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**Groom Design Services  
Ltd**

**The Three Horseshoes  
Brierley  
Barnsley  
S72 9JT**

**Phase I Desk Study**

Ref: 13187/5001  
June 17

**Professional,  
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## Revision Record

Report Ref: 13187/5001					
Rev	Description	Date	Originator	Checked	Approved
-	Initial Issue	June 2017	AEC	RJS	IFL

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# 1 Introduction

## 1.1 General Introduction

This Report presents the findings of a Phase I Desk Study of a site at The Three Horseshoes (Grid Reference: 440701, 411228) for Groom Design Services Ltd.

The Desk Study (Phase I) comprised obtaining research/archive information from Emapsite, in the form of a GroundSure Report. The GroundSure Report provides the basic background information including Historical Ordnance Survey Plans, British Geological Survey Plans and Environment Agency Report (including Radon). This report presents the findings of this background information as it relates to the proposed end use of the site and considers the potential for contamination of the site. The Groundsure Report is attached as Appendix I.

## 1.2 Objectives

This Desk Study was conducted in order to formulate an opinion as to the potential for hazardous substances to exist on, at, or near the vicinity of the site which might affect the future development of the site, appropriate to the proposed end use of the site. It is understood that redevelopment of the site for residential purposes is proposed. The “vicinity” of the site for the purposes of this Report is defined as being located within an approximate 250m radius of the site.

The objectives of the Desk Study were aimed to determine:-

- The historical site usage, identifying any factors, based on the Archive Ordnance Survey Maps, which might give rise to the potential for hazardous substances to exist on, at, or near the vicinity of the site.
- The general ground conditions at the site, based on published Geological Maps, identifying any significant geotechnical conditions which might affect the future redevelopment of the site.
- Current operations undertaken within the site and in the immediate vicinity, based on the GroundSure database, which might give rise to the potential for hazardous substances to exist on, at, or near the vicinity of the site and which might affect the future redevelopment of the site.

### 1.3 Scope of Works

In order to meet the objectives, Met Engineers obtained research information from Emapsite, which includes data from the following sources: -

- Historical Ordnance Survey Plans
- British Geological Survey Plans and Radon Report
- Environment Agency Report
- Coal Authority Mining Information

This Report presents the findings of the Desk Study as related to the proposed end use of the site. The purpose of the Desk Study is to allow an opinion to be formulated as to the likely Geo Environmental conditions at the site and the potential implications for the end use. This report does not quantify those findings nor provide any recommendations for remedial works, mitigation or risk management.

### 1.4 Limitations of the Report

Groom Design Services Ltd. (the Client) has requested that a Phase I Geo-Environmental Site Assessment be undertaken in order to assess the suitability of the site for redevelopment. The Report is not a comprehensive site characterisation and should not be construed as such.

This Report has been prepared for the sole internal use and reliance of Groom Design Services Ltd. The Report shall not be relied upon or transferred to any other parties without the express written authority of Met Engineers. If any unauthorised third party comes into possession of the Report, they rely on it at their own risk and the Met Engineers owes them no Duty of Care.

The findings and opinions conveyed via this Report are based on information obtained from a variety of sources as detailed within this Report and which Met Engineers, believes are reliable. Nevertheless, Met Engineers, cannot and does not guarantee the authenticity or reliability of the information it has relied upon. The information contained in this Report is to the best of our knowledge accurate at the date of issue, however, sub-surface conditions, including ground water levels, and may vary over time.

It is possible that the GroundSure Report may not include information from every information source. Assuming such further information sources actually exist, their information has not been considered in the formulation of these findings and opinions; this Report only considers the information contained within the GroundSure Report.

In preparing this Report it has been assumed that all past and present occupants and Third Parties have provided accurate information, especially relating to known or potential hazards. This Report does not identify deficiencies or mistakes in the information provided by the user/owner, or from any other source, except where obvious in the light of other information.

This Report is relevant at the date the report was written and should be read in the light of any subsequent changes in legislation, statutory requirement or industry practices.

The Report represents the technical findings and opinions of Met Engineers, and does not constitute any legal advice. As such, the advice of a Solicitor may also be required.

## 2 Site History and Environmental Setting

A detailed review of the published history, hydrological, geological and available environmental information has been carried out.

The area of land referred to as 'The Site' within this document is indicated in Appendix I.

### 2.1 Site Description

<b>Site Address</b>	The Three Horseshoes, Brierley, Barnsley, S72 9JT
<b>Location</b>	Grid Reference: 440701, 411228
<b>Setting</b>	<p>The site is located adjacent to the currently disused Three Horseshoes pub in Brierley, approximately 7.8km north east of Barnsley. It is rectangular in shape and covers an area of approximately 0.15 hectares (Ha). The site is accessed via an open entrance off Barnsley Road.</p> <p>The site was previously used as a pub car park and is predominantly covered by hardstanding (tarmac) with trees and grass in the centre and along the western boundary. The site is currently vacant besides a temporary waste skip in the north east corner.</p> <p>The boundaries of the site are open to the east adjacent to The Three Hoeseshoes pub a with a stone wall running along the northern boundary adjacent to Barnsley Road. The western boundary is partially formed by the wooden fencing of the neighbouring house, the northern part of this boundary is currently open with a steep drop (approximately 1.5m) between the site and the adjacent driveway.</p> <p>The adjacent land uses are a disused pub to the east, Barnsley Road to the north, and residential houses with gardens to the south and west.</p>
<b>Development Proposal</b>	It is proposed to develop the site for residential use. A proposed layout is included in Appendix IV.

## 2.2 Site History from Mapping

Year scale) (map	Comment
1893 (1:2,500)	<p>The south western part of the site is currently undeveloped with trees. Buildings are shown in the centre of the site with a public house crossing the eastern boundary.</p> <p>To the north and east of the site are the residential houses in the village of Brierley. A smithy is located 40m east of the site. A number of pumps and wells are shown within 250m and a chapel is located 110m south. Roads are present adjacent to the northern boundary of the site and approximately 10m east. An area of woodland is shown 175m north east.</p>
1906 (1:2,500)	<p>The buildings on the site now appear smaller and with a slightly different layout.</p> <p>The woodland area to the north east is no longer present.</p>
1918 (1:2,500)	<p>No significant change to the site.</p> <p>Terraced houses have now been developed 80m south east and approximately 50m north west.</p>
1961 (1:2,500)	<p>Only one building remains in the east of the site. The other smaller buildings appear to have been demolished. The Three Horse Shoes Inn is now shown off-site to the east.</p> <p>The smithy is no longer shown to the east of the site. Detached houses with gardens are now shown to the west of the site. A residential area has now been developed at Hilltop, approximately 100m north east of the site. Allotment gardens are shown 100m north west.</p>
1977-1978 (1:2,500)	<p>The site is now shown in its current configuration with no buildings and a verge in the centre.</p> <p>No significant change to the surrounding area.</p>
1983-88 (1:1,250)	<p>No significant change to the site.</p> <p>A residential area has now been developed 40m east of the site.</p>
1993 (1:2,500)	<p>No significant change to the site or surrounding area.</p>
1854-2014	<p>Those maps not specifically mentioned show no deviation from the observations made above.</p>

## 2.3 Site Historical Overview

The earliest OS Maps show buildings and a public house present on the site by 1893. These remained until 1961 when the pub appears to the east of the site and all but one of the buildings have been demolished. The site has remained the same since 1977 when all buildings had been removed and a verge was present in the centre of the site.

The surrounding area was previously generally agricultural with the village of Brierley to the east. The main changes to the surrounding area have been the various residential developments and expansion of the village of Brierley over the past century.

## 2.4 Geological Overview

<b>Geology</b>	<p>Artificial Ground – No artificial ground recorded on site.          Superficial Deposits – None recorded.          Bedrock Geology – Brierley Rock - Sandstone.          Faults – Normal fault 213m south west.          Coal Outcrops – Brierley Coal (BY) recorded to be 0 to 1.3m thick outcropping 105m south west of the site. Younger rock (BrR) is shown on-site, indicating that Brierley Coal exists beneath the site.</p>
<b>Radon</b>	<p>&lt;1% of properties in the area are above the radon action level. Therefore, radon specific protection measures are not required for new buildings in accordance with BRE publication BR211.</p>
<b>Ground Workings</b>	<p>There are no ground workings shown within 250m of the site.</p>
<b>Mining</b>	<p>The site is within a Coal Mine Reporting Area therefore a Coal Report has been obtained from The Coal Authority, which can be found within Appendix III of this report.</p> <p>The Coal Authority confirm that the site is in the zone of influence of workings in 4N<sup>o</sup> seam of coal at 180m to 870m depth and last worked in 1954. Any movement from these workings should have stopped by now. The site is not affected by any present or planned underground mining however reserves of coal do exist in the area which may be worked at some time in the future.</p> <p>There is 1N<sup>o</sup> mine entry within 250m of the site. This is a disused mine shaft approximately 5m west of the site boundary. There are no records of what steps, if any, have been taken to treat the mine entry.</p> <p>The site is not affected by any past, present or future opencast mining.</p> <p>The Coal Authority have received 1N<sup>o</sup> claim for coal mine related subsidence for a property approximately 5m from the southern boundary of the site.</p> <p>The coal authority has no record of mine gas emissions requiring action.</p> <p>The property is in an area where a notice to withdraw support was given in 1983.</p> <p>There is a Development High Risk Area adjacent to the western boundary of the site, therefore a Coal Mining Risk Assessment has been carried out as part of this report and is presented in Section 4.</p>
<b>Natural Ground Subsidence</b>	<p>No natural ground subsidence problems are envisaged.</p>
<b>Boreholes</b>	<p>There are no BGS borehole records held for positions located within 250m of the site.</p>

## 2.5 Environmental Overview

<b>Historical Land Use</b>	The Groundsure report records 4No potentially contaminative historical land uses shown within 250m of the site. The nearest is the smithy located 39m east from 1854.
<b>Current Land Use</b>	There are 4No potentially contaminative current industrial land uses shown within 250m of the site. The nearest is a precision engineers 72m south east. Others include a haulage company (133m east), electrical engineers (151m west) and vehicle repair garage (193m south west).
<b>Environmental Permits</b>	There are no environmental permits shown within 250m of the site.
<b>Pollution Incidents</b>	There are no pollution incidents shown within 250m of the site.
<b>Landfill Sites</b>	There are no current or historical landfills shown within 250m of the site.
<b>Waste Transfer &amp; Processing Stations</b>	There are no waste transfer and processing stations shown within 250m of the site.
<b>Hydrogeology</b>	The bedrock is classed as a Secondary A Aquifer.  The site is not within a source protection zone.  There are no ground water abstractions within the vicinity of the site.
<b>Hydrology</b>	There are no watercourses or surface water abstractions shown within 250m of the site.
<b>Flooding</b>	The site is not within a flood risk area.
<b>Environmental Sensitivity</b>	The site is in a nitrate vulnerable zone.

## 2.6 Previous Investigations

Met Engineers are not aware of any other site investigations and no details of any have been provided.

## **3 Potential Contamination**

### **3.1 Background**

Current Environmental Legislation, in particular Part IIA of the Environmental Protection Act 1990, adopts a risk-based approach to the evaluation of contaminated sites, based on the proposed end use of the site. The commonly accepted approach is to adopt a Source-Pathway-Receptor model where the Source of the contaminant is examined in relation to potential Receptors (i.e. humans, controlled waters etc.) to determine if there is a Pathway (i.e. pollution linkage) connecting them. If any of these elements (i.e. contaminant, pathway or receptor) are absent or removed, then there is no risk.

### **3.2 Development Proposal**

It is proposed to develop the site for residential use. A proposed layout is included in Appendix IV.

### **3.3 Historical Land Use**

Buildings and a public house were present on the site by 1893. These remained until 1961 when the pub appears to the east of the site and all but one of the buildings have been demolished. The site has remained the same since 1977 when all buildings had been removed and a verge was present in the centre of the site.

### **3.4 Current Land Use**

The site was most recently used as a car park for the adjacent pub. The site is currently disused and vacant.

### **3.5 External Environmental Influences**

There are a number of potentially contaminative current and historical land uses in the surrounding area. Historical land uses include a smithy and unspecified pump. Current land uses include engineering works, a haulage company and a vehicle repair garage. Contaminants from these land uses have the potential to have migrated on to the site through various pathways.

### **3.6 Preliminary Risk Assessment**

In considering the potential for contamination, the information highlighted in this report has to be assessed utilising the source-pathway-receptor methodology. Should one of the three links be absent, the site cannot be considered contaminated under Part IIA of the Environmental Protection Act.

The risks identified in this report are perceived risks relative to the proposed end use. Actual risks can only be fully assessed after a robust and thorough intrusive investigation of the site. The preliminary conceptual risk assessment model undertaken for the site is detailed as follows:

### 3.7 Sources

Based on the evidence collated, the possible sources of contamination which potentially affect the site include:

	Activities	Contaminant Location On Site	Potential Contaminants	Likelihood of Contaminant being present on site	Comment
<b>Historical Site Usage</b>	Demolition of former buildings	Made Ground/ surface soil	Asbestos Polycyclic Aromatic Hydrocarbons (PAH) Total Petroleum Hydrocarbons (TPH) Heavy Metals	Moderate	Buildings on site until 1961 when most were demolished. Remaining building was demolished by 1977.
<b>Current Site Usage</b>	Car Park	Made Ground/ surface soil	PAH TPH Heavy Metals	Moderate	Site assumed to have been used for car parking since 1977. Potential hydrocarbon leaks and spillages.
<b>Historical Neighbours</b>	Smithy	Bedrock	Land Gas Asbestos PAH TPH Heavy Metals	Low	Smithy located 39m east from 1865. No longer present by 1961. Likelihood of contaminants present on site reduced due to age.
	Unspecified pump	Surface Soils/ Bedrock	PAH TPH Heavy Metals	Low	Various pumps shown on earliest historical maps. Nearest pump recorded 43m east.
<b>Current Neighbours</b>	Engineering works	Surface Soils/ Bedrock	Asbestos PAH TPH Heavy Metals	Low	Precision engineers 72m south east and electrical engineers (151m west). No pollution incidents recorded.
	Haulage company	Surface Soils/ Bedrock	Asbestos PAH TPH Heavy Metals	Low	Haulage company 133m east. No pollution incidents recorded.

	Activities	Contaminant Location On Site	Potential Contaminants	Likelihood of Contaminant being present on site	Comment
	Vehicle repair garage	Surface Soils/ Bedrock	Asbestos PAH TPH Heavy Metals	Low	Vehicle repair garage located 193m south west. Likelihood of contaminants being present on site reduced due to distance from site. No pollution incidents recorded.

The sources which are considered to have a moderate risk or greater of occurring on site have been assessed further as part of the Conceptual Site Model in Section 3.7 of this report

The list of possible contaminants has been based solely on the information identified by the GroundSure Report and the site walkover and therefore should not be considered exhaustive.

### 3.8 Pathways

The Potential main pathways specific to the probable future use of the site are:

Pathway	Pathway Present	Comments
Direct Contact with soil/ water	Yes	Potential for contact with soil/ water during future development works
Incidental ingestion	Yes	Potential for ingestion of soils/ water during future development works
Inhalation of soil dust/ asbestos fibres	Yes	Potential for inhalation of soil dust/ asbestos during future development works and ground disturbance
Leaching/ migration of liquids	Yes	Limited potential for leaching currently as site is predominantly hardstanding. Potential for leaching increased in proposed soft landscaped areas.
Surface water run-off	No	Limited potential for surface water run-off as site will be developed with buildings and soft landscaping. No surface water features within 250m.
Migration/ emission/accumulation inhalation of land gas/ vapours	Yes	Migration and emission of land gas/ vapours possible, potential for accumulation is increased in proposed buildings on site.
Plant uptake/ plant uptake followed by ingestion	Yes	Plant uptake in proposed soft landscaped areas.

### 3.9 Receptors

The following site-specific receptors should be considered:

Receptor	Receptor Present	Comments
Site worker	Yes	Staff involved in construction and demolition works and underground utility works at the site
Maintenance staff	Yes	Carrying out routine maintenance in the future (assumes workers will visit the site on an infrequent basis and will not carry out intrusive works)
Long term site user/ future resident	Yes	Long term site users/ future residents
Off-site resident	Yes	Residential housing adjacent to the site.
Flora & Fauna	Yes	Flora on landscaped areas
Aquifer	No	Bedrock is a Secondary A Aquifer, however there are no groundwater abstractions or source protection zones in the vicinity of the site.
Surface water	No	No surface water features within 250m of the site.
Buildings & Infrastructure	Yes	Building substructure/ services, drainage etc.

### 3.10 Preliminary Conceptual Site Model

Potential Source	Contaminants	Receptor	Pathway	Severity	Likelihood	Potential Risk
Soil based Contaminants (Solid)	Heavy Metals PAH TPH	Construction Workers Maintenance Workers End user	Direct contact with soil Ingestion of soils Inhalation of soil dust Inhalation of vapours (PAH/ TPH only)	Moderate	Moderate	Moderate
		Off-site resident	Inhalation of soil dust Inhalation of vapours (PAH/ TPH only)	Moderate	Very Low	Low
		Flora & Fauna	Plant uptake	Very Low	Low	Low
		Buildings & Infrastructure	Direct Contact with soil	Very Low	Low	Low
Soil based Contaminants (as Leachate)	Heavy Metals PAH TPH	Flora & Fauna	Plant uptake	Very Low	Low	Low
Asbestos within Made Ground	Asbestos Fibres	Construction Workers Maintenance Workers End user	Inhalation of asbestos fibres	High	Moderate	Moderate/ High
Land Gas		Construction Workers Maintenance Workers End user	Inhalation of gases	High	Low	Moderate

Please see Appendix V for the matrix used to determine Risk.

Please note, the risks to off- site receptors from off-site sources (e.g Off-site landfill impacting off-site surface water stream) have not been assessed as part of this study.

## 4 Coal Mining Risk Assessment

The site is located adjacent to a development high risk area and therefore the following coal mining risk assessment has been undertaken.

Coal Mining Issue	Yes	No	Discussion	Risk
Underground coal mining (recorded at shallow depths)		X	There is no evidence of shallow coal mining voids beneath the site.	Low
Underground coal mining (probable at shallow depths)	X		Brierley coal outcrops 105m south west of the site, no records of shallow coal beneath the site. However further investigation is recommended to confirm this.	Moderate
Mine entries (shafts and adits)	X		1N <sup>o</sup> disused shaft adjacent to the western boundary of the site. Coal Authority do not have any record of treatment. Property is in an area where notice to withdraw support was given in 1983.	High
Coal mining geology (fissures)		X	No records of damage due to geological faults/ fissures that have been affected by coal mining.	Low
Record of past mine gas emissions or potential		X	No record made by the Coal Authority	Low
Recorded coal mining surface hazard	X		1N <sup>o</sup> previous claim for coal mining related subsidence recorded adjacent 5m south of the site.	High
Surface mining (opencast workings)		X	There are no known surface workings within close proximity to the site	Low

Coal seams are outcropping in the general locality of the site, and from the above discussion it is possible that underground coal seams are present beneath the site at depths less than 30m. There is a disused shaft to the west of the site and records of coal mining subsidence to the south of the site. The risk to the site from migration of crown holes towards the surface as a result of the collapse of unrecorded shallow coal workings is considered to be **MODERATE**. Further site investigation is recommended to check for any voids beneath the site and confirm that the shaft does not cross the site boundary.

