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PRELIMINARY RISK ASSESSMENT



LAND OFF CHATBURN ROAD, CLITHEROE

Report Ref BEK-19595-1

August 2019

Report Prepared for


Oakmere[®]
CREATING QUALITY HOMES

Project Quality Assurance Information Sheet

PRELIMINARY RISK ASSESSMENT

Land off Chatburn Road, Clitheroe

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1. INTRODUCTION

1.1 Appointment

1.1.1 BEK Enviro Limited (BEK) have been commissioned by Oakmere Homes (Northwest) Limited to prepare a Preliminary Risk Assessment for an area of land located to the north-west of Chatburn Road, Clitheroe (hereafter referred to as 'the site'). The assessment has been carried out to identify potential risks associated with contamination and ground gas with respect to the development of the site for residential use.

1.1.2 The site location and site layout are presented on BEK Drawing No 19595-1 and BEK Drawing No 19595-2, respectively. Copies of these drawing are presented in Appendix F.

1.2 Proposed Development

1.2.1 This report has been prepared to support a planning application for the construction of residential houses with private gardens and associated infrastructure.

1.2.2 The development layout is presented on Oakmere Drawing No 067/P/01 entitled 'Chatburn Road North, Clitheroe - Site Layout - Planning' a copy of which is presented in Appendix F.

1.3 Objective & Scope of Work

1.3.1 The objective of the assessment herein is to provide a qualitative assessment of the potential risks from contamination and ground gas and identify any potentially significant risks with respect to the proposed residential development.

1.3.2 To achieve the objective BEK will undertake the following:

- Carry out a site inspection and take photographs
- Review the available relevant background information for the site, including:
 - Recent Ordnance Survey Map
 - BGS Web Page
 - Site Specific GroundSure Reports
 - Site Specific Historical Maps
- Develop a preliminary conceptual site model in accordance with guidance to identify potentially significant pollutant linkages specific to the proposed development
- Establish areas of potential concern based on identified risks and/or potential risks
- Identify any actions required to assess or reduce the risks identified



1.4 Limitations

- 1.4.1 The conclusions and recommendations presented in this report are the result of our professional interpretation of the information currently available. BEK reserves the right to amend the conclusions and recommendations if further information becomes available.
- 1.4.2 However, it should be noted that much of the information has been derived from reports written by others and BEK takes no responsibility for the accuracy of that information. Notwithstanding the above, the reports reviewed have all been written by professional environmental consultants with a duty of care to provide relevant and accurate information.
- 1.4.3 This report does not include an assessment of the vegetation of site and in particular the identification of any invasive plant species.

2. SITE DESCRIPTION

2.1 Site Location

- 2.1.1 The site is located to the north-west of Chatburn Road, Clitheroe, some 1.5 km south-west of Chatburn Village and 1.5 km north-east of Clitheroe centre.
- 2.1.2 The National Grid Reference for the centre of the site is 375372, 443123. The site location is shown on BEK Drawing No 19543-1, a copy of which is presented in Appendix F.

2.2 Site Layout & Description

- 2.2.1 The site occupies an area approximately 3 hectares (30,000 m²) and is a rectangular plot of land comprising undeveloped open grassland with a strip of dense vegetation in the north-west.
- 2.2.2 An engineer from BEK visited the site on 17 July 2019 to carry out a site walkover/inspection. The site is accessed off Chatburn Road, which is approximately 1-2 m higher than the site, and marks the south-eastern site boundary.
- 2.2.3 A metal gate is located in the northern part of the south-eastern site boundary, which leads onto the site via a grassy access track that gently slopes onto the site.
- 2.2.4 The north-west of the site is occupied by dense woodland (mature and semi-mature trees, bushes with brambles, nettles and thistles), whilst the south-east is an open field, used for agricultural purposes. The two sections are separated by a stream which flows north-east to south-west, entering the site through a culvert in the north-eastern site boundary (see Figure 1).



Figure 1: Site Layout

- 2.2.5 The heavily vegetated part of the site is uneven and becomes much steeper at the site boundary, particularly in the north.

- 2.2.6 There is a small strip of dense vegetation that follows the north-eastern site boundary and this is also at a higher elevation than the rest of the site. Surface water also discharges into the site from a culvert located in the easternmost corner of the site (suspected to drain surface water from adjacent carriageways), although the flow was negligible and it is unclear as to the direction the water flows (possible along the north-eastern site boundary to join with the brook through the centre of the site).
- 2.2.7 There are two overhead telephone lines that cross the site. The first crosses the westernmost corner of the site, and has a mast in this location. The second crosses the site in the north-east and has two masts located site.
- 2.2.8 Some limited fly-tipped material was noted along the north-eastern parts of the site.
- 2.2.9 A selection of photographs illustrating the current site layout are presented within Appendix E.
- 2.3 Surrounding Land Use**
- 2.3.1 The north-western site boundary is defined by a railway line, beyond which appears to be a landfill site to the west and industrial activities to the north associated with Tarmac Limited. The south-eastern site boundary is defined by Chatburn Road, beyond which is an area currently be redeveloped for residential use and Clitheroe Hospital.
- 2.3.2 The north-eastern site boundary is defined by Pimlico Link Road, beyond which is area of trees and open grassland. The south-western site boundary is defined by a fence, beyond which are open fields.

3. SITE HISTORY

- 3.1 The history of the site has been established using historical OS maps supplied by Groundsure. A selection of the maps reviewed is presented in Appendix A.

1847-1884

- 3.2 The earliest available maps show the site to be occupied by vacant undeveloped land (likely agricultural use). A stream is present on site, flowing north-east to south-west - See Figure 2.



Figure 2: Extract from 1884 Historic Map

- 3.3 A road marks the south-eastern site boundary and a railway line marks the north-western site boundary. A limestone quarry marked as 'Coplow Hill' is located some 30 m north-west of the site. Two large, irregular shaped buildings with a number of smaller buildings, marked as 'Clitheroe Union Workhouse' are located some 30 m south-west of the site

1912

- 3.4 The 1912 map shows the site remains unchanged. A 'Tank' is located some 10 m south-east of the site. A 'Mineral Railway' is now present to the south and east of the site, the closest point some 10 m east of the eastern corner of the site. There is a large area of ground workings, some 170 m north of the site. Small scale maps indicate that this is the beginning of a large quarry.

1964-1969

- 3.5 The site remains unchanged. Only a section of the mineral railway remains. Coplow Quarry is now marked as disused and now occupies a large area of water. The buildings associated with Clitheroe Union Workhouse and now marked as Clitheroe Hospital.

1970-2010

- 3.6 The site remains vacant, however there is an area of cuttings or ground workings located along the site boundaries in the far west of the site. These are presumably associated with the construction of a new road which marks the north-eastern site boundary. The easternmost corner of the site is now defined by a crossroad junction. An electricity substation is located some 30 m north of the easternmost corner of the site. A large works building is located some 130 m north of the site, with more being added from 1970.

2014

- 3.7 This map shows no change to the site, however Clitheroe hospital has been demolished and a new hospital has been rebuilt adjacent to its previous location, some 30 m east of the site. The location of the previous hospital is now undergoing residential development.

4. ENVIRONMENTAL SETTING

4.0.1 GeolInsight and EnviroInsight Reports have been obtained from Groundsure and information provided in this report has been used within this section. Copies of these report are presented in Appendix B and C, respectively.

4.1 Geology

4.1.1 The site geology is illustrated in the GeolInsight Report which has sourced data from several sources including British Geological Society (BGS), BRITPITS database and the Coal Authority. A copy of the GeolInsight Report is presented in Appendix B.

4.1.2 In addition, BEK has sought site investigation information from the BGS website. There are eighteen BGS borehole located within 250 m of the site, however the information is not available to view.

Made Ground

4.1.3 According to the GeolInsight report there is no artificial ground (made ground) present beneath the site or within 250 m of the site.

Superficial Geology

4.1.4 The GeolInsight Report states that the underlying superficial deposits comprise of Devensian Till (Boulder Clay). The permeability of the superficial strata is stated as being low to high.

Bedrock

4.1.5 The underlying solid geology comprises of the Clitheroe Limestone Formation and Hodder Mudstone Formation.

Linear Features

4.1.6 There are no fault lines or linear features located within 250 m of the site.

4.2 Mining & Ground Stability

4.2.1 Information in the GeolInsight Report indicates that the site is located in an area that is unlikely to have been affected by coal mining. According to the Coal Authority interactive map, the site is not located within a coal mining reporting area.

4.2.2 The GeolInsight Report indicates there are no historical underground workings within 250 m of the site. However, there is one non-coal mining record on the site described as Vein Mineral. The report states that 'potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered'.

- 4.2.3 The GeoInsight Report provides hazard ratings associated with ground subsidence at the site, as summarised below:

Shrink-Swell Clay:	Very Low
Landslides:	Very Low/Low
Ground Dissolution of Soluble Rocks:	Very Low
Compressible Deposits:	Negligible
Collapsible Deposits:	Very Low
Running Sands:	Negligible/Very Low

- 4.2.4 It can be seen from the above that the site is unlikely to be affected by natural ground instability.

4.3 Hydrogeology

- 4.3.1 The underlying superficial strata is classified by the Environment Agency as a 'Secondary Aquifer (Undifferentiated)'. These formations are 'assigned where it is not possible to attribute either Category A or B to a rock type.'
- 4.3.2 The underlying bedrock is classified as a 'Secondary A Aquifer' which are described as 'Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important base flow to rivers'.
- 4.3.3 The EnviroInsight Report indicates the site is not located within a groundwater Source Protection Zone and there are no groundwater abstraction license within 250 m of the site.

4.4 Hydrology

- 4.4.1 The EnviroInsight Report indicates that a small stream flows through the site, the site walkover confirmed the stream enters the site through a culvert along the northern part of the north-eastern site boundary and flows roughly parallel to the north-western site boundary. The site walkover also indicated that there is a second culvert located in the eastern corner of the site, however the water flow from this culvert does not travel very far onto the site.
- 4.4.2 There are no licensed discharge consents located within 250 m of the site.
- 4.4.3 There are no surface water abstraction license within 250 m of the site.

4.5 Contaminated Land & Landfill Activities

- 4.5.1 Information provided in the EnviroInsight Report indicates that there is a landfill site located 50 m north-west of the site. This is Coplow Quarry operated by Castle Cement which is licensed to accept 'Industrial Waste'.

- 4.5.2 The EnviroInsight report also indicates that there is potentially infilled land on site, described as 'Cuttings', associated with the railway line which marks the north-western site boundary. Further to this there is potentially infilled land described as Unspecified Ground Workings some 30 to 150 m north-west of the site, and Unspecified Quarries some 60 to 100 m west of the site.
- 4.5.3 There are no EA recorded pollution incidents located within 250 m of the site.
- 4.5.4 There are no Part A(2), Part B or IPPC Authorised Activities located within 250 m of the site.
- 4.5.5 According to the EnviroInsight Report there are 11 potentially contaminative industrial sites located within 250 m of the site, the closest of which is located 22 m south-east of the site and refers to a Tank. There is also an electricity substation located some 37 m north-east of the site.
- 4.6 Sensitive Land Uses**
- 4.6.1 The site is not affected by any of the ecological systems identified as a statutory receptor in the DETR Circular 01/2006.
- 4.7 Radon**
- 4.7.1 Groundsure reports that the property is located in a Radon Affected Area, as 'between 10 and 30% of properties are above the Action Level'.
- 4.7.2 Full radon measures are considered necessary.

5. PREVIOUS SITE INVESTIGATION

- 5.1 There is no previous site investigation information available for the site. However, BEK has been provided with a copy of a Phase 2 Geo-Environmental Assessment carried out by HSP Consulting for the land located immediately south-west of the site (Report Ref: C2099, dated June 2015). The purpose of the investigation was to provide information for foundation design and obtain representative disturbed soil samples to forward for geotechnical and geo-environmental analysis
- 5.2 The HSP site investigation consisted of 10 WS boreholes, 3 CP Boreholes and 12 trial pits. The ground conditions confirmed the presence of topsoil at all locations to a maximum depth of 0.3 m bgl overlying firm to stiff clay, gravel and limestone of the Clitheroe Limestone Formation and Hodder Mudstone Formation.
- 5.3 The natural cohesive deposits belonging to the Clitheroe Limestone Formation and Hodder Mudstone Formation are considered as suitable a formation layer for the proposed houses where they have been encountered in a medium strength condition from a minimum depth of 0.5 m (i.e. at least 200 mm into the natural weathered bedrock deposits). At the above depth HSP would recommend that an allowable bearing pressure of 126 kNm² should be readily achievable when utilising a 0.6 m wide strip trench footing.
- 5.4 It is considered appropriate to adopt a basic Design Sulphate Class of DS-1 together with an Aggressive Chemical Environment for Concrete (ACEC) of AC-1.
- 5.5 Elevated concentrations of arsenic have been identified in one location at the site at 0.5 m depth. Contamination at this depth is unlikely to pose a risk to end users and remediation is unlikely to be required unless ground levels are to be reduced in the area. Elevated levels of PAH compounds (benzo[b]fluoranthene and dibenz(a,h)anthracene) have been identified in topsoil from Borehole WS3A and WS5. This material will need to be removed from site and is not suitable for re-use in gardens on the site.
- 5.6 Analysis of the ground gas monitoring undertaken to date indicates the site falls into a Characteristic Situation 1 / Green. Therefore gas protection measures are not necessary within any new developments upon the site.

6. POTENTIAL POLLUTANT LINKAGES

6.1 General

6.1.1 This section identifies the potential contaminants of concern, sources, pathways and receptors that may be associated with the site based on its known history and the current condition and with respect to the re-development of the site for residential use.

6.1.2 This information is used to develop a conceptual model which is a qualitative description of potential sources of environmental pollutants, the pathways by which they are transported and the receptors:

- i) Potential sources of contamination: these include any actual or potentially contaminating materials and activities, located either on or in the vicinity of the site
- ii) Potential pathways for contamination migration: these comprise the routes or mechanisms by which contaminants may migrate from the source to the receptor including environmental migration pathways and human health exposure pathways
- iii) Potential receptors of contamination: these include future land users, ecological systems, water resources and property.

6.2 Potential Contaminants of Concern

6.2.1 Based on the available historical maps the site has been occupied by agricultural fields from 1892 until present day and potential risks associated with contamination are therefore considered to be low.

6.2.2 There are areas of cuttings or ground workings along the site boundaries, indicating that waste soils may have been deposited on site during construction of adjacent roads and the railway line. Furthermore, the site walkover identified steep, raised areas of ground in these locations. Any made ground on site may contain contaminants of concern.

6.2.3 The potential contaminants of concern that may be present at the site are summarised below:

Contaminants Associated with Made Ground	
Arsenic	Zinc
Cadmium	Sulphate
Chromium	Cyanide
Copper	Phenols
Lead	Polycyclic Aromatic Hydrocarbons (PAHs)
Mercury	Asbestos
Nickel	pH
Selenium	

Table 1: Potential Contaminants of Concern

6.2.4 It should be noted that the above list represents a broad range of potential contaminants of concern. Additional contaminants of concern should be considered if ground conditions differ from those anticipated.

6.2.5 Based on the available background information, a landfill located some 50 m from the site represents a potential source of ground gas.

6.2.6 However, the HSP investigation in the adjacent land did not encounter any elevated gas concentrations and if ground conditions on the subject site are similar (laterally continuous clay underlying the topsoil at all locations) then risks to the subject site are also considered to be very low. However, without monitoring BEK cannot dismiss the risks all together and therefore basic gas mitigation measures are recommended in all new builds.

6.2.8 In addition to the above, potential risks from natural radon gas have been identified and mitigation measures will be required to prevent ingress of radon gas to all new builds.

6.3 Potential Pathways

6.3.1 The pathways through which contaminants may reach receptors are in part dependent by the nature and behavior of the contaminant and the intended end use of the site.

6.3.2 The following potential pathways have been identified with respect to the existing site condition, the environmental setting and the re-development of the site to residential with gardens; all of which are assessed in the conceptual model:

- Ingestion of contaminated soil/home grown vegetables
- Inhalation of contaminative dust including asbestos fibres
- Lateral or vertical migration of ground gas through permeable layers leading to inhalation and/or explosion

- Dermal contact
- Dissolution or suspension (leaching) of contaminants into pore waters affecting plant growth
- Dissolution or suspension (leaching) of contaminants from site soils leading to lateral migration within perched waters to off-site receptors. Potential significant pathways include more permeable layers within the made ground/natural strata, underground services and piles/foundations
- Contamination affecting the integrity of service pipelines by direct contact
- Buildings affected by direct contact with elevated concentrations of sulphate and/or extreme pH

6.4 Receptors

- 6.4.1 Potential site specific receptors that may be affected by contamination at the site are listed below:

Future Site Users

- 6.4.2 Future occupants of the site could be at risk from contamination present at the site.
- 6.4.3 Potential risks are associated with ingestion of soil as well as inhalation of contaminated dust (including asbestos) and dermal contact with contaminants of concern. These risks are all associated with the garden areas of the new development.
- 6.4.4 In addition, risks associated with indoor inhalation of organic vapours and/or ground gas needs to be considered. Ground gas (methane) also represents a potential risk of explosion.

Construction Workers

- 6.4.5 The primary risks to construction workers are associated with shallow excavations as asbestos could be present. Asbestos fibres (if present) can be released into the atmosphere during earthworks.
- 6.4.6 Standard personal protective equipment and site specific risk assessments and method statements should reduce risks associated with other contaminants of concern due to short exposure duration.

Off Site Receptors

- 6.4.7 Off site receptors include nearby home owners. Human health could be at risk if asbestos fibres are released during the development.

Flora

- 6.4.8 Heavy metals can be phytotoxic and if present can represent a potential risk to flora in garden/landscaped areas.

Buildings & Services

- 6.4.9 Concrete used for the construction of buildings can be affected by high levels of sulphate and extreme pH.
- 6.4.10 The integrity of service pipes can be affected by concentrations of organic contamination.
- 6.4.11 Ground gas (methane) also represents a potential risk of explosion and damage to buildings/infrastructure.

Controlled waters

- 6.4.12 A stream is present on site and presents a significant receptor
- 6.4.13 The superficial strata comprises of relatively impermeable Boulder Clay and any water trapped/held within the deposits are not considered to represent a sensitive receptor.
- 6.4.14 The underlying bedrock is classified as a Secondary A Aquifer and is unlikely to be impacted due to the relatively impermeable superficial deposits which will inhibit vertical migration of contamination to the underlying bedrock.

6.5 Preliminary Conceptual Model

- 6.5.1 The identified potential sources of contaminants, pathways and receptors have been assessed to establish plausible pollutant linkages. All potentially significant pollutant linkages are detailed in Table B, in Appendix D.

6.6 Potentially Significant Pollutant Linkages

- 6.6.1 A number of possible 'significant pollutant linkages' have been identified associated with the site.
- 6.6.2 Potential risks relating to the potential harm to the health of humans and/or domestic pets both on and off site due to the potential for direct contact with contaminants in the made ground and the ingestion of contaminated soil/dust (**Link 1**). Human health could also be affected by ingestion of home grown produce due to uptake of contaminants of concern (**Link 2**).



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- 6.6.3 There is also the possibility of windblown particulates being inhaled by people/animals both on site and off site (**Link 3**).
- 6.6.4 Flora (**Link 4**) and property (including services) (**Link 5**) could be affected by direct contact to high concentrations of contaminants.
- 6.6.5 Dissolution or suspension (leaching) of contaminants from site soils leading to lateral migration within perched waters to surface watercourse. Potential significant pathways include more permeable layers within the made ground/natural strata, underground services and piles/foundations (**Link 6**).
- 6.6.6 Human health could be at risk from inhalation of ground gasses (**Link 7**) or natural radon gas (**Link 8**) migrating into properties on site.
- 6.6.7 Site investigation is required to identify site specific conditions and assess the risks associated with each identified plausible pollutant linkage.

7. RECOMMENDATIONS

7.1 Based on the findings of the risk assessment herein, few number of potential risks associated with contamination and ground gas have been identified with respect to the proposed change of use to residential.

7.2 Risks have been identified to human health, flora and property (including services) and site investigation is required to determine shallow ground conditions and quantify the potential risks identified.

7.3 BEK recommends the following works should be undertaken:

Site Investigation

7.4 In order to characterise the shallow ground conditions it will be necessary to carry out site investigation works. The site investigation should comprise the excavation of a series of trial pits to prove nature and thickness of any made ground present and characterise the natural strata.

7.5 The site investigation should be supervised by an experienced engineer who will be responsible for recording ground conditions encountered.

