicing
A	137m SW	Huddersfield M O T Centre	Unit 10 Linthwaite Business Centre, Manchester Road, Linthwaite, Huddersfield, West Yorkshire, HD7 5QS	Vehicle Repair, Testing and Servicing	Repair and Servicing
B	149m NW	Bargate Fabrications & Sheet Metals	Unit 1 Bargate Works, Bargate, Linthwaite, Huddersfield, West Yorkshire, HD7 5QW	Metalworkers Including Blacksmiths	Construction Services
A	153m W	Works	West Yorkshire, HD7	Unspecified Works Or Factories	Industrial Features
B	164m NW	Works	West Yorkshire, HD7	Unspecified Works Or Factories	Industrial Features
2	199m N	Posable	330 Titanic Mill, Low Westwood Lane, Linthwaite, Huddersfield, West Yorkshire, HD7 5UN	Office and Shop Equipment	Industrial Products
3	199m SE	Electricity Sub Station	West Yorkshire, HD7	Electrical Features	Infrastructure and Facilities
C	214m SW	Reliance Garage	747, Manchester Road, Linthwaite, Huddersfield, West Yorkshire, HD7 5QQ	Vehicle Repair, Testing and Servicing	Repair and Servicing
4	232m SW	Electricity Sub Station	West Yorkshire, HD7	Electrical Features	Infrastructure and Facilities
5	239m W	A & S Joinery	Coldwell Street, Linthwaite, Huddersfield, West Yorkshire, HD7 5QN	General Construction Supplies	Industrial Products

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	2

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 41**

ID	Location	Company	Address	LPG	Status
C	248m SW	UNBRANDED	Manchester Road, Linthwaite, Huddersfield, West Yorkshire, HD7 5QQ	Not Applicable	Obsolete
7	351m E	PACE	96, Gillroyd Lane, Linthwaite, Huddersfield, West Yorkshire, HD7 5SH	No	Open

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	5

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

Features are displayed on the Current industrial land use map on **page 41**

ID	Location	Details	
B	166m NW	Operator: JAMES DYSON LTD Installation Name: HOYLE ING DYEWORKS, LINTHWAITE Process: COATING, PRINTING AND TEXTILES; PRE-TREATING BY WASHING ETC >10T/DAY Permit Number: BR5108IN Original Permit Number: BR5108IN	EPR Reference: EA/EPR/BR5108IN/V003 Issue Date: 16/12/2002 Effective Date: 02/01/2003 Last date noted as effective: 13/06/2022 Status: SUPERCEDED

ID	Location	Details	
B	166m NW	Operator: JAMES DYSON LTD Installation Name: HOYLE ING DYEWORKS, LINTHWAITE Process: COATING, PRINTING AND TEXTILES; PRE-TREATING BY WASHING ETC >10T/DAY Permit Number: SP3134GA Original Permit Number: BR5108IN	EPR Reference: - Issue Date: - Effective Date: 26/04/2010 Last date noted as effective: 13/06/2022 Status: SURRENDER EFFECTIVE
B	166m NW	Operator: JAMES DYSON LTD Installation Name: - Process: COATING, PRINTING & TEXTILES; PRE-TREATING BY WASHING ETC >10T/DAY Permit Number: BU9327 Original Permit Number: BR5108	EPR Reference: - Issue Date: 02/07/2003 Effective Date: 02/07/2003 Last date noted as effective: 01/10/2004 Status: SUPERSEDED BY PAS
B	166m NW	Operator: JAMES DYSON LTD Installation Name: - Process: COATING, PRINTING & TEXTILES; PRE-TREATING BY WASHING ETC >10T/DAY Permit Number: BR5108 Original Permit Number: BR5108	EPR Reference: - Issue Date: - Effective Date: 02/01/2003 Last date noted as effective: 03/10/2005 Status: SUPERSEDED BY VARIATION
B	166m NW	Operator: JAMES DYSON LTD Installation Name: HOYLE ING DYEWORKS, LINTHWAITE Process: COATING, PRINTING AND TEXTILES; PRE-TREATING BY WASHING ETC >10T/DAY Permit Number: BU9327IM Original Permit Number: BR5108IN	EPR Reference: - Issue Date: 02/07/2003 Effective Date: 02/07/2003 Last date noted as effective: 13/06/2022 Status: SUPERCEDED

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

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

Records within 500m **1**

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.

Features are displayed on the Current industrial land use map on **page 41**

ID	Location	Address	Details	
10	489m W	Thornton & Ross Ltd, Manchester Road, Linthwaite, Huddersfield, HD7 5QH	Process: Pharmaceutical Processes Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

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	12

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 41**

ID	Location	Address	Details	
B	123m NW	BARGATE CSO, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, WEST YORKSHIRE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA7458 Permit Version: 2 Receiving Water: RIVER COLNE	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 02/05/2003 Effective Date: 02/05/2003 Revocation Date: -
B	125m NW	BARGATE CSO, MANCHESTER ROAD, LINTHWAITE, HUDDERSFIELD, WEST YORKSHIRE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA7458 Permit Version: 1 Receiving Water: RIVER COLNE	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 26/10/1998 Effective Date: 26/10/1998 Revocation Date: 01/05/2003
D	271m W	BARBER ROW NO 2 CSO, REAR OF BARBER ROW MANCHESTER RD, LINTHWAITE, HUDDERSFIELD, WEST YORKSHIRE, HD7 5QL	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA7520 Permit Version: 3 Receiving Water: RIVER COLNE	Status: VARIED UNDER EPR 2010 Issue date: 20/11/2017 Effective Date: 20/11/2017 Revocation Date: -
D	272m W	BARBER ROW NO 2 CSO, REAR OF BARBER ROW MANCHESTER RD, LINTHWAITE, HUDDERSFIELD, WEST YORKSHIRE, HD7 5QL	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA7520 Permit Version: 1 Receiving Water: RIVER COLNE	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 05/07/1999 Effective Date: 05/07/1999 Revocation Date: 19/11/2017
E	307m N	GORDON TERRACE CSO, MANCHESTER ROAD (ADJ NO 647), LINTHWAITE, HUDDERSFIELD, WEST YORKSHIRE, HD7 5QS	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA7457 Permit Version: 1 Receiving Water: RIVER COLNE	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 26/10/1998 Effective Date: 26/10/1998 Revocation Date: 26/08/2020

ID	Location	Address	Details	
E	310m N	GORDON TERRACE CSO, MANCHESTER ROAD (ADJ NO 647), LINTHWAITE, HUDDERSFIELD, WEST YORKSHIRE, HD7 5QS	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA7457 Permit Version: 2 Receiving Water: RIVER COLNE	Status: VARIED UNDER EPR 2010 Issue date: 27/08/2020 Effective Date: 27/08/2020 Revocation Date: -
F	387m SW	CAUSEWAY SIDE 13 C.S.O, OPP 1 CAUSEWAY SIDE, LINTHWAITE, HUDDERSFIELD, WEST YORKSHIRE, HD7 5NL	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA7460 Permit Version: 2 Receiving Water: HOYLE HOUSE BROOK	Status: VARIED UNDER EPR 2010 Issue date: 21/02/2018 Effective Date: 31/03/2018 Revocation Date: -
F	399m SW	CAUSEWAY SIDE 13 C.S.O, OPP 1 CAUSEWAY SIDE, LINTHWAITE, HUDDERSFIELD, WEST YORKSHIRE, HD7 5NL	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA7460 Permit Version: 1 Receiving Water: HOYLE HOUSE BROOK	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 26/10/1998 Effective Date: 26/10/1998 Revocation Date: 30/03/2018
G	437m S	CAUSEWAY SIDE TOP CSO, CAUSEWAY SIDE (TOP), LINTHWAITE, NR HUDDERSFIELD, WEST YORKSHIRE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA7459 Permit Version: 1 Receiving Water: CULV'D TRIB OF HOYLE HOUSE BRK	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 26/10/1998 Effective Date: 26/10/1998 Revocation Date: 30/03/2008
G	437m S	CAUSEWAY SIDE TOP CSO, CAUSEWAY SIDE (TOP), LINTHWAITE, NR HUDDERSFIELD, WEST YORKSHIRE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA7459 Permit Version: 2 Receiving Water: CULV'D TRIB OF HOYLE HOUSE BRK	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 16/03/2005 Effective Date: 31/03/2008 Revocation Date: 23/03/2010
G	437m S	CAUSEWAY SIDE TOP CSO, CAUSEWAY SIDE (TOP), LINTHWAITE, NR HUDDERSFIELD, WEST YORKSHIRE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA7459 Permit Version: 3 Receiving Water: CULV'D TRIB OF HOYLE HOUSE BRK	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 24/03/2010 Effective Date: 24/03/2010 Revocation Date: -

ID	Location	Address	Details	
9	437m N	TITANIC MILLS CSO, REAR OF GORDON TERRACE, LINTHWAITE, HUDDERSFIELD, WEST YORKSHIRE, HD7 5QT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: EPRTP3829GA Permit Version: 1 Receiving Water: RIVER COLNE	Status: NEW ISSUED UNDER EPR 2010 Issue date: 22/03/2016 Effective Date: 22/03/2016 Revocation Date: -

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m	**0**

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

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

4.15 Pollutant release to public sewer

Records within 500m	**0**

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m	**0**

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

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

4.17 List 2 Dangerous Substances

Records within 500m	**2**

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.

Features are displayed on the Current industrial land use map on **page 41**

ID	Location	Name	Status	Receiving Water	Authorised Substances
B	125m NW	James Dyson Ltd, Linthwaite, Huddersfield	Not Active	Unknown	Permethrin, Silver
6	257m NW	New List 2 Water Site 8	Active	River Colne	MCPA

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	**8**

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

Features are displayed on the Current industrial land use map on **page 41**

ID	Location	Details	
C	276m W	Incident Date: 09/01/2002 Incident Identification: 51537 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
8	413m W	Incident Date: 09/05/2003 Incident Identification: 157120 Pollutant: Organic Chemicals/Products Pollutant Description: Other Organic Chemical or Product	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	428m SW	Incident Date: 12/06/2003 Incident Identification: 165398 Pollutant: Inorganic Chemicals/Products:Organic Chemicals/Products Pollutant Description: Other Inorganic Chemical or Product:Surfactants and Detergents	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	428m SW	Incident Date: 06/12/2003 Incident Identification: 165398 Pollutant: Organic Chemicals/Products Pollutant Description: Other Inorganic Chemical or Product Surfactants and Detergents	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	428m SW	Incident Date: 12/06/2003 Incident Identification: 165398 Pollutant: Inorganic Chemicals/Products Pollutant Description: Other Inorganic Chemical or Product	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

ID	Location	Details	
F	428m SW	Incident Date: 12/06/2003 Incident Identification: 165398 Pollutant: Organic Chemicals/Products Pollutant Description: Surfactants and Detergents	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	428m SW	Incident Date: 06/12/2003 Incident Identification: 165398 Pollutant: Inorganic Chemicals/Products : Organic Chemicals/Products Pollutant Description: Other Inorganic Chemical or Product :Surfactants and Detergents	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
11	499m W	Incident Date: 22/10/2002 Incident Identification: 116226 Pollutant: Organic Chemicals/Products Pollutant Description: Surfactants and Detergents	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

Records within 500m	**0**

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

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

4.20 Pollution inventory waste transfers

Records within 500m	**0**

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

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

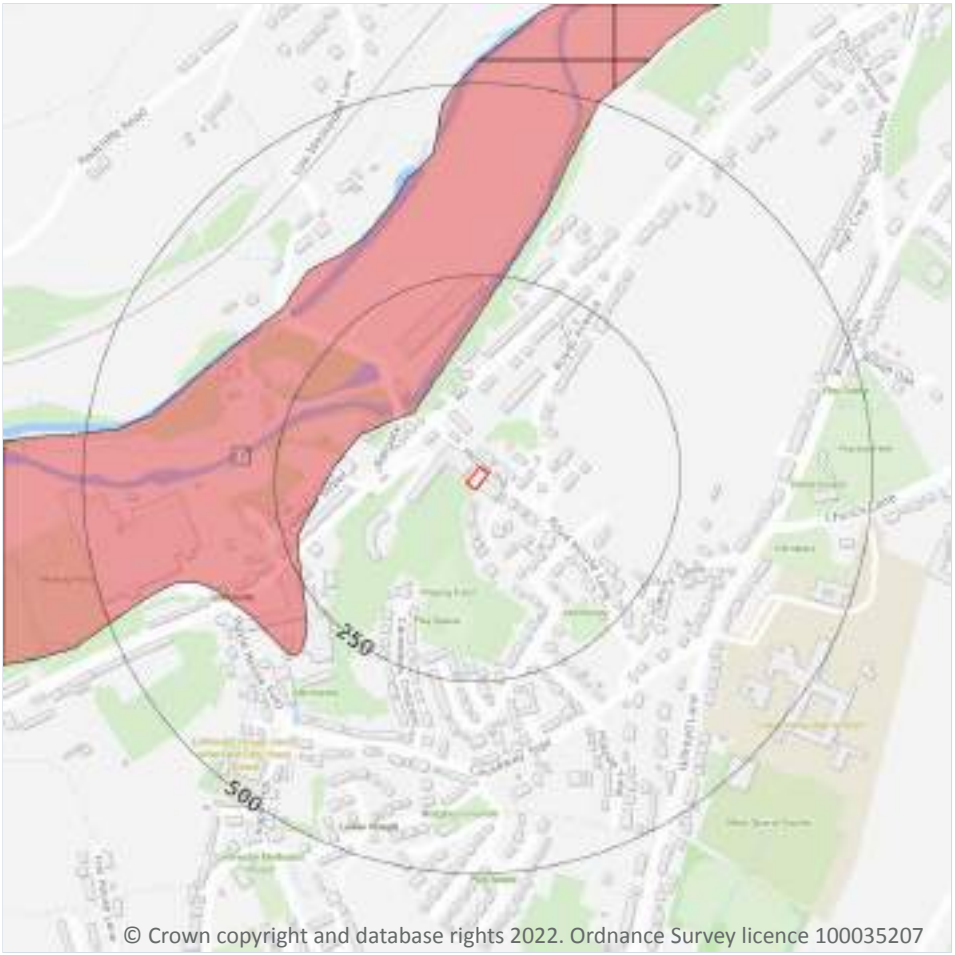
4.21 Pollution inventory radioactive waste