## 5 Recommendations

### 5.1 Environmental

A number of potential pollution linkages could exist within the site. An intrusive site investigation is recommended to confirm this potential.

The site investigation should cover the full site, as well as specifically targeting the area of the former buildings. A general range of contaminants should be tested for including Heavy Metals, Poly-aromatic Hydrocarbons, Total Petroleum Hydrocarbons Asbestos and Land Gas.

Following the site investigation, options for remediation, if required, can be evaluated. Any remedial measures undertaken will inevitably reduce the environmental risk to future ownership.

### 5.2 Geotechnical

It is likely that there will be Made Ground present at the surface of the site, based on the developments during the previous century. Based on geological records there is expected to be Made Ground directly overlying sandstone bedrock.

The intrusive investigation should confirm the immediate sub-surface soil conditions such that foundation recommendations can be made. A series of boreholes and/or trial pits should be undertaken to allow an assessment of the underlying strata. Suitable *in-situ* and laboratory geotechnical tests should be performed as part of the investigation.

The site is not within a development high risk area with regards to shallow depth coal mining, however a development high risk area does exist to the west of the site. The coal authority report has identified a disused mine shaft 5m west of the site and an area of coal mining related subsidence to the south. Based on the information presented within this report, it is considered that the risk from shallow depth mining works is Moderate and further site investigation comprising rotary open hole boreholes to 30m is recommended. Site investigation on the western boundary of the site adjacent to the recorded shaft is also recommended to confirm that the shaft does not cross the site boundary.

# Appendix I

## Groundsure Report

### Site Details:

Three Horse Shoes, Brierley, S72 9JY

Client Ref: EMS\_421655\_563465  
 Report Ref: EMS-421655\_563465  
 Grid Ref: 440701, 411226

Map Name: County Series

Map date: 1893

Scale: 1:2,500

Printed at: 1:2,500



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 Edition 1893  
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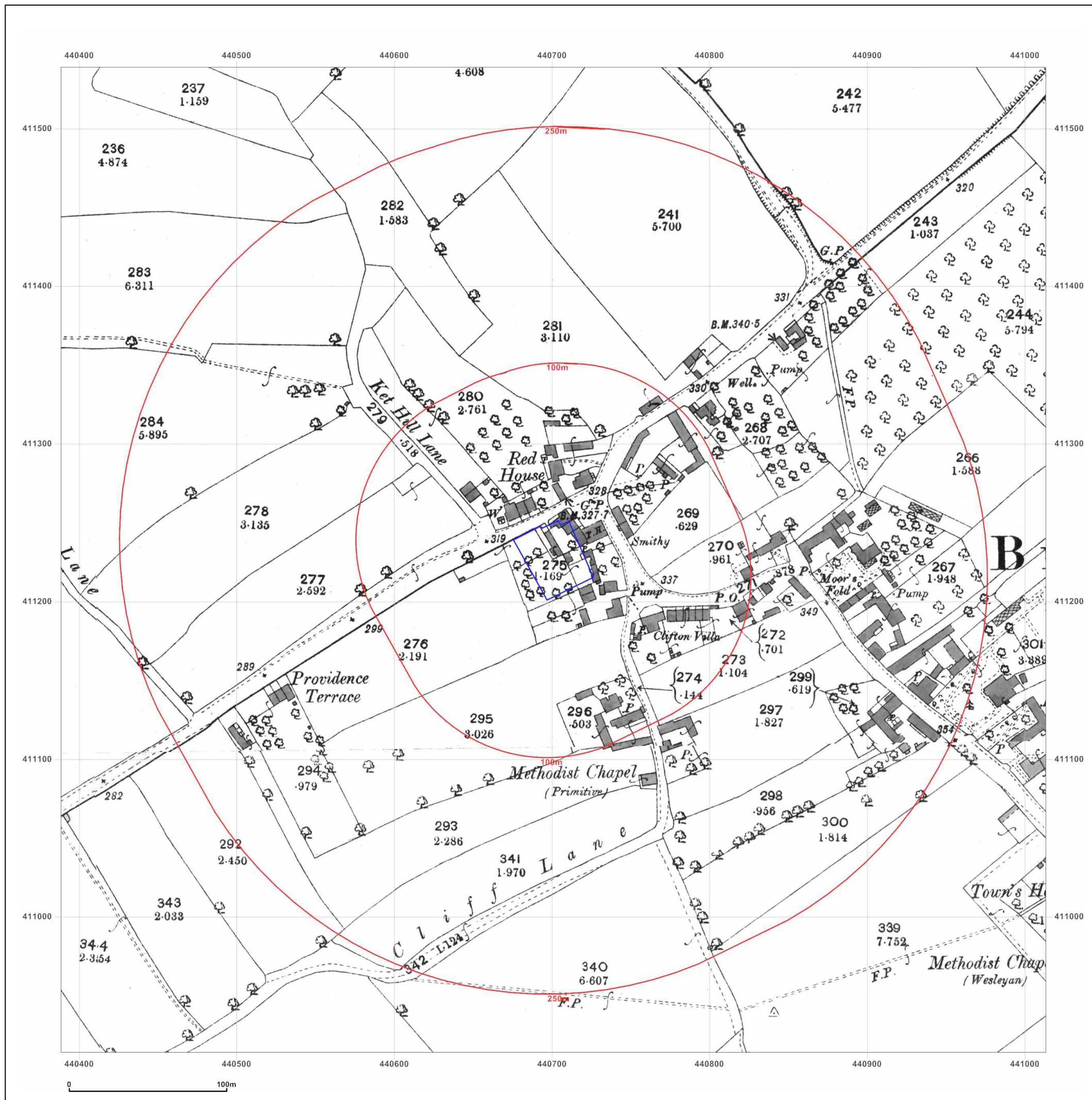


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### Site Details:

Three Horse Shoes, Brierley, S72 9JY

Client Ref: EMS\_421655\_563465  
 Report Ref: EMS-421655\_563465  
 Grid Ref: 440701, 411226

Map Name: County Series

Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



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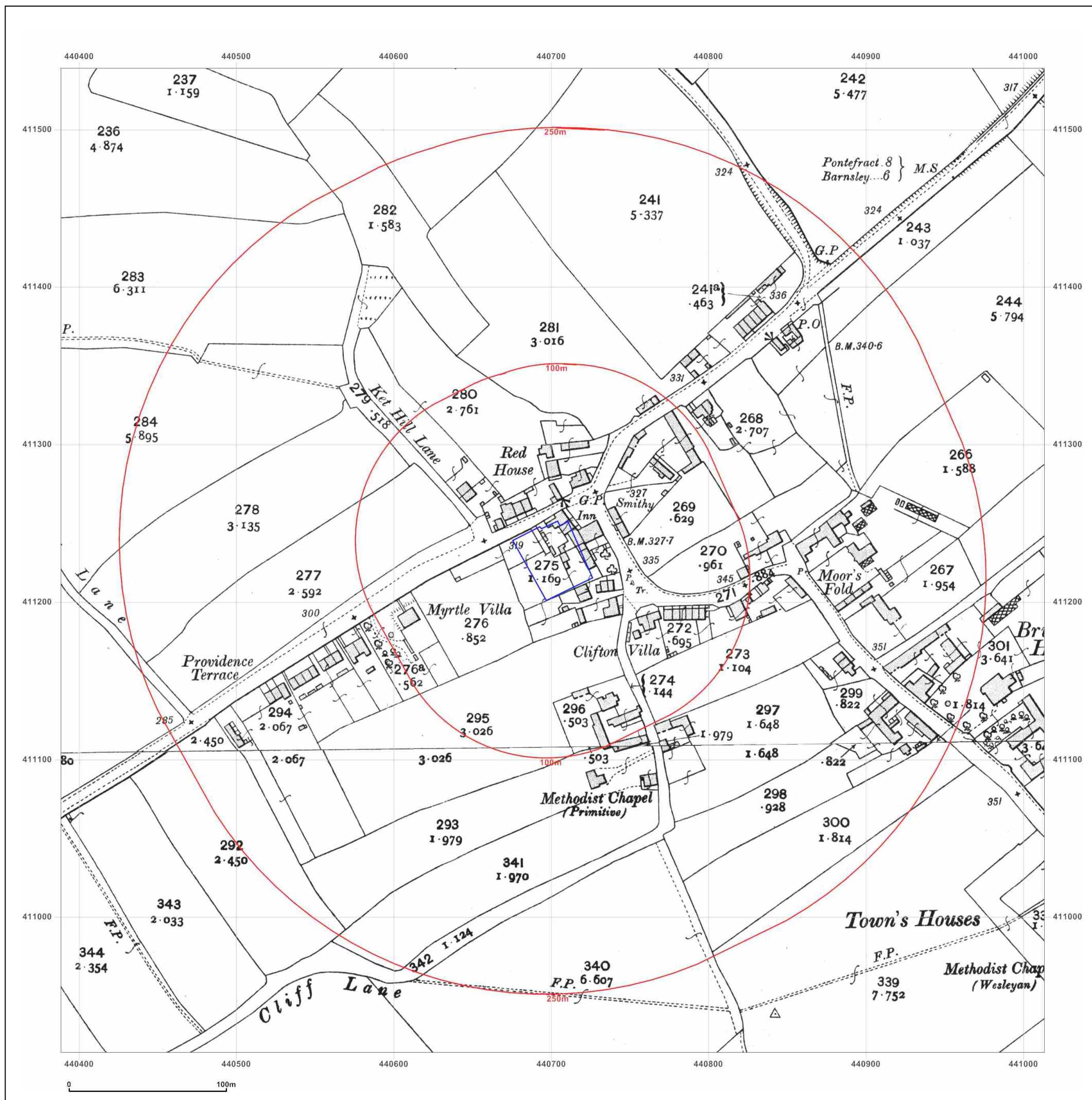


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**Site Details:**

Three Horse Shoes, Brierley, S72  
9JY

**Client Ref:** EMS\_421655\_563465  
**Report Ref:** EMS-421655\_563465  
**Grid Ref:** 440701, 411226

**Map Name:** County Series

**Map date:** 1918

**Scale:** 1:2,500

**Printed at:** 1:2,500



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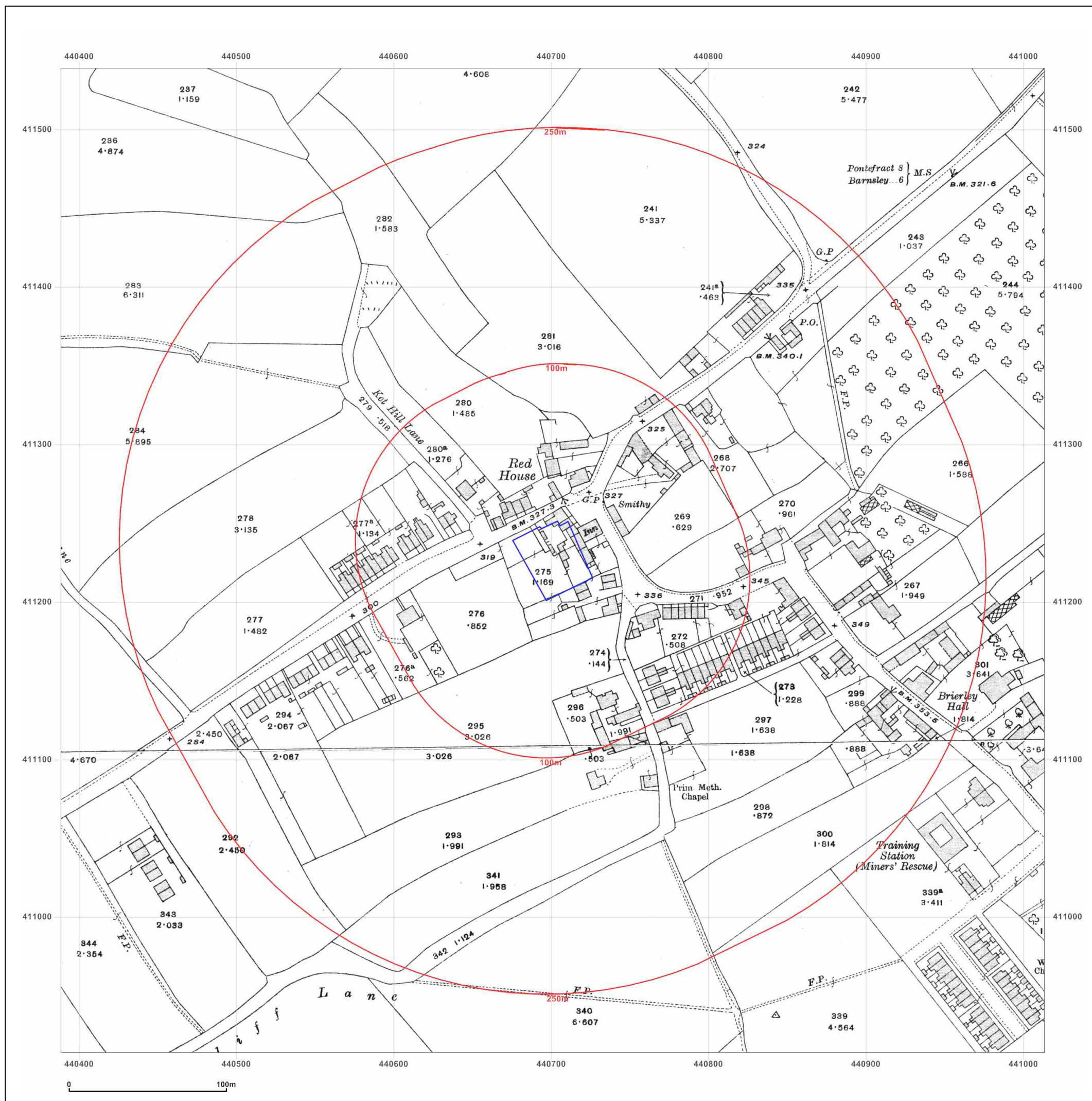


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**Site Details:**

Three Horse Shoes, Brierley, S72 9JY

**Client Ref:** EMS\_421655\_563465  
**Report Ref:** EMS-421655\_563465  
**Grid Ref:** 440701, 411226

**Map Name:** National Grid

**Map date:** 1961

**Scale:** 1:2,500

**Printed at:** 1:2,500



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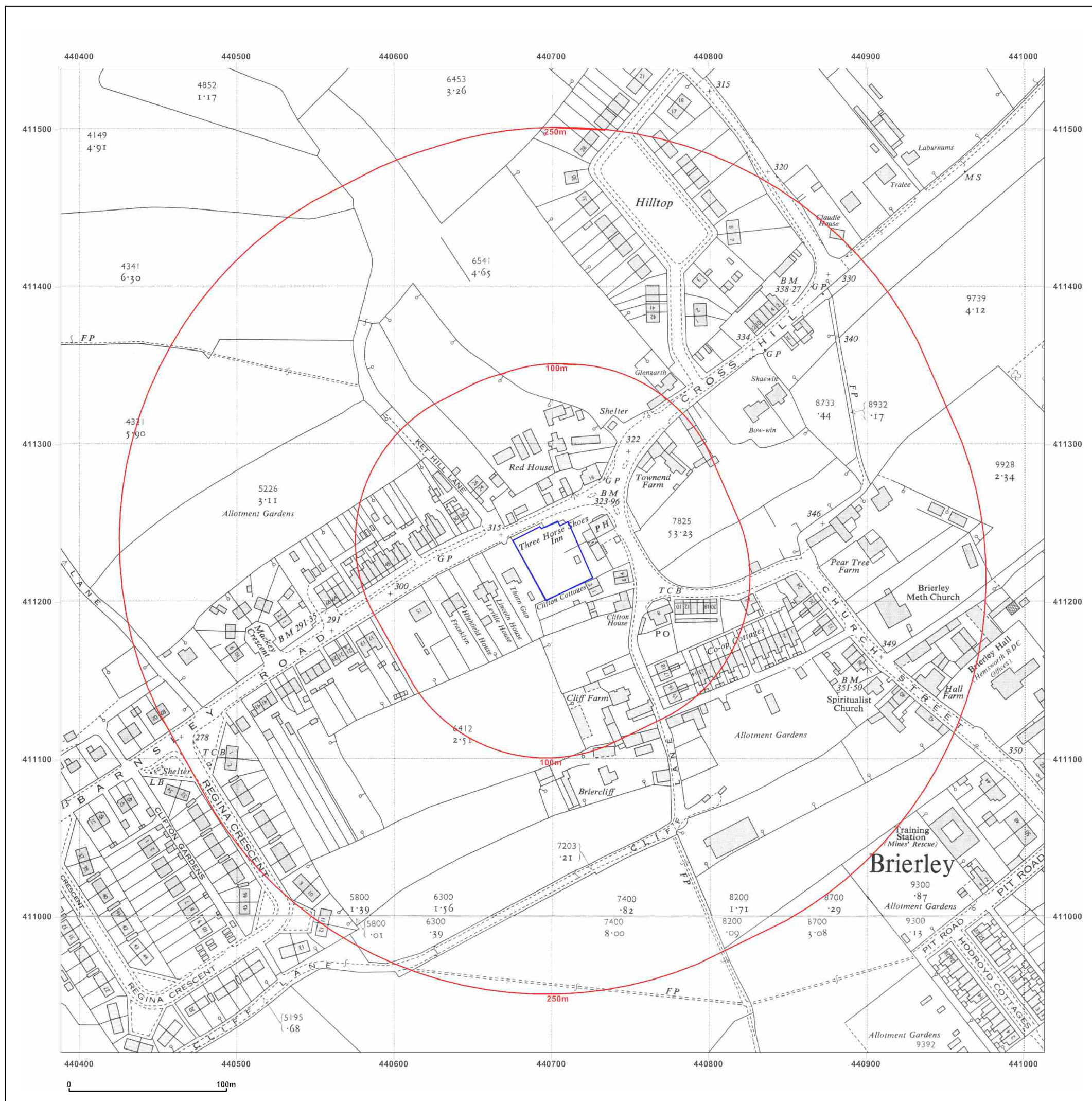


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**Site Details:**

Three Horse Shoes, Brierley, S72  
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**Client Ref:** EMS\_421655\_563465  
**Report Ref:** EMS-421655\_563465  
**Grid Ref:** 440701, 411226