7.6 The engineer will recover representative samples of topsoil which can be tested and assessed to confirm suitability for re-use of the garden areas of the new development. Representative samples of made ground will also be recovered where encountered for chemical analysis. All samples will be collected in appropriate sampling vessels, stored in a pre-cooled cool box and dispatched to the laboratory within 24 hours.

Chemical Testing

7.7 Following a review of ground conditions encountered, a selection of samples will be tested for the contaminants of concern listed in Table 1 of this report. If visual or olfactory evidence of contamination is encountered (including any made ground) during the site investigation then it may be necessary to undertake additional testing.

7.8 At this stage it is considered unlikely that samples will need to be tested for leachable concentrations. However, if the initial findings confirm that no significant contamination is present these tests will not be required.

7.9 All testing will be carried out by a UKAS accredited laboratory to MCERTS standard (where applicable).

Ground Gas

- 7.10 Risks from ground gas associated with the nearby landfill are considered to be low based on previous site investigation works in the area. Confirmation should be sought that Boulder Clay is laterally continuous across the site to mitigate ground gas mobilization.
- 7.11 Full radon protection measures will need to be incorporated into all new builds at the site.

Risk Assessment

- 7.12 The investigation findings will be assessed as part of a quantitative risk assessment to amend the conceptual site model and identify any potential significant pollutant linkages.
- 7.13 The assessment will be undertaken in accordance with current UK guidance and policy.

Reporting

- 7.14 The investigation findings should be assessed in accordance with current UK policy and guidance to identify any potential significant pollutant linkages and determine the requirements for mitigation and/or remediation.
- 7.15 The works undertaken will be detailed in a Site Investigation & Ground Assessment report along with full justifications for the assessment and the conclusions/recommendations.

Other Considerations

- 7.16 In addition to the assessment of the shallow ground conditions with respect to contamination, the site investigation should be suitable to characterise the shallow ground to facilitate a geotechnical assessment for foundation design. This will include in-situ strength test (shear vane) where natural cohesive strata is encountered and recovery of samples for geotechnical testing.
- 7.17 Prior to site clearance we recommend that an Invasive plant species survey is carried out to ensure that the site is clear of Japanese Knotweed, Giant Hogweed and Himalayan Balsam.
- 7.18 We would also recommend that consideration is given to the requirements of the water supply service provider and the completion of the UKWIR risk assessment for water pipe selection.

APPENDIX A

Historical OS Maps

Site Details:

Clitheroe (Lancashire), BB7 4JX

Client Ref: 29721
Report Ref: CMAPS-CM-814908-29721-170719HIS
Grid Ref: 375372, 443123

Map Name: County Series

Map date: 1884

Scale: 1:2,500

Printed at: 1:2,500



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



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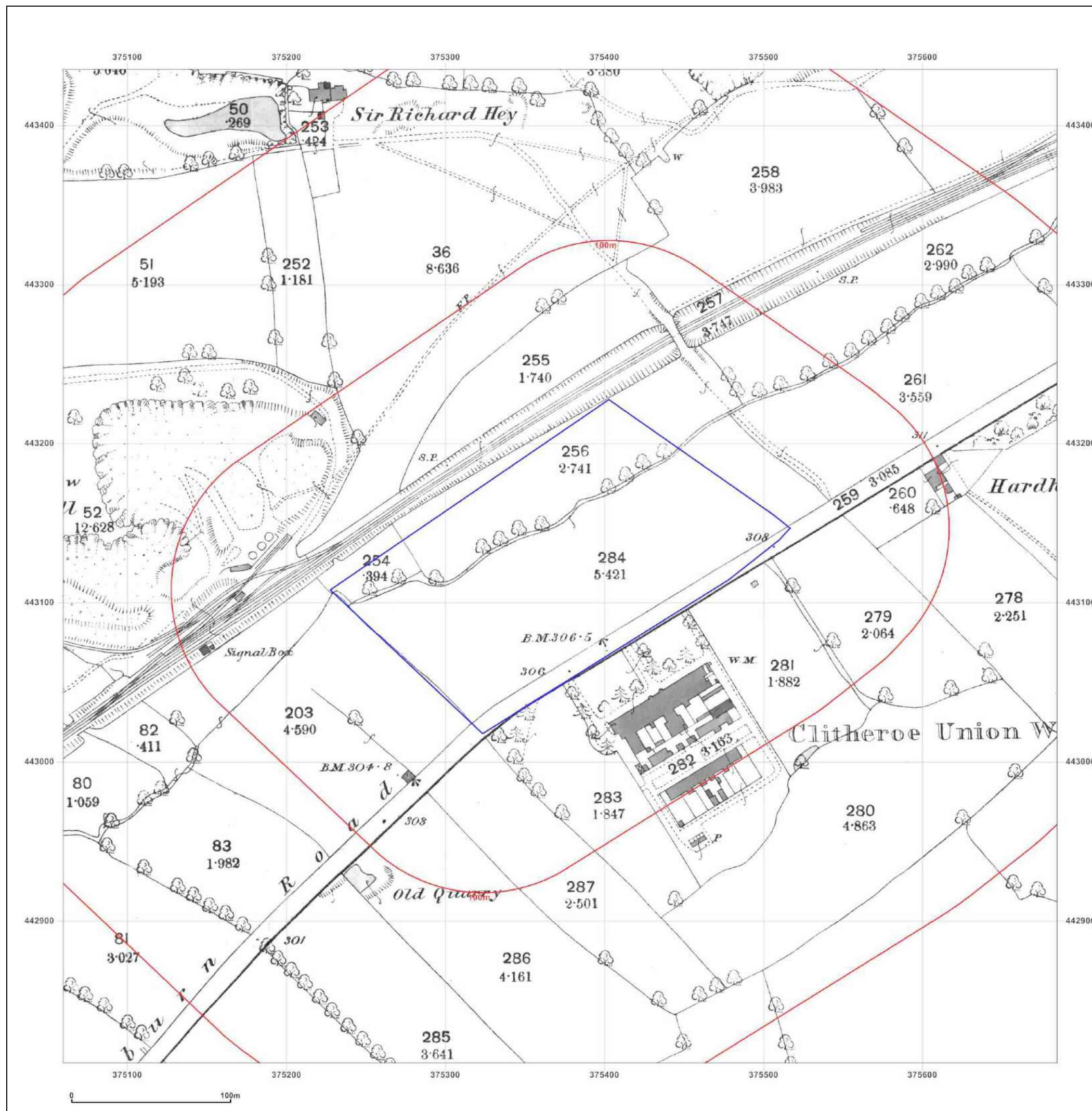


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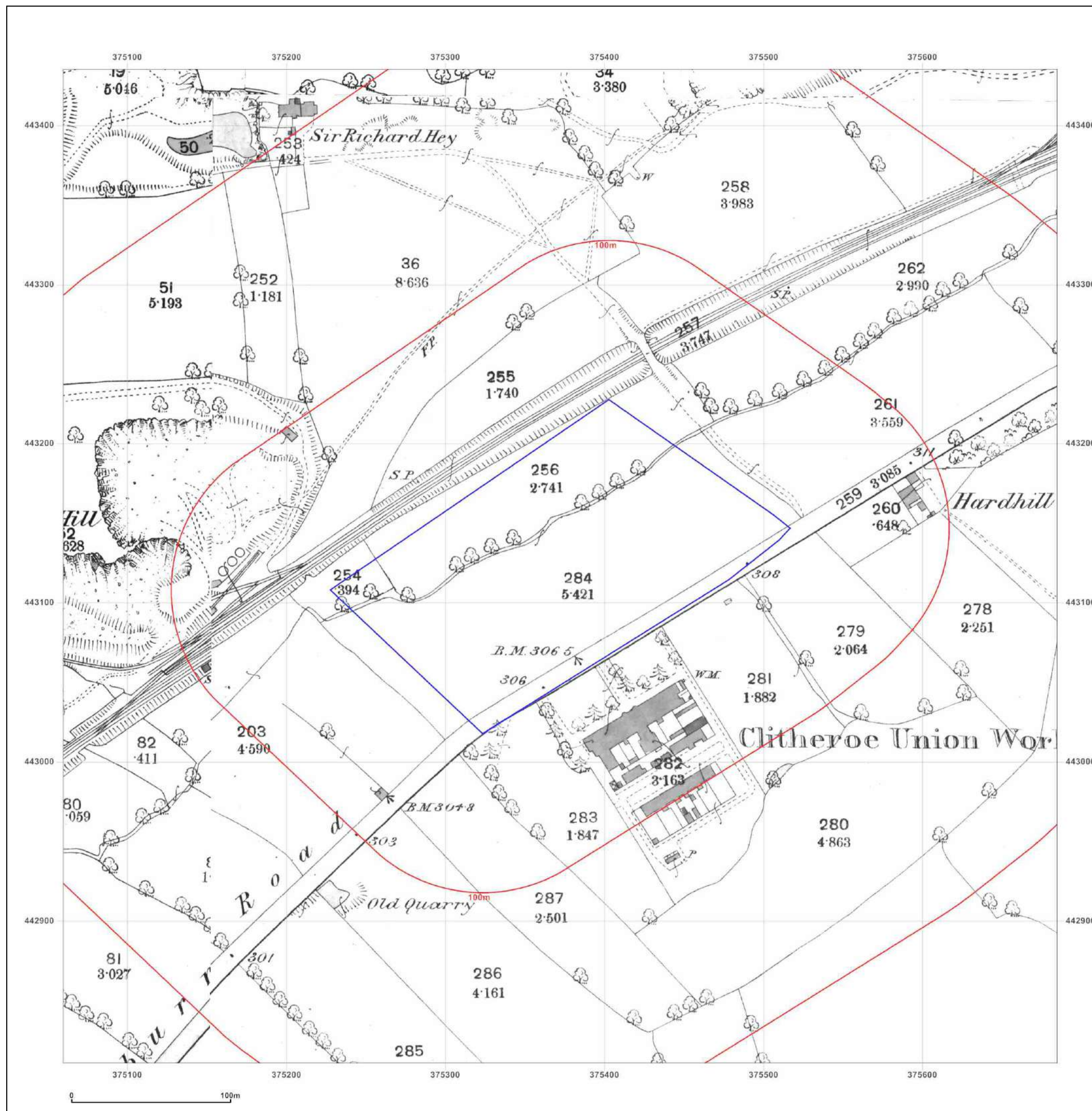


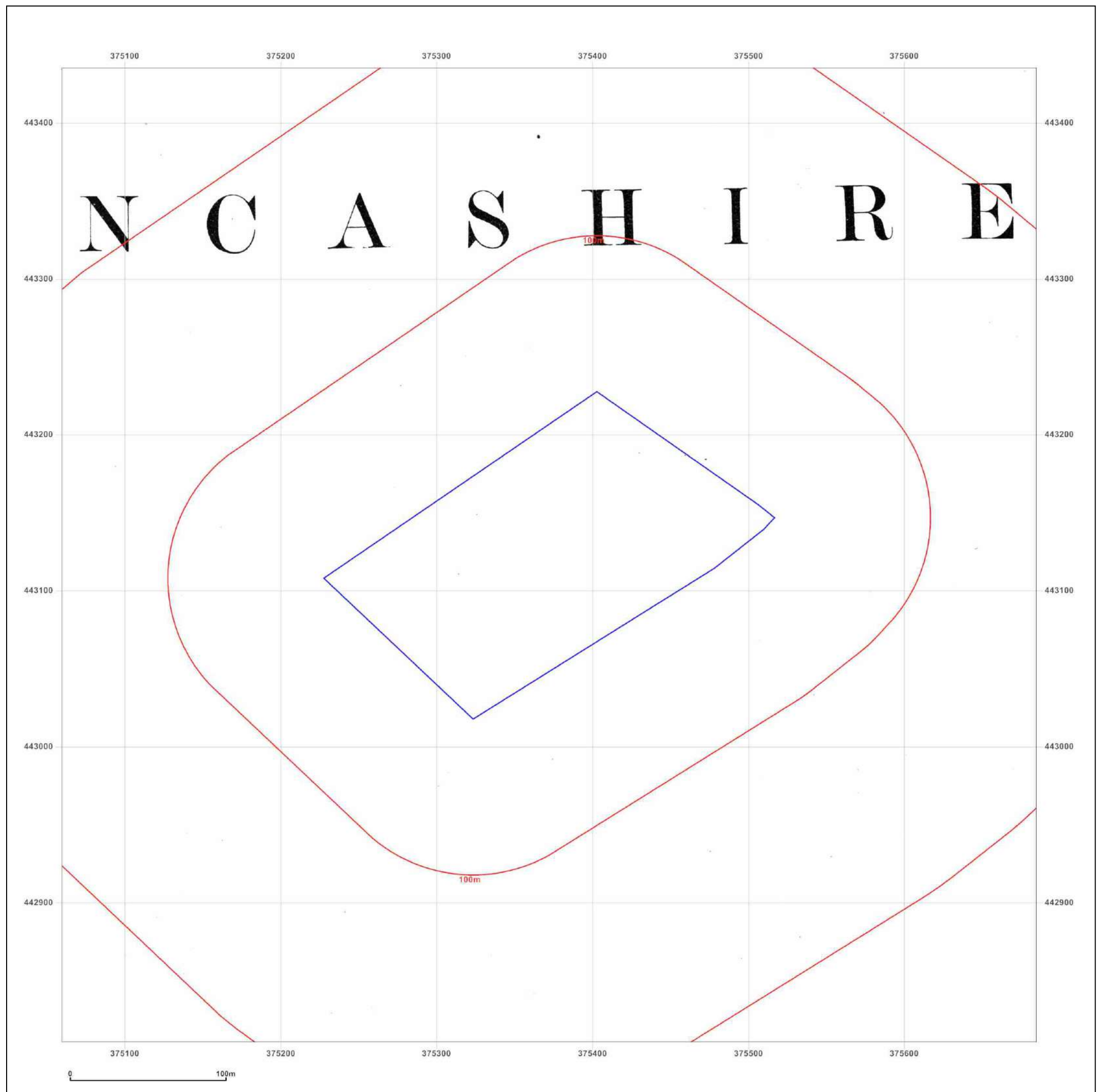
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Client Ref: 29721
Report Ref: CMAPS-CM-814908-29721-170719HIS
Grid Ref: 375372, 443123

Map Name: County Series

Map date: 1910

Scale: 1:2,500

Printed at: 1:2,500



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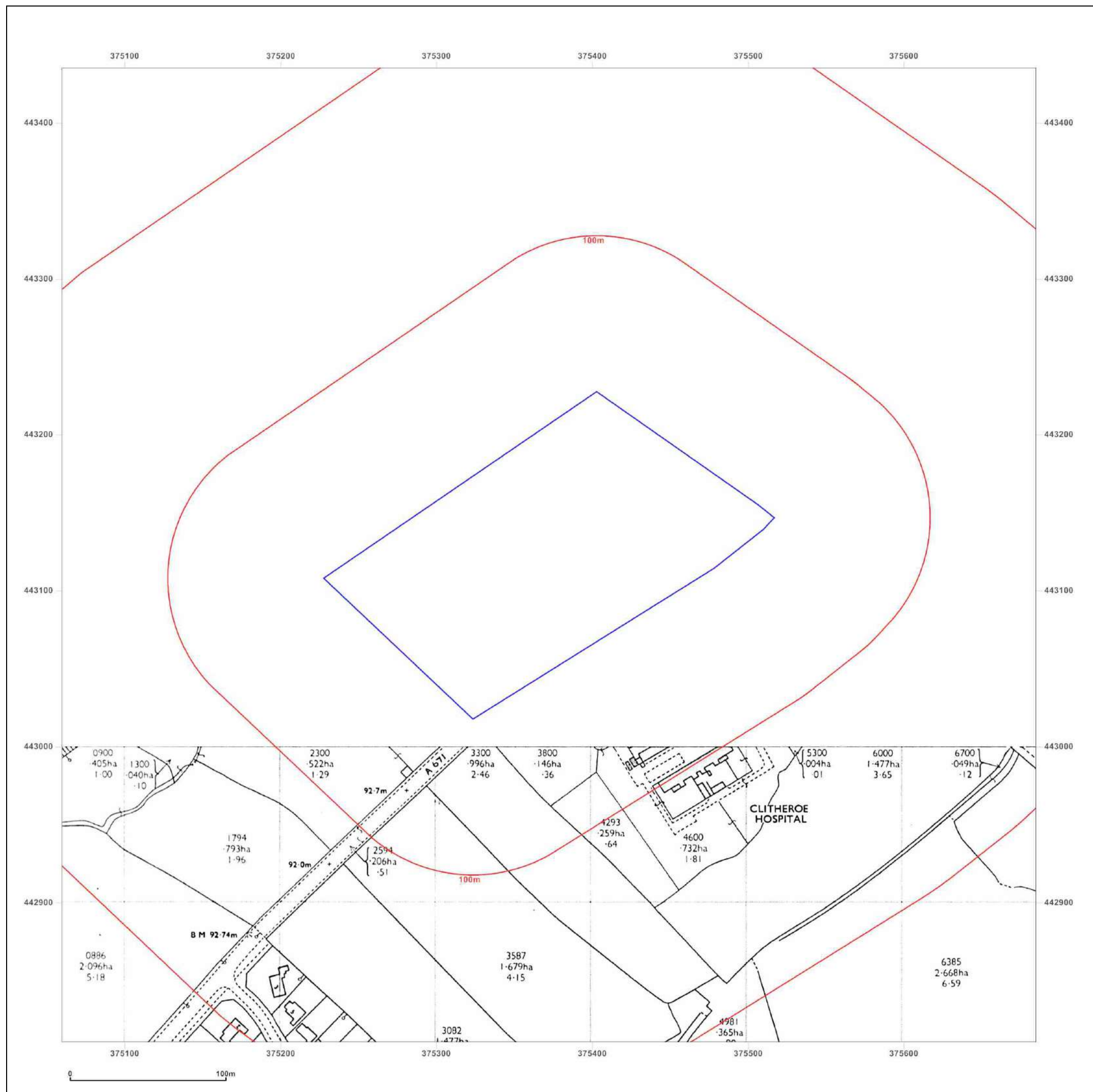


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Site Details:

Clitheroe (Lancashire), BB7 4JX

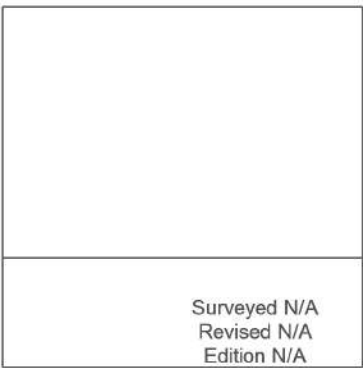
Client Ref: 29721
Report Ref: CMAPS-CM-814908-29721-170719HIS
Grid Ref: 375372, 443123

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



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Site Details:

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Client Ref: 29721
Report Ref: CMAPS-CM-814908-29721-170719HIS
Grid Ref: 375372, 443123