Records within 500m	0

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

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

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

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

5.1 Superficial aquifer

Records within 500m	1

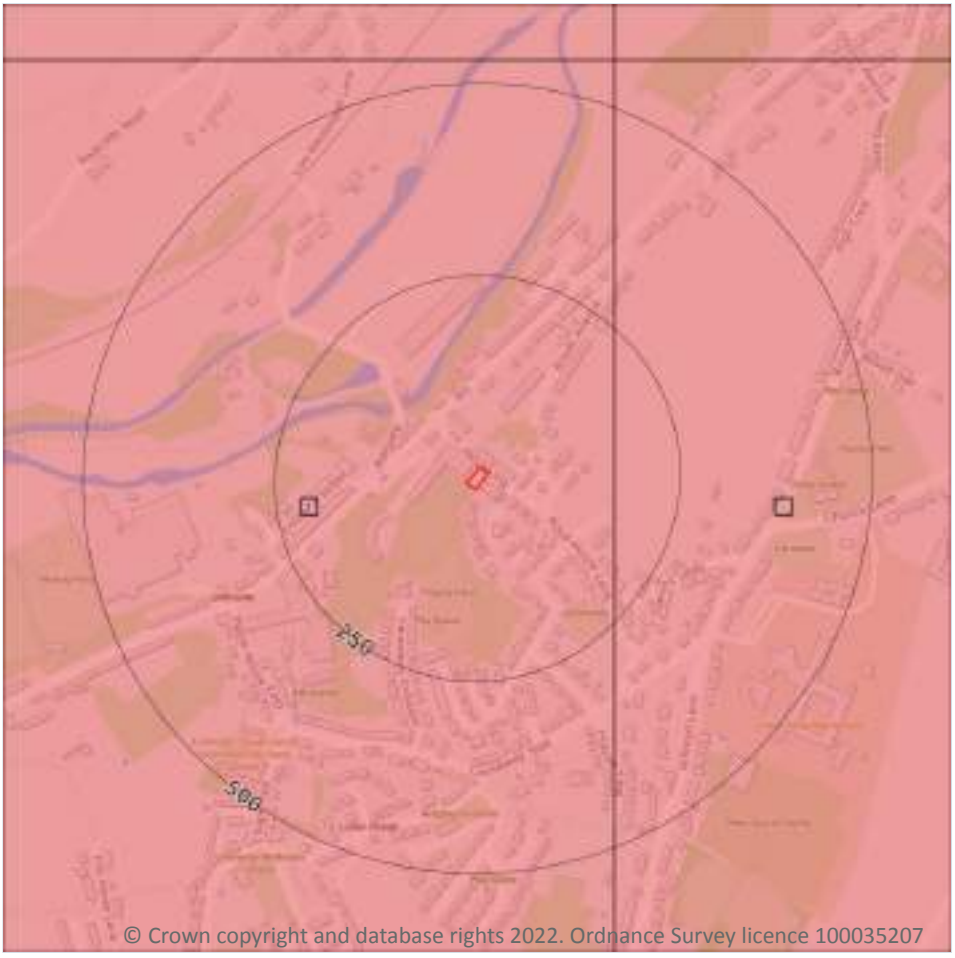
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 52**

ID	Location	Designation	Description
1	112m NW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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

Bedrock aquifer



Site Outline

Search buffers in metres (m)

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

5.2 Bedrock aquifer

Records within 500m **2**

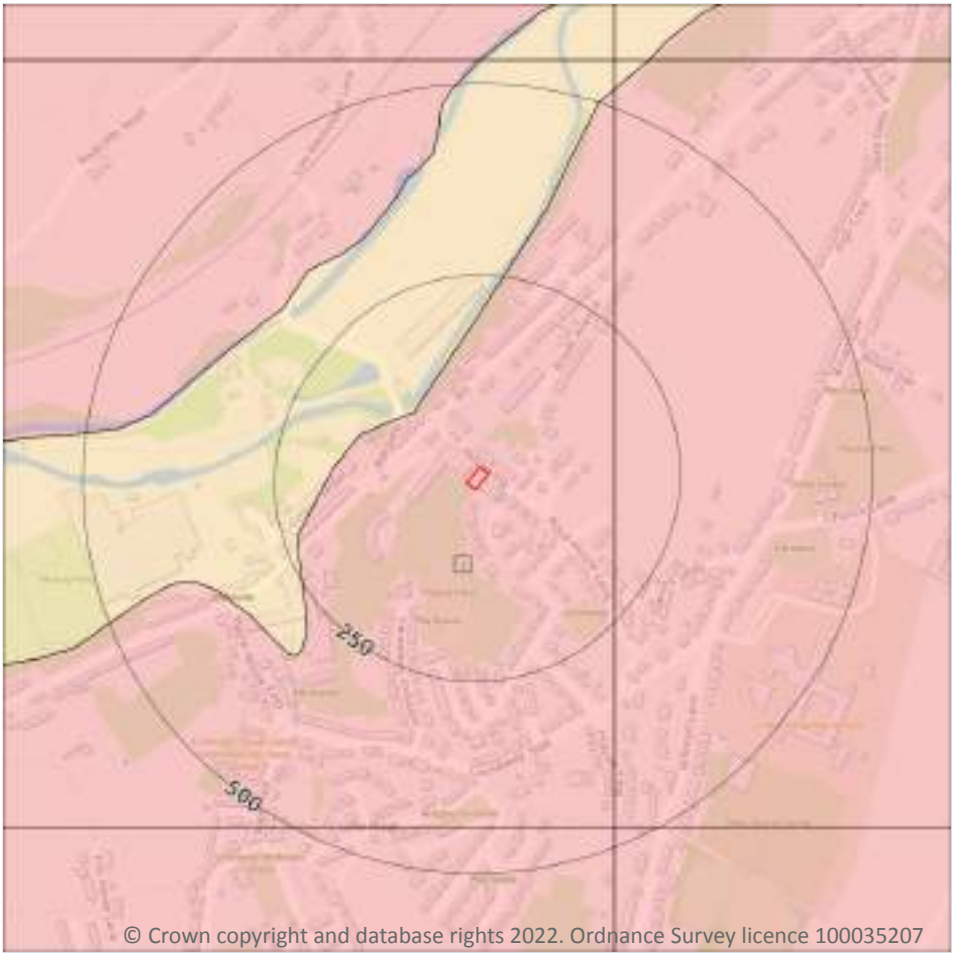
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 53**

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	165m E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

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

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

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

5.3 Groundwater vulnerability

Records within 50m	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 55**

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

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0

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

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

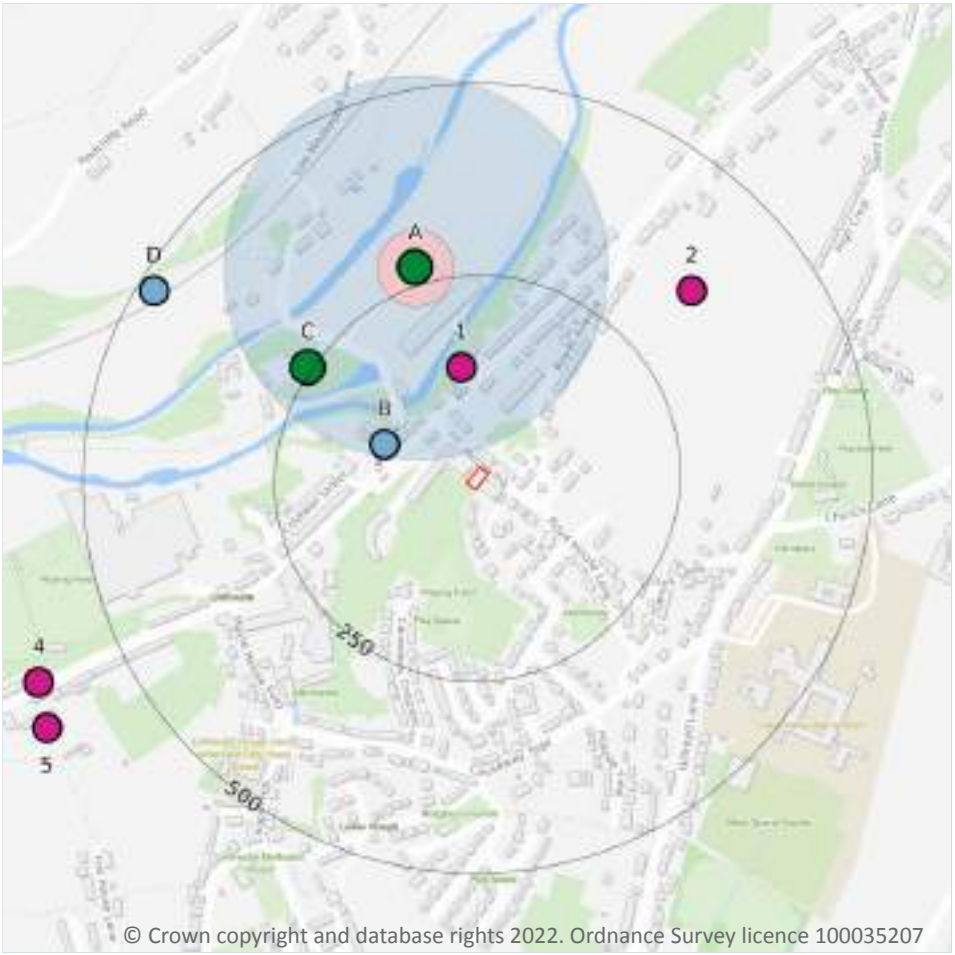
5.5 Groundwater vulnerability- local information

Records on site	0

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

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

Abstractions and Source Protection Zones



Site Outline

Search buffers in metres (m)

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

5.6 Groundwater abstractions

Records within 2000m	19

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 57**

ID	Location	Details	
1	132m N	Status: Historical Licence No: 2/27/11/045 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - LINTHWAITE Data Type: Point Name: JAMES DYSON LTD Easting: 409800 Northing: 414600	Annual Volume (m^3): 175000 Max Daily Volume (m^3): 650 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 101 Version Start Date: 17/01/2002 Version End Date: -
A	273m N	Status: Historical Licence No: 2/27/11/191 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-COAL MEASURES-TITANIC MILLS-LINTHWAITE Data Type: Point Name: LOWRY HOMES PLC Easting: 409740 Northing: 414730	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 12/03/2005 Expiry Date: 31/12/2010 Issue No: 1 Version Start Date: 12/03/2005 Version End Date: -
A	273m N	Status: Historical Licence No: 2/27/11/191 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-TITANIC MILLS-LINTHWAITE Data Type: Point Name: LOWRY HOMES PLC Easting: 409740 Northing: 414730	Annual Volume (m^3): 54000 Max Daily Volume (m^3): 150 Original Application No: - Original Start Date: 12/03/2005 Expiry Date: 31/12/2010 Issue No: 2 Version Start Date: 08/02/2008 Version End Date: -
A	273m N	Status: Active Licence No: NE/027/0011/007 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-TITANIC MILLS-LINTHWAITE Data Type: Point Name: PROPERTY RENAISSANCE LTD Easting: 409740 Northing: 414730	Annual Volume (m^3): 43,070 Max Daily Volume (m^3): 118 Original Application No: NPS/WR/005539 Original Start Date: 21/02/2011 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 21/02/2011 Version End Date: -

ID	Location	Details	
2	356m NE	Status: Historical Licence No: 2/27/11/057 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: SPRINGS Data Type: Point Name: ROBERTS Easting: 410100 Northing: 414700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 27/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/01/1966 Version End Date: -
4	614m SW	Status: Historical Licence No: 2/27/11/016 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: SPRING - MILLSTONE GRIT - LINTHWAITE Data Type: Point Name: GEORGE COCK LTD Easting: 409250 Northing: 414190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 101 Version Start Date: 22/05/2001 Version End Date: -
-	630m E	Status: Historical Licence No: 2/27/11/105 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: WELL Data Type: Point Name: HINCHCLIFFE & HAIGH Easting: 410450 Northing: 414320	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/04/1966 Version End Date: -
-	630m E	Status: Historical Licence No: 2/27/11/105 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: WELL - MILLSTONE GRIT - LINTHWAITE Data Type: Point Name: HINCHCLIFFE & HAIGH Easting: 410450 Northing: 414320	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/04/1966 Version End Date: -
5	633m SW	Status: Historical Licence No: 2/27/11/050 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - KINDERSCOUT GRIT - LINTHWAITE Data Type: Point Name: GEORGE COCK LTD Easting: 409260 Northing: 414130	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 101 Version Start Date: 22/05/2001 Version End Date: -