**Map Name:** National Grid

**Map date:** 1976

**Scale:** 1:2,500

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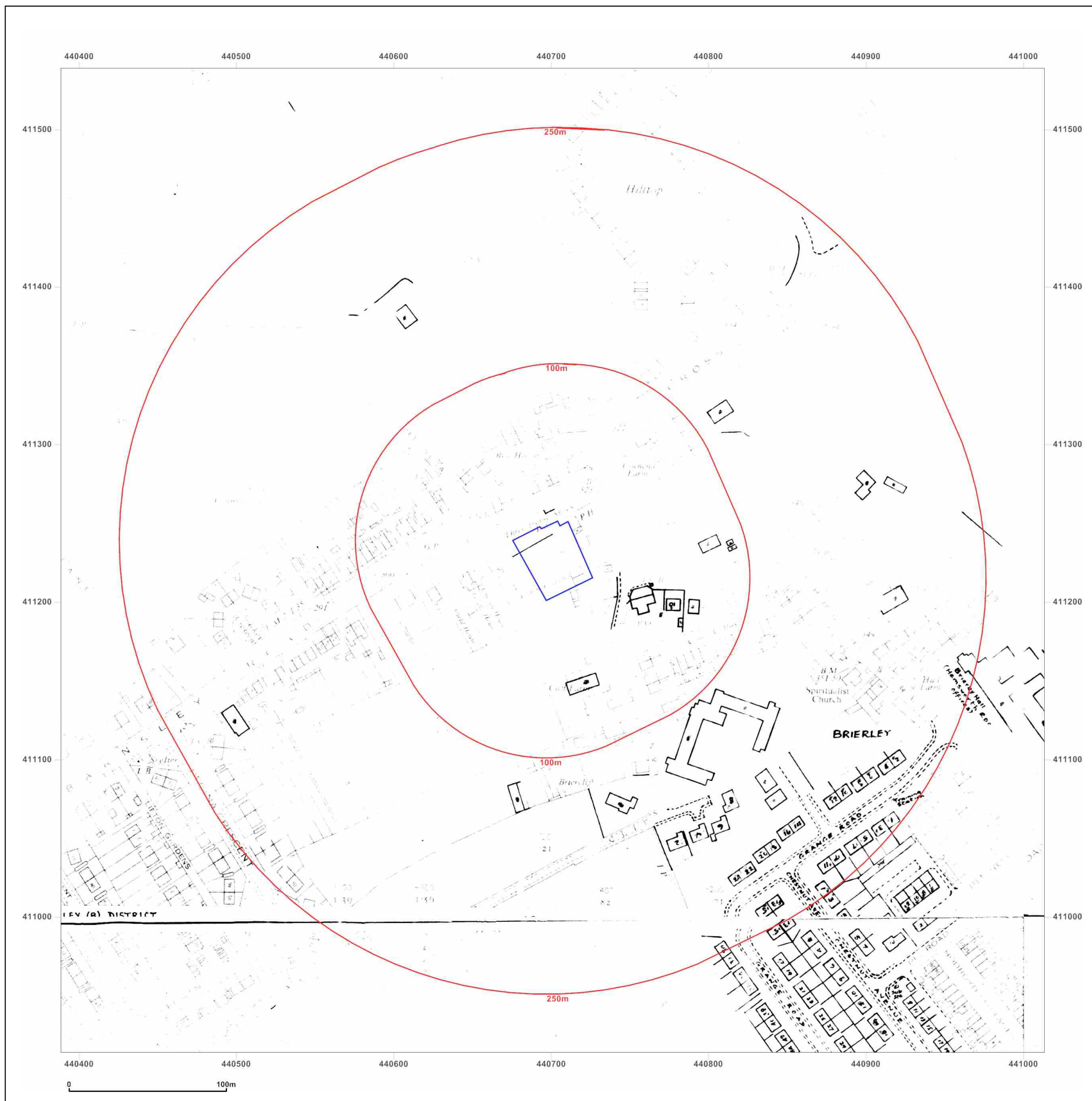


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**Site Details:**

Three Horse Shoes, Brierley, S72  
9JY

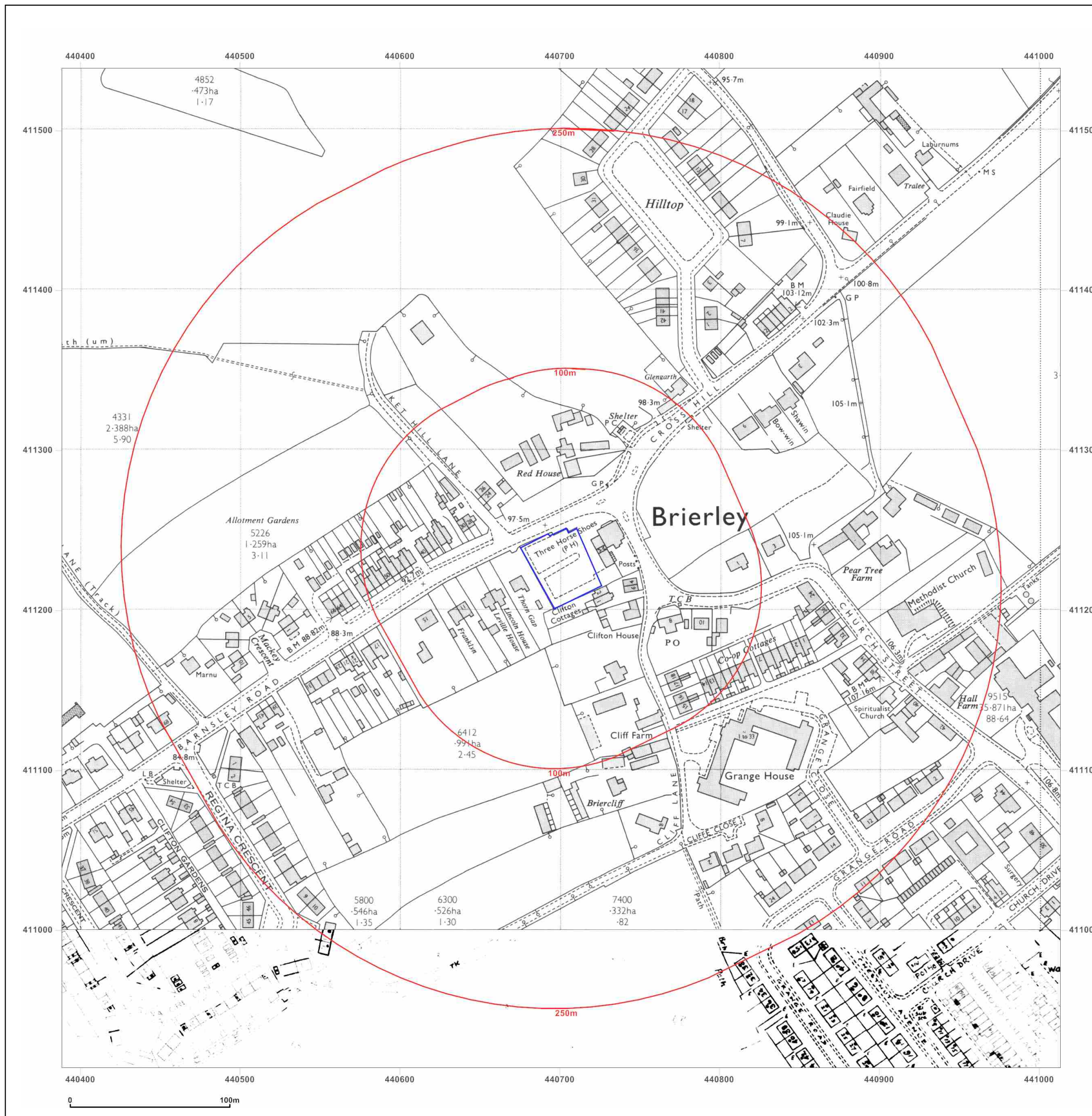
**Client Ref:** EMS\_421655\_563465  
**Report Ref:** EMS-421655\_563465  
**Grid Ref:** 440701, 411226

**Map Name:** National Grid

**Map date:** 1977-1978

**Scale:** 1:2,500

**Printed at:** 1:2,500



Surveyed 1977  
Revised 1977  
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**Site Details:**

Three Horse Shoes, Brierley, S72  
9JY

**Client Ref:** EMS\_421655\_563465  
**Report Ref:** EMS-421655\_563465  
**Grid Ref:** 440701, 411226

**Map Name:** National Grid

**Map date:** 1983-1988

**Scale:** 1:2,500

**Printed at:** 1:2,500



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Surveyed 1964  
Revised 1987  
Edition N/A  
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Surveyed 1964  
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Edition N/A  
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**Site Details:**

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9JY

**Client Ref:** EMS\_421655\_563465  
**Report Ref:** EMS-421655\_563465  
**Grid Ref:** 440701, 411226

**Map Name:** National Grid

**Map date:** 1988-1993

**Scale:** 1:2,500

**Printed at:** 1:2,500



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Revised 1993  
Edition N/A  
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Revised 1993  
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**Client Ref:** EMS\_421655\_563465  
**Report Ref:** EMS-421655\_563465  
**Grid Ref:** 440701, 411226

**Map Name:** National Grid

**Map date:** 1993

**Scale:** 1:2,500

**Printed at:** 1:2,500



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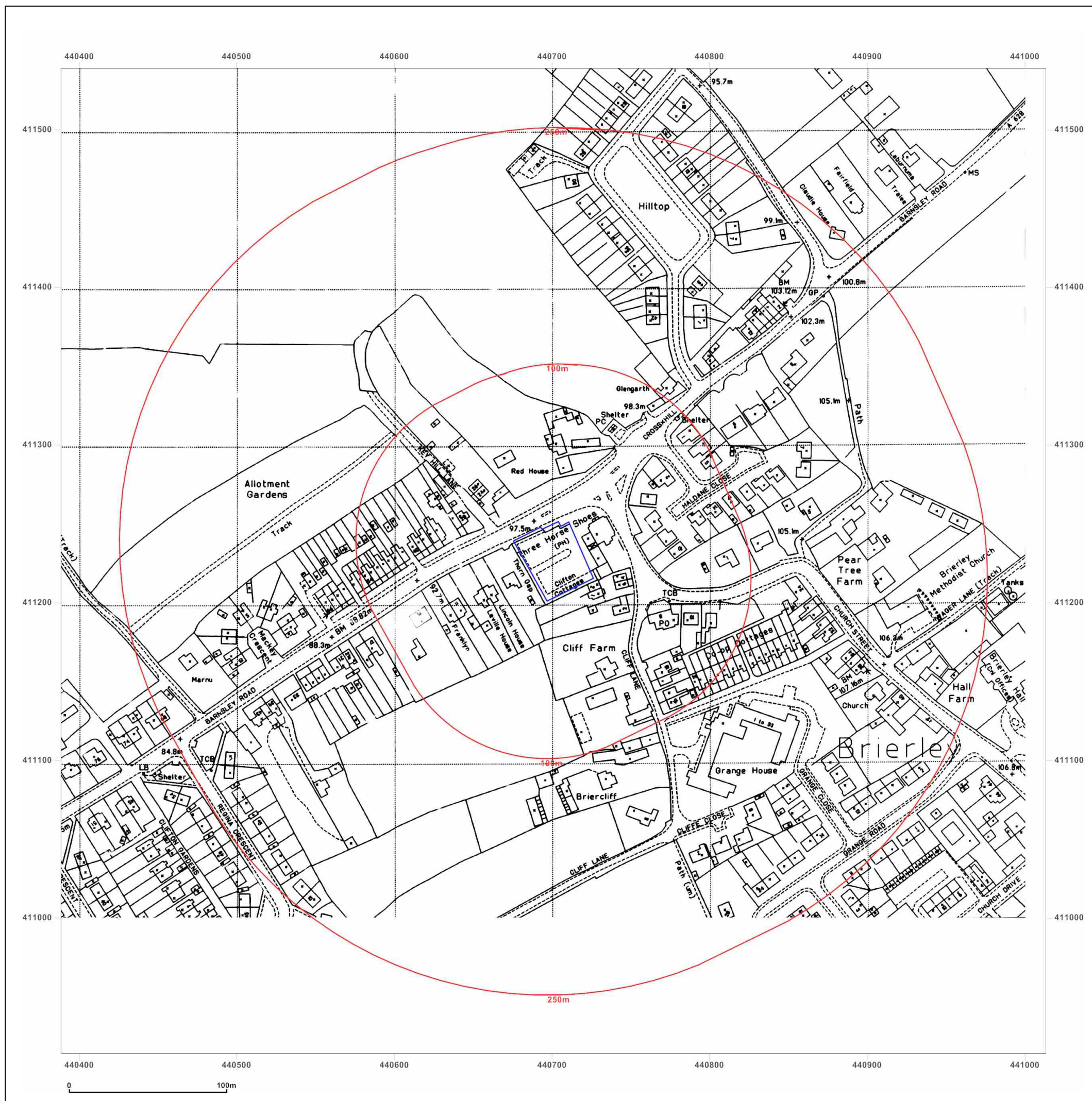


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9JY

**Client Ref:** EMS\_421655\_563465  
**Report Ref:** EMS-421655\_563465  
**Grid Ref:** 440701, 411226

**Map Name:** County Series

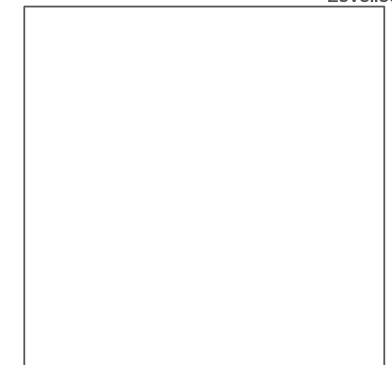
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**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1854  
Revised N/A  
Edition 1854  
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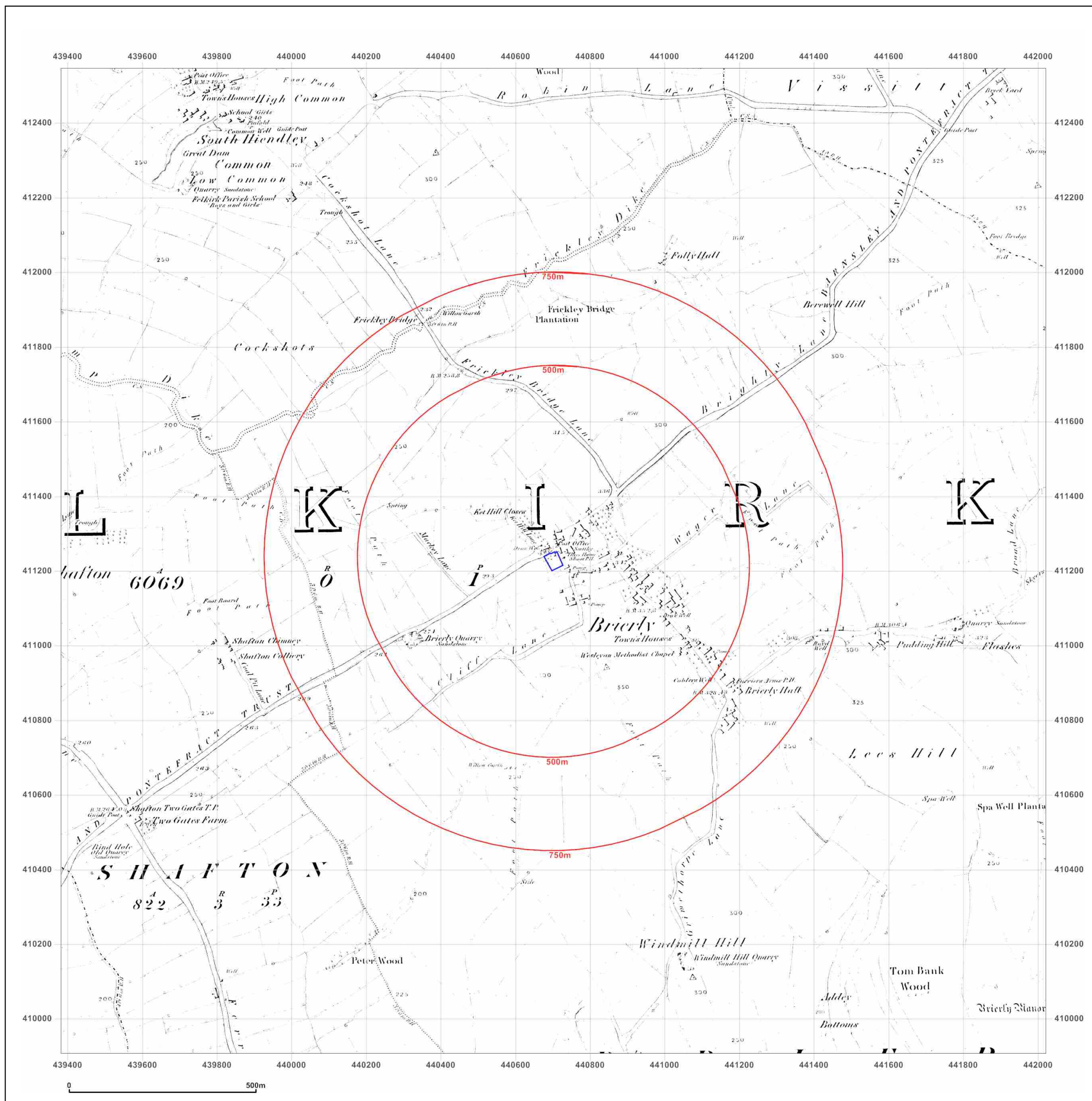


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9JY

Client Ref: EMS\_421655\_563465  
Report Ref: EMS-421655\_563465  
Grid Ref: 440701, 411226

Map Name: County Series

Map date: 1891

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1891  
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Edition 1891  
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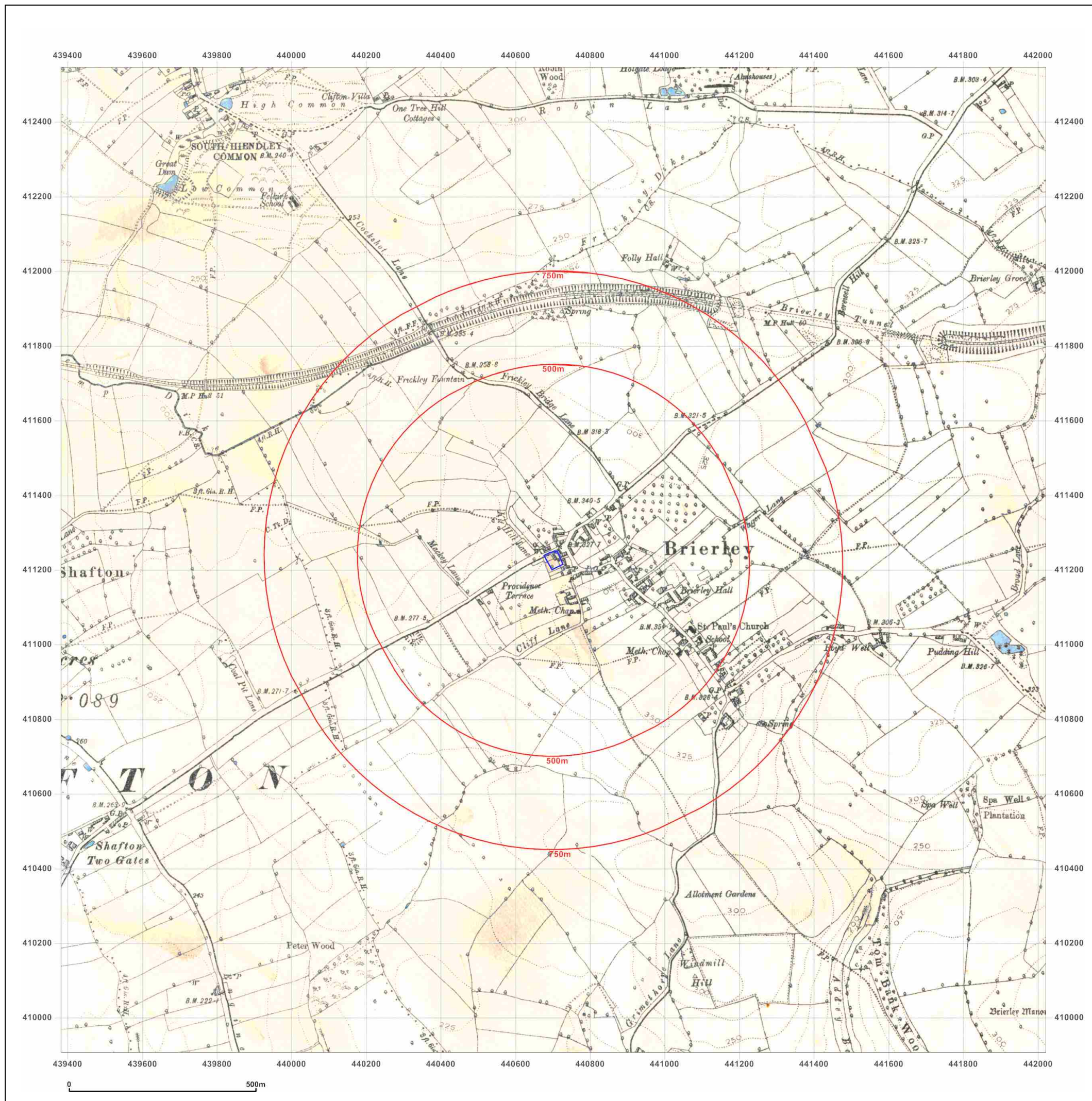