Map Name: National Grid

Map date: 1964

Scale: 1:2,500

Printed at: 1:2,500



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Surveyed 1964
Revised 1964
Edition N/A
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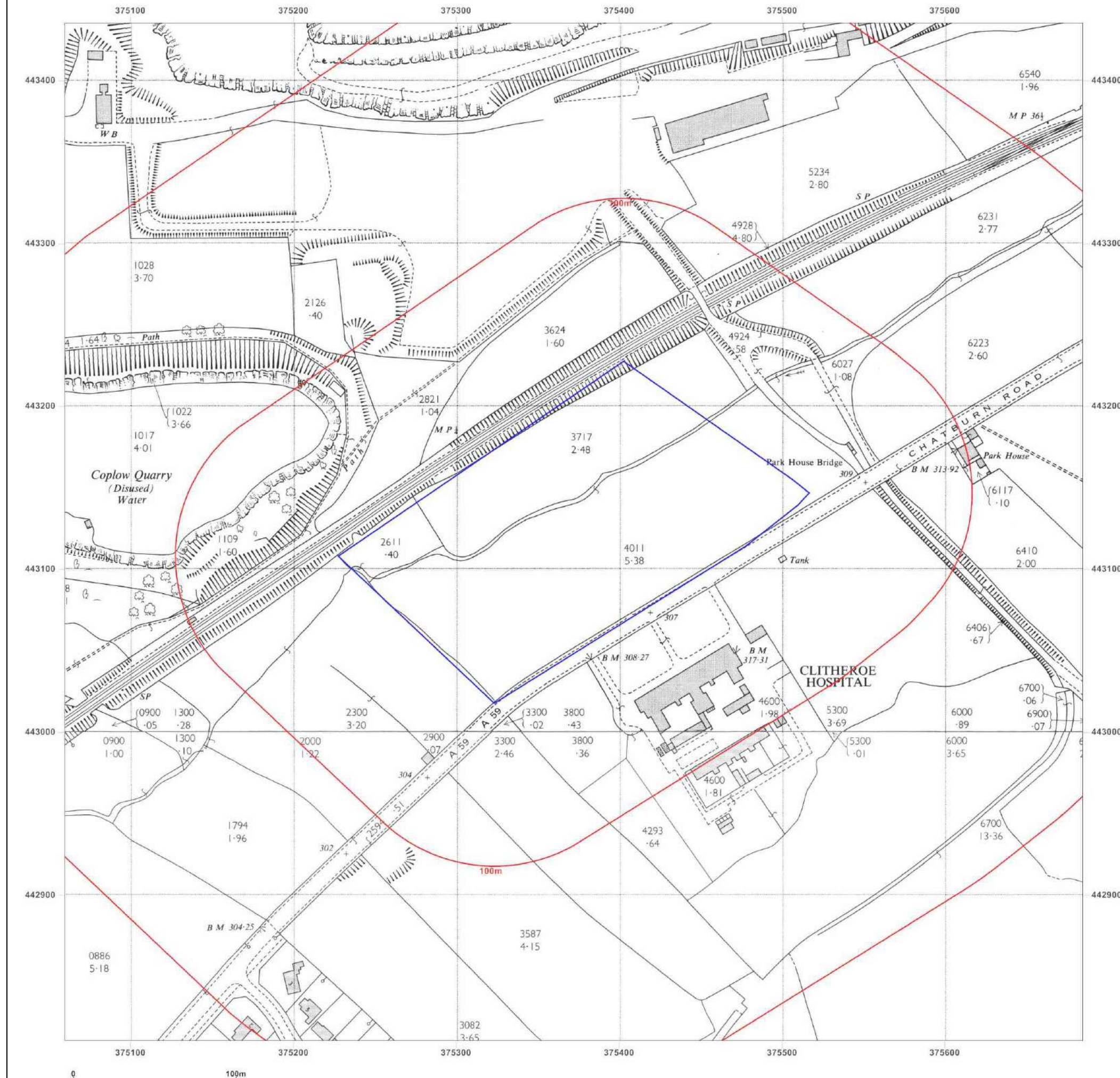


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Client Ref: 29721
Report Ref: CMAPS-CM-814908-29721-170719HIS
Grid Ref: 375372, 443123

Map Name: National Grid

Map date: 1965-1969

Scale: 1:2,500

Printed at: 1:2,500



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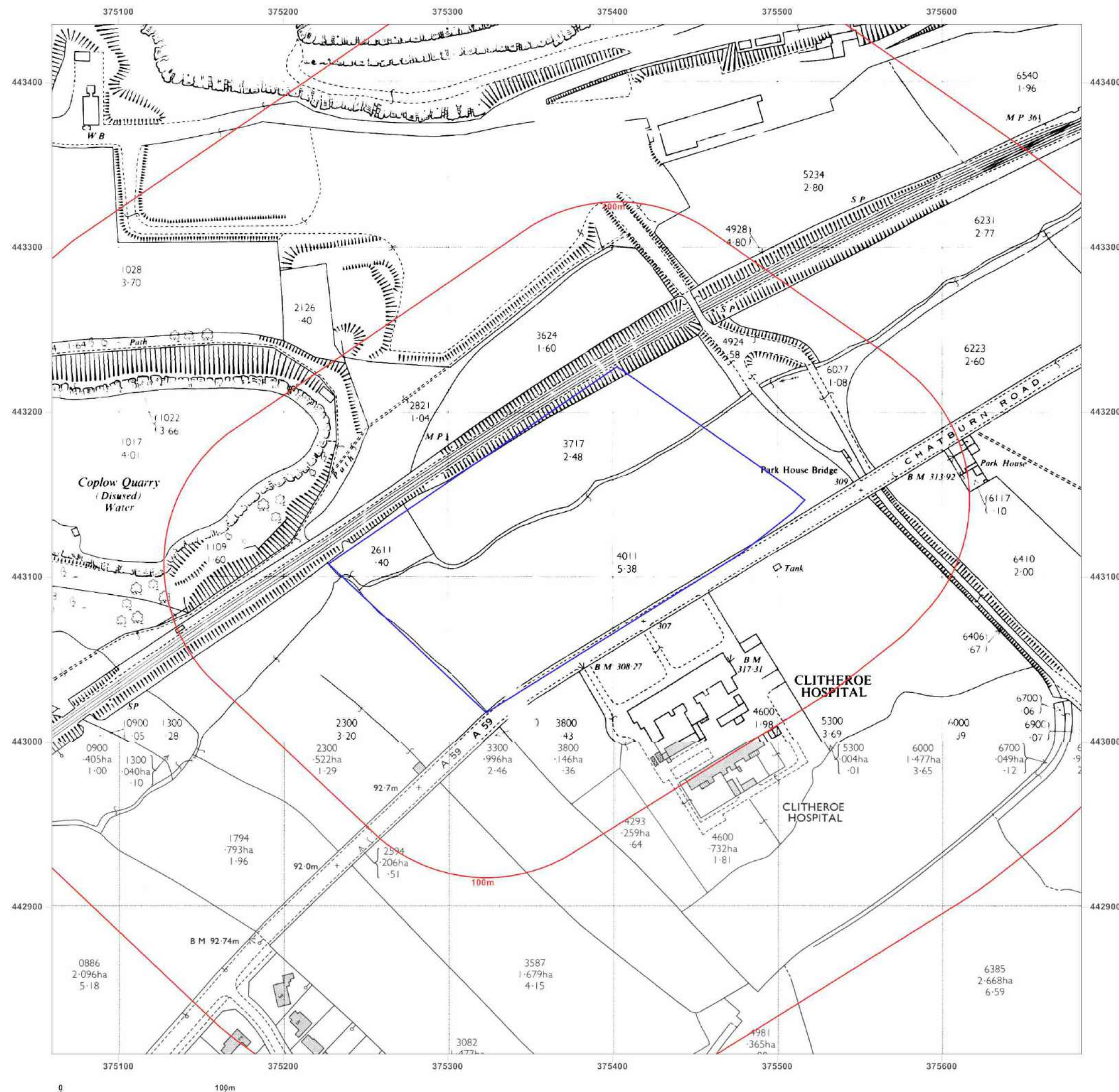


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Site Details:

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Client Ref: 29721
Report Ref: CMAPS-CM-814908-29721-170719HIS
Grid Ref: 375372, 443123

Map Name: National Grid

Map date: 1970-1974

Scale: 1:2,500

Printed at: 1:2,500



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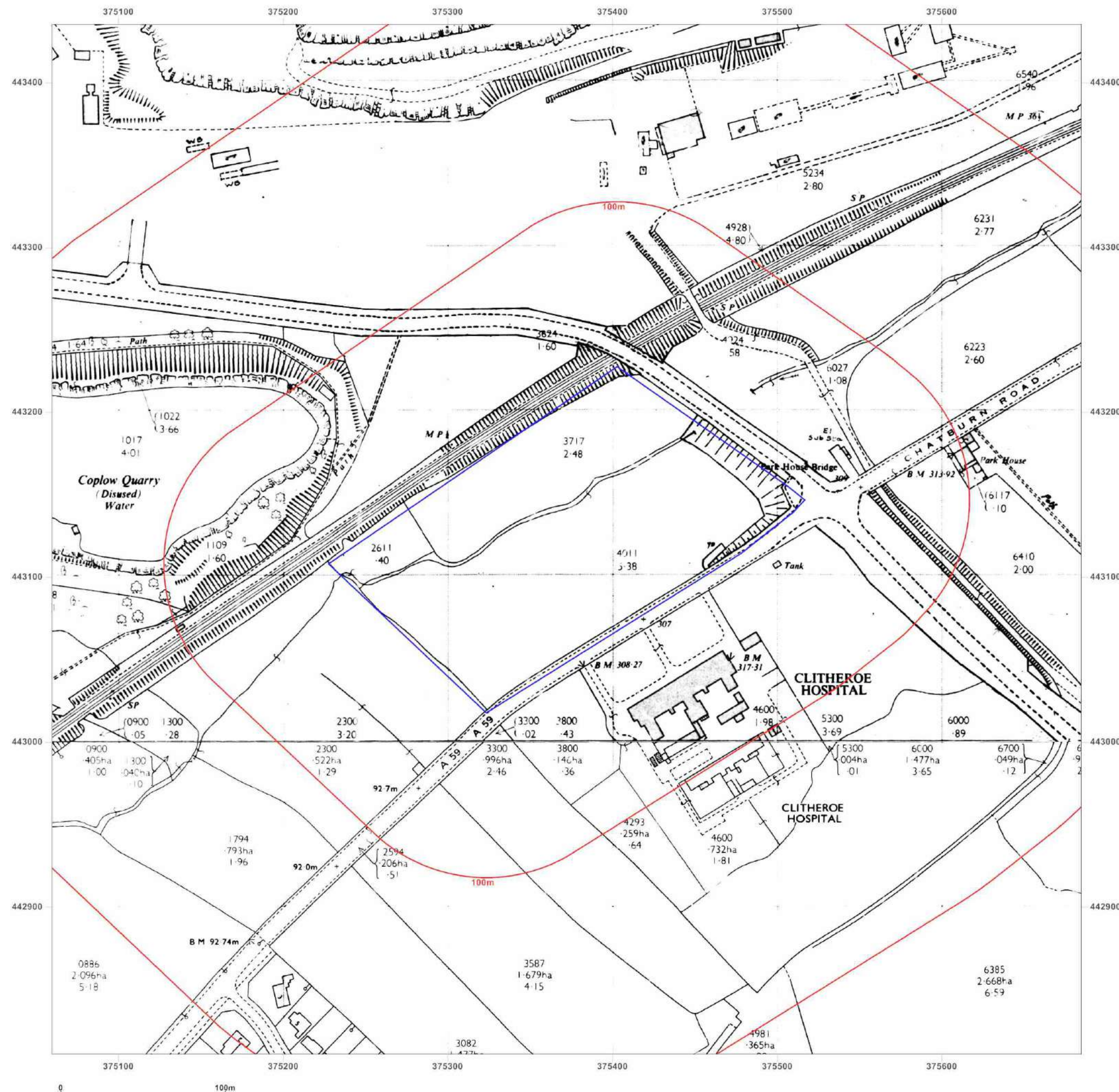


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Site Details:

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Client Ref: 29721
Report Ref: CMAPS-CM-814908-29721-170719HIS
Grid Ref: 375372, 443123

Map Name: National Grid

Map date: 1977

Scale: 1:2,500

Printed at: 1:2,500



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Edition N/A
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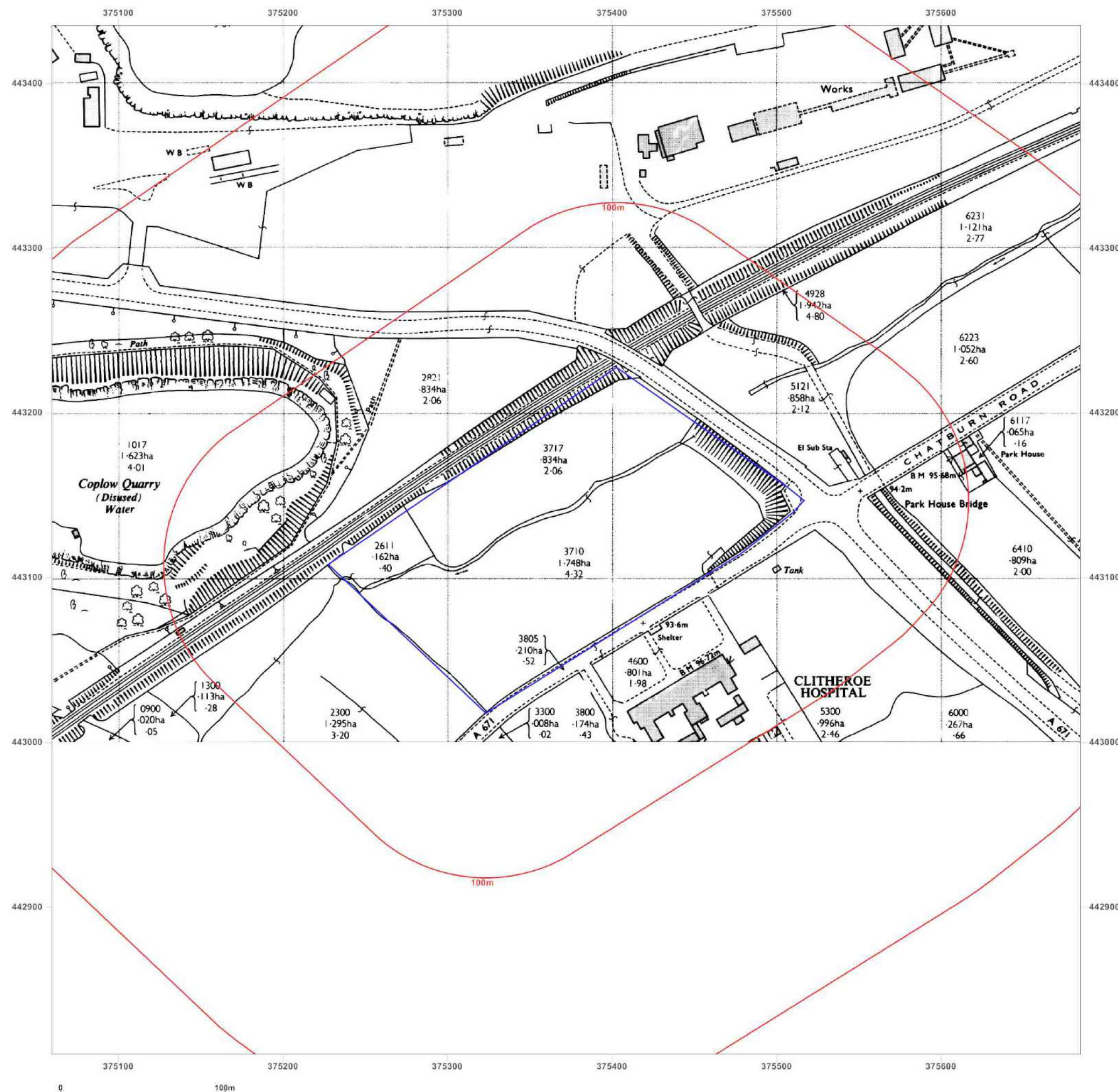


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Site Details:

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Client Ref: 29721
Report Ref: CMAPS-CM-814908-29721-170719HIS
Grid Ref: 375372, 443123

Map Name: National Grid

Map date: 1976-1979

Scale: 1:2,500

Printed at: 1:2,500



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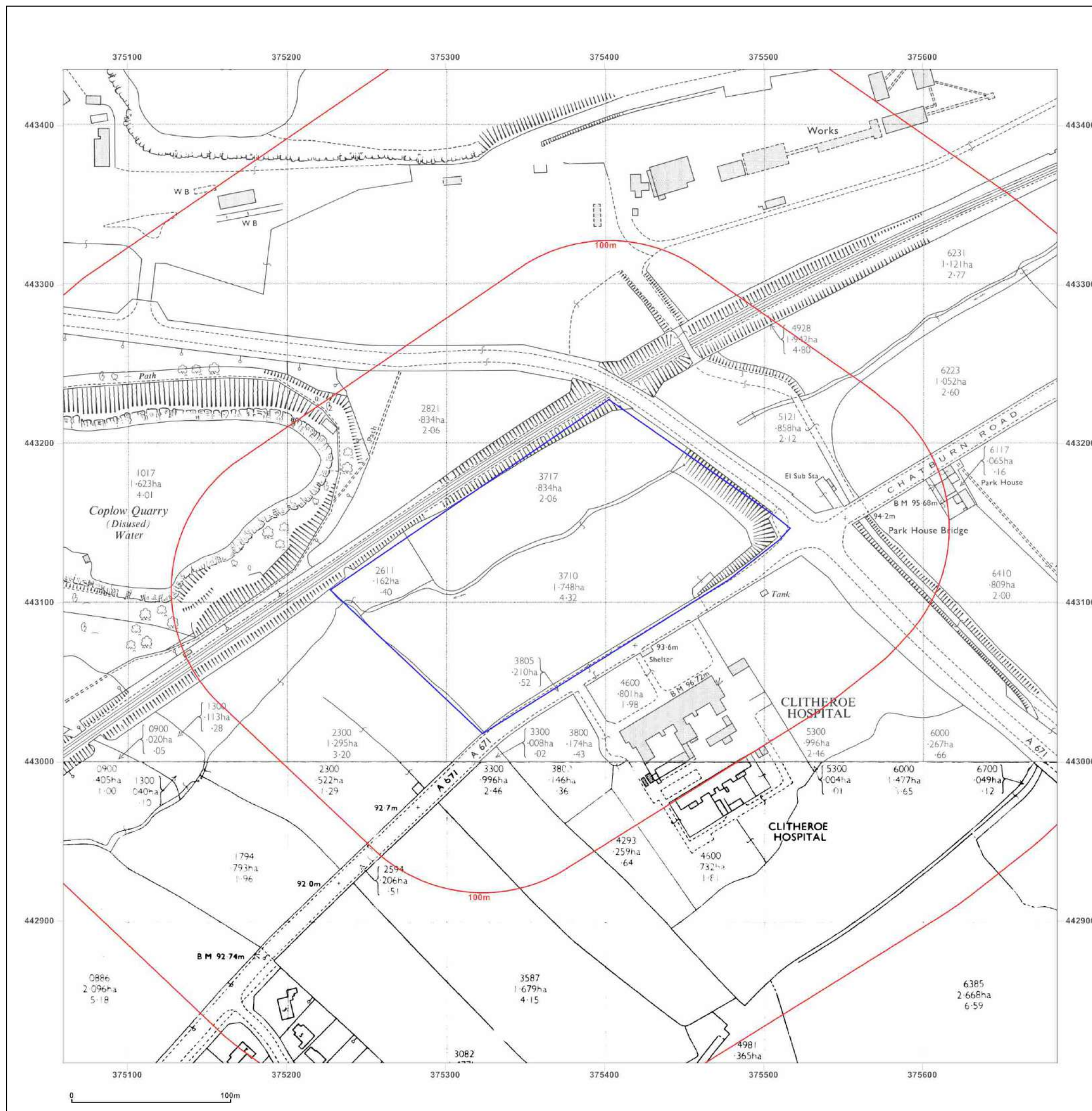


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Site Details:

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Client Ref: 29721
Report Ref: CMAPS-CM-814908-29721-170719HIS
Grid Ref: 375372, 443123

Map Name: National Grid

Map date: 1988-1989

Scale: 1:2,500

Printed at: 1:2,500



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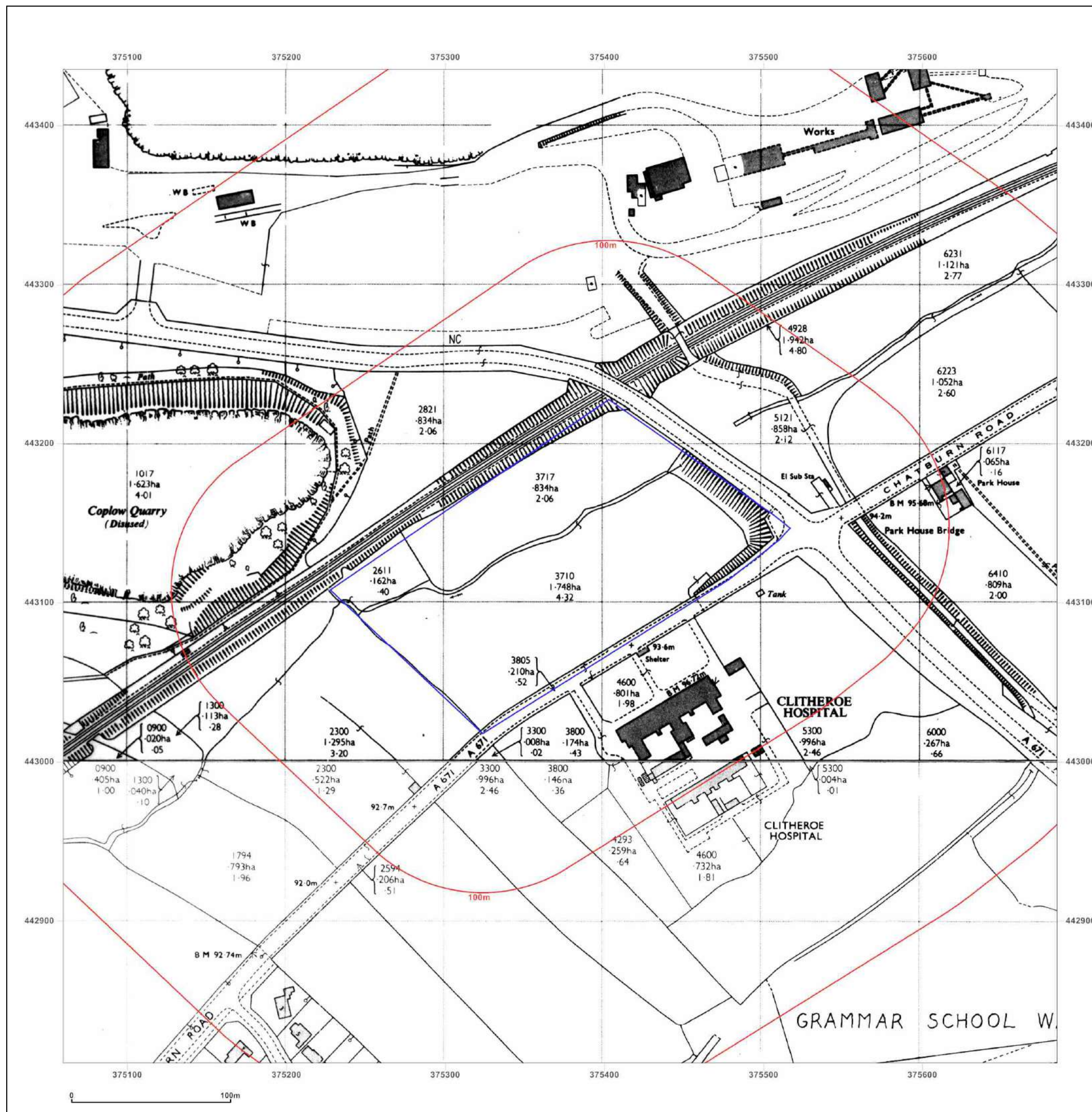