ID	Location	Details	
-	700m SW	Status: Historical Licence No: 2/27/11/016 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: SPRING - COAL MEASURES - WATER TO MILL DAM Data Type: Point Name: GEORGE COCK LTD Easting: 409200 Northing: 414100	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/01/1966 Version End Date: -
-	700m SW	Status: Historical Licence No: 2/27/11/050 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: GEORGE COCK LTD Easting: 409200 Northing: 414100	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/01/1966 Version End Date: -
-	1008m W	Status: Historical Licence No: 2/27/11/019 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-GOLCAR Data Type: Point Name: P & R WHITWAM Easting: 408800 Northing: 414500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 101 Version Start Date: 30/06/2000 Version End Date: -
-	1274m E	Status: Historical Licence No: 2/27/10/122 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-HUDDERSFIELD Data Type: Point Name: CROSLAND HEATH GOLF CLUB LTD Easting: 411100 Northing: 414300	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 27/11/1997 Expiry Date: 31/10/2007 Issue No: 101 Version Start Date: 02/01/2001 Version End Date: -

ID	Location	Details	
-	1274m E	Status: Historical Licence No: 2/27/10/122 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT- CROSLAND HEATH - HUDDERSFIELD Data Type: Point Name: CROSLAND HEATH GOLF CLUB LTD Easting: 411100 Northing: 414300	Annual Volume (m^3): 6500 Max Daily Volume (m^3): 50 Original Application No: - Original Start Date: 27/11/1997 Expiry Date: 31/10/2010 Issue No: 101 Version Start Date: 02/01/2001 Version End Date: -
-	1274m E	Status: Active Licence No: NE/027/0011/005 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT- CROSLAND HEATH - HUDDERSFIELD Data Type: Point Name: CROSLAND HEATH GOLF CLUB LTD Easting: 411100 Northing: 414300	Annual Volume (m^3): 4,500 Max Daily Volume (m^3): 50 Original Application No: NPS/WR/004165 Original Start Date: 01/11/2010 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/11/2010 Version End Date: -
-	1872m E	Status: Historical Licence No: 2/27/10/124 Details: Make-Up or Top Up Water Direct Source: GROUNDWATERS Point: BOREHOLE- JOHNSONS WELLFIELD QUARRY- MILLSTONE GRIT Data Type: Point Name: JOHNSONS WELLFIELD QUARRIES LIMITED Easting: 411700 Northing: 414630	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/01/2001 Expiry Date: 31/12/2005 Issue No: 1 Version Start Date: 02/01/2001 Version End Date: -
-	1872m E	Status: Historical Licence No: 2/27/10/124 Details: Make-Up or Top Up Water Direct Source: GROUNDWATERS Point: BOREHOLE- MILLSTONE GRIT - WELLFIELD QUARRY Data Type: Point Name: JOHNSONS WELLFIELD QUARRIES LTD Easting: 411700 Northing: 414630	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/01/2001 Expiry Date: 31/12/2005 Issue No: 1 Version Start Date: 02/01/2001 Version End Date: -

ID	Location	Details	
-	1881m SW	Status: Historical Licence No: 2/27/11/157 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: HINCHLIFFE Easting: 408400 Northing: 413200	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 02/06/1971 Expiry Date: - Issue No: 100 Version Start Date: 02/06/1971 Version End Date: -
-	1881m SW	Status: Active Licence No: 2/27/11/157 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - SLAITHWAITE Data Type: Point Name: HINCHLIFFE Easting: 408400 Northing: 413200	Annual Volume (m^3): 11,600 Max Daily Volume (m^3): 31.80 Original Application No: 5103 Original Start Date: 02/06/1971 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	**22**

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 57**

ID	Location	Details	
B	118m NW	Status: Historical Licence No: 2/27/11/111 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: MICKMAN Easting: 409700 Northing: 414500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/01/1991 Version End Date: -

ID	Location	Details	
B	118m NW	Status: Historical Licence No: 2/27/11/111 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE - LINTHWAITE Data Type: Point Name: MICKMAN Easting: 409700 Northing: 414500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/01/1991 Version End Date: -
C	256m NW	Status: Historical Licence No: 2/27/11/013 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
C	256m NW	Status: Historical Licence No: 2/27/11/013 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
C	256m NW	Status: Historical Licence No: 2/27/11/013 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: RIVER COLNE-LINTHWAITE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -

ID	Location	Details	
C	256m NW	Status: Historical Licence No: 2/27/11/013 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE-LINTHWAITE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
C	256m NW	Status: Active Licence No: 2/27/11/013(A) Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE-LINTHWAITE Data Type: Point Name: PROPERTY RENAISSANCE LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): 9,092 Max Daily Volume (m^3): 45.45 Original Application No: 1622(A) Original Start Date: 16/07/2002 Expiry Date: - Issue No: 1 Version Start Date: 01/04/2008 Version End Date: -
D	478m NW	Status: Historical Licence No: 2/27/11/013 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: SPRING-LINTHWAITE-HUDDERSFIELD Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409400 Northing: 414700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 101 Version Start Date: 16/07/2002 Version End Date: -
-	609m W	Status: Historical Licence No: 2/27/11/111 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE-WESTWOOD MILLS-LINTHWAITE Data Type: Point Name: MICHAEL WILSON RESTORATIONS Easting: 409200 Northing: 414500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 101 Version Start Date: 10/12/2002 Version End Date: -

ID	Location	Details	
-	733m NE	Status: Historical Licence No: 2/27/11/042 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410200 Northing: 415100	Annual Volume (m^3): 31822 Max Daily Volume (m^3): 159.11 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/05/1989 Version End Date: -
-	733m NE	Status: Historical Licence No: 2/27/11/042 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE - LINTHWAITE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410200 Northing: 415100	Annual Volume (m^3): 31822 Max Daily Volume (m^3): 159.11 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/05/1989 Version End Date: -
-	733m NE	Status: Active Licence No: 2/27/11/042 Details: Process Water Direct Source: SURFACE WATER Point: RIVER COLNE - LINTHWAITE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410200 Northing: 415100	Annual Volume (m^3): 31,822 Max Daily Volume (m^3): 159.11 Original Application No: 3842 Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/05/1989 Version End Date: -
-	908m W	Status: Historical Licence No: 2/27/11/011 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: COLLINS & PRESTWICH & CO LTD Easting: 408900 Northing: 414400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -

ID	Location	Details	
-	1010m NE	Status: Historical Licence No: 2/27/11/006 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410400 Northing: 415300	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1989 Version End Date: -
-	1010m NE	Status: Historical Licence No: 2/27/11/006 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410400 Northing: 415300	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1989 Version End Date: -
-	1010m NE	Status: Active Licence No: 2/27/11/006 Details: Boiler Feed Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410400 Northing: 415300	Annual Volume (m^3): 30,117 Max Daily Volume (m^3): 146.38 Original Application No: 475 Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1989 Version End Date: -
-	1010m NE	Status: Active Licence No: 2/27/11/006 Details: Process Water Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410400 Northing: 415300	Annual Volume (m^3): 30,117 Max Daily Volume (m^3): 146.38 Original Application No: 475 Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1989 Version End Date: -
-	1011m W	Status: Historical Licence No: 2/27/11/179 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Line Name: GROSVENOR CHEMICALS LIMITED Easting: 408820 Northing: 414230	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 09/02/1996 Expiry Date: - Issue No: 100 Version Start Date: 09/02/1996 Version End Date: -

ID	Location	Details	
-	1011m W	Status: Historical Licence No: 2/27/11/179 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER COLNE - LINTHWAITE Data Type: Line Name: GROSVENOR CHEMICALS LTD Easting: 408820 Northing: 414230	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 09/02/1996 Expiry Date: - Issue No: 100 Version Start Date: 09/02/1996 Version End Date: -
-	1393m NE	Status: Active Licence No: NE/027/0011/021 Details: Supply To A Canal For Throughflow Direct Source: SURFACE WATER Point: BRITANNIA BRIDGE, HOLME MILLS, HUDDERSFIELD Data Type: Point Name: Canal and River Trust Easting: 410621 Northing: 415613	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: NPS/WR/036287 Original Start Date: 26/03/2021 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 15/10/2021 Version End Date: -
-	1793m W	Status: Historical Licence No: 2/27/11/008 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: GLOBE WORSTED CO Easting: 408100 Northing: 413900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 01/12/1965 Version End Date: -
-	1857m W	Status: Historical Licence No: 2/27/11/100 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Line Name: BROOK GROUP (HOLDINGS) LTD Easting: 407780 Northing: 413800	Annual Volume (m^3): 181840 Max Daily Volume (m^3): 909.2 Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 101 Version Start Date: 26/03/2008 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	**7**

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 57**

ID	Location	Details	
C	256m NW	Status: Historical Licence No: 2/27/11/013 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
C	256m NW	Status: Historical Licence No: 2/27/11/013 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: RIVER COLNE-LINTHWAITE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
A	273m N	Status: Historical Licence No: 2/27/11/191 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-COAL MEASURES-TITANIC MILLS-LINTHWAITE Data Type: Point Name: LOWRY HOMES PLC Easting: 409740 Northing: 414730	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 12/03/2005 Expiry Date: 31/12/2010 Issue No: 1 Version Start Date: 12/03/2005 Version End Date: -

ID	Location	Details	
A	273m N	Status: Historical Licence No: 2/27/11/191 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-TITANIC MILLS-LINTHWAITE Data Type: Point Name: LOWRY HOMES PLC Easting: 409740 Northing: 414730	Annual Volume (m^3): 54000 Max Daily Volume (m^3): 150 Original Application No: - Original Start Date: 12/03/2005 Expiry Date: 31/12/2010 Issue No: 2 Version Start Date: 08/02/2008 Version End Date: -
A	273m N	Status: Active Licence No: NE/027/0011/007 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-TITANIC MILLS-LINTHWAITE Data Type: Point Name: PROPERTY RENAISSANCE LTD Easting: 409740 Northing: 414730	Annual Volume (m^3): 43,070 Max Daily Volume (m^3): 118 Original Application No: NPS/WR/005539 Original Start Date: 21/02/2011 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 21/02/2011 Version End Date: -
D	478m NW	Status: Historical Licence No: 2/27/11/013 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: SPRING-LINTHWAITE-HUDDERSFIELD Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409400 Northing: 414700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 101 Version Start Date: 16/07/2002 Version End Date: -
-	908m W	Status: Historical Licence No: 2/27/11/011 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: COLLINS & PRESTWICH & CO LTD Easting: 408900 Northing: 414400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m	2

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 57**

ID	Location	Type	Description
A	22m N	2	Outer catchment
A	222m N	1	Inner catchment

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

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

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

6 Hydrology

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	**2**

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 71**

ID	Location	Type of water feature	Ground level	Permanence	Name
2	122m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Colne

ID	Location	Type of water feature	Ground level	Permanence	Name
C	192m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	**3**

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 71**

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 71**

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

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

6.4 WFD Surface water bodies

Records identified	**1**

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

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

Features are displayed on the Hydrology map on **page 71**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
3	124m NW	River	Colne from Wessenden Brook to R Holme	GB104027063330	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

Records on site	**1**

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 71**

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

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

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

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

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

7.2 Historical Flood Events

Records within 250m	0

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

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

7.3 Flood Defences

Records within 250m	0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

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

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

7.5 Flood Storage Areas

Records within 250m	0

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

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

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

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

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

7.7 Flood Zone 3

Records within 50m	0

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

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

8 Surface water flooding

Site Outline
Search buffers in metres (m)

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

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

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

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

8.1 Surface water flooding

Highest risk on site	**Negligible**
Highest risk within 50m	**1 in 100 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 77**

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

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

Return period	Maximum modelled depth
1 in 1000 year	Negligible
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding

Site Outline

Search buffers in metres (m)

High

Moderate - High

Moderate

Low

Negligible

9.1 Groundwater flooding

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

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

Features are displayed on the Groundwater flooding map on **page 79**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations

Site Outline

Search buffers in metres (m)

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	0

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.

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 80**

ID	Location	Name	Local Authority name
1	139m NW	South and West Yorkshire	Kirklees

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

10.12 Proposed Ramsar sites

Records within 2000m	0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

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

This data is sourced from Natural England.

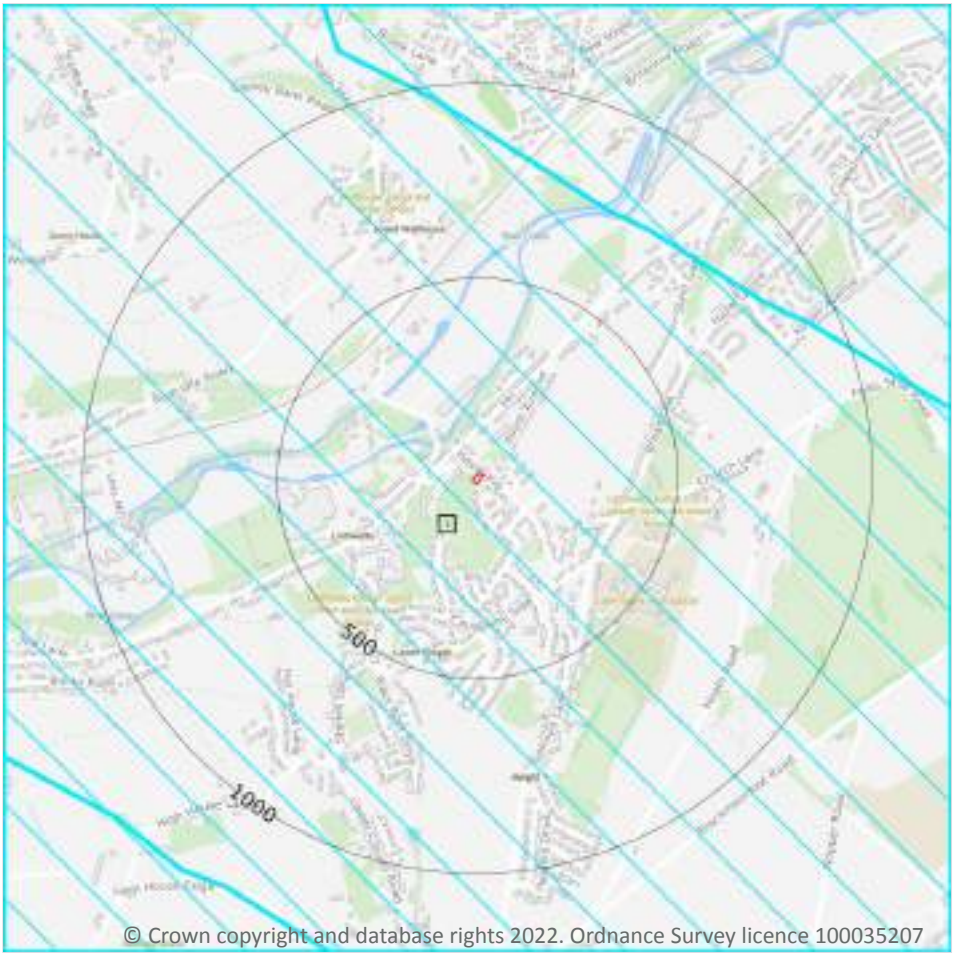
10.16 Nitrate Vulnerable Zones

Records within 2000m	0

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

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

SSSI Impact Zones and Units



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 85**

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

This data is sourced from Natural England.