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### Site Details:

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Client Ref: EMS\_421655\_563465  
 Report Ref: EMS-421655\_563465  
 Grid Ref: 440701, 411226

Map Name: County Series

Map date: 1904

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1891  
 Revised 1904  
 Edition 1904  
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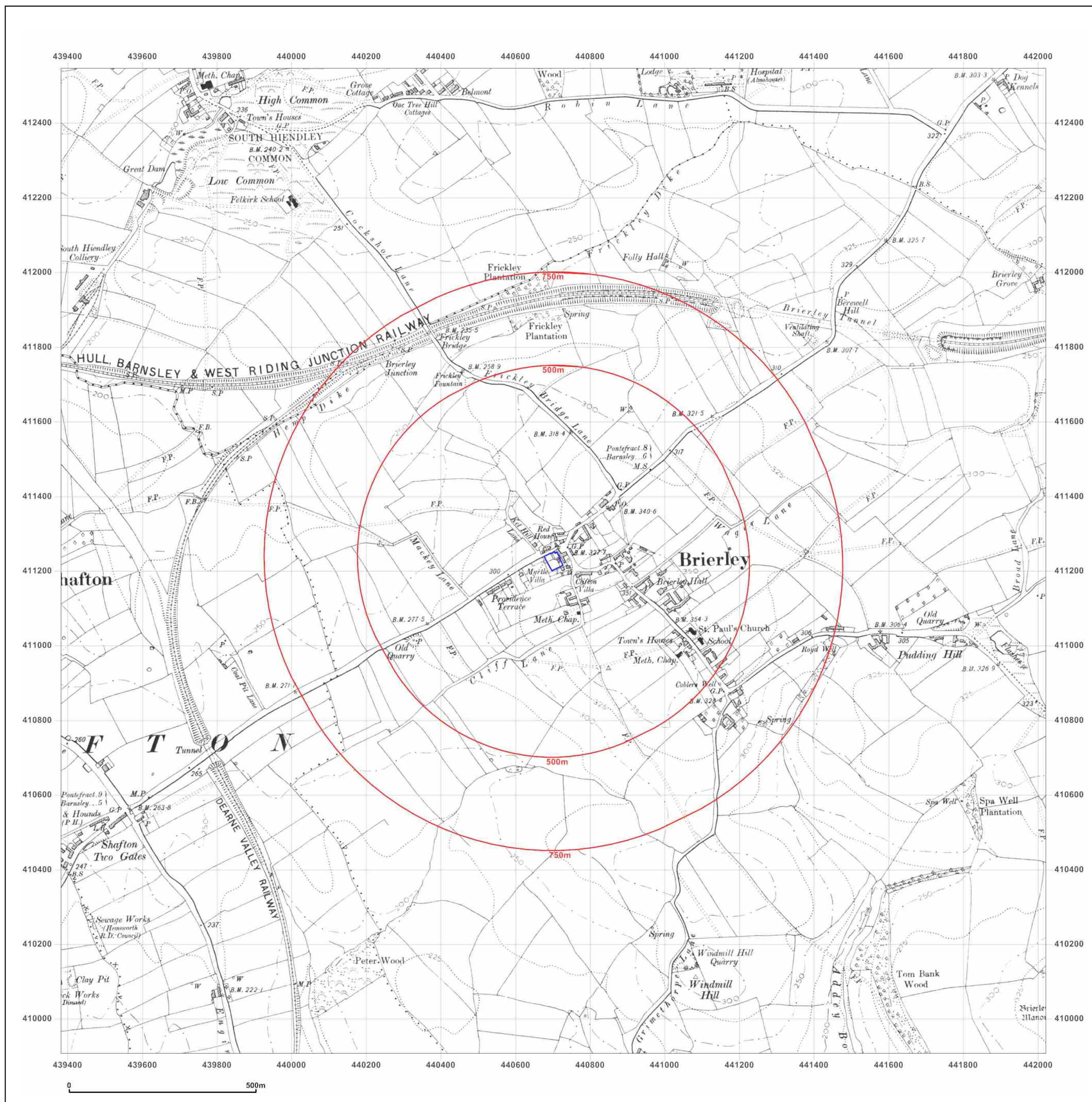


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### Site Details:

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Client Ref: EMS\_421655\_563465  
 Report Ref: EMS-421655\_563465  
 Grid Ref: 440701, 411226

Map Name: County Series

Map date: 1930

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1850  
 Revised 1930  
 Edition 1930  
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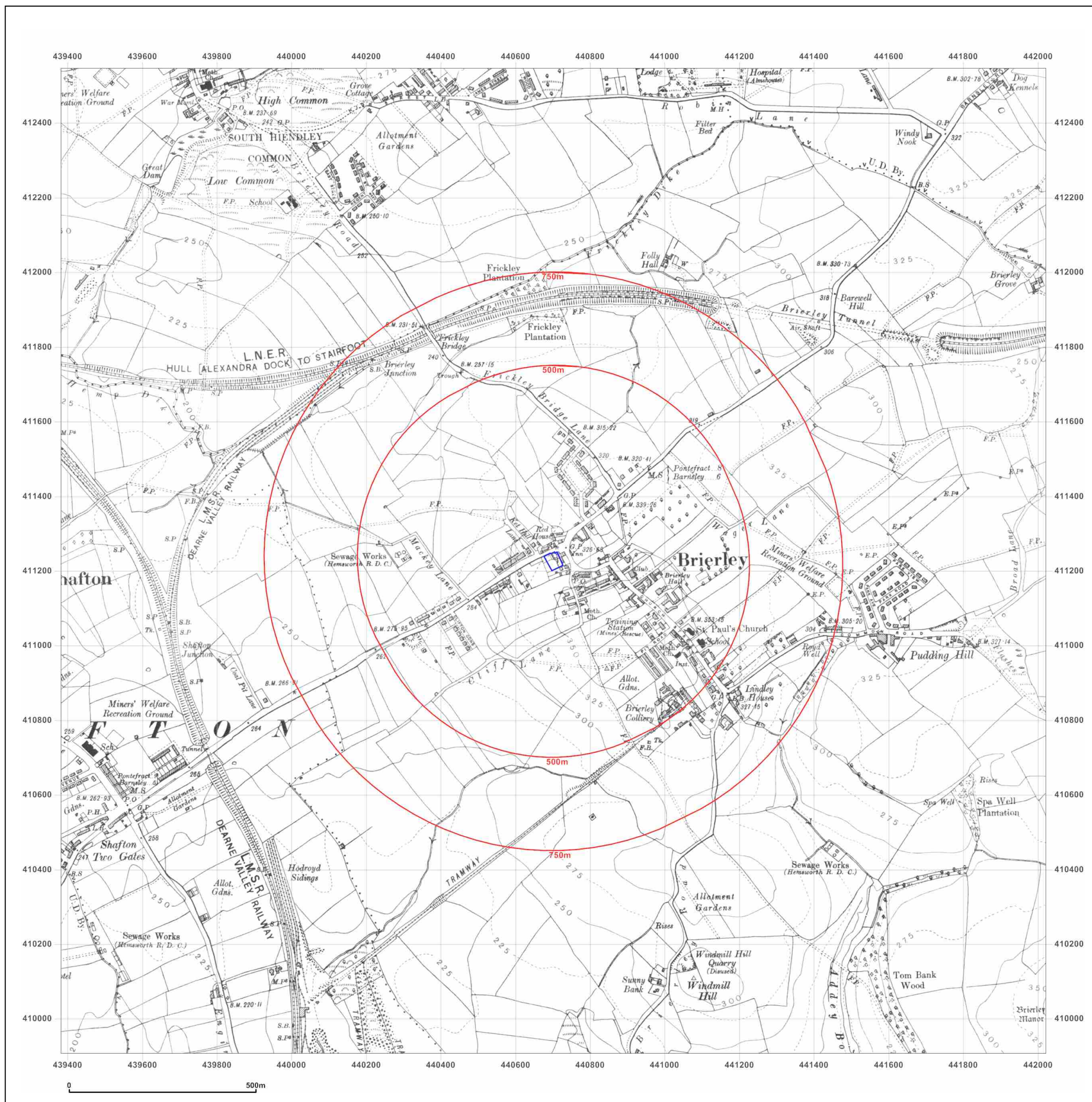


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**Site Details:**

Three Horse Shoes, Brierley, S72 9JY

**Client Ref:** EMS\_421655\_563465  
**Report Ref:** EMS-421655\_563465  
**Grid Ref:** 440701, 411226

**Map Name:** County Series

**Map date:** 1930

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1850  
 Revised 1930  
 Edition 1930  
 Copyright N/A  
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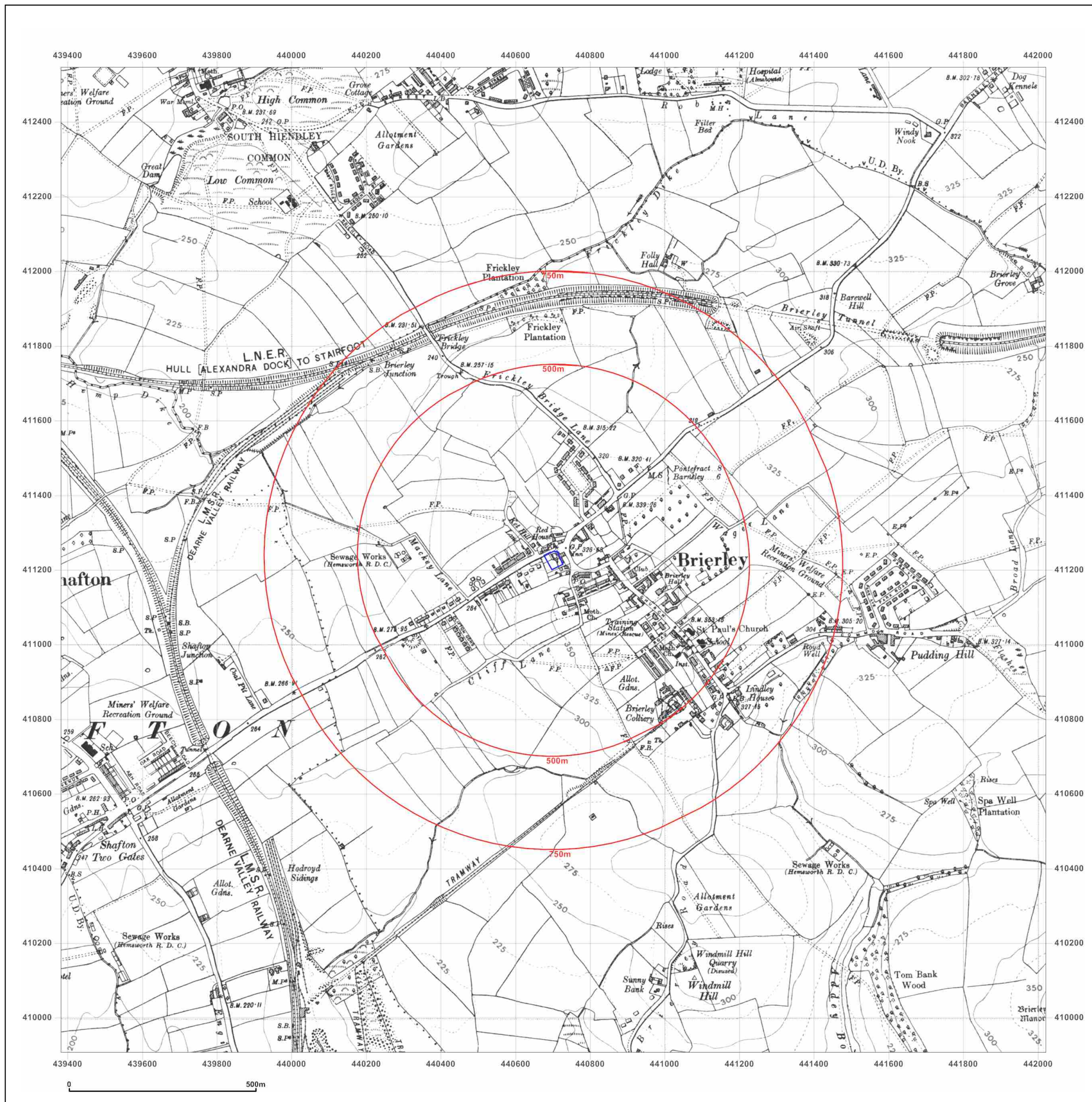


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**Site Details:**

Three Horse Shoes, Brierley, S72 9JY

Client Ref: EMS\_421655\_563465  
 Report Ref: EMS-421655\_563465  
 Grid Ref: 440701, 411226

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1850  
 Revised 1938  
 Edition 1938  
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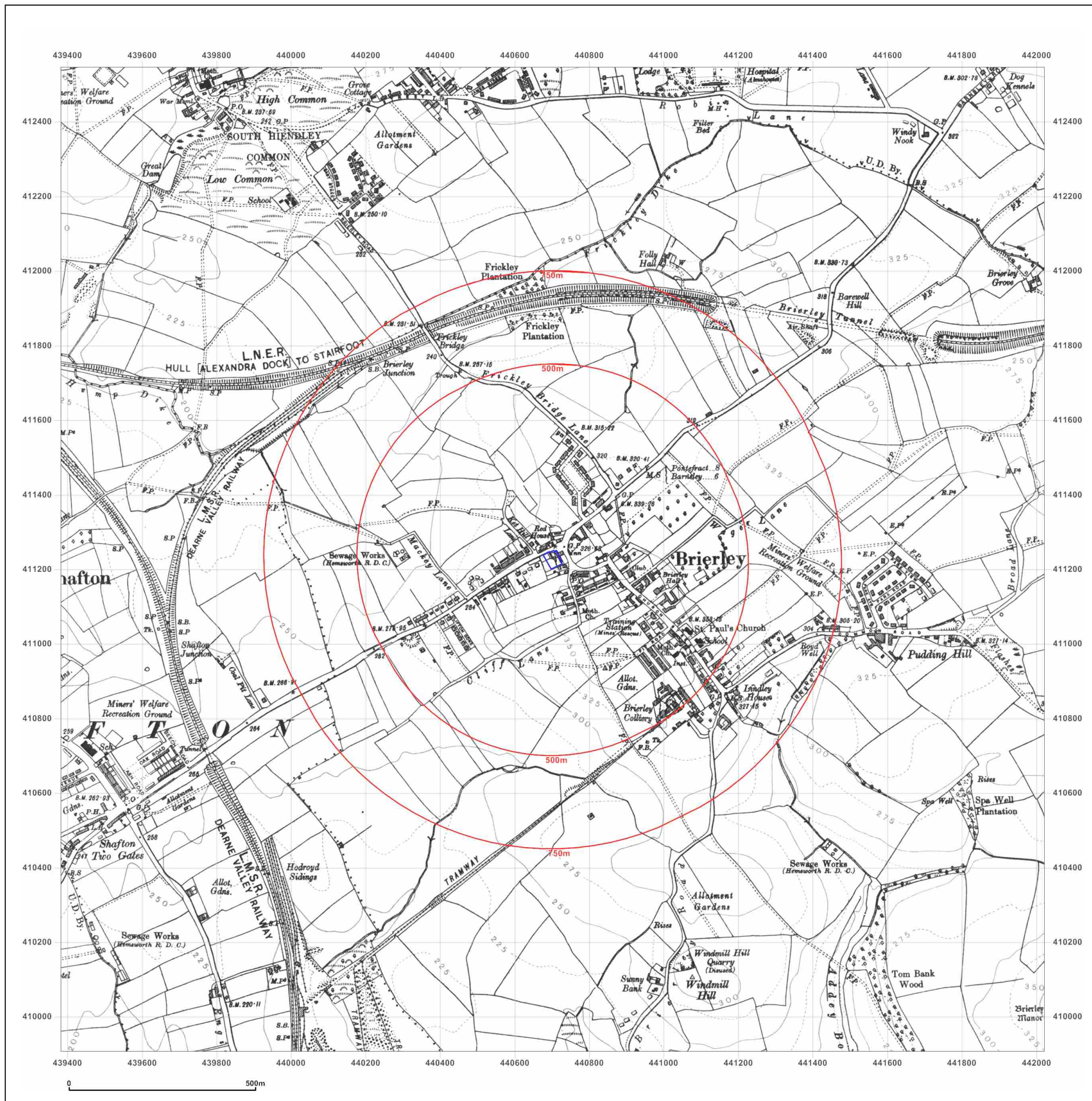