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Site Details:

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Client Ref: 29721
Report Ref: CMAPS-CM-814908-29721-170719HIS
Grid Ref: 375372, 443123

Map Name: National Grid

Map date: 1994

Scale: 1:2,500

Printed at: 1:2,500



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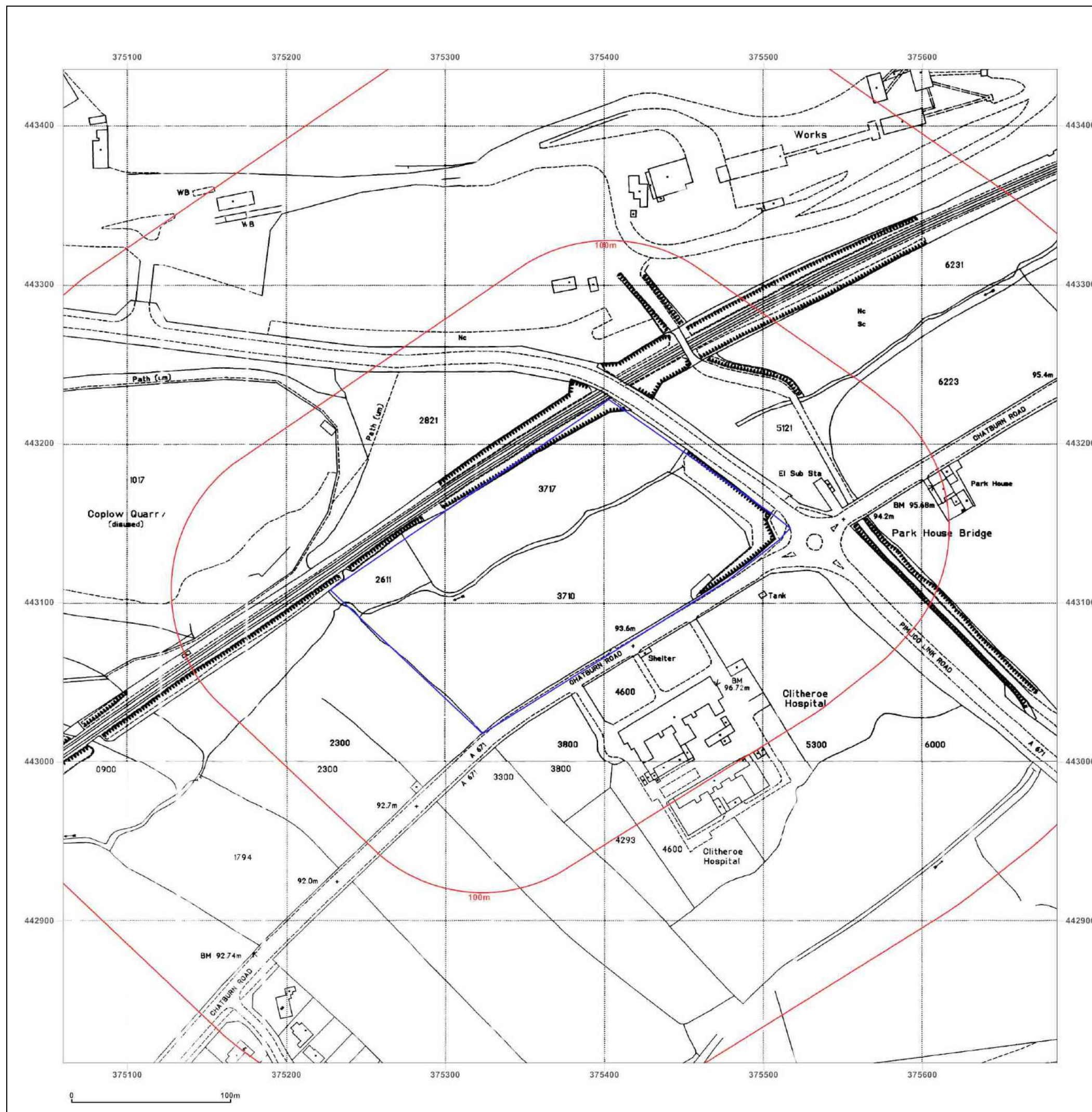


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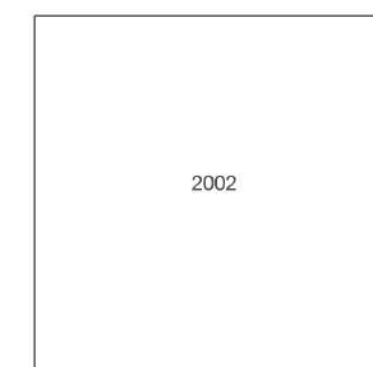
Client Ref: 29721
Report Ref: CMAPS-CM-814908-29721-170719HIS
Grid Ref: 375372, 443123

Map Name: 1:10,000 Raster

Map date: 2002

Scale: 1:10,000

Printed at: 1:10,000



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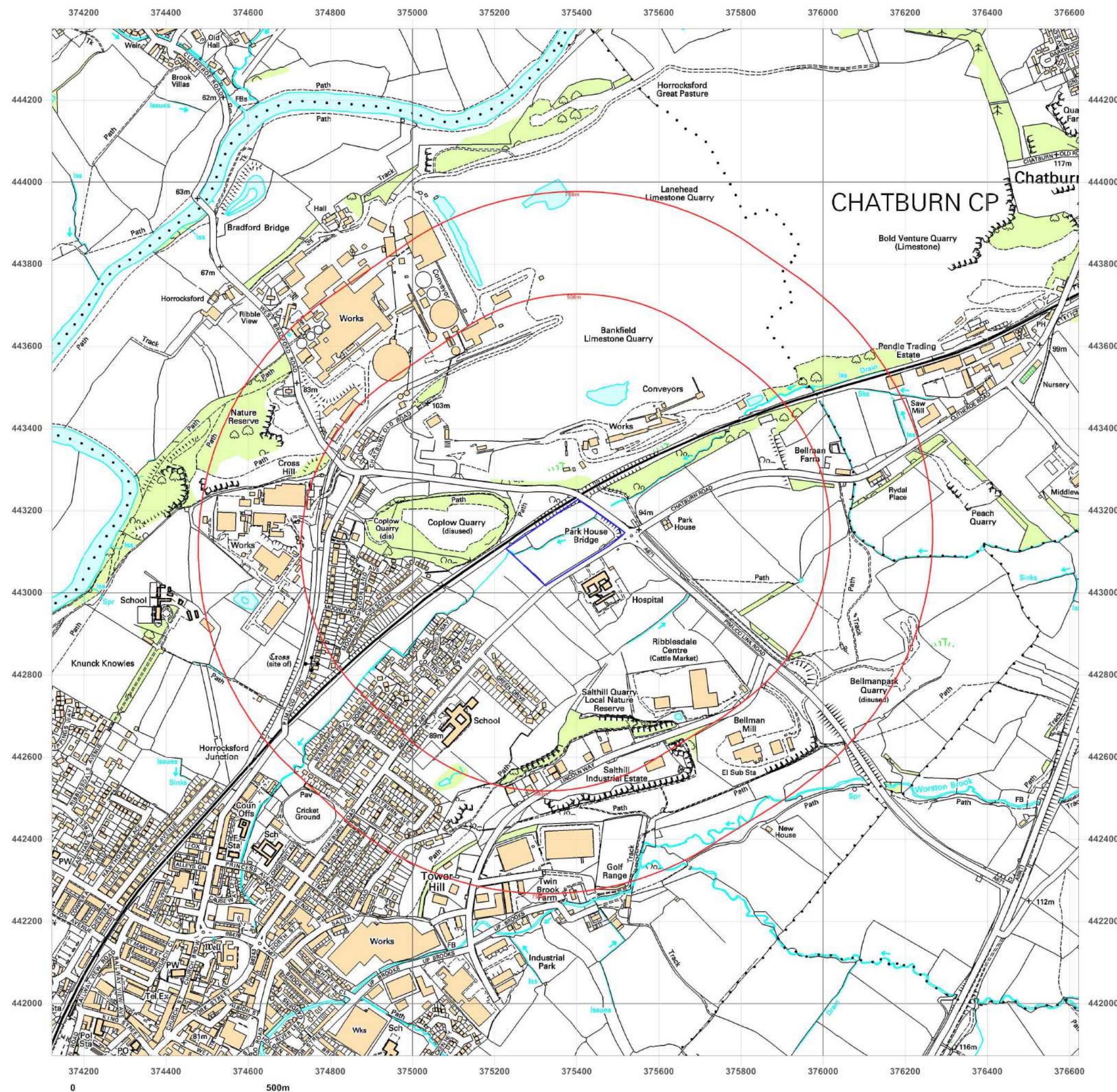


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Site Details:

Clitheroe (Lancashire), BB7 4JX

Client Ref: 29721
Report Ref: CMAPS-CM-814908-29721-170719HIS
Grid Ref: 375372, 443123

Map Name: National Grid

Map date: 2014

Scale: 1:10,000

Printed at: 1:10,000



2014



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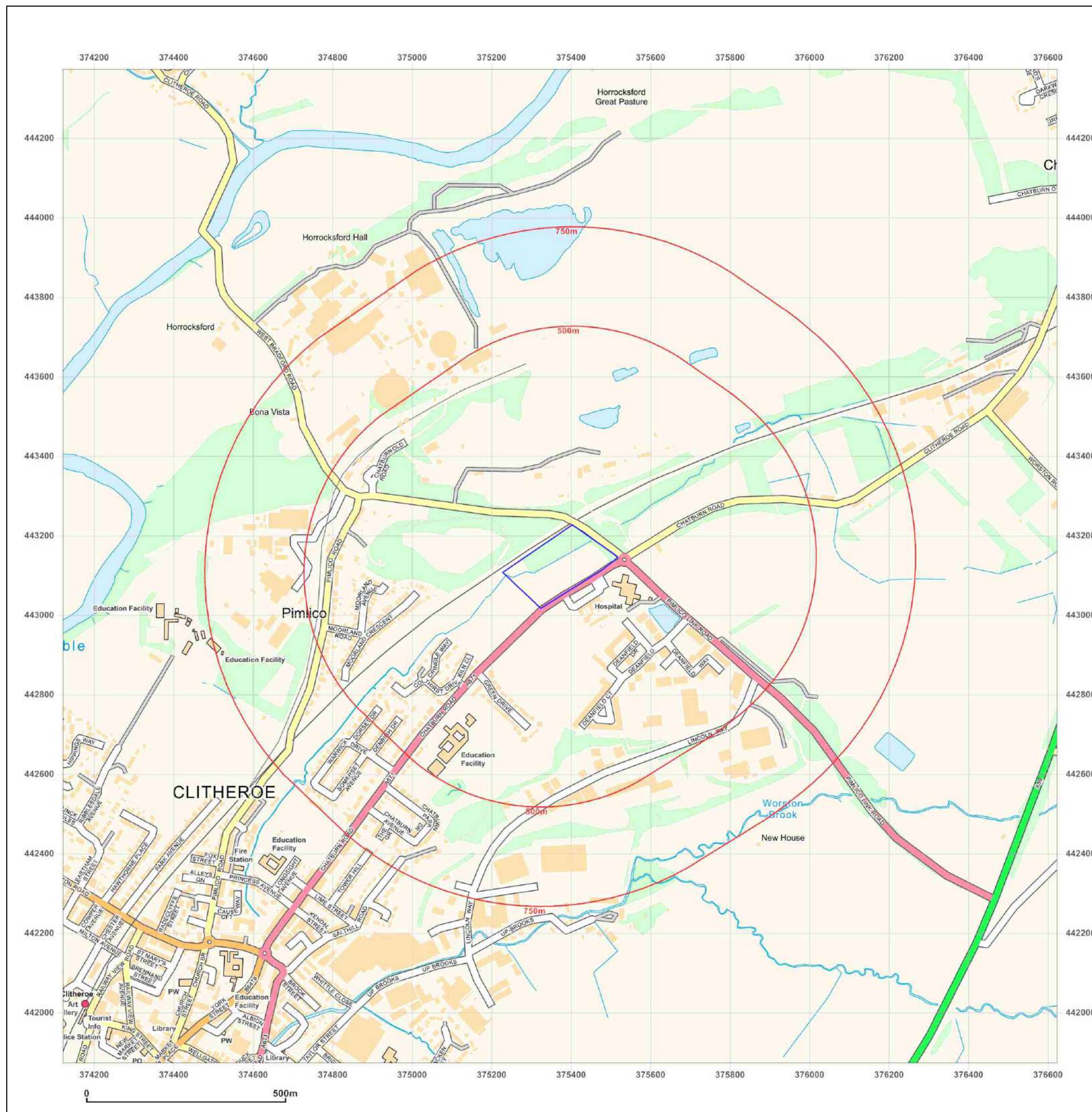


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Production date: 17 July 2019

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APPENDIX B

GeoInsight Report

Address: Clitheroe Lancashire, BB7 4JX
Date: 17 Jul 2019
Reference: CMAPS-CM-814908-29721-170719GEO
Client: CENTREMAPS



Aerial Photograph Capture date: 10-Jun-2018
Grid Reference: 375372,443123
Site Size: 2.9532ha

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Overview of Findings

The Groundsure Geo Insight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 and 1:10,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Non-coal mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Geology 1:10,000 Scale

1.1 Artificial Ground	1.1 Is there any Artificial Ground/ Made Ground present beneath the study site at 1:10,000 scale?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site at 1:10,000 scale?*	No
	1.2.2 Are there any records of landslide within 500m of the study site boundary at 1:10,000 scale?	No
1.3 Bedrock, Solid Geology and linear features	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records of linear features within 500m of the study site boundary at 1:10,000 scale?	No

Section 2: Geology 1:50,000 Scale

2.1 Artificial Ground	2.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	2.1.2 Are there any records relating to permeability of artificial ground within the study site*boundary?	No
2.2 Superficial Geology and Landslips	2.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?*	Yes
	2.2.2 Are there any records of permeability of superficial ground within 500m of the study site?	Yes
	2.2.3 Are there any records of landslide within 500m of the study site boundary?	No
	2.2.4 Are there any records relating to permeability of landslips within the study site* boundary?	No

Section 2: Geology 1:50,000 Scale

2.3 Bedrock, Solid Geology and linear features

2.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.

2.3.2 Are there any records relating to permeability of bedrock ground within the study site boundary?

Yes

2.3.3 Are there any records of linear features within 500m of the study site boundary?

No

Section 3: Radon

3. Radon

3.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?

The property is in a Radon Affected Area, as between 10 and 30% of properties are above the Action Level.

3.2 Radon Protection

Full radon protective measures are necessary.

Section 4: Ground Workings

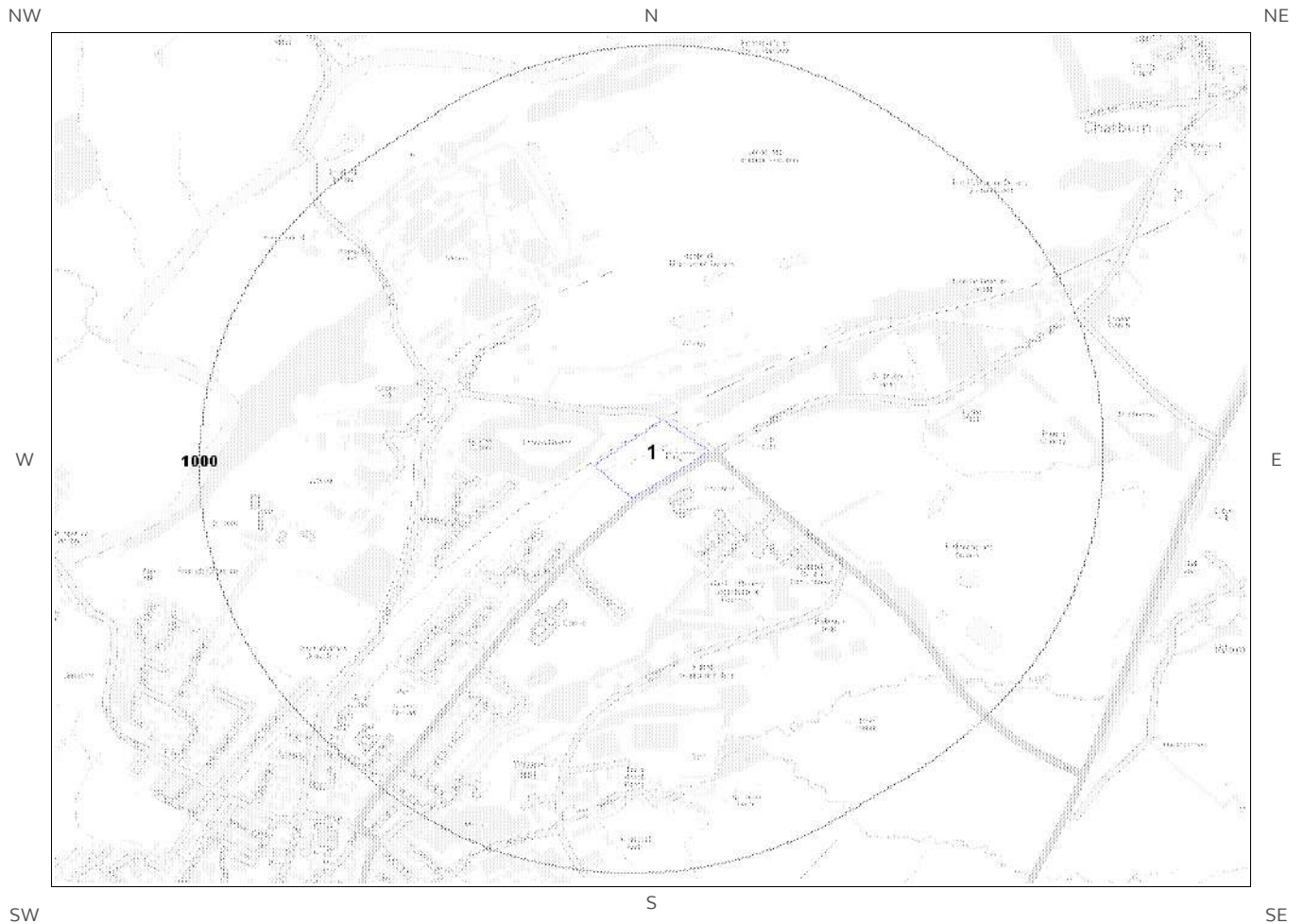
	On-site	0-50m	51-250	251-500	501-1000
4.1 Historical Surface Ground Working Features from Small Scale Mapping	3	5	17	Not Searched	Not Searched
4.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
4.3 Current Ground Workings	0	0	3	8	20

Section 5: Mining, Extraction & Natural Cavities

	On-site	0-50m	51-250	251-500	501-1000
5.1 Historical Mining	0	0	0	0	0
5.2 Coal Mining	0	0	0	0	0
5.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
5.4 Non-Coal Mining*	1	0	1	0	0
5.5 Non-Coal Mining Cavities	0	0	0	0	0
5.5 Natural Cavities	0	0	0	0	0

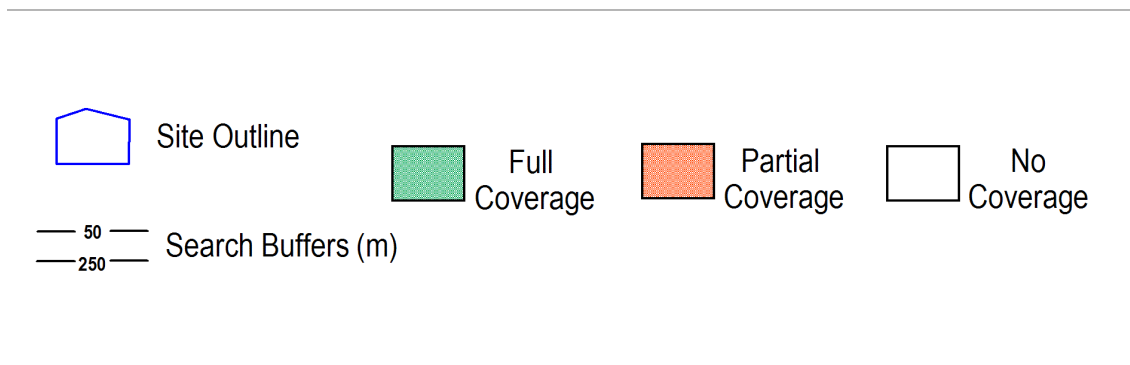
Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.6 Brine Extraction	0	0	0	0	0
5.7 Gypsum Extraction	0	0	0	0	0
5.8 Cornwall and Devon Metalliferous Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0
Section 6: Natural Ground Subsidence	On-site				
6.1 Shrink-Swell Clay	Very Low				
6.2 Landslides	Low				
6.3 Ground Dissolution of Soluble Rocks	Low				
6.4 Compressible Deposits	Negligible				
6.5 Collapsible Deposits	Very Low				
6.5 Running Sand	Very Low				
Section 7: Borehole Records	On-site	0-50m	51-250		
7 BGS Recorded Boreholes	0	0	18		
Section 8: Estimated Background Soil Chemistry	On-site	0-50m	51-250		
8 Records of Background Soil Chemistry	3	3	0		
Section 9: Railways and Tunnels	On-site	0-50m	51-250	250-500	
9.1 Tunnels	0	0	0	Not Searched	
9.2 Historical Railway and Tunnel Features	0	2	12	Not Searched	
9.3 Historical Railways	0	0	0	Not Searched	
9.4 Active Railways	0	8	10	Not Searched	
9.5 Railway Projects	0	0	0	0	

1:10,000 Scale Availability



1_10,000 Availability Legend

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Availability of 1:10,000 Scale Geology Mapping

The following information represents the availability of the key components of the 1:10,000 scale geological data.