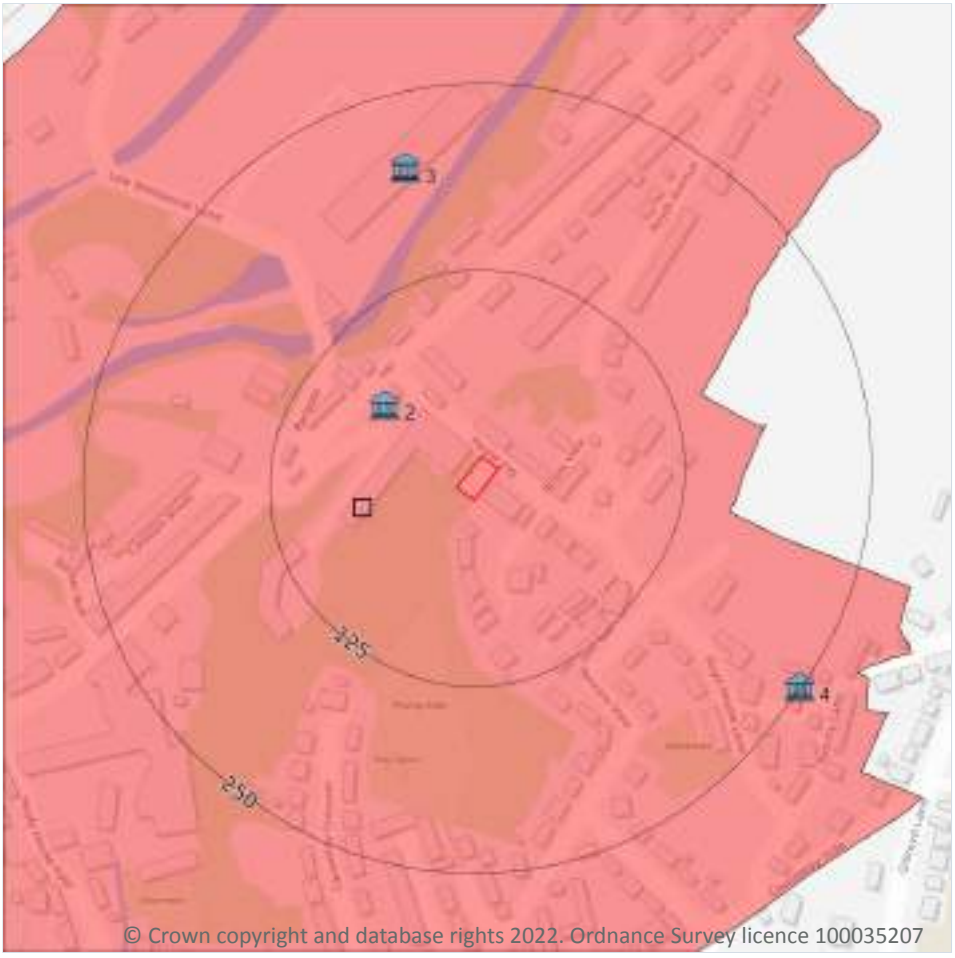
10.18 SSSI Units

Records within 2000m	**0**

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

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

11 Visual and cultural designations



Site Outline

Search buffers in metres (m)

Listed buildings

Conservation areas

Conservation areas - no data

National Parks

Areas of Outstanding Natural Beauty

Registered parks and gardens

Scheduled Monuments

World Heritage Sites

11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

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

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

11.3 National Parks

Records within 250m	0

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

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

11.4 Listed Buildings

Records within 250m	3

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

Features are displayed on the Visual and cultural designations map on **page 87**

ID	Location	Name	Grade	Reference Number	Listed date
2	72m NW	719, 721, 723, 725, 727 and 729 Manchester Road, Colne Valley, Kirklees, HD7	II	1217178	11/07/1985
3	200m N	Lowestwood (Titanic) Mill, Colne Valley, Kirklees, HD7	II	1216967	07/04/1983
4	249m SE	179 and 181, Knowl Road, Colne Valley, Kirklees, HD7	II	1234950	11/07/1985

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

11.5 Conservation Areas

Records within 250m	1

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.

Features are displayed on the Visual and cultural designations map on **page 87**

ID	Location	Name	District	Date of designation
1	**On site**	**Linthwaite**	**Kirklees**	**28/03/2004**

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.

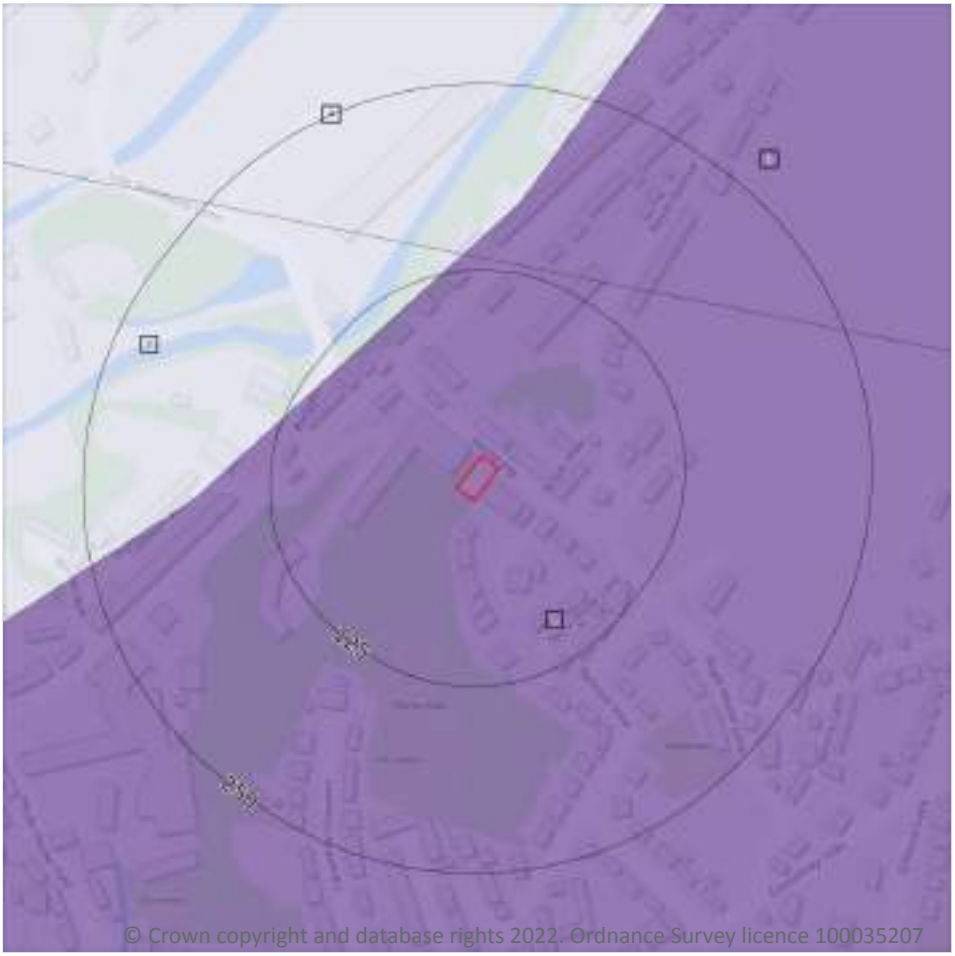
11.7 Registered Parks and Gardens

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	4

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 90**

ID	Location	Classification	Description
1	**On site**	**Urban**	-

ID	Location	Classification	Description
2	109m NW	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.
3	131m N	Urban	-
4	136m 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
248m N	AG00421652	Entry Level plus Higher Level Stewardship	01/05/2013	30/04/2023

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	1

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 93**

ID	Location	Main Habitat	Other habitats
1	56m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

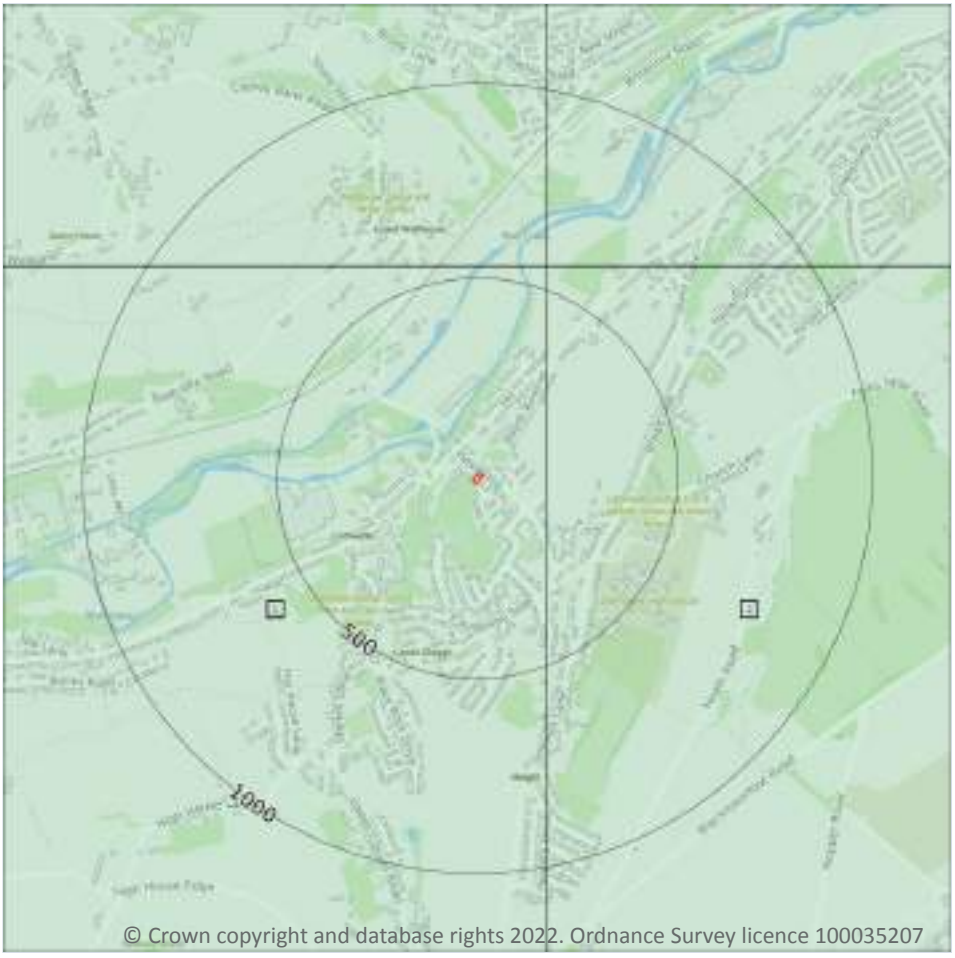
13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	2

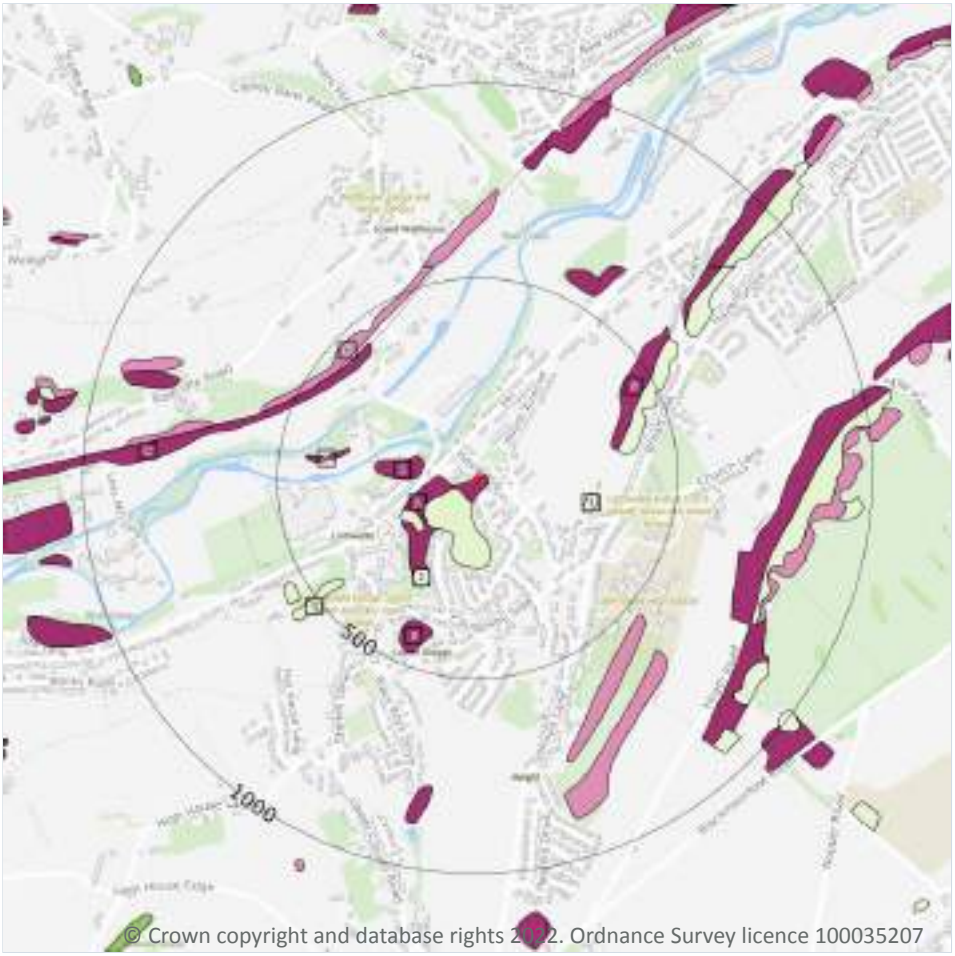
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 95**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**SE01SE**
2	165m E	Full	Full	Full	Full	SE11SW