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**Site Details:**

Three Horse Shoes, Brierley, S72 9JY

**Client Ref:** EMS\_421655\_563465  
**Report Ref:** EMS-421655\_563465  
**Grid Ref:** 440701, 411226

**Map Name:** County Series

**Map date:** 1948

**Scale:** 1:10,560

**Printed at:** 1:10,560



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 Revised 1948  
 Edition 1948  
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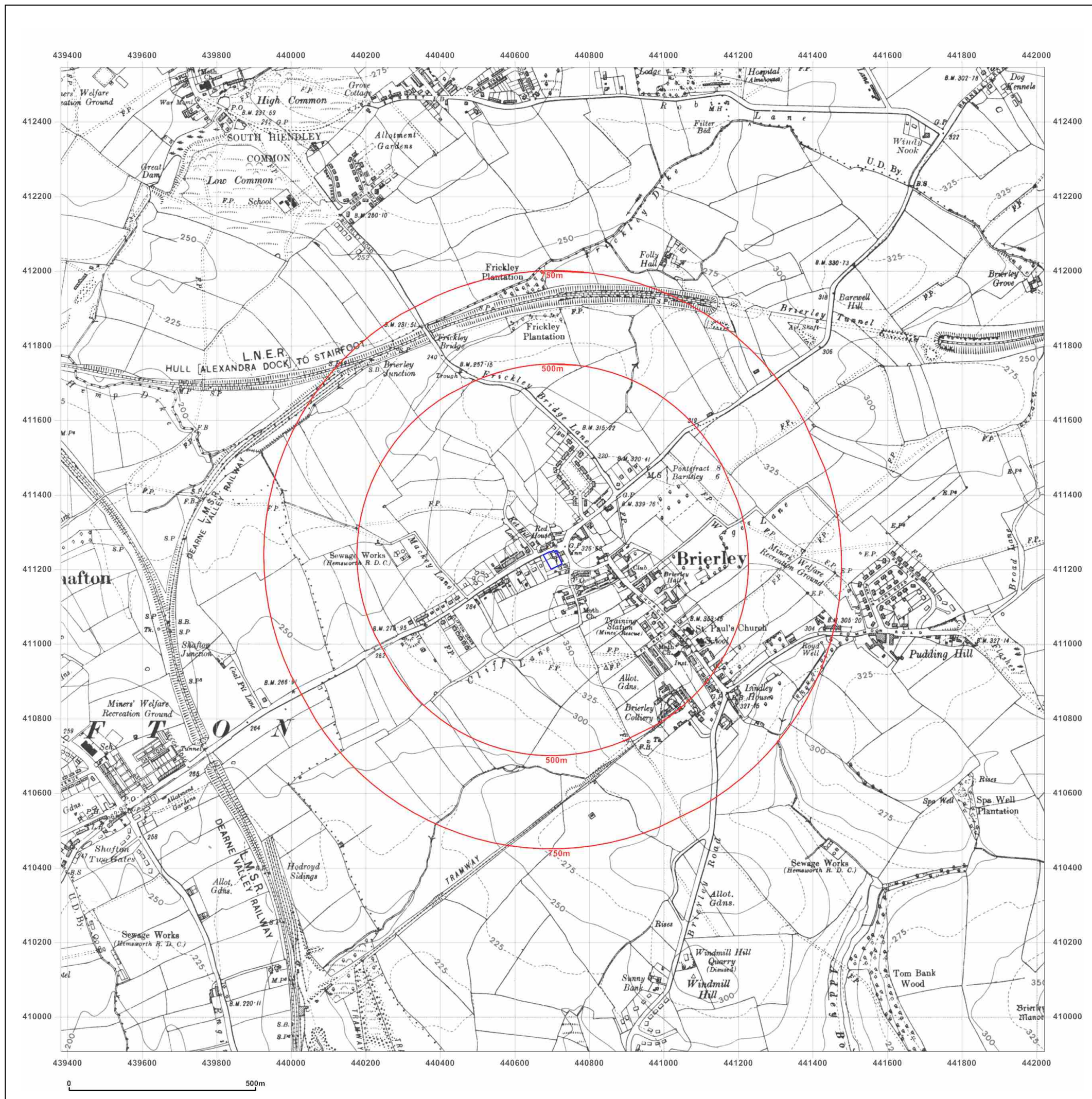


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Three Horse Shoes, Brierley, S72 9JY

**Client Ref:** EMS\_421655\_563465  
**Report Ref:** EMS-421655\_563465  
**Grid Ref:** 440701, 411226

**Map Name:** Provisional

**Map date:** 1951-1955

**Scale:** 1:10,560

**Printed at:** 1:10,560



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

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

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

Surveyed 1951  
 Revised 1955  
 Edition N/A  
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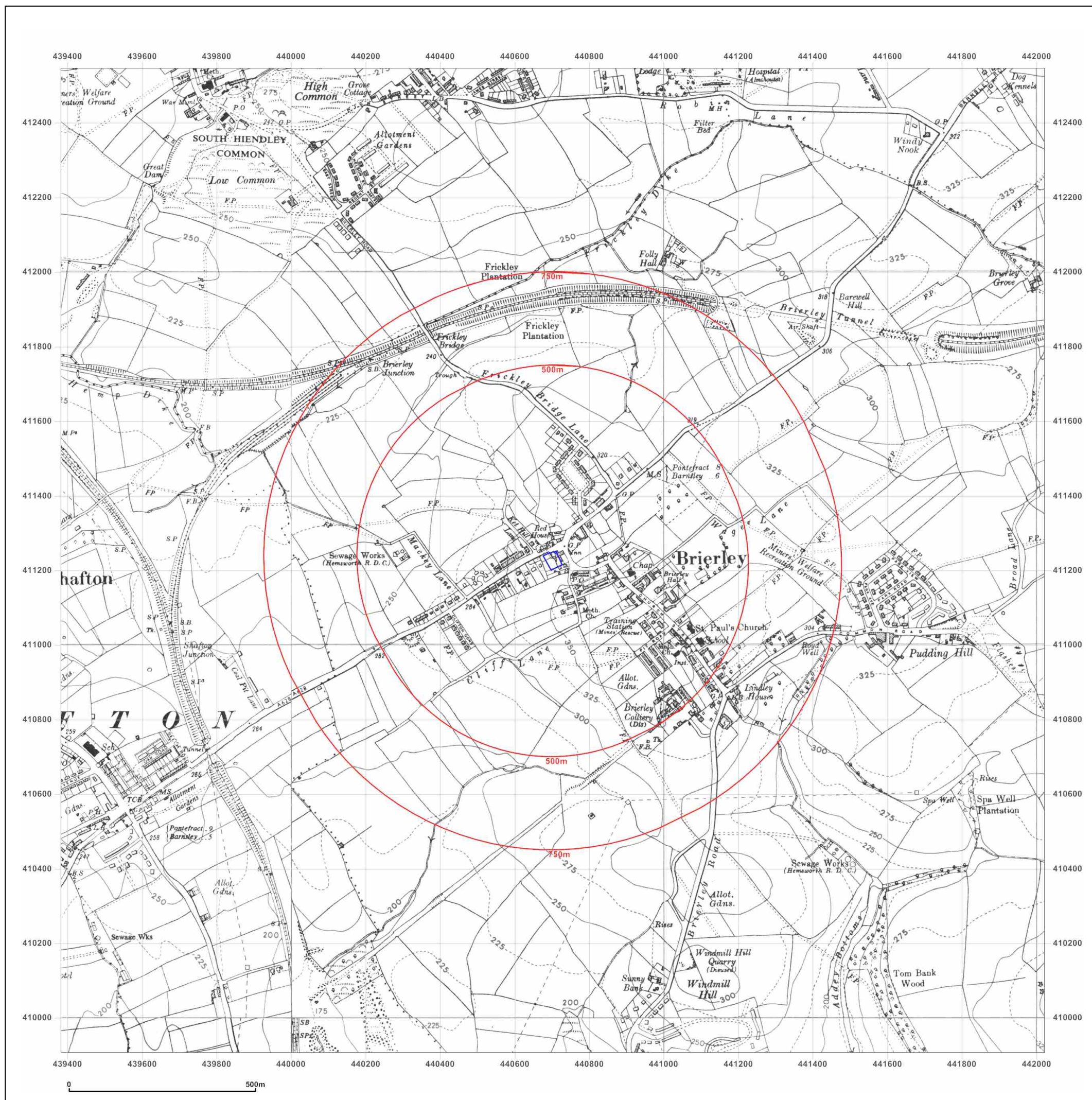


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**Site Details:**

Three Horse Shoes, Brierley, S72  
9JY

**Client Ref:** EMS\_421655\_563465  
**Report Ref:** EMS-421655\_563465  
**Grid Ref:** 440701, 411226

**Map Name:** Provisional

**Map date:** 1966-1967

**Scale:** 1:10,560

**Printed at:** 1:10,560



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Revised 1966  
Edition N/A  
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Revised 1967  
Edition N/A  
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Edition N/A  
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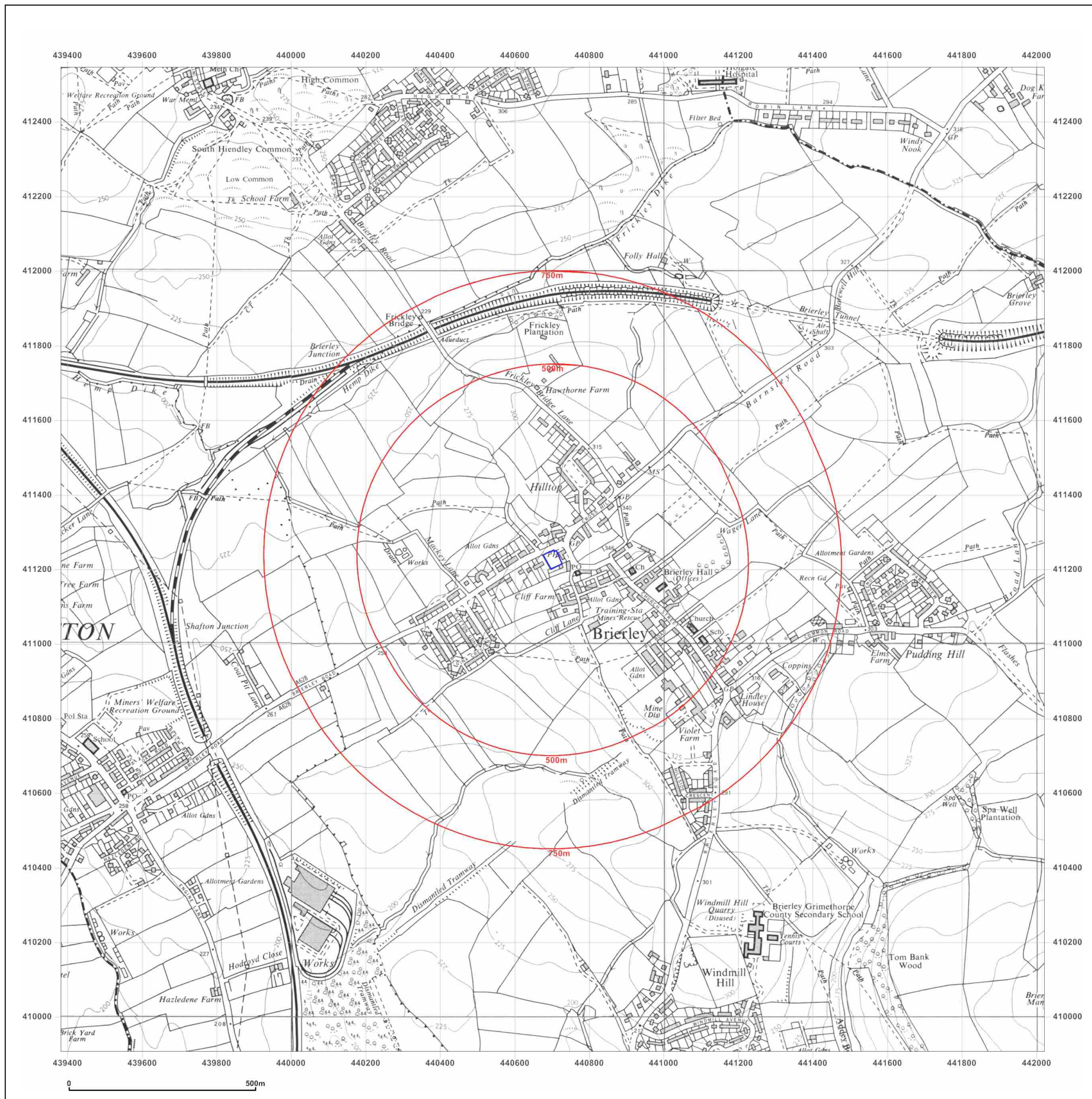


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**Site Details:**

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**Client Ref:** EMS\_421655\_563465  
**Report Ref:** EMS-421655\_563465  
**Grid Ref:** 440701, 411226

**Map Name:** National Grid

**Map date:** 1981-1982

**Scale:** 1:10,000

**Printed at:** 1:10,000



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 Revised 1982  
 Edition N/A  
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 Levelled 1978

Surveyed 1981  
 Revised 1982  
 Edition N/A  
 Copyright 1983  
 Levelled 1978

Surveyed 1980  
 Revised 1981  
 Edition N/A  
 Copyright 1982  
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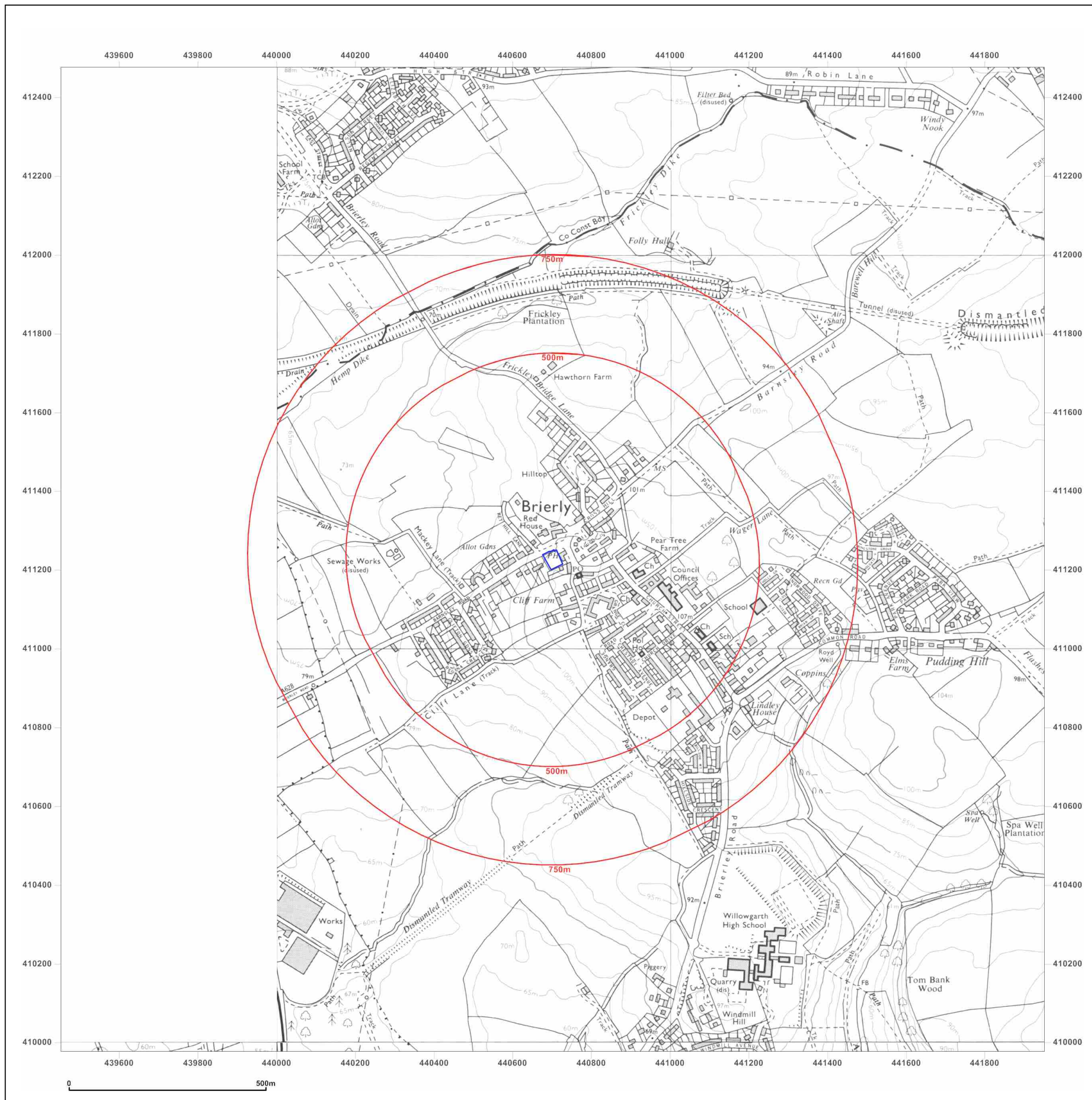


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**Site Details:**

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**Client Ref:** EMS\_421655\_563465  
**Report Ref:** EMS-421655\_563465  
**Grid Ref:** 440701, 411226

**Map Name:** National Grid

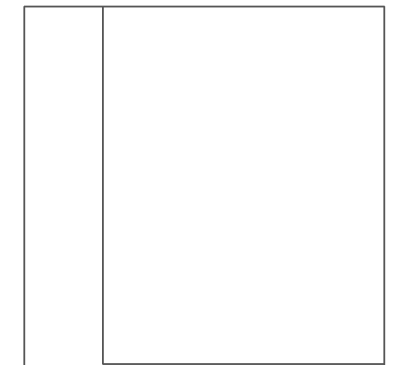
**Map date:** 1988

**Scale:** 1:10,000

**Printed at:** 1:10,000



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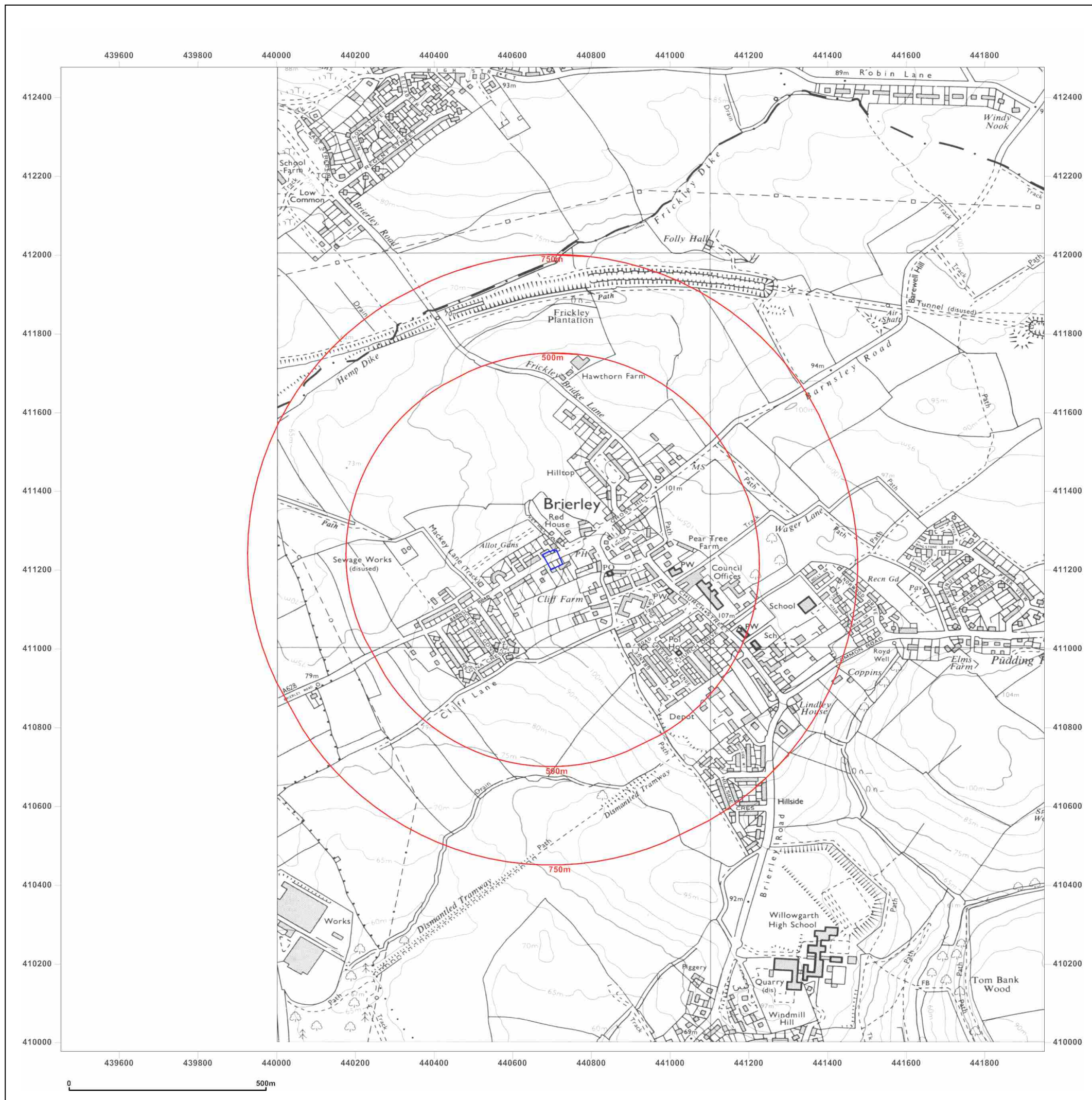