ID	Distance	Artificial Coverage	Superficial Coverage	Bedrock Coverage	Mass Movement Coverage
1	0.0	No deposits are mapped	No coverage	No coverage	No coverage

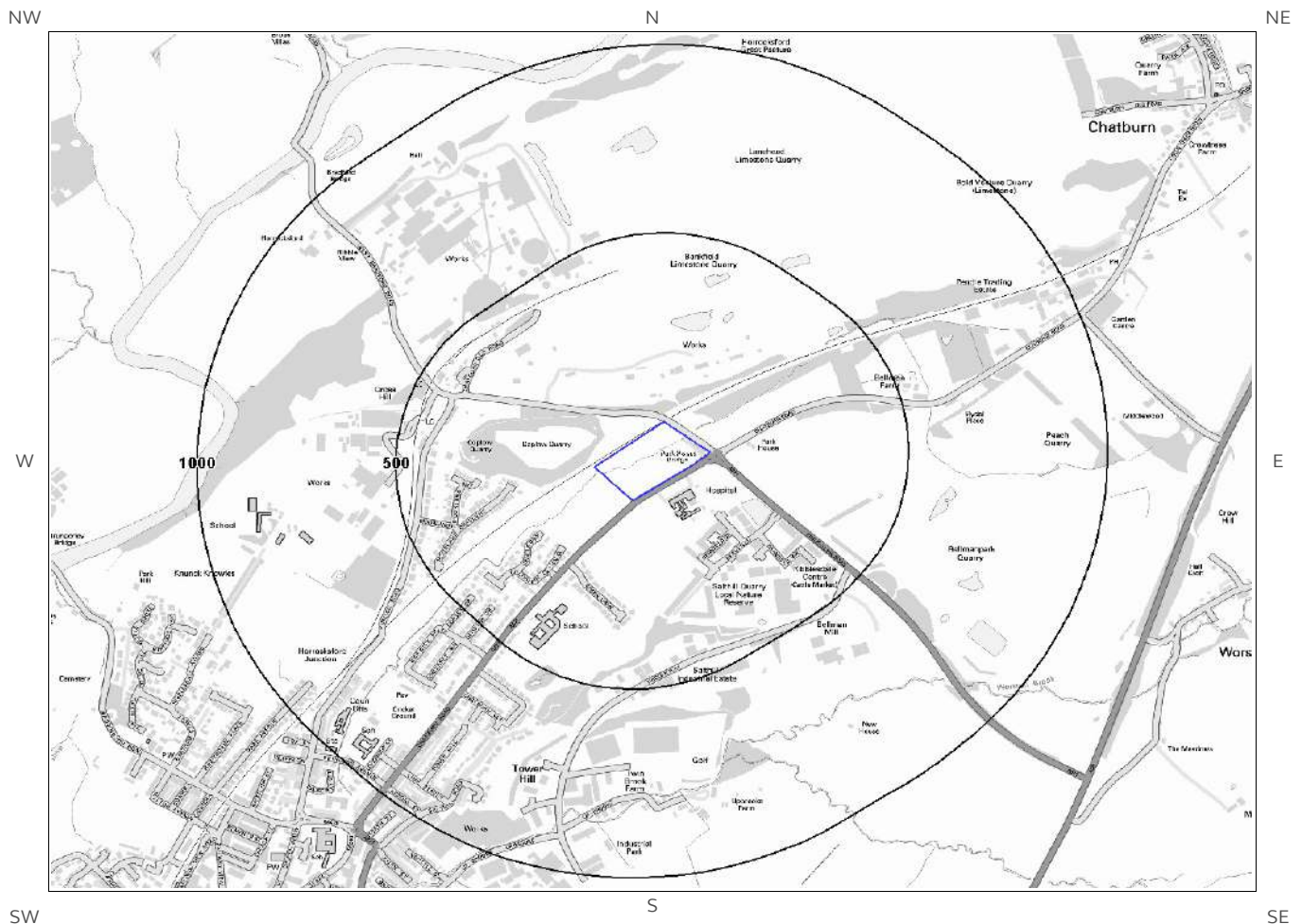
Guidance: The 1:10,000 scale geological interpretation is the most detailed generally available from BGS and is the scale at which most geological surveying is carried out in the field. The database is presented as four types of geology (artificial, mass movement, superficial and bedrock), although not all themes are mapped or available on every map sheet. Therefore a coverage layer showing the availability of the four themes is presented above.

The definitions of coverage are as follows:

Geology	Full Coverage	Partial Coverage	No Coverage
Bedrock	The whole tile has been mapped	Some but not all the tile has been mapped	No coverage
Superficial	The whole tile has been mapped	Some but not all of the tile has been mapped	No coverage
Artificial	Some deposits are mapped on this tile	-	No deposits are mapped
Mass Movement	Some deposits are mapped on this tile	-	No coverage

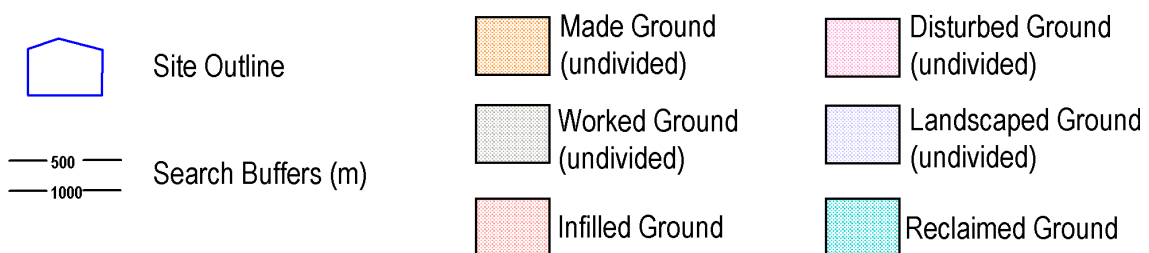
1 Geology (1:10,000 scale).

1.1 Artificial Ground map (1:10,000 scale)



Artificial Ground Legend

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1. Geology 1:10,000 scale

1.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

Are there any records of Artificial/ Made Ground within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found.

A detailed map of the Chatburn area in North Yorkshire. The map is oriented with North (N) at the top, South (S) at the bottom, West (W) on the left, and East (E) on the right. Two concentric circles are drawn around a central point, representing distances of 500m and 1000m. The central point is located near the intersection of the A66 and A1 roads, close to the town of Chatburn. Various landmarks and roads are labeled, including:

- Roads:** A66, A1, B6154, B6155, B6156, B6157, B6158, B6159, B6160, B6161, B6162, B6163, B6164, B6165, B6166, B6167, B6168, B6169, B6170, B6171, B6172, B6173, B6174, B6175, B6176, B6177, B6178, B6179, B6180, B6181, B6182, B6183, B6184, B6185, B6186, B6187, B6188, B6189, B6190, B6191, B6192, B6193, B6194, B6195, B6196, B6197, B6198, B6199, B6200, B6201, B6202, B6203, B6204, B6205, B6206, B6207, B6208, B6209, B6210, B6211, B6212, B6213, B6214, B6215, B6216, B6217, B6218, B6219, B6220, B6221, B6222, B6223, B6224, B6225, B6226, B6227, B6228, B6229, B6230, B6231, B6232, B6233, B6234, B6235, B6236, B6237, B6238, B6239, B6240, B6241, B6242, B6243, B6244, B6245, B6246, B6247, B6248, B6249, B6250, B6251, B6252, B6253, B6254, B6255, B6256, B6257, B6258, B6259, B6260, B6261, B6262, B6263, B6264, B6265, B6266, B6267, B6268, B6269, B6270, B6271, B6272, B6273, B6274, B6275, B6276, B6277, B6278, B6279, B6280, B6281, B6282, B6283, B6284, B6285, B6286, B6287, B6288, B6289, B6290, B6291, B6292, B6293, B6294, B6295, B6296, B6297, B6298, B6299, B6300, B6301, B6302, B6303, B6304, B6305, B6306, B6307, B6308, B6309, B6310, B6311, B6312, B6313, B6314, B6315, B6316, B6317, B6318, B6319, B6320, B6321, B6322, B6323, B6324, B6325, B6326, B6327, B6328, B6329, B6330, B6331, B6332, B6333, B6334, B6335, B6336, B6337, B6338, B6339, B6340, B6341, B6342, B6343, B6344, B6345, B6346, B6347, B6348, B6349, B6350, B6351, B6352, B6353, B6354, B6355, B6356, B6357, B6358, B6359, B6360, B6361, B6362, B6363, B6364, B6365, B6366, B6367, B6368, B6369, B6370, B6371, B6372, B6373, B6374, B6375, B6376, B6377, B6378, B6379, B6380, B6381, B6382, B6383, B6384, B6385, B6386, B6387, B6388, B6389, B6390, B6391, B6392, B6393, B6394, B6395, B6396, B6397, B6398, B6399, B6400, B6401, B6402, B6403, B6404, B6405, B6406, B6407, B6408, B6409, B6410, B6411, B6412, B6413, B6414, B6415, B6416, B6417, B6418, B6419, B6420, B6421, B6422, B6423, B6424, B6425, B6426, B6427, B6428, B6429, B6430, B6431, B6432, B6433, B6434, B6435, B6436, B6437, B6438, B6439, B6440, B6441, B6442, B6443, B6444, B6445, B6446, B6447, B6448, B6449, B6450, B6451, B6452, B6453, B6454, B6455, B6456, B6457, B6458, B6459, B6460, B6461, B6462, B6463, B6464, B6465, B6466, B6467, B6468, B6469, B6470, B6471, B6472, B6473, B6474, B6475, B6476, B6477, B6478, B6479, B6480, B6481, B6482, B6483, B6484, B6485, B6486, B6487, B6488, B6489, B6490, B6491, B6492, B6493, B6494, B6495, B6496, B6497, B6498, B6499, B6500, B6501, B6502, B6503, B6504, B6505, B6506, B6507, B6508, B6509, B6510, B6511, B6512, B6513, B6514, B6515, B6516, B6517, B6518, B6519, B6520, B6521, B6522, B6523, B6524, B6525, B6526, B6527, B6528, B6529, B6530, B6531, B6532, B6533, B6534, B6535, B6536, B6537, B6538, B6539, B6540, B6541, B6542, B6543, B6544, B6545, B6546, B6547, B6548, B6549, B6550, B6551, B6552, B6553, B6554, B6555, B6556, B6557, B6558, B6559, B6560, B6561, B6562, B6563, B6564, B6565, B6566, B6567, B6568, B6569, B6570, B6571, B6572, B6573, B6574, B6575, B6576, B6577, B6578, B6579, B6580, B6581, B6582, B6583, B6584, B6585, B6586, B6587, B6588, B6589, B6590, B6591, B6592, B6593, B6594, B6595, B6596, B6597, B6598, B6599, B6600, B6601, B6602, B6603, B6604, B6605, B6606, B6607, B6608, B6609, B6610, B6611, B6612, B6613, B6614, B6615, B6616, B6617, B6618, B6619, B6620, B6621, B6622, B6623, B6624, B6625, B6626, B6627, B6628, B6629, B6630, B6631, B6632, B6633, B6634, B6635, B6636, B6637, B6638, B6639, B6640, B6641, B6642, B6643, B6644, B6645, B6646, B6647, B6648, B6649, B6650, B6651, B6652, B6653, B6654, B6655, B6656, B6657, B6658, B6659, B6660, B6661, B6662, B6663, B6664, B6665, B6666, B6667, B6668, B6669, B6670, B6671, B6672, B6673, B6674, B6675, B6676, B6677, B6678, B6679, B6680, B6681, B6682, B6683, B6684, B6685, B6686, B6687, B6688, B6689, B6690, B6691, B6692, B6693, B6694, B6695, B6696, B6697, B6698, B6699, B6700, B6701, B6702, B6703, B6704, B6705, B6706, B6707, B6708, B6709, B6710, B6711, B6712, B6713, B6714, B6715, B6716, B6717, B6718, B6719, B6720, B6721, B6722, B6723, B6724, B6725, B6726, B6727, B6728, B6729, B6730, B6731, B6732, B6733, B6734, B6735, B6736, B6737, B6738, B6739, B6740, B6741, B6742, B6743, B6744, B6745, B6746, B6747, B6748, B6749, B6750, B6751, B6752, B6753, B6754, B6755, B6756, B6757, B6758, B6759, B6760, B6761, B6762, B6763, B6764, B6765, B6766, B6767, B6768, B6769, B6770, B6771, B6772, B6773, B6774, B6775, B6776, B6777, B6778, B6779, B6780, B6781, B6782, B6783, B6784, B6785, B6786, B6787, B6788, B6789, B6790, B6791, B6792, B6793, B6794, B6795, B6796, B6797, B6798, B6799, B6800, B6801, B6802, B6803, B6804, B6805, B6806, B6807

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1.2 Superficial Deposits and Landslips

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found.

1.2.2 Landslip

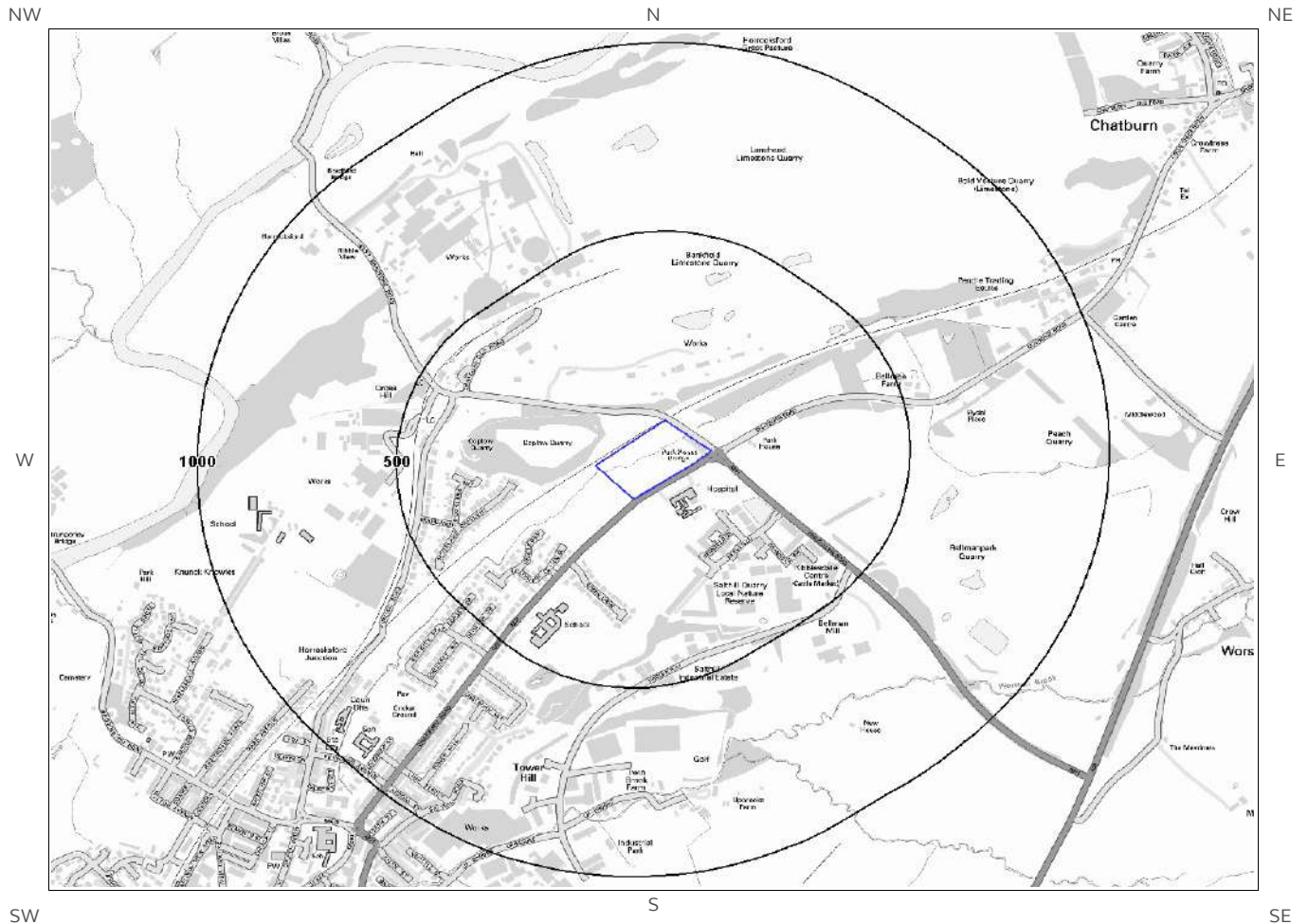
Are there any records of Landslip within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:10,000 scale

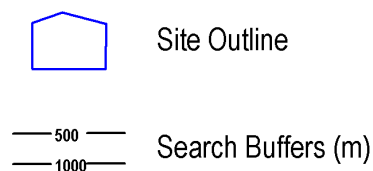
This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

1.3 Bedrock and linear features map (1:10,000 scale)



Bedrock and linear features Legend

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1.3 Bedrock and linear features

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary at 1:10,000 scale.

Database searched and no data found at this scale.