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	13

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

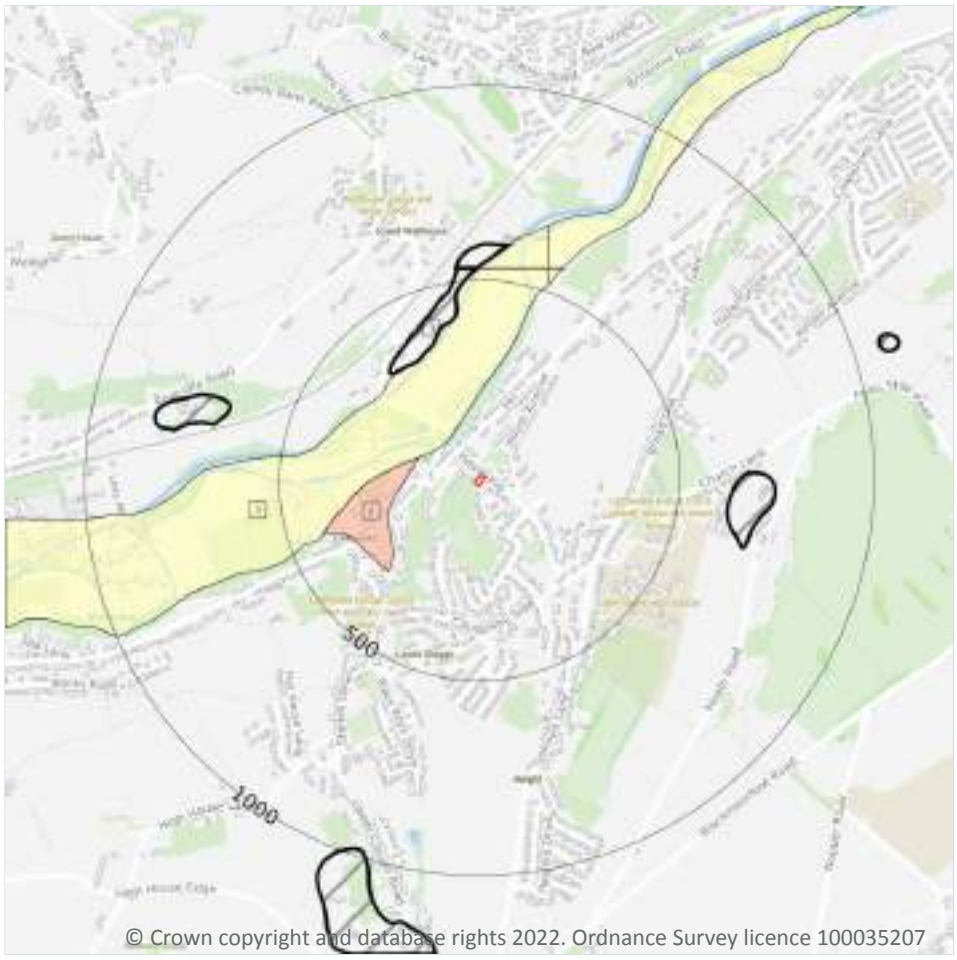
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 96**

ID	Location	LEX Code	Description	Rock description
A	**On site**	**MGR-ARTDP**	**Made Ground (Undivided)**	**Artificial Deposit**
A	40m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
1	129m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	163m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit

ID	Location	LEX Code	Description	Rock description
2	254m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
3	270m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
4	322m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	339m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	349m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
5	382m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
C	409m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
D	417m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
6	444m NW	WGR-VOID	Worked Ground (Undivided)	Void

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	2

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 98**

ID	Location	LEX Code	Description	Rock description
1	122m NW	ALV-XCSV	Alluvium - Clay, Sand And Gravel	Clay, Sand And Gravel
2	157m NW	ALF-XSV	Alluvial Fan Deposits - Sand And Gravel	Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m	**1**

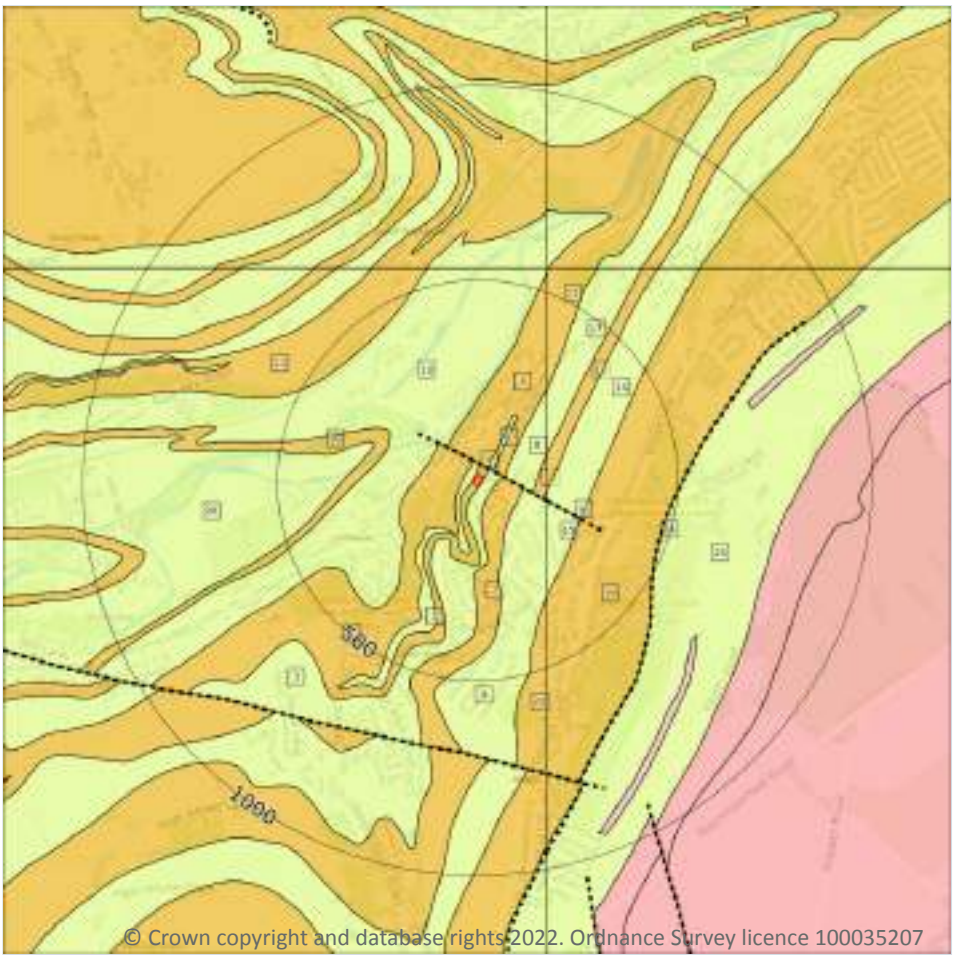
Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 98**

ID	Location	LEX Code	Description	Rock description
3	334m NW	SLIP-UKNOWN	Landslide Deposits	Unknown/unclassified Entry

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m **22**

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 100**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**MGG-SDST**	**Midgley Grit - Sandstone**	**Marsdenian Sub-age**
2	2m NW	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
3	4m SE	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age

ID	Location	LEX Code	Description	Rock age
5	27m NE	MGG-SDST	Midgley Grit - Sandstone	Marsdenian Sub-age
6	28m NE	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
7	37m SE	GSYG-SDST	Guiseley Grit - Sandstone	Marsdenian Sub-age
8	54m E	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
9	105m SE	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
10	109m NW	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
11	134m E	GSYG-SDST	Guiseley Grit - Sandstone	Marsdenian Sub-age
12	164m E	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
13	165m E	GSYG-SDST	Guiseley Grit - Sandstone	Marsdenian Sub-age
14	168m E	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
15	175m E	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
17	177m E	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
18	235m W	EC-SDST	East Carlton Grit - Sandstone	Marsdenian Sub-age
19	269m SE	HDW-SDST	Huddersfield White Rock - Sandstone	Marsdenian Sub-age
20	269m W	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
21	282m NE	MGG-SDST	Midgley Grit - Sandstone	Marsdenian Sub-age
22	335m SE	HDW-SDST	Huddersfield White Rock - Sandstone	Marsdenian Sub-age
23	441m NW	MGG-SDST	Midgley Grit - Sandstone	Marsdenian Sub-age
25	478m E	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	3

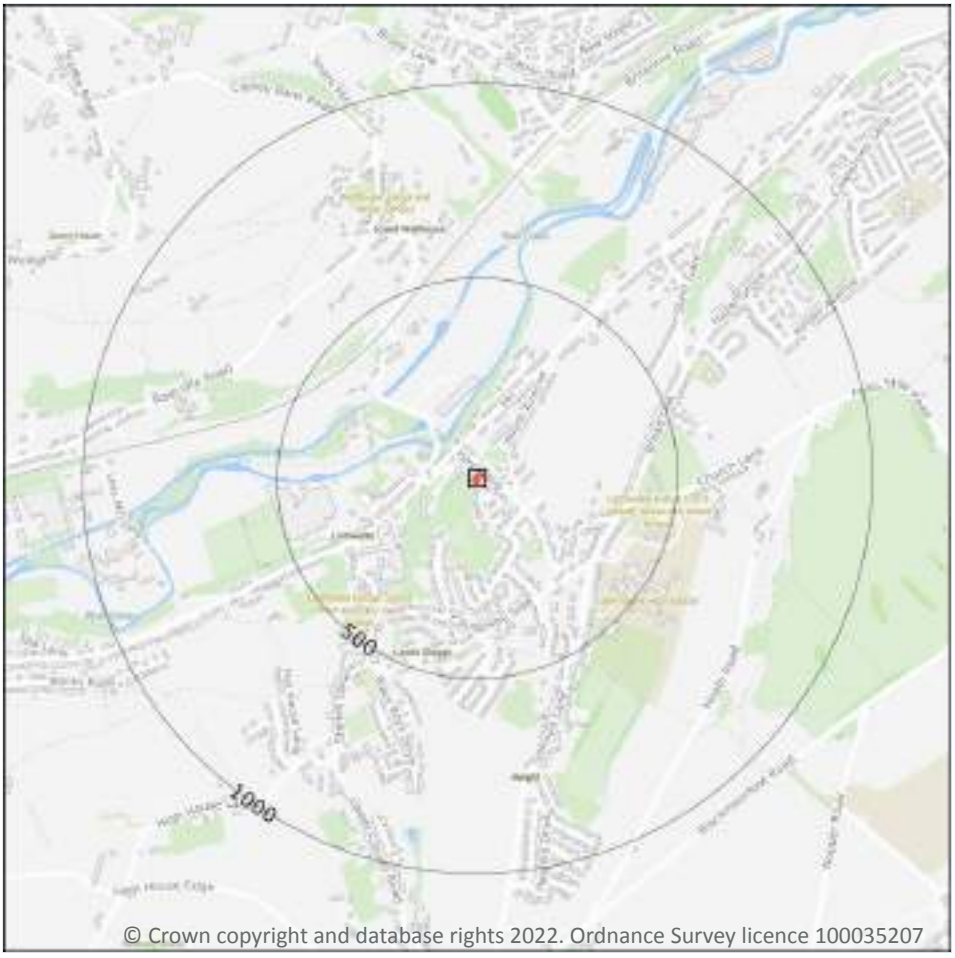
Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 100**

ID	Location	Category	Description
4	27m NE	FAULT	Normal fault, inferred; downthrow not specified
16	175m E	FAULT	Normal fault, inferred; crossmarks on downthrow side
24	478m E	ROCK	Coal seam, 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