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**Client Ref:** EMS\_421655\_563465  
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**Map Name:** National Grid

**Map date:** 1988-1992

**Scale:** 1:10,000

**Printed at:** 1:10,000

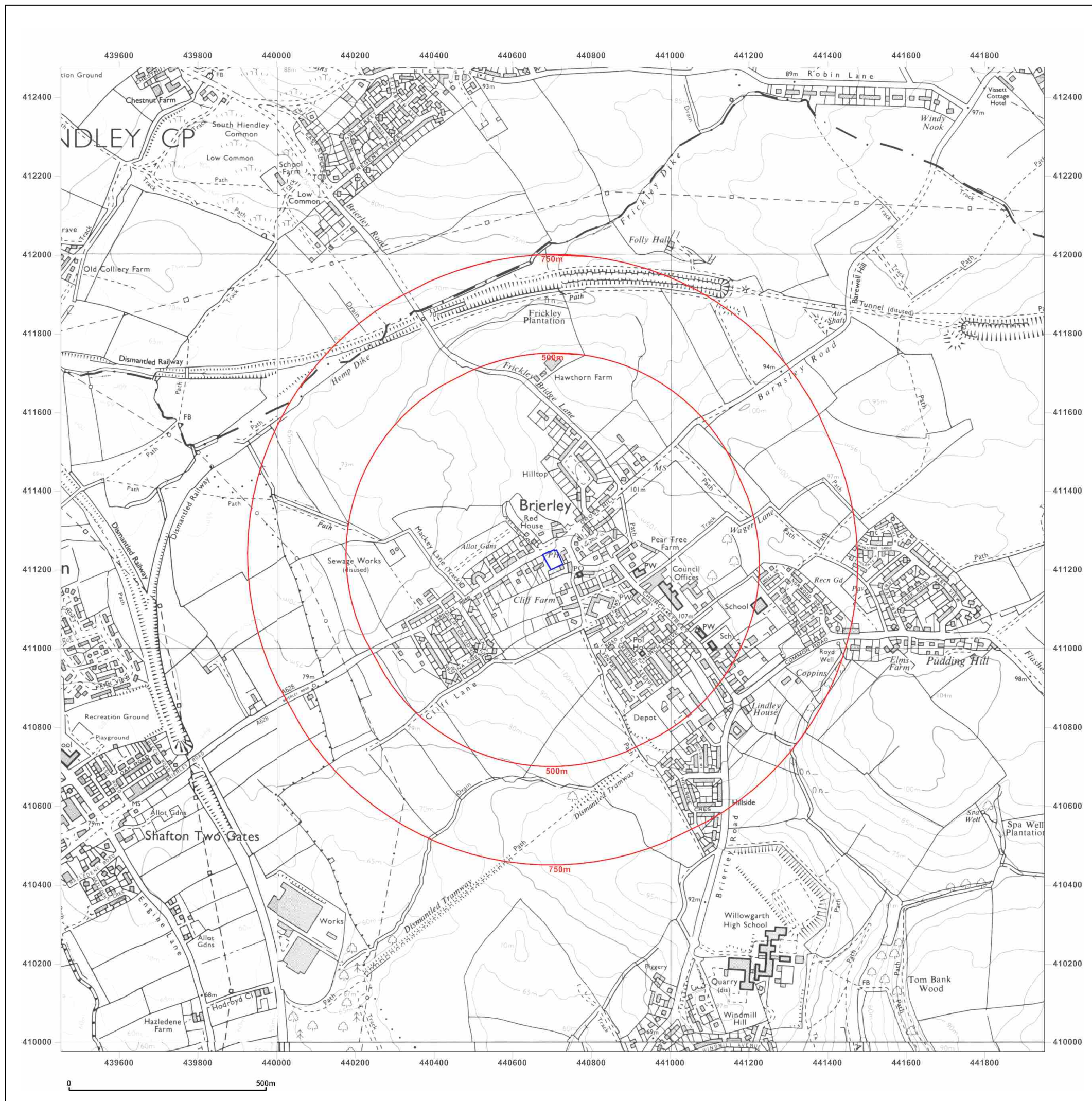


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 Revised 1989  
 Edition N/A  
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 Levelled 1978

Surveyed 1985  
 Revised 1988  
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 Copyright 1989  
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Surveyed 1981  
 Revised 1992  
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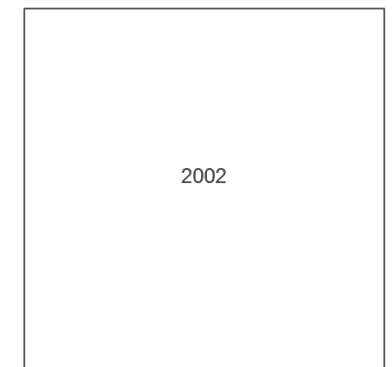
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 Grid Ref: 440701, 411226

Map Name: 1:10,000 Raster

Map date: 2002

Scale: 1:10,000

Printed at: 1:10,000



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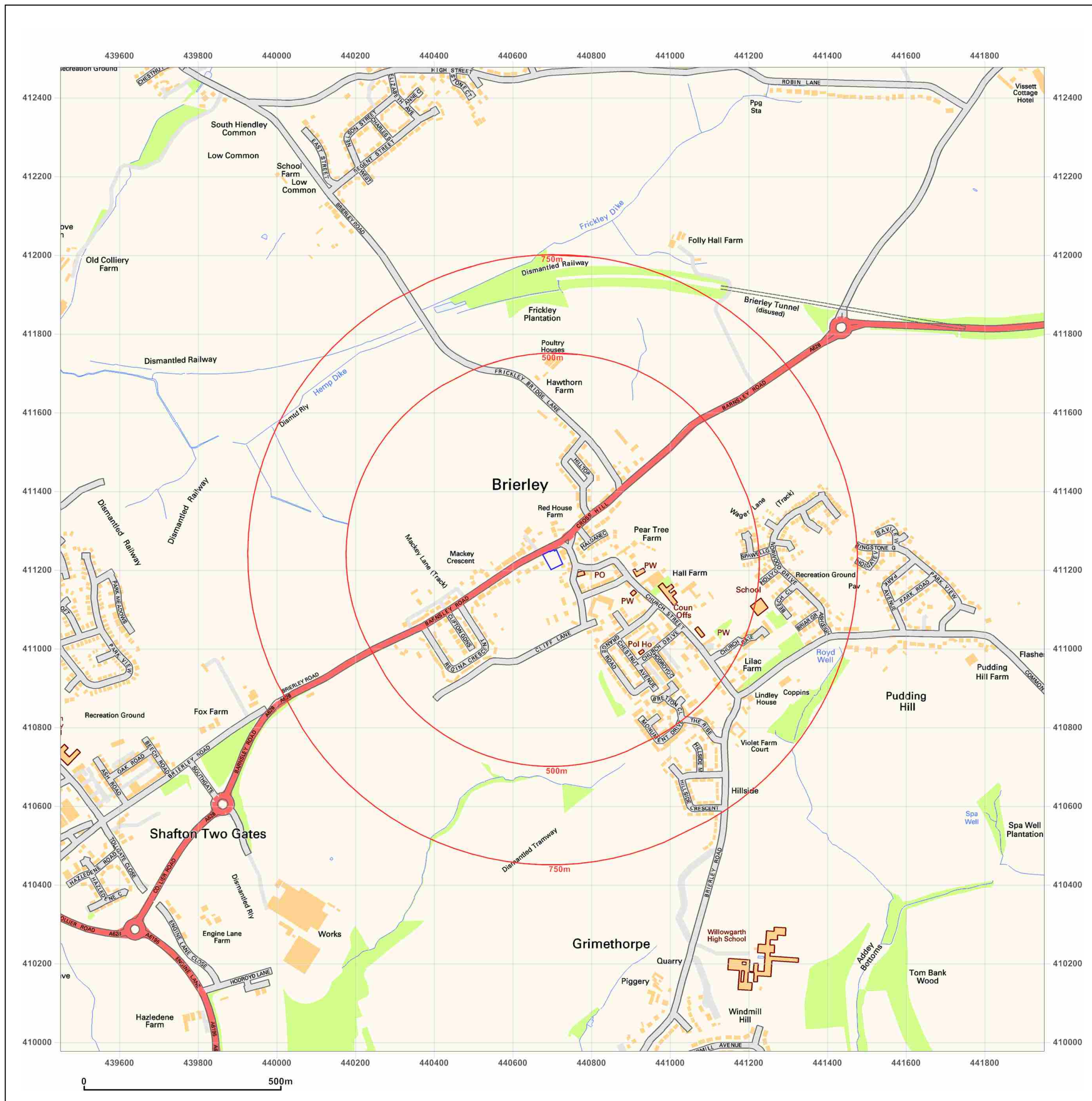
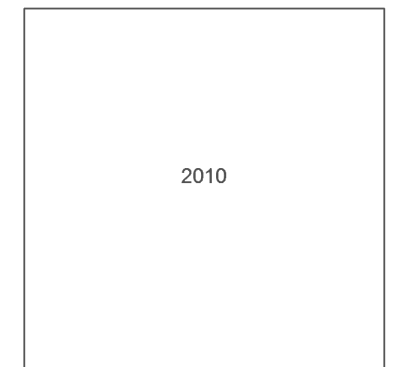
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 Report Ref: EMS-421655\_563465  
 Grid Ref: 440701, 411226

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



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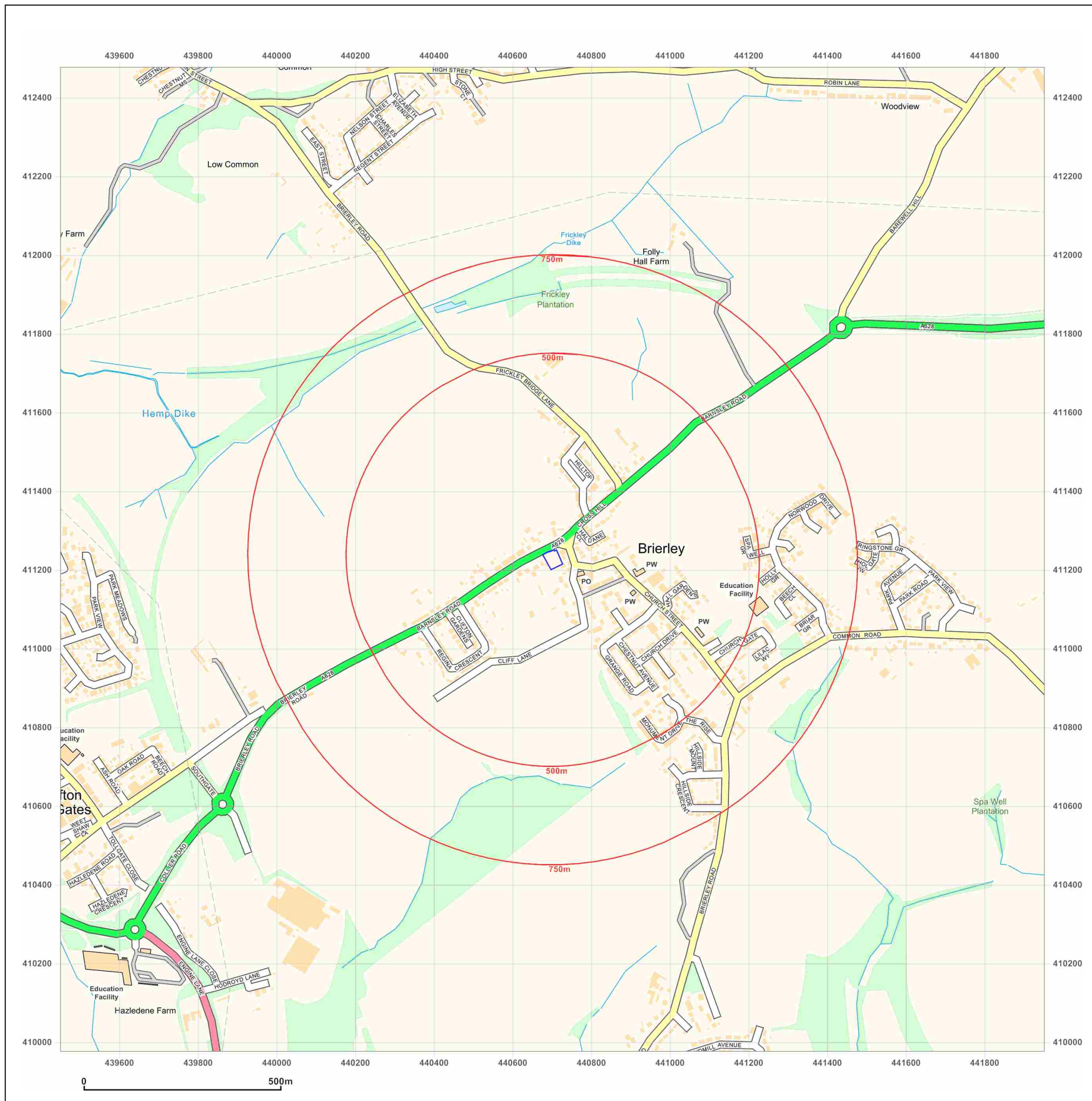
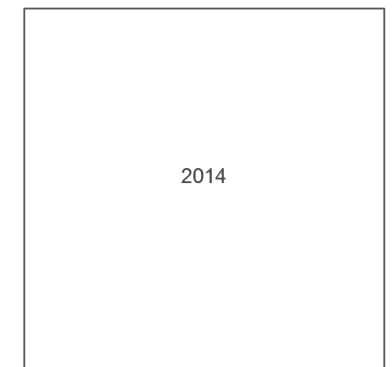
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**Report Ref:** EMS-421655\_563465  
**Grid Ref:** 440701, 411226

**Map Name:** National Grid

**Map date:** 2014

**Scale:** 1:10,000

**Printed at:** 1:10,000



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# County Series 1:10,560 scale

## VEGETATION

	Fir Wood		Deciduous Wood
	Mixed Wood		Brushwood
	Orchard		Reeds
	Rough Pasture		Furze
	Marsh		Osiers

## ROADS

	Railway over Road		Road over Railway
	Road over River or Canal		Level Crossing
	Railway over River		Road over Stream
	Road over Stream		Sunken Road
	Raised Road		

## RAILWAYS

	Double Lines of Railway		Single Lines of Railway and Tramway
--	-------------------------	--	-------------------------------------

## GENERAL FEATURES

	Gravel Pit		Sand Pit
	Quarry		Shingle
	Other Pits		Antiquities, Site of
			Arrow, showing direction of flow of water
			Trigonometrical Station

## BOUNDARIES

	County Boundary		Parliamentary Division Boundary
	Parish Boundary		Union Boundary
	Contours		Rural District Boundary

# National Grid 1:10,000 scale

## HEIGHTS (METRES)

Values are given in metres above mean sea level at Newlyn.

Surface heights determined by ground survey  $\pm$  163m  
air survey  $\pm$  100m

Bench marks and their values are shown on large scale maps, and bench mark lists containing fuller and possibly later levelling information are obtainable from the Director General, Ordnance Survey.

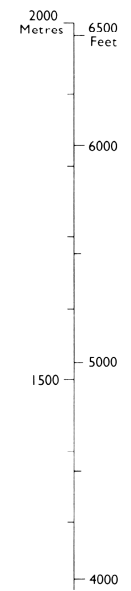
Contours are at 5 metres vertical interval.

## ROCK FEATURES

	Loose rock		Vertical face
	Boulders		
	Outcrop		
	Scree		

## CONVERSION SCALE

Metres - Feet



## ABBREVIATIONS

BP,BS	Boundary Post or Stone	PO	Post Office
Ch	Church	PC	Public Convenience
CH	Club House	PH	Public House
F Sta	Fire Station	S	Stone
FB	Foot Bridge	Spr	Spring
Fn	Fountain	TCB	Telephone Call Box
GP	Guide Post	TCP	Telephone Call Post
MP,MS	Mile Post or Stone	TH	Town Hall
P	Pole or Post	W	Well
Pol Sta	Police Station	Y	Youth hostel

## ROADS

	Road		Track		Path
--	------	--	-------	--	------

Where unfenced shown by pecked lines.

## RAILWAYS

	Cutting		Embankment	} Standard gauge
	Multiple track		Single track	
	Road under		Road over	} Siding, tramway or mineral line
	Level crossing		Foot Bridge	
	Narrow gauge			

## GENERAL FEATURES

	Antiquity, (site of)		Lake, loch or pond
	Boulders		Sloping masonry
	Building		Chalk pit, clay pit or quarry
	Pylon		Gravel pit
	Pole		Sand pit
	Glasshouse		Refuse or slag heap
	Triangulation station		

## VEGETATION

	Bracken, rough grassland		Marsh		Coppice
	Scrub		Saltings		Orchard
	Heath		Reeds		Coniferous trees
					Non-coniferous trees

In some areas bracken ( ) and rough grassland ( ) are shown separately.



# Historical Map Pack Legend

# County Series & National Grid 1:10,560 scale

Information present on these legends is sourced from the same Ordnance Survey mapping as the maps used in this product.

If you have a query regarding any of the maps provided please contact GroundSure's technical helpline. We will endeavour to answer any queries you may have.