1.3.2 Linear features

Are there any records of linear features within 500m of the study site boundary at 1:10,000 scale? No

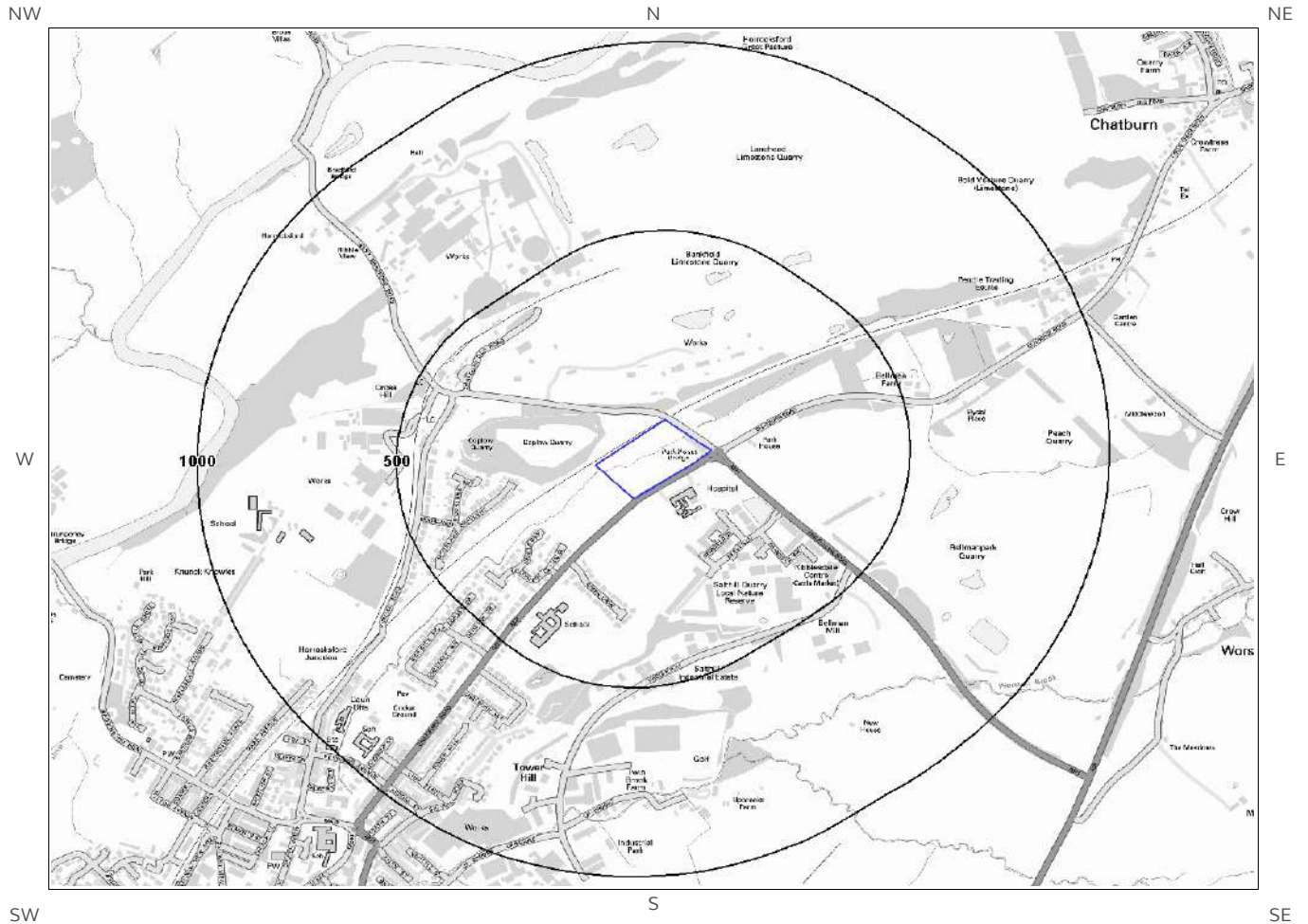
Database searched and no data found at this scale.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of great Britain at 1:10,000 scale.

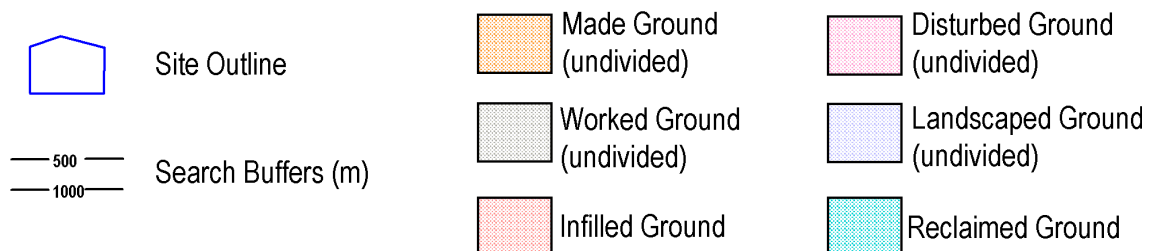
This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

2 Geology 1:50,000 Scale

2.1 Artificial Ground map



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2. Geology 1:50,000 scale

2.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 068

2.1.1 Artificial/ Made Ground

Are there any records of Artificial/ Made Ground within 500m of the study site boundary? No

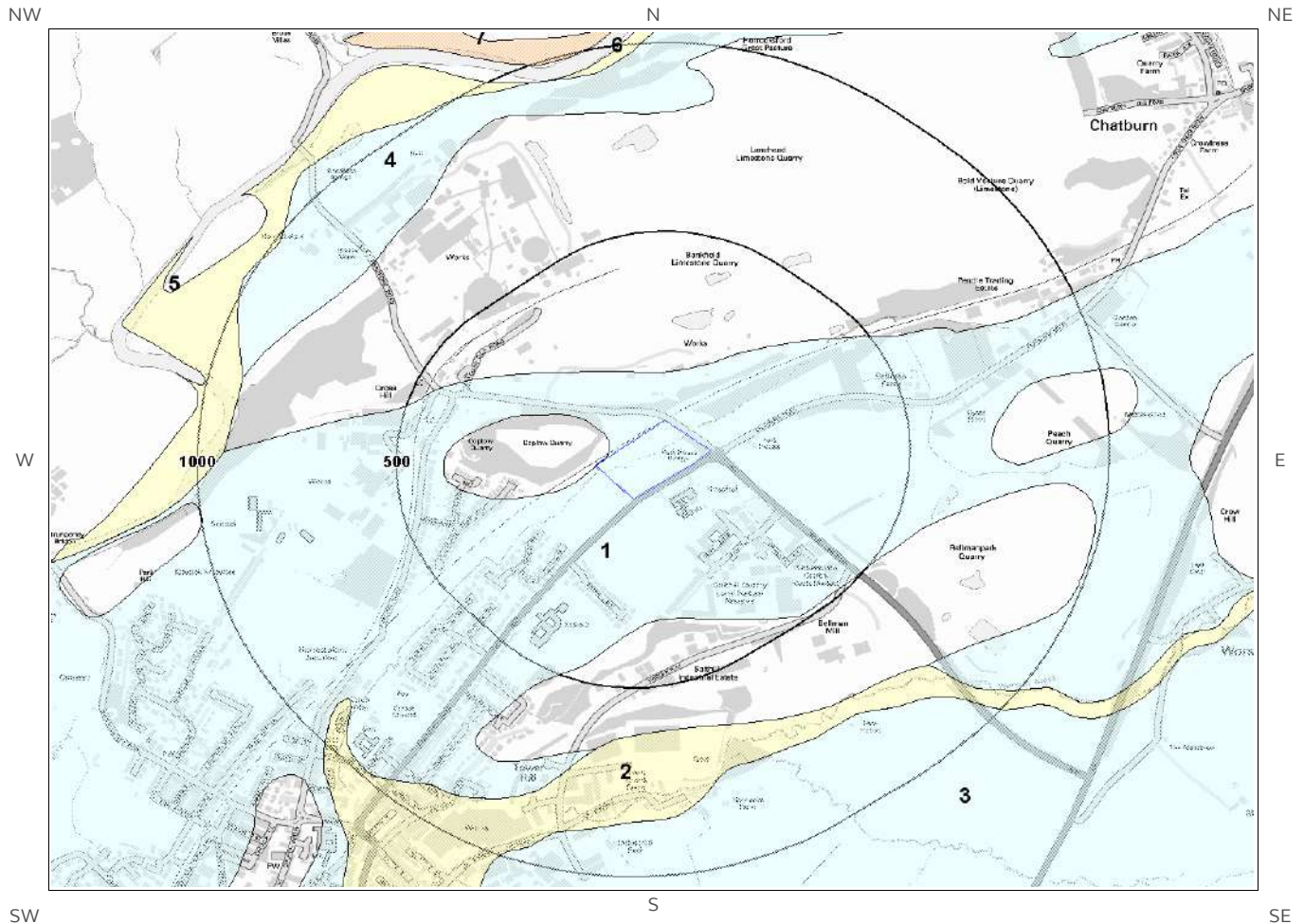
Database searched and no data found.

2.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? No

Database searched and no data found.

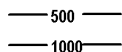
2.2 Superficial Deposits and Landslips map (1:50,000 scale)



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Site Outline



Search Buffers (m)

2.2 Superficial Deposits and Landslips

2.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

2.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	High	Low

2.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

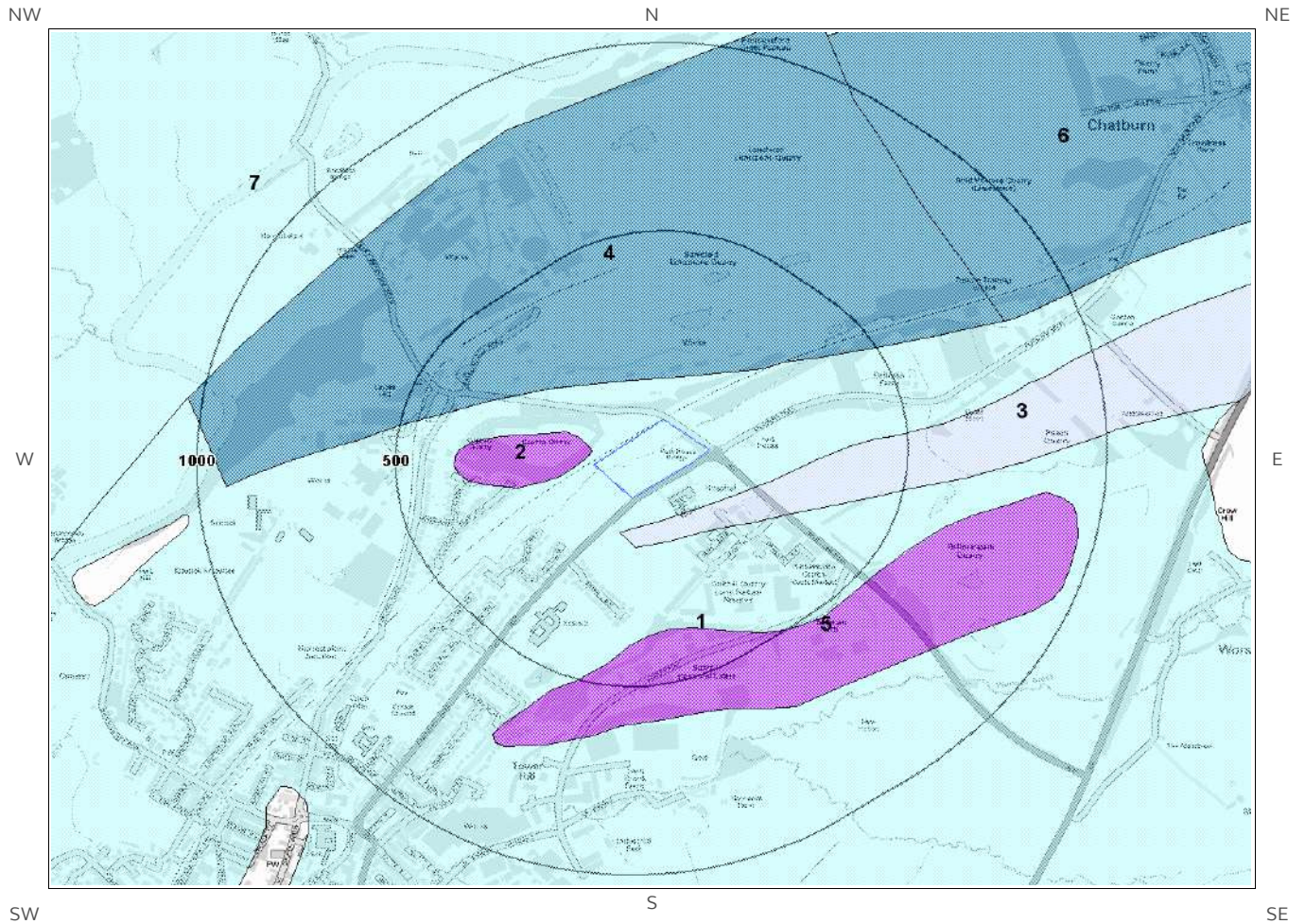
This Geology shows the main components as discrete layers, there are: Artificial/ Made Ground, Superficial/ Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

2.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site boundary? No

Database searched and no data found.

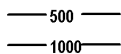
2.3 Bedrock and linear features map (1:50,000 scale)



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Site Outline



Search Buffers (m)

2.3 Bedrock, Solid Geology & linear features

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 068

2.3.1 Bedrock/Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary:

ID	Distance	Direction	LEX Code	Rock Description	Rock Age
1	0.0	On Site	CLHOM-MDST	CLITHEROE LIMESTONE FORMATION AND HODDER MUDSTONE FORMATION (UNDIFFERENTIATED) - MUDSTONE	WISEAN
2	27.0	NW	CLLK-LMST	CLITHEROE LIMESTONE FORMATION (KNOLL-REEF) - LIMESTONE	WISEAN
3	77.0	S	PQL-LMST	PEACH QUARRY LIMESTONE MEMBER - LIMESTONE	WISEAN
4	109.0	N	CHL-LMST	CHATBURN LIMESTONE FORMATION - LIMESTONE	TOURNAISIAN
5	360.0	S	CLLK-LMST	CLITHEROE LIMESTONE FORMATION (KNOLL-REEF) - LIMESTONE	WISEAN

2.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site boundary? Yes

Distance	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	Low	Low
27.0	NW	Fracture	Very High	High

2.3.3 Linear features

Are there any records of linear features within 500m of the study site boundary? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/Solid Geology and linear features such as faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nation wide coverage.

3 Radon Data

3.1 Radon Affected Areas

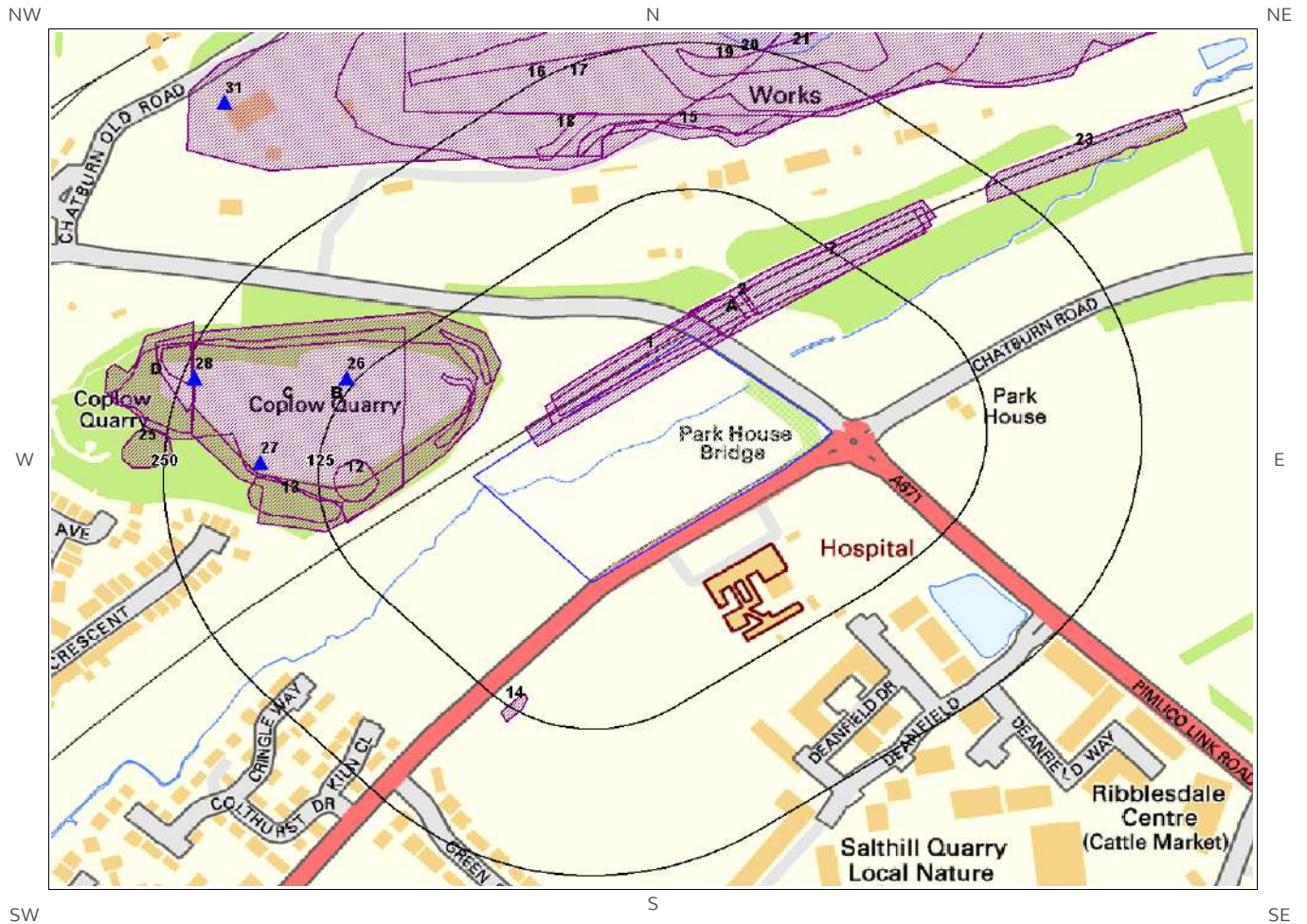
Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is in a Radon Affected Area, as between 10 and 30% of properties are above the Action Level.

The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supercede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square. As such, the radon atlas is considered indicative, whereas the data given in this report is considered definitive.

3.2 Radon Protection

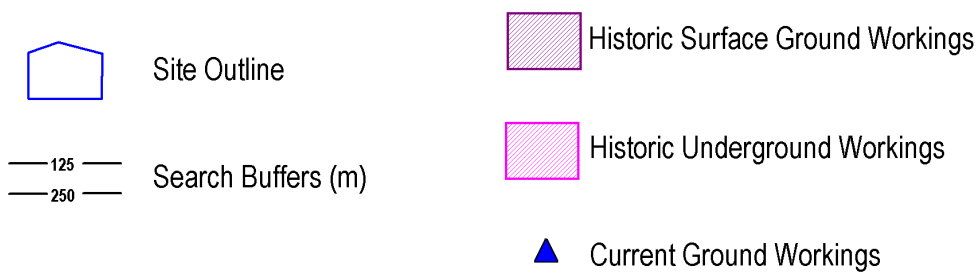
Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? Full radon protective measures are necessary.

4 Ground Workings map



Ground Workings Legend

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4 Ground Workings

4.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Use	Date
1	0.0	On Site	375439 443243	Cuttings	1914
2	0.0	On Site	375445 443252	Cuttings	1950
3A	0.0	On Site	375433 443236	Cuttings	1846
4A	16.0	NE	375429 443248	Cuttings	1974
5B	30.0	NW	375125 443155	Unspecified Ground Workings	1950
6	34.0	NW	375222 443164	Unspecified Ground Workings	1914
7	45.0	NE	375517 443289	Cuttings	1914
8B	48.0	NW	375115 443161	Unspecified Disused Quarry	1974
9C	57.0	W	375054 443151	Unspecified Quarry	1930
10C	57.0	W	375054 443151	Unspecified Quarry	1938
11	58.0	NW	375233 443210	Unspecified Ground Workings	1914
12	77.0	W	375133 443104	Unspecified Heap	1910
13	108.0	W	375084 443089	Unspecified Heap	1910
14	109.0	SW	375260 442911	Unspecified Ground Workings	1914
15	165.0	N	375398 443398	Unspecified Ground Workings	1914
16	167.0	NW	375334 443486	Limestone Quarry	1974
17	169.0	NW	375747 443613	Unspecified Quarry	1950
18	188.0	NW	375303 443398	Pond	1914
19	188.0	N	375750 443596	Unspecified Quarry	1930
20	197.0	N	375422 443505	Unspecified Quarry	1910
21	222.0	N	375476 443475	Limestone Quarry	1846

ID	Distance (m)	Direction	NGR	Use	Date
22D	229.0	W	374966 443193	Unspecified Ground Workings	1955
23	231.0	NE	375721 443382	Cuttings	1846
24D	234.0	W	374987 443196	Pond	1971
25	244.0	W	374964 443132	Unspecified Ground Workings	1971

4.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? No

Database searched and no data found.