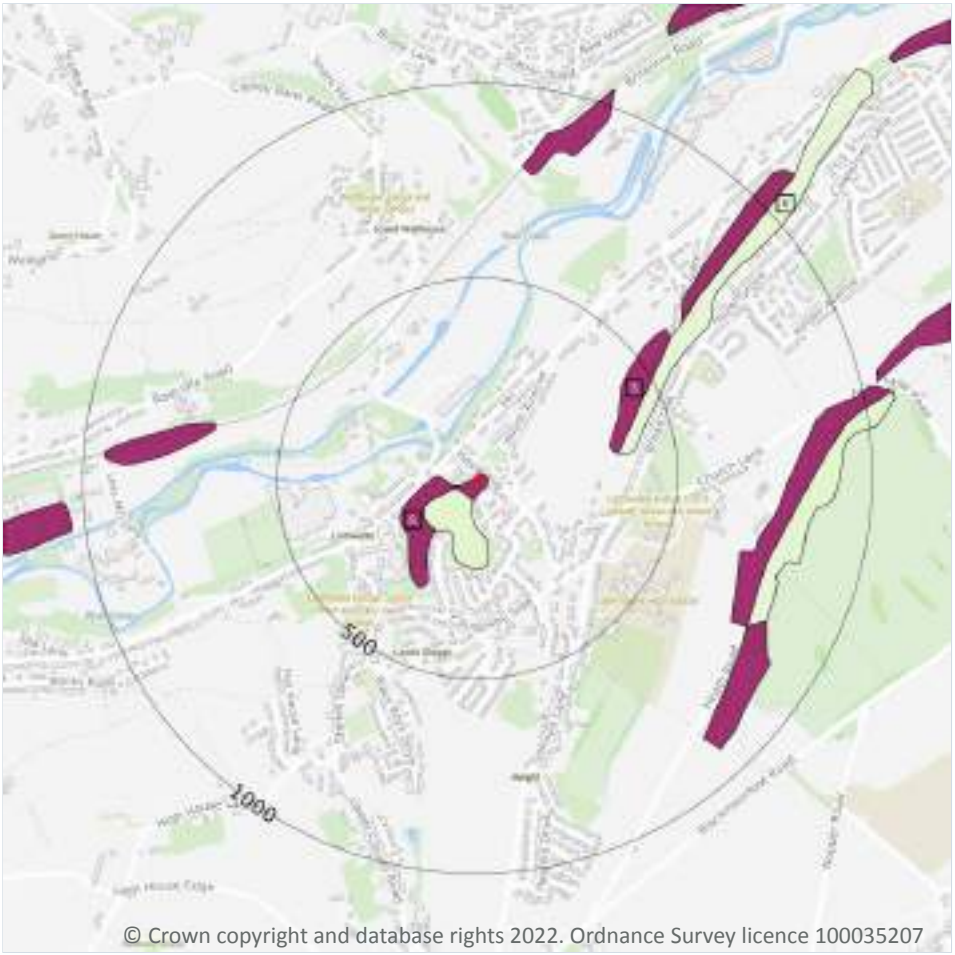
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 103**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW077_huddersfield_v4**

This data is sourced from the British Geological Survey.

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



Site Outline

Search buffers in metres (m)

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

15.2 Artificial and made ground (50k)

Records within 500m **4**

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 104**

ID	Location	LEX Code	Description	Rock description
A	**On site**	**MGR-ARTDP**	**MADE GROUND (UNDIVIDED)**	**ARTIFICIAL DEPOSIT**
A	37m SW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
1	335m E	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
B	351m E	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

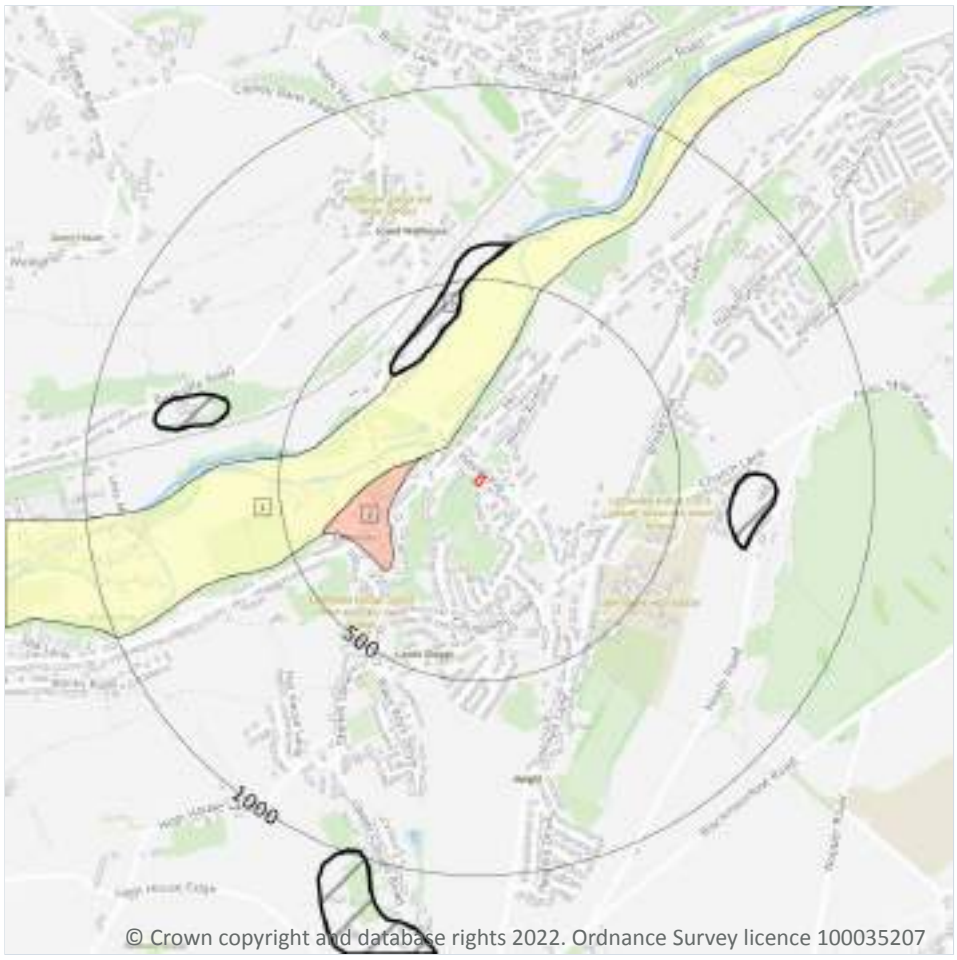
Records within 50m	2

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**Very High**	**Low**
37m S	Mixed	Very High	Low

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 **2**

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 106**

ID	Location	LEX Code	Description	Rock description
1	112m NW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
2	153m NW	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	1

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 106**

ID	Location	LEX Code	Description	Rock description
3	331m NW	SLIP-UKNOWN	LANDSLIDE DEPOSITS	UNKNOWN/UNCLASSIFIED ENTRY

This data is sourced from the British Geological Survey.

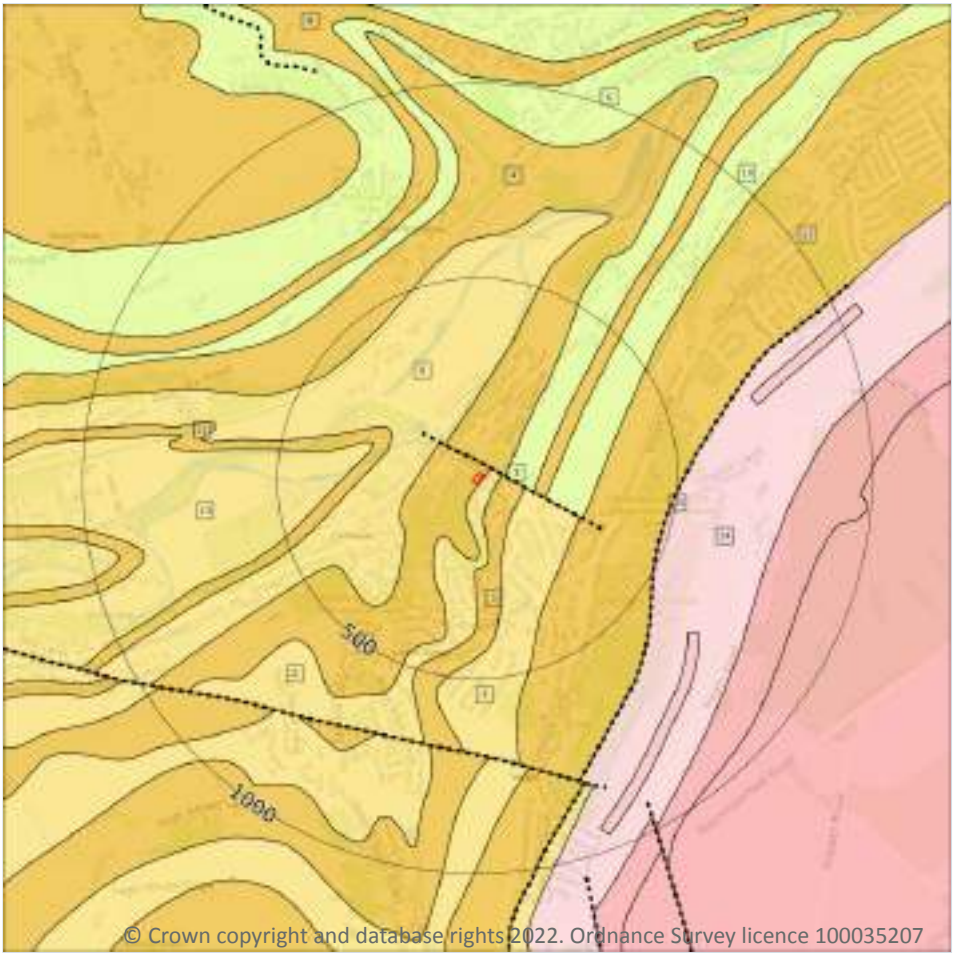
15.7 Landslip permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m **13**

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 108**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**MGG-SDST**	**MIDGLEY GRIT - SANDSTONE**	**NAMURIAN**
2	5m SE	MARSD-MDSI	MARSDEN FORMATION - MUDSTONE AND SILTSTONE	NAMURIAN
4	26m NE	MGG-SDST	MIDGLEY GRIT - SANDSTONE	NAMURIAN

ID	Location	LEX Code	Description	Rock age
5	41m SE	GSYG-SDST	GUISELEY GRIT - SANDSTONE	NAMURIAN
6	58m E	MG-MDSS	MILLSTONE GRIT GROUP [SEE ALSO MIGR] - MUDSTONE, SILTSTONE AND SANDSTONE	NAMURIAN
7	111m SE	MARSD-MDSI	MARSDEN FORMATION - MUDSTONE AND SILTSTONE	NAMURIAN
8	112m NW	MARSD-MDSI	MARSDEN FORMATION - MUDSTONE AND SILTSTONE	NAMURIAN
9	136m E	GSYG-SDST	GUISELEY GRIT - SANDSTONE	NAMURIAN
10	170m E	MG-MDSS	MILLSTONE GRIT GROUP [SEE ALSO MIGR] - MUDSTONE, SILTSTONE AND SANDSTONE	NAMURIAN
11	230m W	EC-SDST	EAST CARLTON GRIT - SANDSTONE	NAMURIAN
12	270m SE	HDW-SDST	HUDDERSFIELD WHITE ROCK - SANDSTONE	NAMURIAN
13	272m W	MARSD-MDSI	MARSDEN FORMATION - MUDSTONE AND SILTSTONE	NAMURIAN
14	481m E	ROSSE-MDSI	ROSSENDALE FORMATION - MUDSTONE AND SILTSTONE	NAMURIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	**3**

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**High**	**Moderate**
5m SW	Fracture	Low	Low
41m SW	Fracture	High	Moderate

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	**2**

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 108**

ID	Location	Category	Description
3	26m NE	FAULT	Fault, inferred
15	481m E	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.

16 Boreholes

Site Outline

Search buffers in metres (m)

Confidential

0 - 10m

10 - 30m

30m+

Unknown

16.1 BGS Boreholes

Records within 250m	2

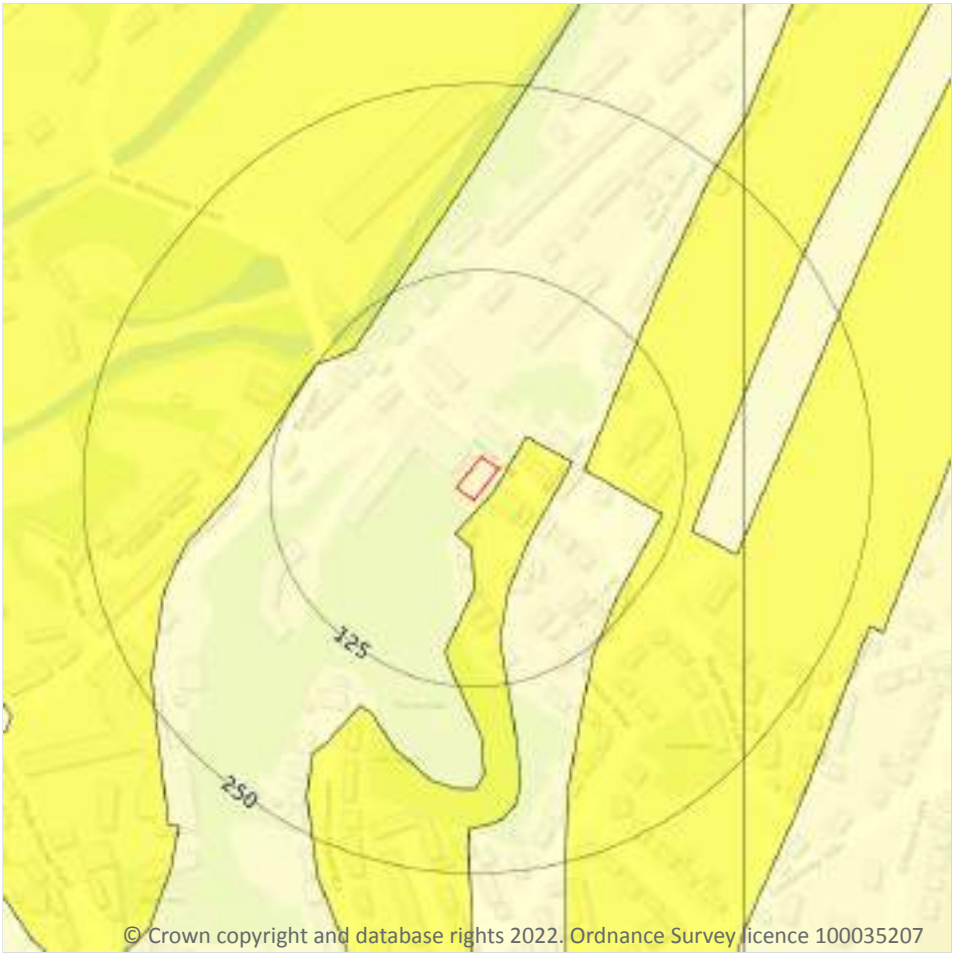
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several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