Technical Helpline

Tel 08444159000

[groundsureinsight@groundsure.com](mailto:groundsureinsight@groundsure.com)  
[www.groundsure.com](http://www.groundsure.com)

# County Series 1:2,500 scale

# National Grid 1:2,500 / 1:1,250 scale



# Historical Map Pack Legend

### GENERAL FEATURES

Wood	Marsh	Reeds
Fir	Mixed Wood	Brush Wood
Osiers	Orchard	Bush
Rough Pasture	Furze	Ferry
Ford	Stepping Stones	Sloping Masonry
Lock	Waterfall	Quarry
Shingle	Gravel Pit	Sand Pit
Refuse Heap	Clay Pit	Flat Rock

Trigonometrical Station	Sluice
Altitude at Trigonometrical Station	Trough
Bench Mark	Spring
Surface Level	Well
Permanent Traverse Station	Mooring Ring
Antiquities (site of)	Mooring Post
Arrow denotes flow of water	Boundary Stone
	Boundary Post

### GENERAL FEATURES

Non-coniferous Trees	Slopes	Antiquity (site of)
Coniferous Trees	Cliff	Culvert
Surveyed Trees	Cave Entrance	Direction of water flow
Orchard Trees	Rock	Electricity Pylon
Coppice, Osier	Boulders	Electricity Transmission Line
Scrub	Sloping Masonry	Triangulation Station
Bracken	Roofed Building	Traverse Station (permanent)
Heath	Glasshouse	Bench Mark
Rough Grassland	Archway	Surface Level
Marsh, Saltings	Change of boundary marking	Revision Point (instrumentally fixed)
Reeds	see AREAS notes	Revision Point & Bench Mark coincident

Top	Slopes	Quarry	Refuse Heap	Sloping Masonry
Flat Rock	Sand	Sand Pit	Culvert	Archway
Shingle	Boulders	Gravel Pit	Cliff Face	Glazed Roof Building

### ROADS

Road over single stream	Road crossing railway
Road over River or Canal	

### RAILWAYS

Railway crossing River or Canal	Railway crossing Road
Level Crossing	Embankment
Cutting	

### BOUNDARIES

**England & Wales**

- County Boundary (geographical)
- County & Civil Parish Boundary coterminous
- Admin County or County Borough Boundary
- London Borough Boundary
- County District Boundaries based on civil parish

**England, Wales & Scotland**

- Civil Parish Boundary
- Parly & Ward Boundaries based on civil parish
- Parly & Ward Boundaries not based on civil parish

**Scotland**

- County Boundary (geographical)
- County Council Boundary
- County of the City Boundary
- " " " " " "
- Burgh Boundary
- " " " " " "
- District Council Boundary
- " " " " " "

\* Not with parish    † Coincident with parish

### ABBREVIATIONS

Trigonometrical Station	Sluice
Altitude at Trigonometrical Station	Trough
Bench Mark	Spring
Surface Level	Well
Permanent Traverse Station	Mooring Ring
Antiquities (site of)	Mooring Post
Arrow denotes flow of water	Boundary Stone
	Boundary Post

### ABBREVIATIONS

Beer House	Fire Station	Mail Pick-up
Bench Mark	Guido Post	Mile Stone
Boundary Post	G.V.C. Gaa Valve Compound	National Trust
Boundary Stone	Hydrant or Hydraulic	Normal Tidal Limit
Crane	Hectares	National Trust for Scotland
Club House	Letter Box	Pillar, Pole or Post
Chimney	Lifeboat Station	Public Convenience
Capstan	Level Crossing	Police Call Box
Drinking Fountain	Loading Gauge	Public House
Dock	Lighthouse	Post Office
Electricity Pillar or Post	Lighting Tower	Traverse Station
Electricity Transmission Line	Metres	Well
Fire Alarm	Mean High Water	Pump
Fire Alarm Pillar	Mean High Water Springs	Police Telephone Pillar
Filter Bed, Foot Bridge	Mean Low Water	Reservoir
Fundamental Bench Mark	Mean Low Water Springs	Road House
Flagstaff	Mile or Mooring Post	Revision Point
		Stone
		Signal Box
		Signal Light
		Sluice
		Signal Post
		Spring
		Signal Station
		Telephone Call Box
		Telephone Call Post
		Tank or Track
		Trough
		Traverse Station
		Well
		Weighbridge
		Wind Pump
		Works
		Water Point
		Water Tap

# County Series 1:1,250 scale ~ County Series & National Grid 1:2,500 scale

Information present on these legends is sourced from the same Ordnance Survey mapping as the maps used in this product.

If you have a query regarding any of the maps provided within this map pack, please contact GroundSure's technical helpline. We will endeavour to answer any queries you may have.

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emapsite

Masdar House, 1 Reading Road,  
Eversley, RG27 0RP

Report Reference: EMS-421655\_563466

Your Reference: EMS\_421655\_563466

Report Date 22 May 2017

Report Delivery Method: Email - pdf

## Groundsure Geo Insight

Address: Three Horse Shoes, Brierley, S72 9JY,

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geo Insight** as requested.

If you would like further assistance regarding this report then please contact the emapsite customer services team on 0118 9736883 quoting the above report reference number.

Yours faithfully,

emapsite customer services team

Enc.  
Groundsure Geo Insight

# Groundsure Geo Insight

**Address:** Three Horse Shoes, Brierley, S72 9JY,  
**Date:** 22 May 2017  
**Reference:** EMS-421655\_563466  
**Client:** emapsite

NW N NE



SW S SE

Aerial Photograph Capture date: 26-Mar-2012  
Grid Reference: 440701,411228  
Site Size: 0.15ha

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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 landslip within 500m of the study site boundary at 1:10,000 scale?	No
1.3 Bedrock, Solid Geology and Faults	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 faults within 500m of the study site boundary at 1:10,000 scale?	Yes

## 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?*	No
	2.2.2 Are there any records of permeability of superficial ground within 500m of the study site?	No
	2.2.3 Are there any records of landslip 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 Faults

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 faults within 500m of the study site boundary?

Yes

## 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 not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

3.2 Radon Protection

No radon protective measures are necessary.

## Section 4: Ground Workings

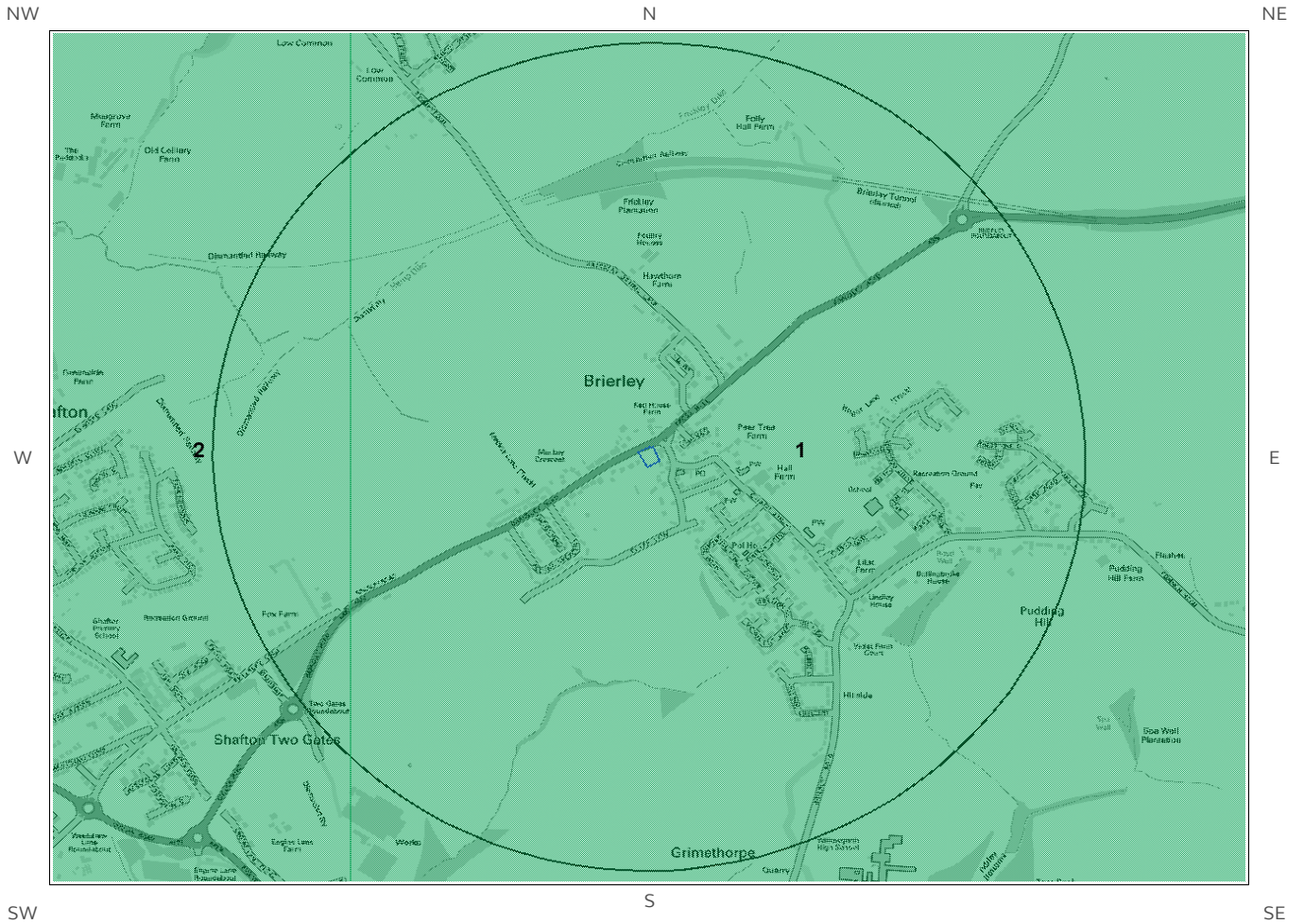
	On-site	0-50m	51-250	251-500	501-1000
4.1 Historical Surface Ground Working Features from Small Scale Mapping	0	0	0	Not Searched	Not Searched
4.2 Historical Underground Workings from Small Scale Mapping	0	0	0	2	13
4.3 Current Ground Workings	0	0	0	2	1

## Section 5: Mining, Extraction & Natural Cavities

	On-site	0-50m	51-250	251-500	501-1000
5.1 Historical Mining	0	0	0	2	6
5.2 Coal Mining	1	0	0	0	0
5.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
5.4 Non-Coal Mining*	1	0	0	0	4
5.5 Non-Coal Mining Cavities	0	0	0	0	0
5.5 Natural Cavities	0	0	0	0	0

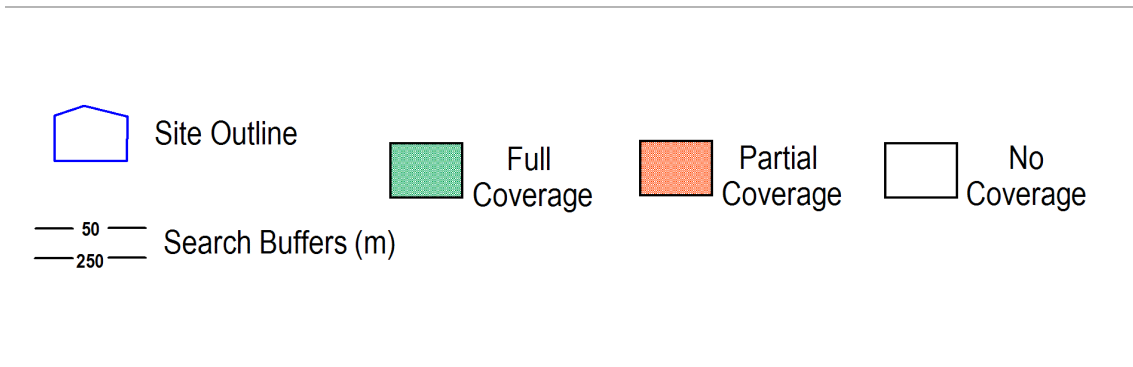
Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.6 Brine Extraction	0	0	0	0	0
5.7 Gypsum Extraction	0	0	0	0	0
5.8 Tin Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0
<b>Section 6: Natural Ground Subsidence</b>					
6.1 Shrink-Swell Clay	On-site				
6.2 Landslides	Very Low				
6.3 Ground Dissolution of Soluble Rocks	Negligible				
6.4 Compressible Deposits	Negligible				
6.5 Collapsible Deposits	Very Low				
6.5 Running Sand	Negligible				
<b>Section 7: Borehole Records</b>					
7 BGS Recorded Boreholes	On-site	0-50m	51-250		
	0	0	0		
<b>Section 8: Estimated Background Soil Chemistry</b>					
8 Records of Background Soil Chemistry	On-site	0-50m	51-250		
	1	1	0		
<b>Section 9: Railways and Tunnels</b>					
9.1 Tunnels	On-site	0-50m	51-250	250-500	
	0	0	0	Not Searched	
9.2 Historical Railway and Tunnel Features	0	0	0	Not Searched	
9.3 Historical Railways	0	0	0	Not Searched	
9.4 Active Railways	0	0	0	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	Some deposits are mapped	Full	Full	Some deposits are mapped
2	675.0	Some deposits are mapped	Full	Full	No coverage
N3	1201.0	Some deposits are mapped	Full	Full	No coverage
N4	1388.0	Some deposits are mapped	Full	Full	No coverage

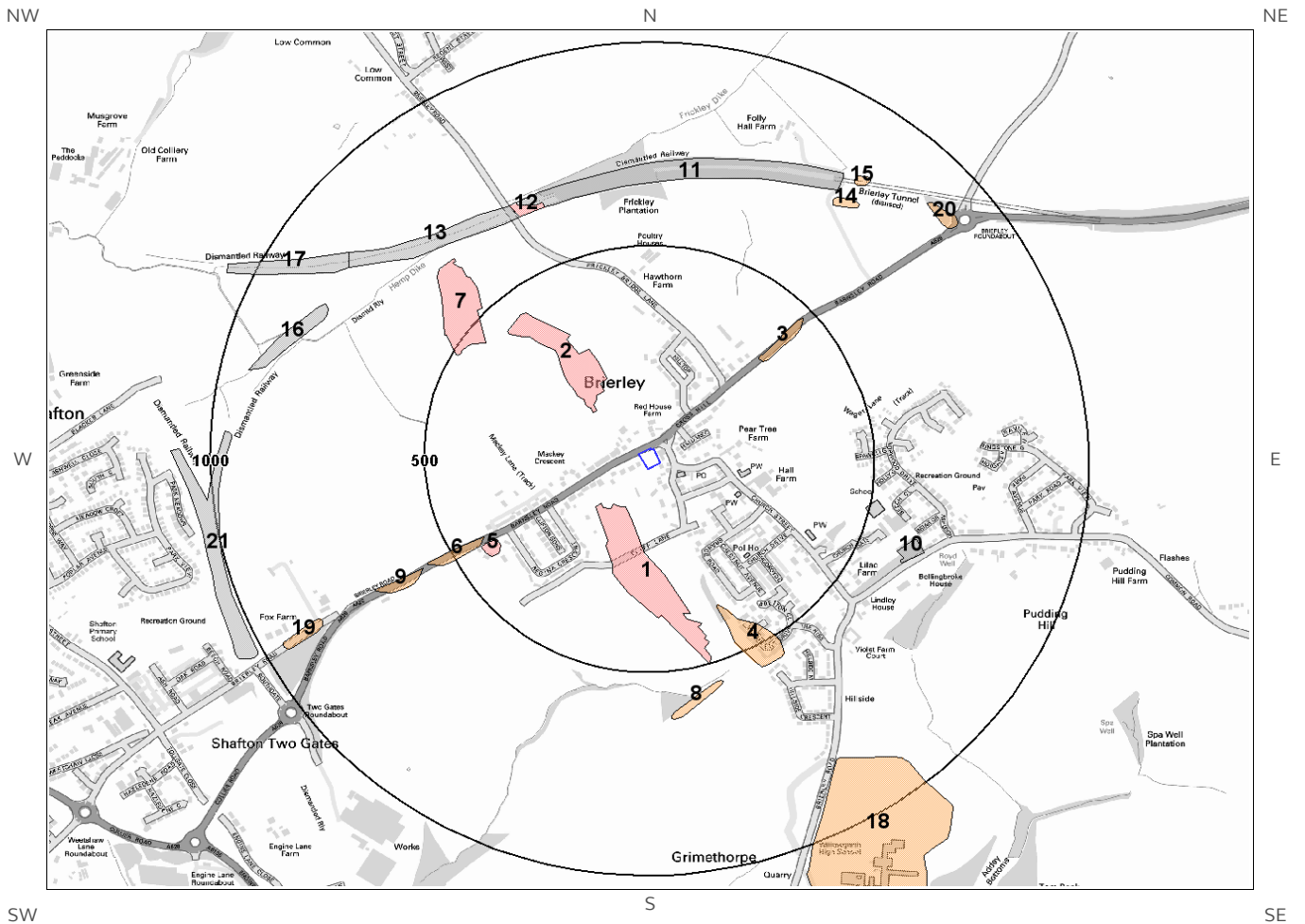
Guidance: The 1:10,000 scale geological interpretation is the most detailed generally available from BGS and is the scale at which most geological surveying is carried out in the field. The database is presented as four types of geology (artificial, mass movement, superficial and bedrock), although not 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

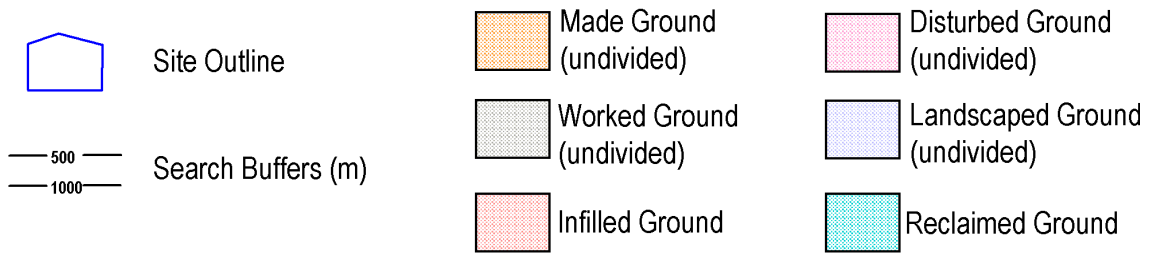
# 1 Geology (1:10,000 scale).

# 1.1 Artificial Ground Map (1:10,000 scale)



**Artificial Ground Legend**

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# 1. Geology 1:10,000 scale

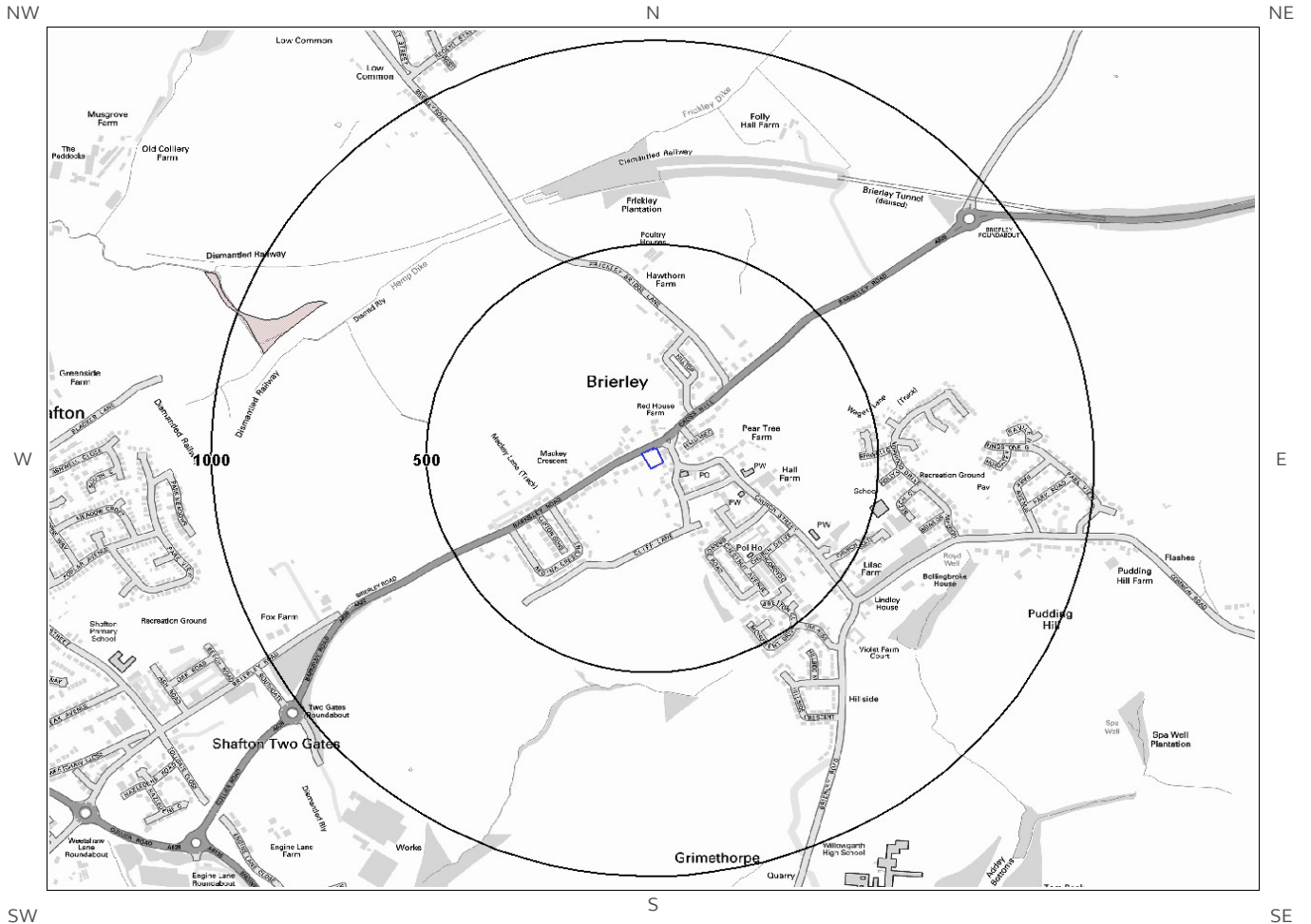
## 1.1 Artificial Ground

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? Yes

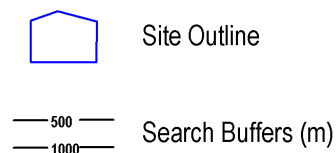
ID	Distance	Direction	LEX Code	Description	Rock Description
1	105.0	SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
2	144.0	NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
3	331.0	NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	370.0	SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
5	391.0	SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
6	414.0	SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
7	449.0	NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit

# 1.2 Superficial Deposits and Landslips Map (1:10,000 scale)



Artificial Ground Legend

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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.