4.3 Current Ground Workings

This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary? Yes

The following Current Ground Workings information is provided by British Geological Survey:

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
26	132.0	NW	375125 443192	Limestone	Coplow Hill Lime Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
27	173.0	W	375055 443120	Limestone	Coplow Hill Lime Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
28	240.0	W	375002 443192	Limestone	Coplow Hill Lime Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	289.0	N	375500 443500	Limestone	Bankfield Quarry	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	346.0	W	374884 443150	Limestone	Coplow Hill Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
31	377.0	NW	375026 443427	Limestone	Horrocksford Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	384.0	N	375376 443611	Limestone	Bankfield Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	413.0	NE	375875 443351	Limestone	Bellmanpark Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	448.0	S	375342 442570	Limestone	Salt Hill Quarry	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	460.0	NW	375033 443532	Limestone	Horrocksford Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	480.0	NW	375085 443592	Limestone	Horrocksford Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	506.0	NW	375114 443644	Limestone	Horrocksford Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	512.0	SW	375101 442556	Clay & Shale	Tower Hill	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	532.0	SE	375855 442735	Limestone	Sall Hill Quarry	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	534.0	NE	375892 443527	Limestone	Bankfield Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	570.0	NW	374795 443479	Limestone	Horrocksford Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	580.0	SE	375566 442491	Limestone	Salt Hill	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	589.0	NE	375774 443687	Limestone	Bankfield Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	638.0	SW	375051 442441	Limestone	Tower Hill	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	662.0	N	375290 443880	Limestone	Lanehead Quarry	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Inactive
Not shown	662.0	SE	375858 442572	Limestone	New House	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	670.0	NW	374899 443695	Clay & Shale	Horrocksford Clay Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	708.0	W	374556 443333	Limestone	Cross Hill	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	722.0	SE	376170 442840	Limestone	Bellman Quarry	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Active
Not shown	808.0	NE	376146 443654	Limestone	Bold-Venture Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	837.0	NE	375977 443847	Limestone	Great Pasture Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	850.0	W	374387 443234	Limestone	Cross Hill	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	862.0	E	376375 443225	Limestone	Peach	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	868.0	NE	375870 443959	Limestone	Horrocksford Great Pasture	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	949.0	NE	375881 444047	Limestone	Great Pasture Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	994.0	NE	376377 443644	Limestone	Bold-Venture Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

5 Mining, Extraction & Natural Cavities

5.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

5.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	0.0	On Site	Not available	Vein Mineral	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
2	227.0	W	Not available	Vein Mineral	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

5.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled “Review of mining instability in Great Britain, 1990” PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

5.6 Natural Cavities

This dataset provides information based on the Peter Brett Associates natural cavities database. The dataset is made up of points and polygons. Where polygons are used these represent an area in which it is expected the cavities could be found. It does not indicate that cavities are present everywhere within the polygon, and caution should be used in the interpretation of this data.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

5.7 Brine Extraction

This data provides information from the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

5.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

5.9 Cornwall and Devon Metalliferous Mining

This dataset provides information on metalliferous mining areas in Cornwall/Devon and is derived from records held by Mining Searches UK.

Are there any Cornwall and Devon Metalliferous Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.10 Clay Mining

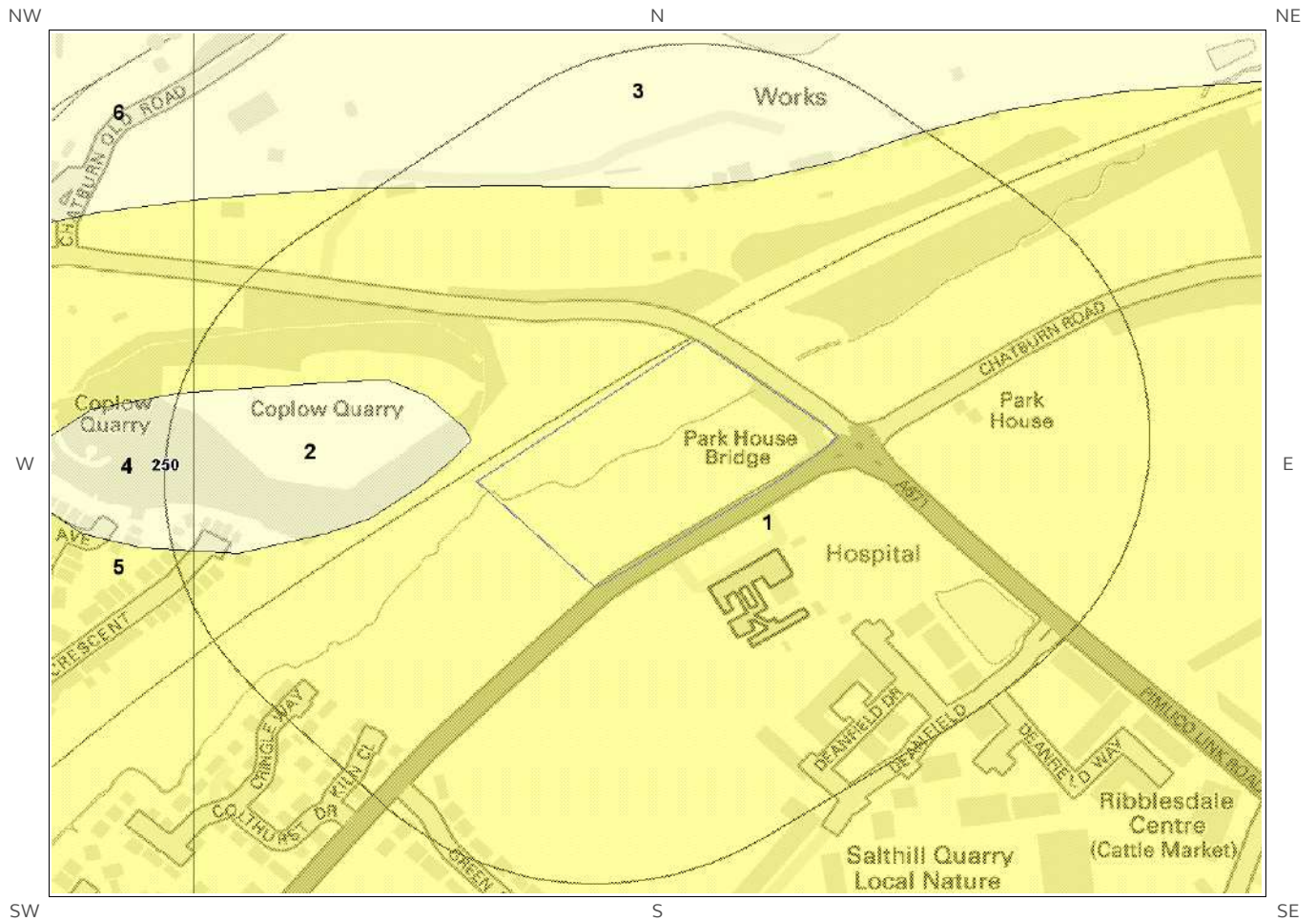
This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

6 Natural Ground Subsidence

6.1 Shrink-Swell Clay map

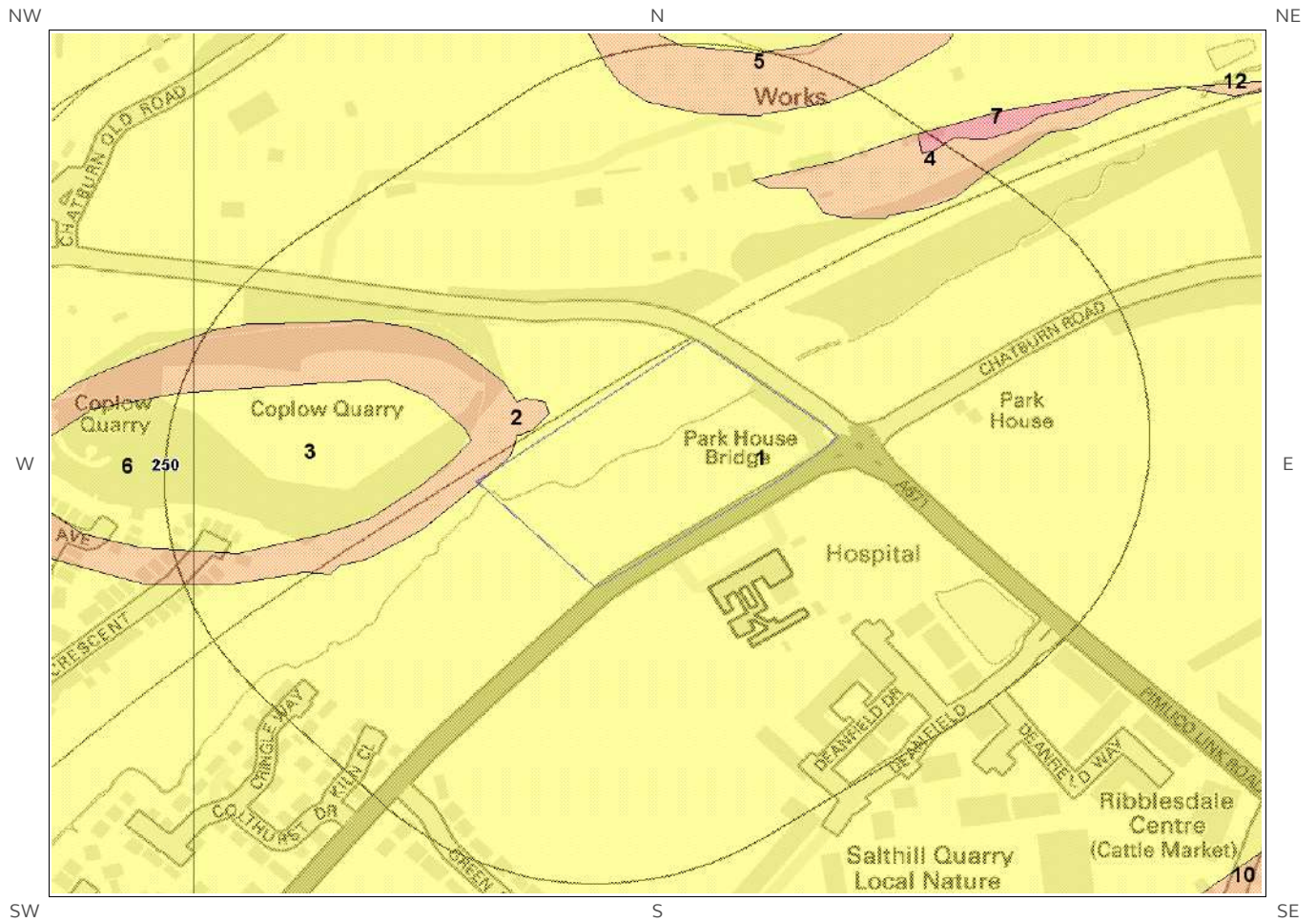


Shrink Swell Clay Legend

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6.2 Landslides map

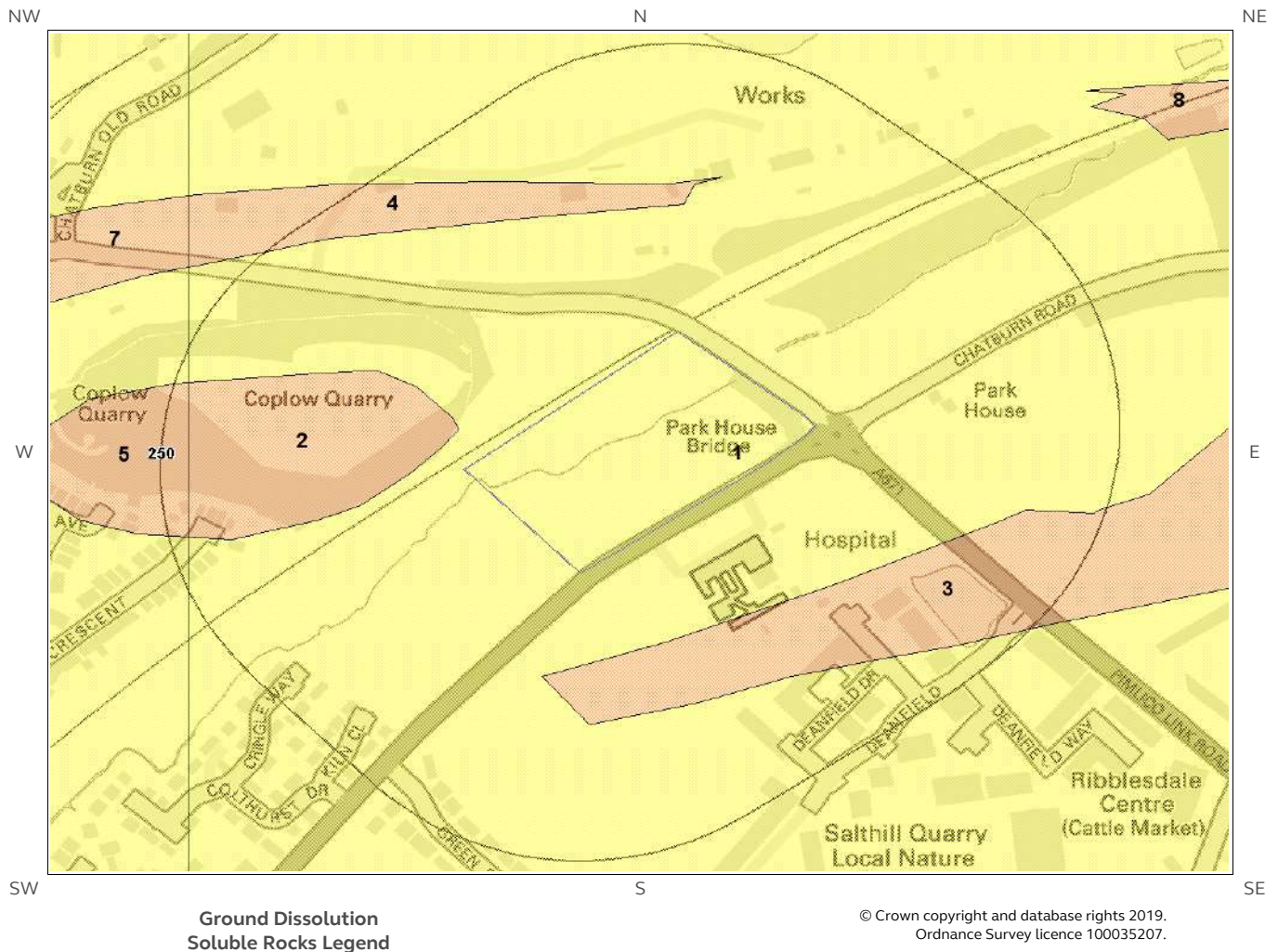


Landslides Legend

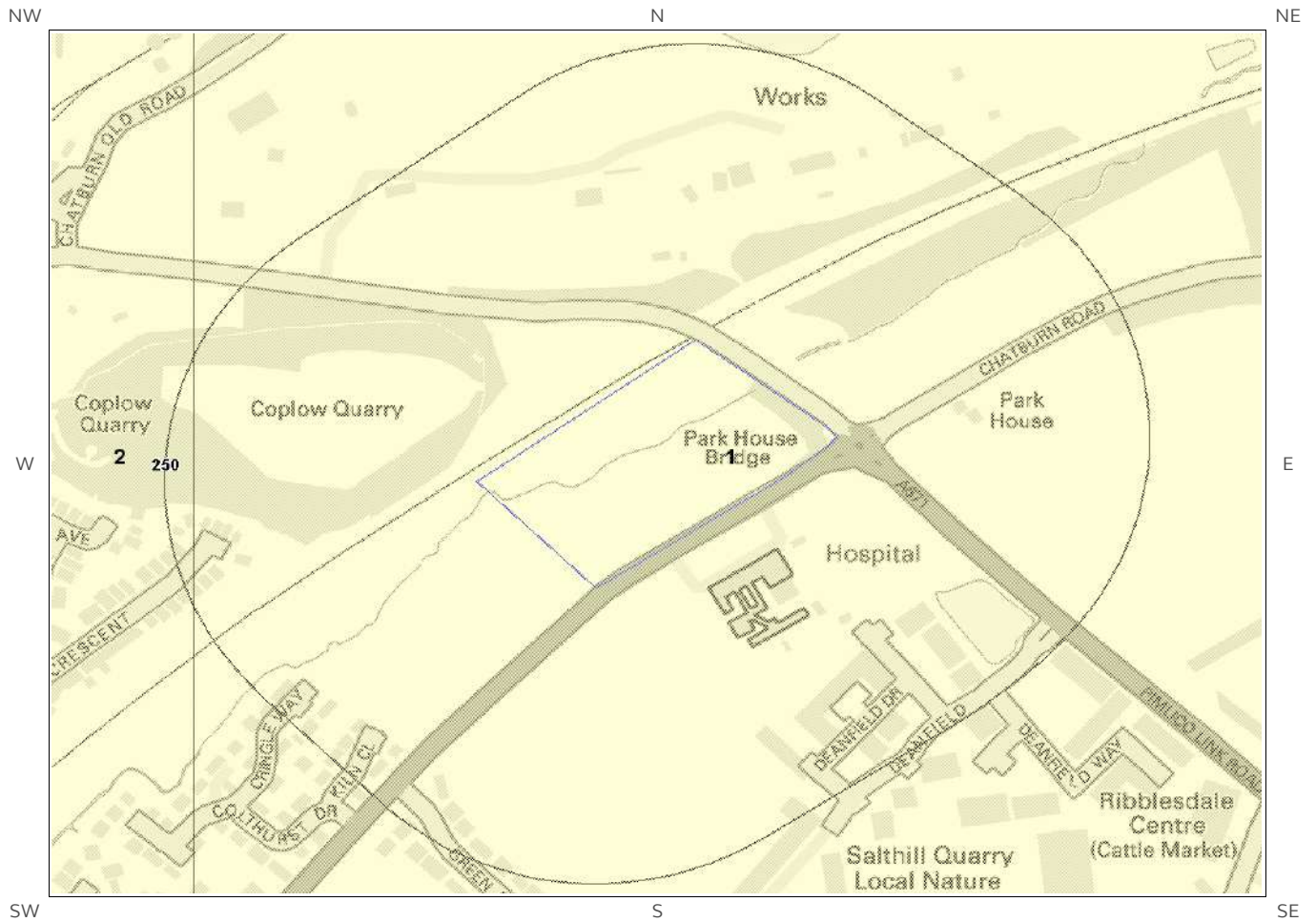
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6.3 Ground Dissolution of Soluble Rocks map



6.4 Compressible Deposits map

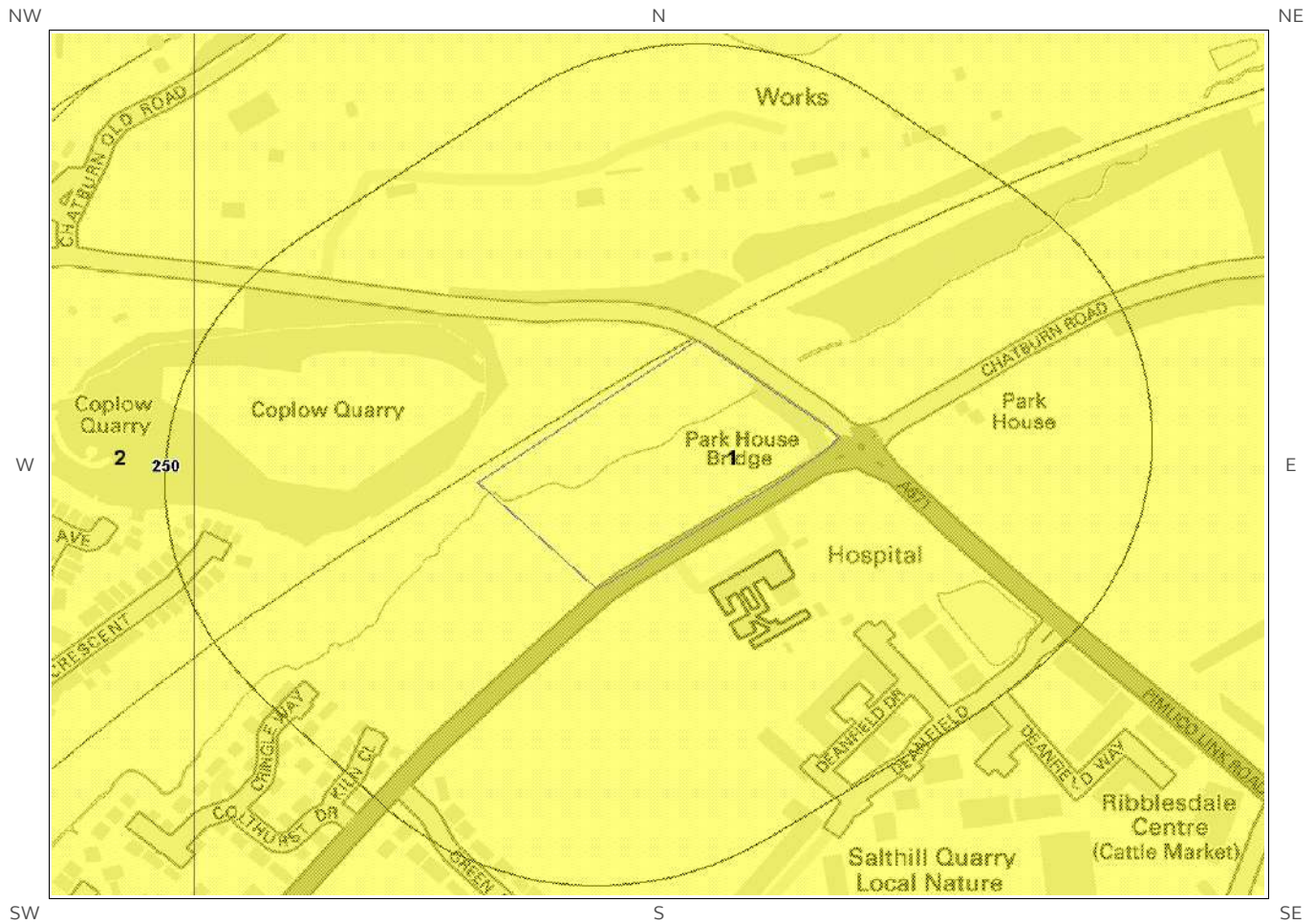


Compressible Deposits Legend

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6.5 Collapsible Deposits map