Features are displayed on the Boreholes map on **page 111**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	80m N	409823 414550	J.DYESON & SONS LINTHWAITE	97.84	N	36915
2	232m N	409793 414700	LOWESWOOD MILL LINTHWAITE	64.0	N	36918

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	2

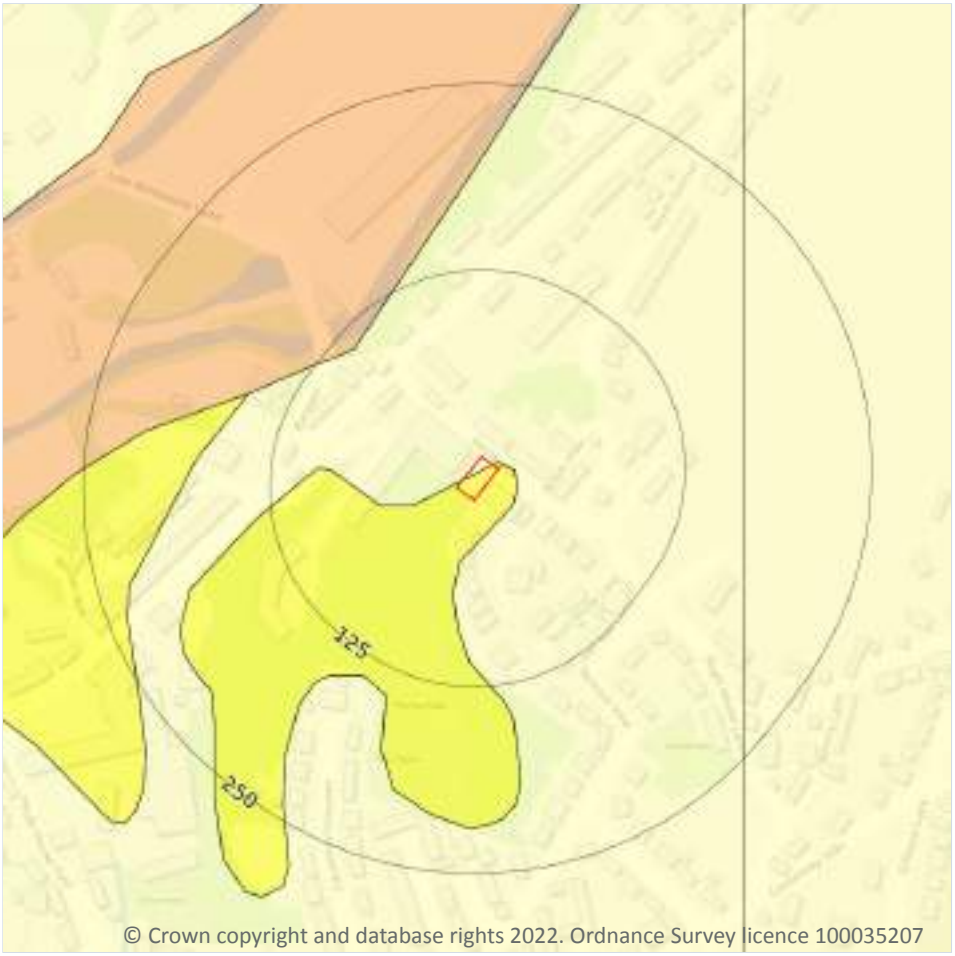
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 112**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**
5m SE	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	2

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.

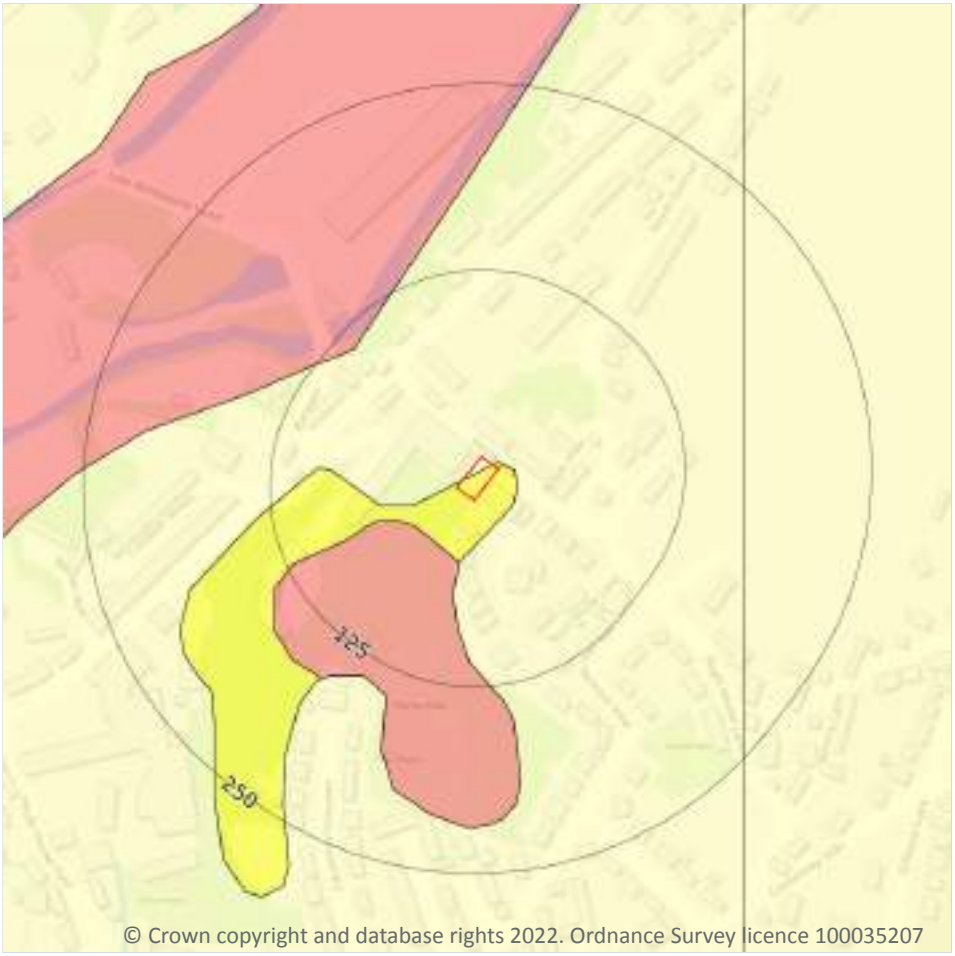
Features are displayed on the Natural ground subsidence - Running sands map on **page 113**

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

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

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	3

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

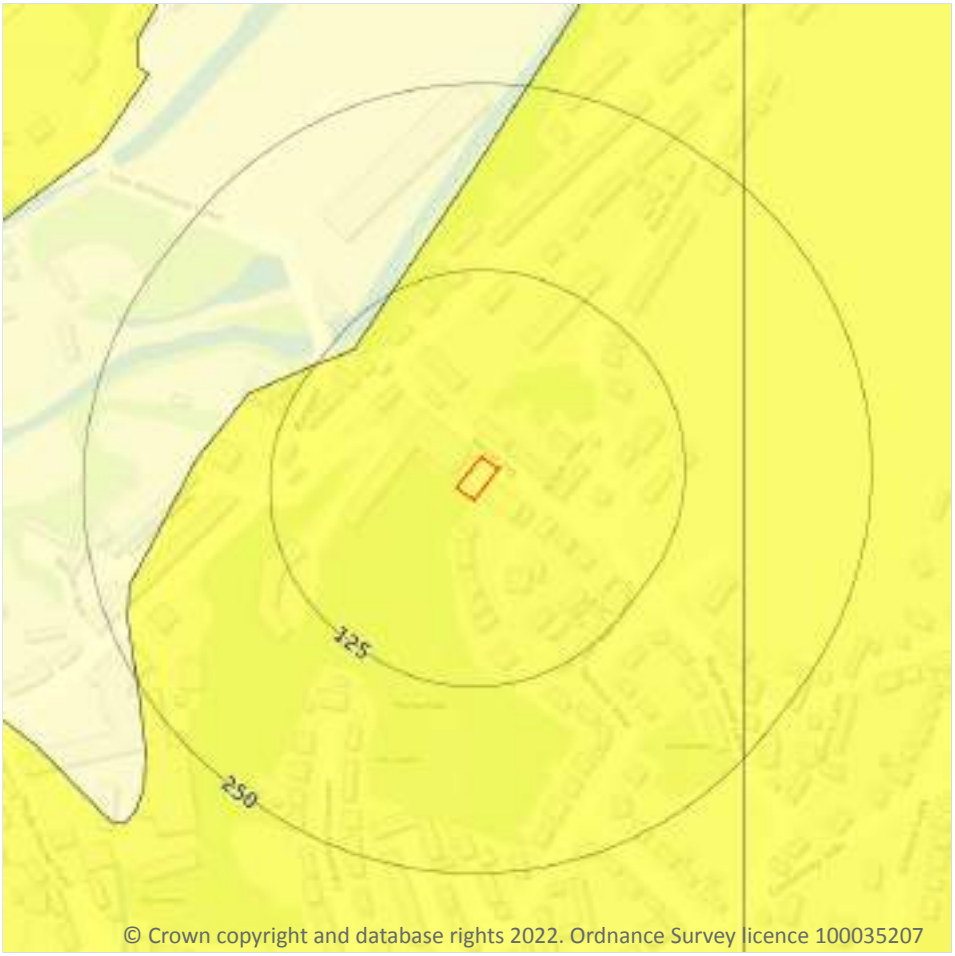
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 115**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
On site	**Very low**	**Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.**

Location	Hazard rating	Details
37m SW	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

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

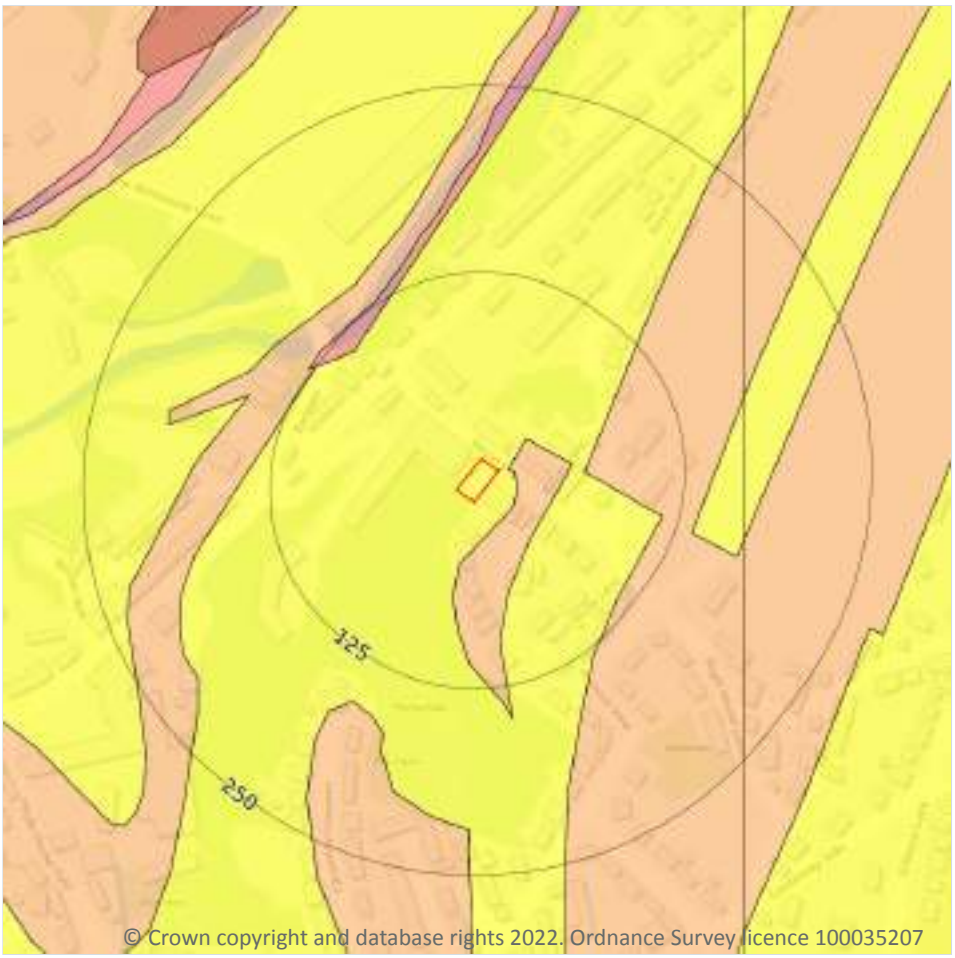
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 117**

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	2

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 118**

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

Location	Hazard rating	Details
7m E	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks

Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

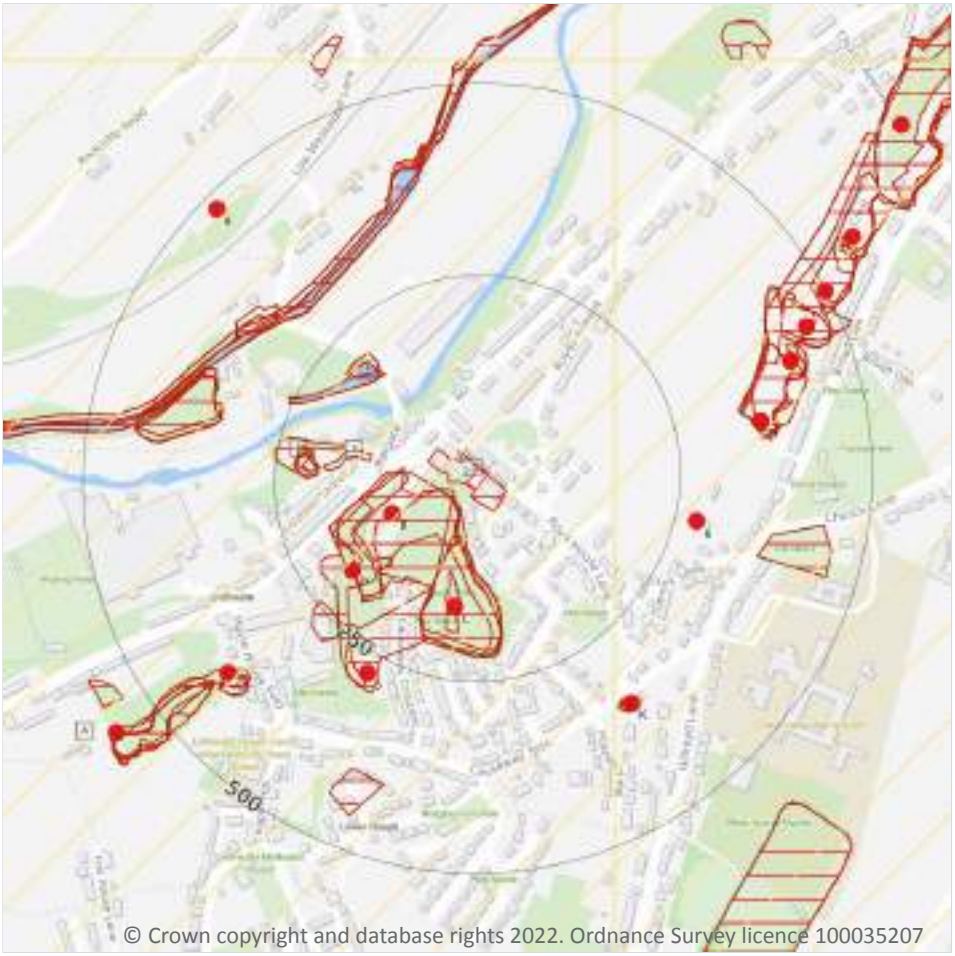
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 120**

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, ground workings and natural cavities



Site Outline

Search buffers in metres (m)

Natural cavities (Area)

Natural cavities (Point)

BritPits

Surface ground workings

Underground workings

Historical Mineral Planning Areas

Mining Cavities

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 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.

18.2 BritPits

Records within 500m	11

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 122**

ID	Location	Details	Description
B	104m W	Name: Hoyle House Address: Hoyle House, Linthwaite, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	155m S	Name: Linthwaite Brick Works Address: Linthwaite, HUDDERSFIELD, West Yorkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
D	187m SW	Name: Hollywell Address: Linthwaite, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
5	277m SW	Name: Spring Grove Address: Linthwaite, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
6	278m E	Name: Lane Top Address: Lane Top, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
K	343m SE	Name: Rock View Address: Linthwaite, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
M	361m E	Name: Linthwaite Address: Linthwaite, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
O	396m SW	Name: Hoyle House Address: Hoyle House, Linthwaite, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
M	420m E	Name: Linthwaite Address: Linthwaite, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
M	456m NE	Name: Broad Oak Address: Linthwaite, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
9	480m NW	Name: Westwood House Address: Wellhouse, Golcar, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	20

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, ground workings and natural cavities map on **page 122**

ID	Location	Land Use	Year of mapping	Mapping scale
1	**On site**	**Brick Works**	**1905**	**1:10560**
B	20m SW	Unspecified Quarry	1905	1:10560
C	26m SW	Unspecified Quarry	1948	1:10560
C	28m SW	Unspecified Quarry	1930	1:10560
C	30m SW	Unspecified Disused Quarry	1978	1:10000
C	63m S	Unspecified Quarry	1955	1:10560
D	77m W	Unspecified Ground Workings	1978	1:10000
2	83m SW	Unspecified Quarry	1905	1:10560
C	111m S	Pond	1905	1:10560
D	127m W	Unspecified Quarry	1930	1:10560
3	129m W	Refuse Heap	1905	1:10560
E	167m W	Unspecified Ground Workings	1978	1:10000
F	173m NW	Pond	1948	1:10560
F	173m NW	Pond	1905	1:10560
F	178m NW	Pond	1978	1:10000
F	178m NW	Pond	1955	1:10560
E	192m W	Refuse Heap	1955	1:10560
E	194m W	Refuse Heap	1930	1:10560
E	194m W	Refuse Heap	1930	1:10560
E	195m W	Unspecified Heap	1948	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.5 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	4

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, ground workings and natural cavities map on **page 122**

ID	Location	Name	Commodity	Class	Likelihood
A	**On site**	**Not available**	**Vein Mineral**	**A**	**Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered**
4	165m E	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
12	530m N	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
14	559m N	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered

This data is sourced from the British Geological Survey.

18.7 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.

18.8 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.

18.9 Coal mining

Records on site	0

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

This data is sourced from the Coal Authority.

18.10 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.

18.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

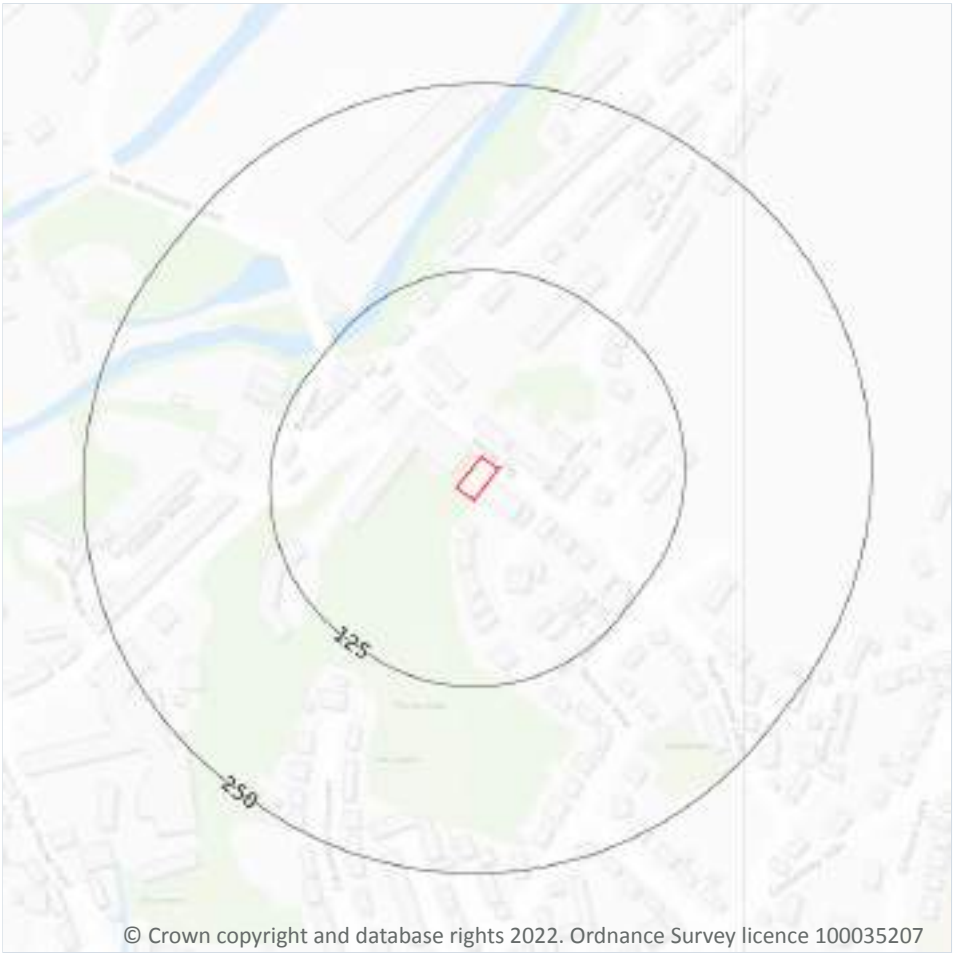
18.13 Clay mining

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 Radon



Site Outline

Search buffers in metres (m)

Greater than 30%

Between 10% and 30%

Between 5% and 10%

Between 3% and 5%

Between 1% and 3%

Less than 1%

19.1 Radon

Records on site	1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 129**

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

This data is sourced from the British Geological Survey and Public Health England.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m	6

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
5m S	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
26m NE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
30m NW	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
30m N	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
41m S	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects

Site Outline

Search buffers in metres (m)

- Crossrail 1 Stations
- Crossrail 1 Route
- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

21.1 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.

21.2 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.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	3

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

Features are displayed on the Railway infrastructure and projects map on **page 132**

Location	Land Use	Year of mapping	Mapping scale
6m W	Railway Sidings	1906	2500
21m W	Railway Sidings	1892	2500
21m W	Railway Sidings	1913	2500

This data is sourced from Ordnance Survey/Groundsure.

21.5 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.

21.6 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.

21.7 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.

21.8 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.

21.9 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.

21.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

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

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: https://www.groundsure.com/terms-and-conditions-jan-2020/.

APPENDIX 6

BGS BOREHOLE LOGS

	If measurements start below ground surface, state how far.	Feet	Inches	Inches	Feet	Inches	Inches
MADE GROUND	MADE GROUND						
DRIFT	CLAYEY SAND & STONES	17			17		
UPPER CARBONIFEROUS	SHALE	8	9		25	9	
	COAL		3		26		
NAMURIAN Millstone Grit (Upper Pule Hill Grit)	GREY SANDSTONE	21	3		47		
	GREY SHALEY SANDSTONE	13	10		60	10	
	GREY & BLUE STONEY BIND (VERY JOINTY)	52	7		113	5	
	BLACK SHALE	14	5		127	10	
	STONEY BIND (VERY JOINTY)	10			137	10	
	BLUE GREY SANDSTONE (JOINTY)	5			142	10	
	BLACK SHALE	1	10		144	8	
	BLUE STONE BIND (VERY JOINTY)	14	1		158	9	
	SHALE	26	3		185		
	HARD SANDSTONE	2			187		
	STONEY BIND	23			210		

SEPT. 1981

Aquifer:
Millstone Grit
BC 26/2/99

SURVEY OF EXISTING BOREHOLES

ENVIRONMENT AGENCY

B.G.S. Ref. No. **N.G.R.** SE 0974 1473 **Licence No.**

Owners Name LOWRY HOMES PLC

Address TITANIC MILLS, LINTHWAITE

HUDDERSFIELD

App No. [illegible]

Authorised Abstraction

[illegible] tcma

[illegible] cu m/d

20 cu m/h

STRATA DETAILS	Thick	Depth
CLAY + GRAVEL	3·8m	3·8m
CLAY + SHALES	1·7m	5·5m
GREY SANDSTONE WITH SMALL SHALE BANDS	11·8m	17·5m
HARD BLACK SHALE	20·4m	37·7m
SILTSTONE	5·3m	43·0m
SANDY SHALE	3·5m	46·5m
BLACK SHALE	15·2m	61·7m
BLACK SHALE + SILTSTONE	10·8m	72·5m
GREY SANDSTONE	8·5m	81·0m
Water strikes at 27 and 73 metres		

Dia. 200 mm

Depth 81 m

Lining 24m Plain steel

Well Sinker DALES WATER SERVICES

Date JULY 2004

R.W.L. Artesian

P.W.L. 13·76m @ 23 m³/h 96h test

T = c. 94 m²/d (average)

~~Rate~~ SS = 50 m³/d

APPENDIX 7

ZETICA UXO RISK MAP

UNEXPLODED BOMB RISK MAP

SITE LOCATION

Map Centre: 409803,414434

LEGEND

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

miltary | **industry** | **UXO find**
transport | **dock** | **Luftwaffe targets**
utilities | **Bombing decoy** | **other**

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

The map indicates the potential for Unexploded Bombs (UXB) to be present as a result of World War Two (WWII) bombing.

You can incorporate the map into your preliminary risk assessment* for potential Unexploded Ordnance (UXO) for a site. Using this map, you can make an informed decision as to whether more in-depth detailed risk assessment* is necessary.

What do I do if my site is in a moderate or high risk area?

Generally, we recommend that a detailed UXO desk study and risk assessment is undertaken for sites in a moderate or high UXB risk area.

Similarly, if your site is near to a designated Luftwaffe target or bombing decoy then additional detailed research is recommended.

More often than not, this further detailed research will conclude that the potential for a significant UXO hazard to be present on your site is actually low.

Never plan site work or undertake a risk assessment using these maps alone. More detail is required, particularly where there may be a source of UXO from other military operations which are not reflected on these maps.

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

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

A low risk really means that there is no greater probability of encountering UXO than anywhere else in the UK.

If you are unsure whether other sources of UXO may be present, you can ask for one of our **pre-desk study assessments (PDSA)**

If I have any questions, who do I contact?

tel: **+44 (0) 1993 886682**

email: **uxo@zetica.com**

web: **www.zeticauxo.com**

The information in this UXB risk map is derived from a number of sources and should be used in conjunction with the accompanying notes on our website: **(https://zeticauxo.com/downloads-and-resources/risk-maps/)**

It is important to note that this map is not a UXO risk assessment and should not be reported as such when reproduced.

*Preliminary and detailed UXO risk assessments are advocated as good practice by industry guidance such as CIRIA C681 'Unexploded Ordnance (UXO), a guide for the construction industry'.