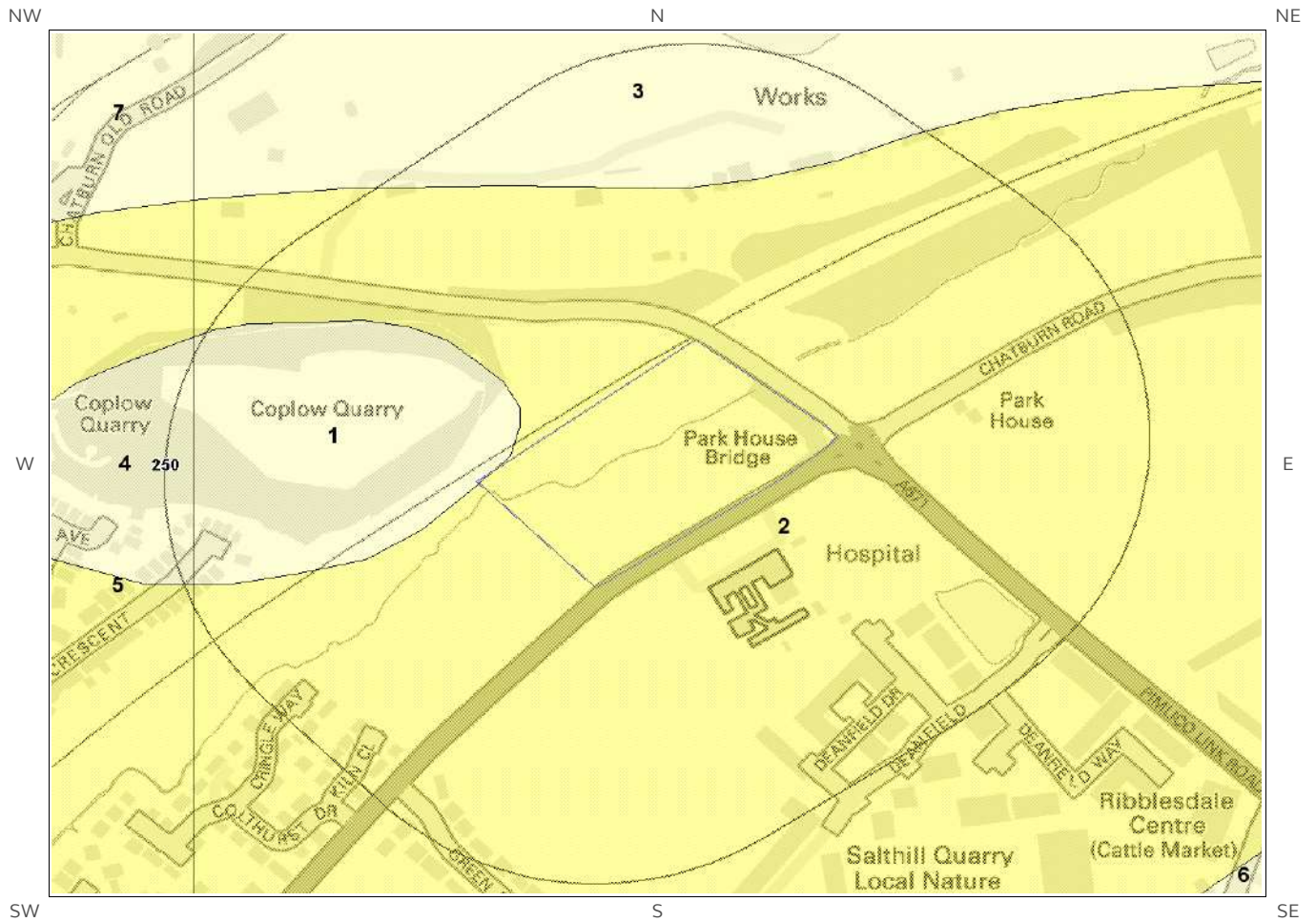


Collapsible Deposits Legend

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6.6 Running Sand map



Running Sand Legend

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6 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site* boundary? Low

6.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.
2	27.0	NW	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.

6.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.
2	0.0	On Site	Low	Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property - no significant increase in insurance risk due to natural slope instability problems.

* This includes an automatically generated 50m buffer zone around the site

ID	Distance (m)	Direction	Hazard Rating	Details
3	27.0	NW	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

6.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Significant soluble rocks are present. Problems unlikely except with considerable surface or subsurface water flow. No special actions required to avoid problems due to soluble rocks. No special ground investigation required or increased construction costs are likely. An increase in financial risk due to potential problems with soluble rocks is unlikely.
2	27.0	NW	Low	Significant soluble rocks are present. Low possibility of subsidence occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow. Consider implications for stability when changes to drainage or new construction are planned. For new build - site investigation should consider potential for dissolution problems on the site and its surroundings. Care should be taken with local drainage into the bedrock. Some possibility groundwater pollution. For existing property - possible increase in insurance risk due to soluble rocks.

6.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

6.5 Collapsible Deposits

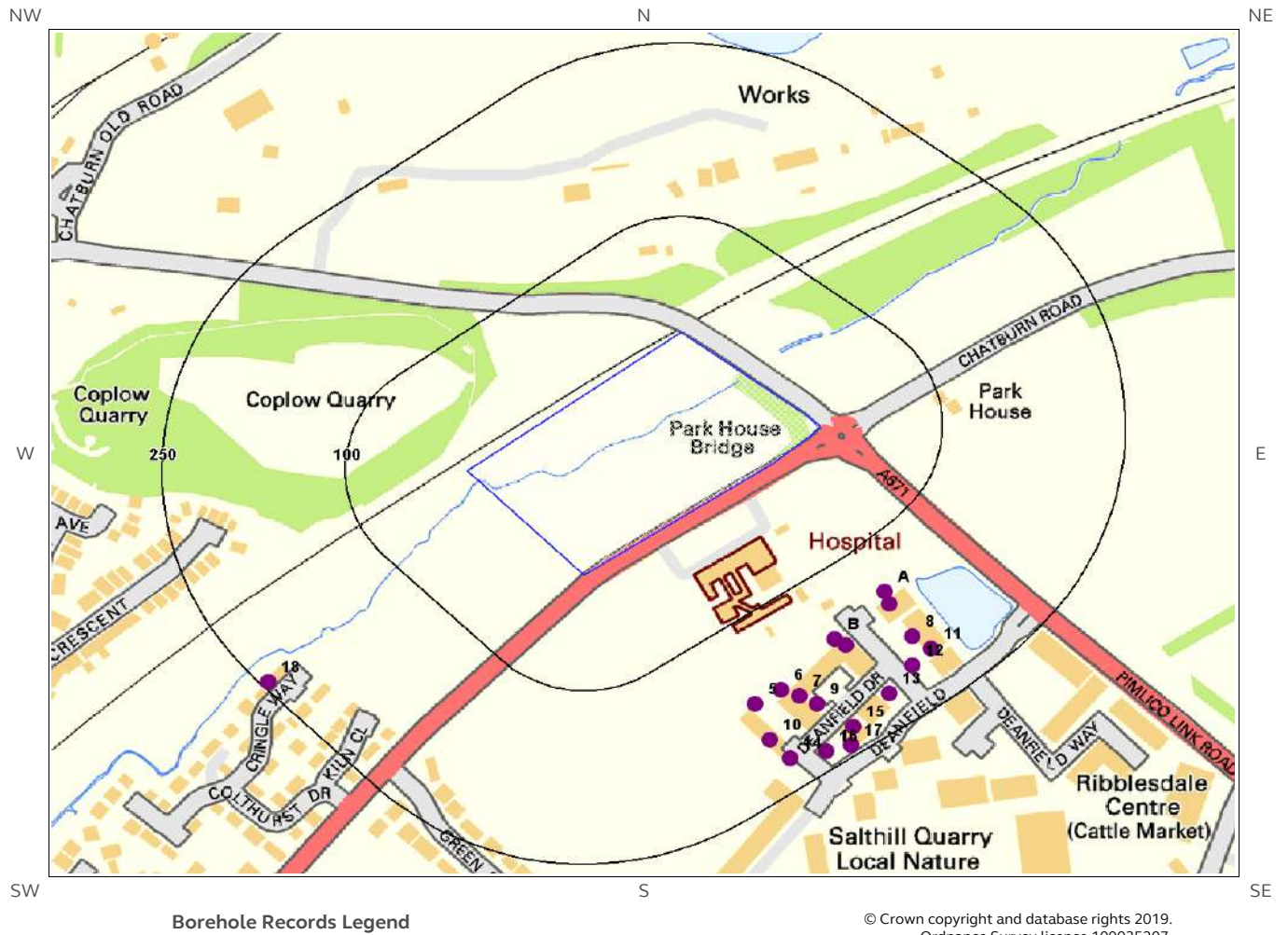
The following Collapsible Rocks information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
2	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

7 Borehole Records map



7 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

18

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1A	144.0	SE	375569 443003	SD74SE112	Not available	LINK 59 BUSINESS PARK CLITHEROE VTP 2
2A	155.0	SE	375573 442992	SD74SE107	Not available	LINK 59 BUSINESS PARK CLITHEROE TP 4
3B	156.0	SE	375528 442962	SD74SE115	Not available	LINK 59 BUSINESS PARK CLITHEROE VTP 6
4B	165.0	SE	375537 442957	SD74SE106	Not available	LINK 59 BUSINESS PARK CLITHEROE TP 3
5	169.0	SE	375463 442906	SD74SE120	Not available	LINK 59 BUSINESS PARK CLITHEROE VTP 12
6	170.0	SE	375484 442918	SD74SE118	Not available	LINK 59 BUSINESS PARK CLITHEROE VTP 10
7	182.0	SE	375499 442913	SD74SE105	Not available	LINK 59 BUSINESS PARK CLITHEROE TP 2
8	189.0	SE	375592 442964	SD74SE113	Not available	LINK 59 BUSINESS PARK CLITHEROE VTP 3
9	196.0	SE	375514 442906	SD74SE117	Not available	LINK 59 BUSINESS PARK CLITHEROE VTP 8
10	202.0	SE	375475 442875	SD74SE104	Not available	LINK 59 BUSINESS PARK CLITHEROE TP 1
11	206.0	SE	375607 442954	SD74SE108	Not available	LINK 59 BUSINESS PARK CLITHEROE TP 5
12	209.0	SE	375592 442939	SD74SE114	Not available	LINK 59 BUSINESS PARK CLITHEROE VTP 4
13	220.0	SE	375573 442915	SD74SE109	Not available	LINK 59 BUSINESS PARK CLITHEROE TP 6
14	224.0	SE	375492 442859	SD74SE119	Not available	LINK 59 BUSINESS PARK CLITHEROE VTP 11
15	228.0	SE	375543 442886	SD74SE110	Not available	LINK 59 BUSINESS PARK CLITHEROE TP 7
16	234.0	SE	375521 442865	SD74SE111	Not available	LINK 59 BUSINESS PARK CLITHEROE TP 8
17	241.0	SE	375542 442870	SD74SE116	Not available	LINK 59 BUSINESS PARK CLITHEROE VTP 7
18	245.0	SW	375064 442925	SD74SE103	Not available	CHATBURN ROAD CLITHEROE 3

The borehole records are available using the hyperlinks below: Please note that if the donor of the borehole record has requested the information be held as commercial-in-confidence, the additional data will be held separately by the BGS and a formal request must be made for its release.

8 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

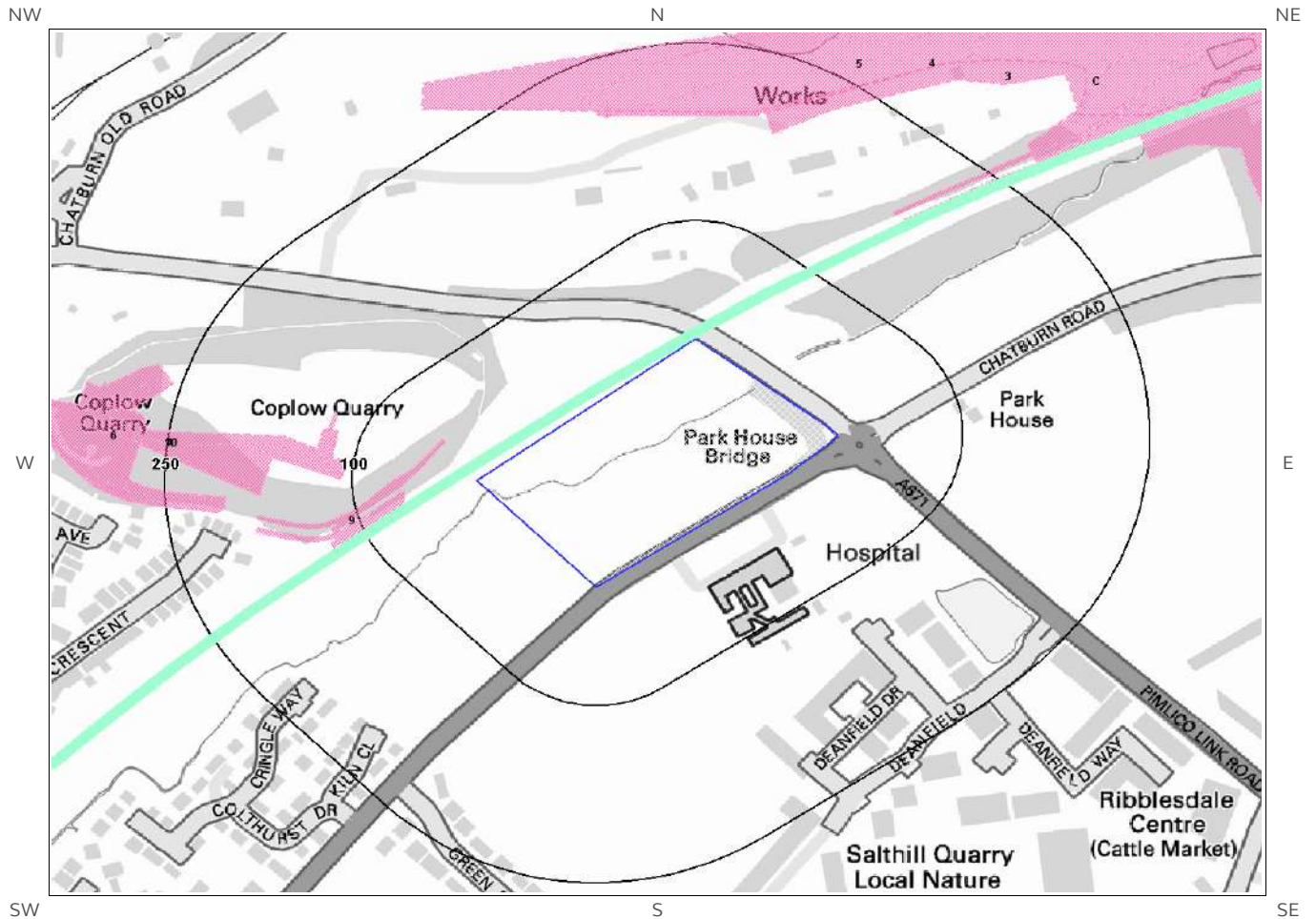
6

For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geo Insight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
0.0	On Site	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
18.0	S	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
27.0	NW	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
27.0	NW	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg

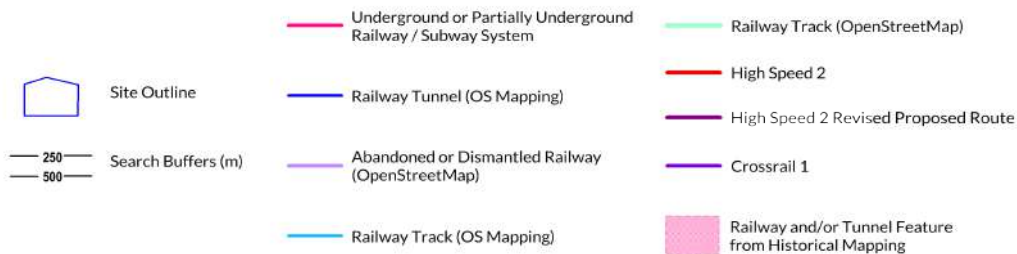
*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

9 Railways and Tunnels map



Railways and Tunnels Legend

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9 Railways and Tunnels

9.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

9.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Details	Date
7B	40	NW	375160 443103	Railway Sidings	1884
8B	40	NW	375160 443103	Railway Sidings	1884
9	58	W	375146 443076	Railway Sidings	1884
1A	105	W	374993 443143	Railway Sidings	1938
2A	105	W	374993 443143	Railway Sidings	1930
10	107	W	374784 443254	Railway Sidings	1932

ID	Distance (m)	Direction	NGR	Details	Date
11C	177	NE	375621 443468	Railway Sidings	1884
12C	177	NE	375621 443468	Railway Sidings	1884
13	177	NE	375682 443377	Railway Sidings	1964
3	184	N	375803 443525	Railway Sidings	1950
4	189	N	375753 443548	Railway Sidings	1930
5	192	N	375753 443548	Railway Sidings	1910
6	202	W	374941 443143	Railway Sidings	1910
14	206	W	374784 443254	Railway Sidings	1912

Any records that have been identified are represented on the Railways and Tunnels map.

9.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? No

Have any historical railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels map.

9.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary? No

Have any active railway lines been identified within 250m of the study site boundary? Yes

Distance (m)	Direction	Name	Type
3	NW	Ribble Valley Line	rail
3	NW	Ribble Valley Line	rail
4	NW	Not given	Multi Track
4	NW	Not given	Multi Track
7	NW	Ribble Valley Line	rail
7	NW	Ribble Valley Line	rail
17	NE	Not given	Multi Track
17	NE	Not given	Multi Track
52	NE	Ribble Valley Line	rail
52	NE	Ribble Valley Line	rail
54	NE	Ribble Valley Line	rail

Distance (m)	Direction	Name	Type
54	NE	Ribble Valley Line	rail
57	NE	Not given	Multi Track
57	NE	Not given	Multi Track
62	NE	Ribble Valley Line	rail
62	NE	Ribble Valley Line	rail
63	NE	Ribble Valley Line	rail
63	NE	Ribble Valley Line	rail

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels map.

9.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1 .

Is the study site within 5km of the route of the High Speed 2 rail project? No

Is the study site within 500m of the route of the Crossrail 1 rail project? No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a Groundsure HS2 and Crossrail 1 Report.

The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

Please note that this assessment takes account of both the original Phase 2b proposed route and the amended route proposed in 2016. As the Phase 2b route is still under consultation, Groundsure are providing information on both options until the final route is formally confirmed. Practitioners should take account of this uncertainty when advising clients.

APPENDIX C

EnvironInsight Report

Address: Clitheroe Lancashire, BB7 4JX
Date: 17 Jul 2019
Reference: CMAPS-CM-814908-29721-170719EDR
Client: CENTREMAPS



Aerial Photograph Capture date: 10-Jun-2018
Grid Reference: 375372,443123
Site Size: 2.9532ha

Report Reference: CMAPS-CM-814908-29721-170719EDR
Client Reference: 29721

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Overview of Findings

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1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	3	11	32	125
1.2 Additional Information – Historical Tank Database	0	3	0	28
1.3 Additional Information – Historical Energy Features Database	0	2	0	20
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	0
1.6 Historical military sites	0	0	0	0
1.7 Potentially Infilled Land	3	5	17	72
Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	1	3
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	0	0	1
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	1
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	7	22
2.3.2 National Incidents Recording System, List 1	0	0	3	1
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0