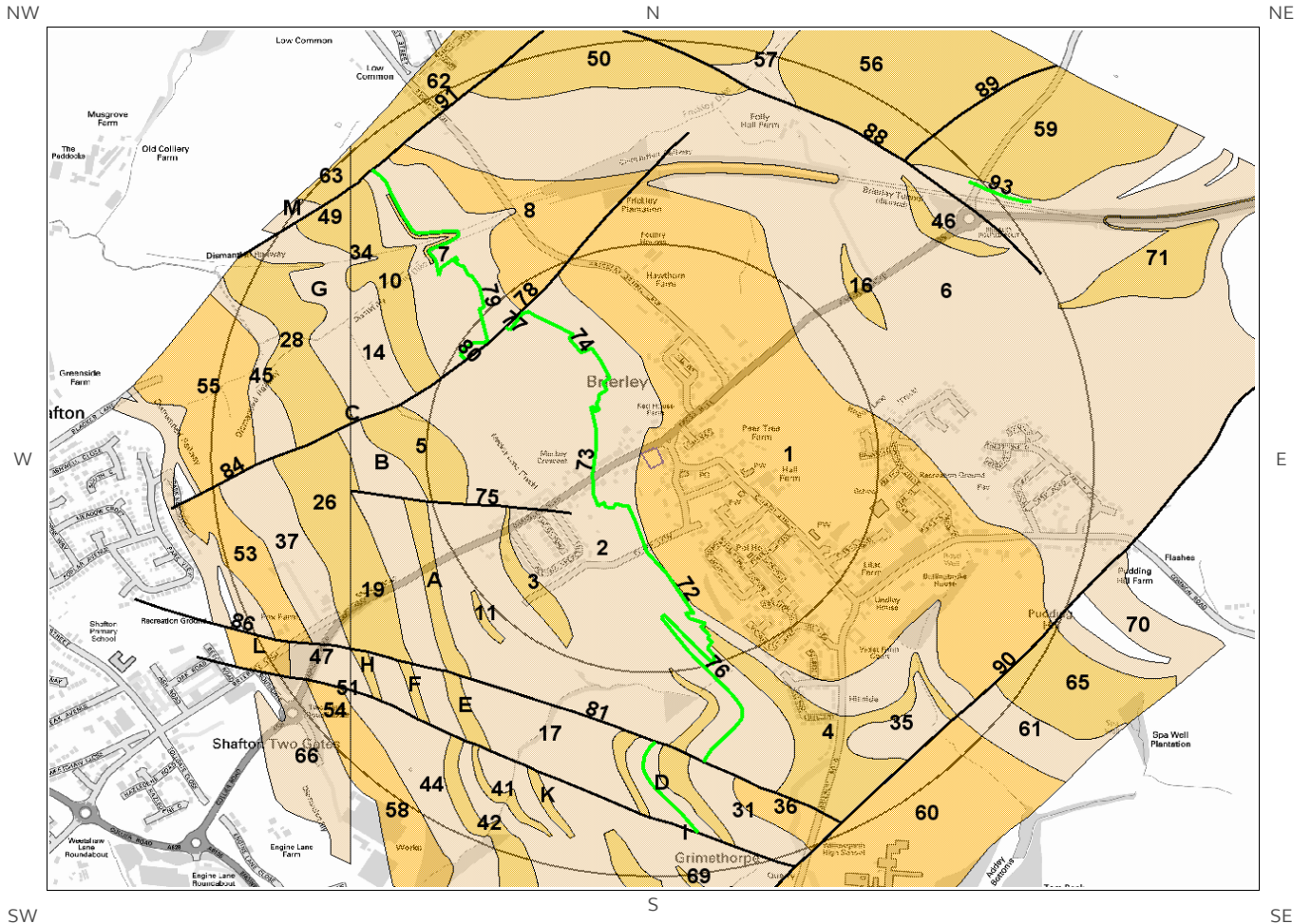
The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:10,000 scale

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 Faults Map (1:10,000 scale)

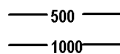


**Bedrock and Faults Legend**

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Site Outline



Search Buffers (m)

# 1.3 Bedrock and Faults

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.

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	BYR-SDST	Brierley Rock - Sandstone	Bolsovian Sub-age
2	4.0	W	PUCM-MDSS	Pennine Upper Coal Measures Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age - Bolsovian Sub-age
3	333.0	SW	PUCM-SDST	Pennine Upper Coal Measures Formation - Sandstone	Westphalian D Sub-age - Bolsovian Sub-age
4	403.0	S	PUCM-SDST	Pennine Upper Coal Measures Formation - Sandstone	Westphalian D Sub-age - Bolsovian Sub-age
5	408.0	W	PUCM-SDST	Pennine Upper Coal Measures Formation - Sandstone	Westphalian D Sub-age - Bolsovian Sub-age
6	418.0	NE	PUCM-MDSS	Pennine Upper Coal Measures Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age - Bolsovian Sub-age
7	442.0	NW	PUCM-MDSS	Pennine Upper Coal Measures Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age - Bolsovian Sub-age
8	446.0	NW	BYR-SDST	Brierley Rock - Sandstone	Bolsovian Sub-age
9	491.0	S	PUCM-SDST	Pennine Upper Coal Measures Formation - Sandstone	Westphalian D Sub-age - Bolsovian Sub-age
10	500.0	W	PUCM-SDST	Pennine Upper Coal Measures Formation - Sandstone	Westphalian D Sub-age - Bolsovian Sub-age

## 1.3.2 Faults

Are there any records of Faults within 500m of the study site boundary at 1:10,000 scale?

Yes

ID	Distance (m)	Direction	Category Description	Feature Description
72	105.0	SW	ROCK	Coal seam, observed
73	106.0	W	ROCK	Coal seam, inferred
74	144.0	NW	ROCK	Coal seam, observed
75	213.0	SW	FAULT	Normal fault, inferred
76	367.0	S	ROCK	Coal seam, inferred
77	428.0	NW	ROCK	Coal seam, inferred
78	442.0	NW	FAULT	Normal fault, inferred
79	449.0	NW	ROCK	Coal seam, observed
80	467.0	NW	ROCK	Coal seam, inferred

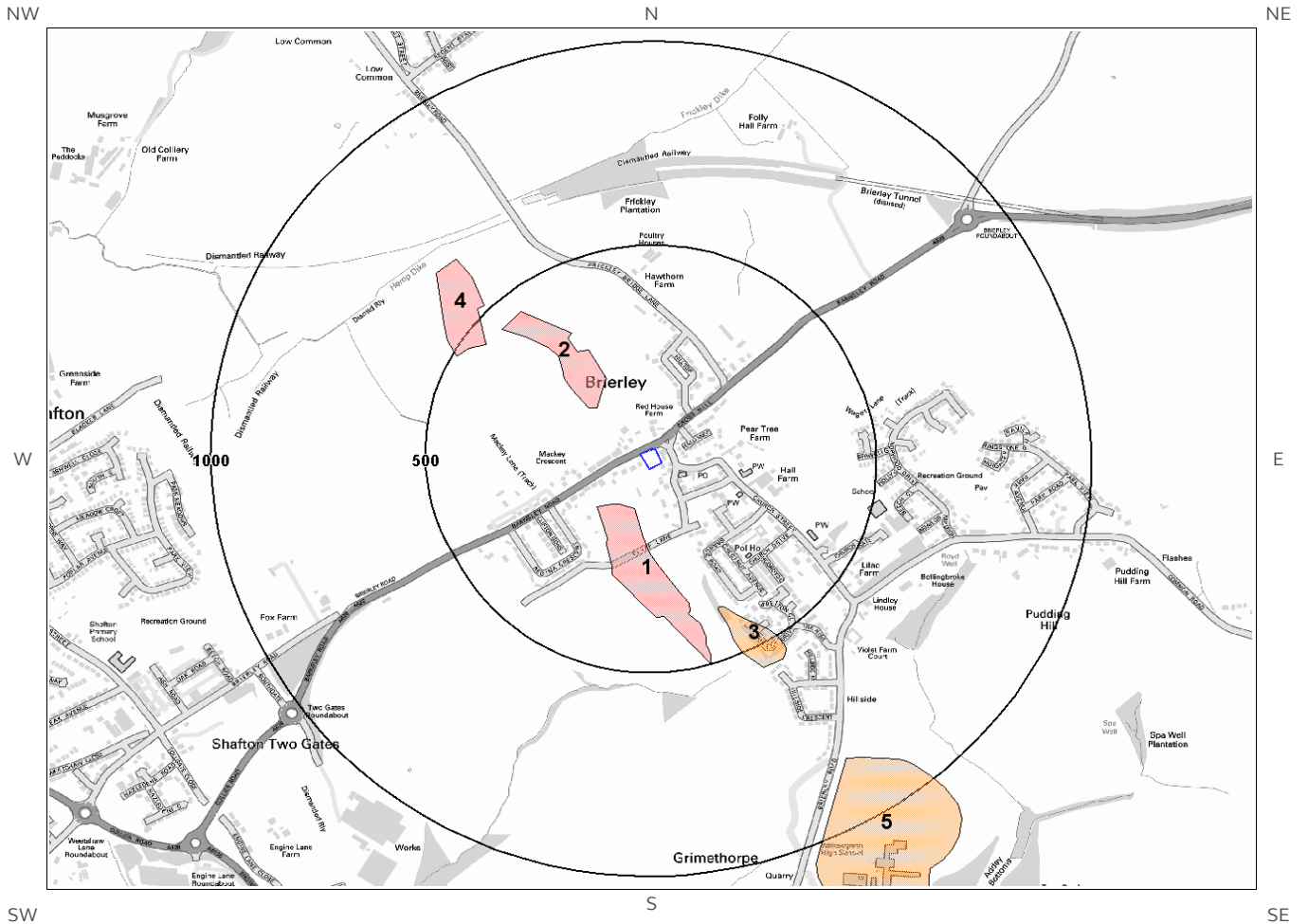
The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of great Britain at 1:10,000 scale.

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.

---

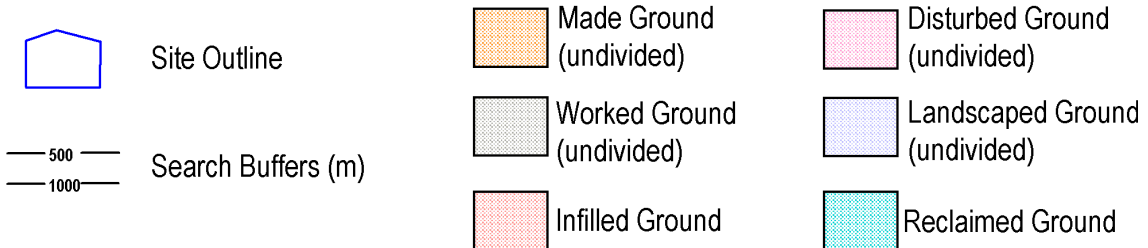
# 2 Geology 1:50,000 Scale

## 2.1 Artificial Ground Map



Ground Workings Legend

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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: 087

#### 2.1.1 Artificial/ Made Ground

Are there any records of Artificial/ Made Ground within 500m of the study site boundary? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	102.0	S	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
2	152.0	NW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
3	374.0	SE	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
4	448.0	NW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT

---

#### 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.

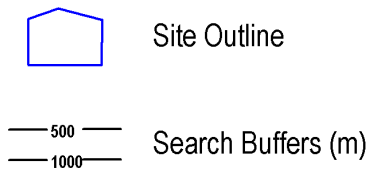
---

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



**Ground Workings Legend**

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# 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? No

Database searched and no data found.

---

## 2.2.2 Permeability of Superficial Ground

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

Database searched and no data found.

---

## 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.

---

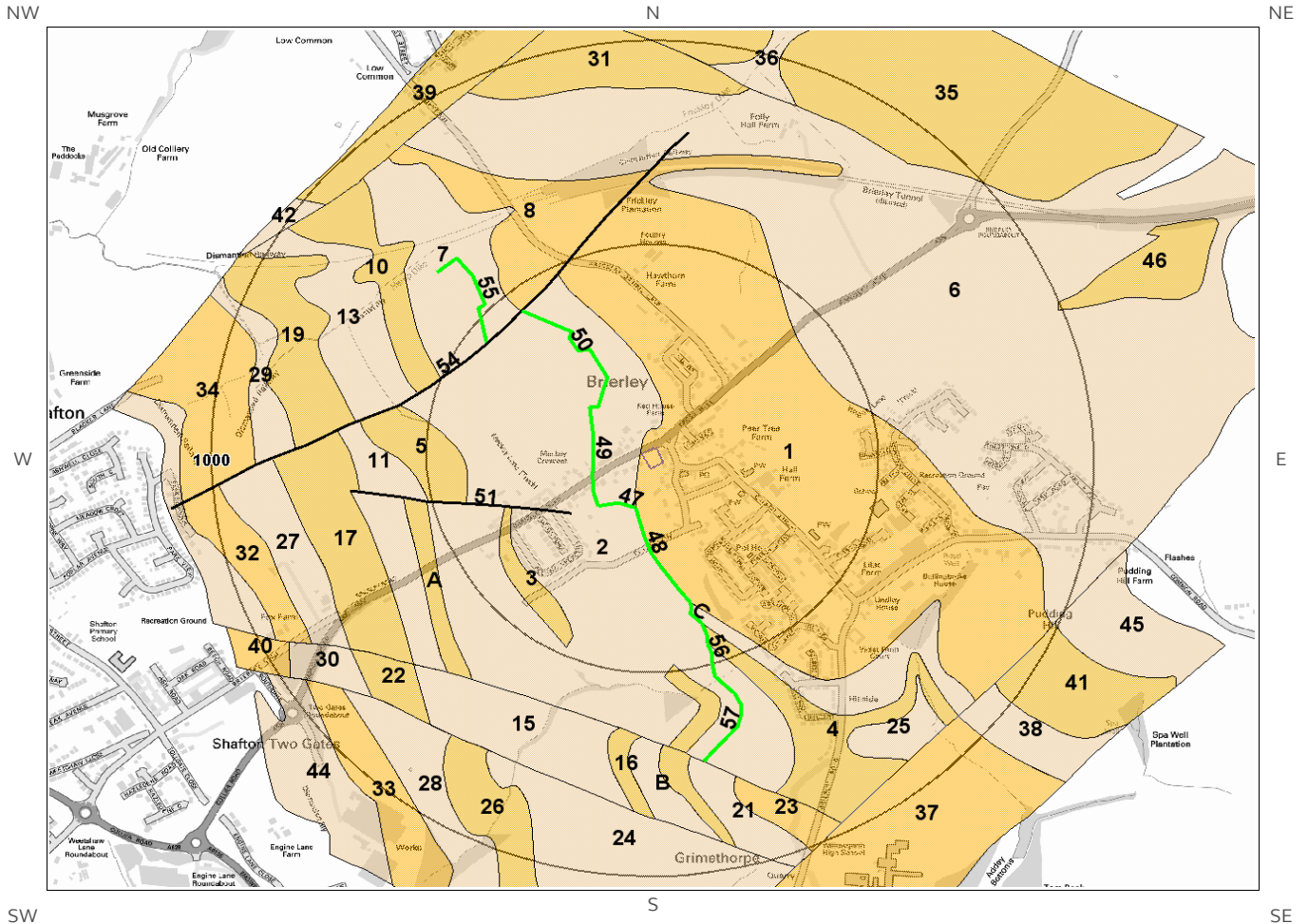
## 2.2.4 Landslip Permeability

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

Database searched and no data found.

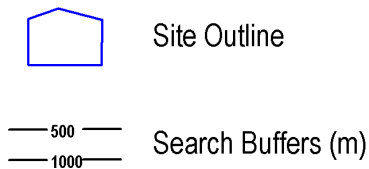
---

# 2.3 Bedrock and Faults Map (1:50,000 scale)



Ground Workings Legend

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## 2.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 087

### 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	BYR-SDST	BRIERLEY ROCK - SANDSTONE	WESTPHALIAN
2	3.0	W	PUCM-MDSS	PENNINE UPPER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
3	329.0	SW	PUCM-SDST	PENNINE UPPER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
4	396.0	S	PUCM-SDST	PENNINE UPPER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
5	408.0	W	PUCM-SDST	PENNINE UPPER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
6	418.0	NE	PUCM-MDSS	PENNINE UPPER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
7	442.0	NW	PUCM-MDSS	PENNINE UPPER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
8	446.0	NW	BYR-SDST	BRIERLEY ROCK - SANDSTONE	WESTPHALIAN
9	483.0	S	PUCM-SDST	PENNINE UPPER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
10	500.0	W	PUCM-SDST	PENNINE UPPER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN

### 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	High	Moderate
3.0	W	Fracture	Moderate	Low

### 2.3.3 Faults

Are there any records of Faults within 500m of the study site boundary? Yes

ID	Distance	Direction	Category Description	Feature Description
47	102.0	S	ROCK	Coal seam, inferred
48	102.0	S	ROCK	Coal seam, inferred
49	111.0	W	ROCK	Coal seam, inferred

ID	Distance	Direction	Category Description	Feature Description
50	152.0	NW	ROCK	Coal seam, inferred
51	214.0	SW	FAULT	Fault, inferred
52C	342.0	S	ROCK	Coal seam, inferred
53C	396.0	S	ROCK	Coal seam, inferred
54	442.0	NW	FAULT	Fault, inferred
55	448.0	NW	ROCK	Coal seam, inferred
56	449.0	S	ROCK	Coal seam, inferred
57	498.0	S	ROCK	Coal seam, inferred

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 not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

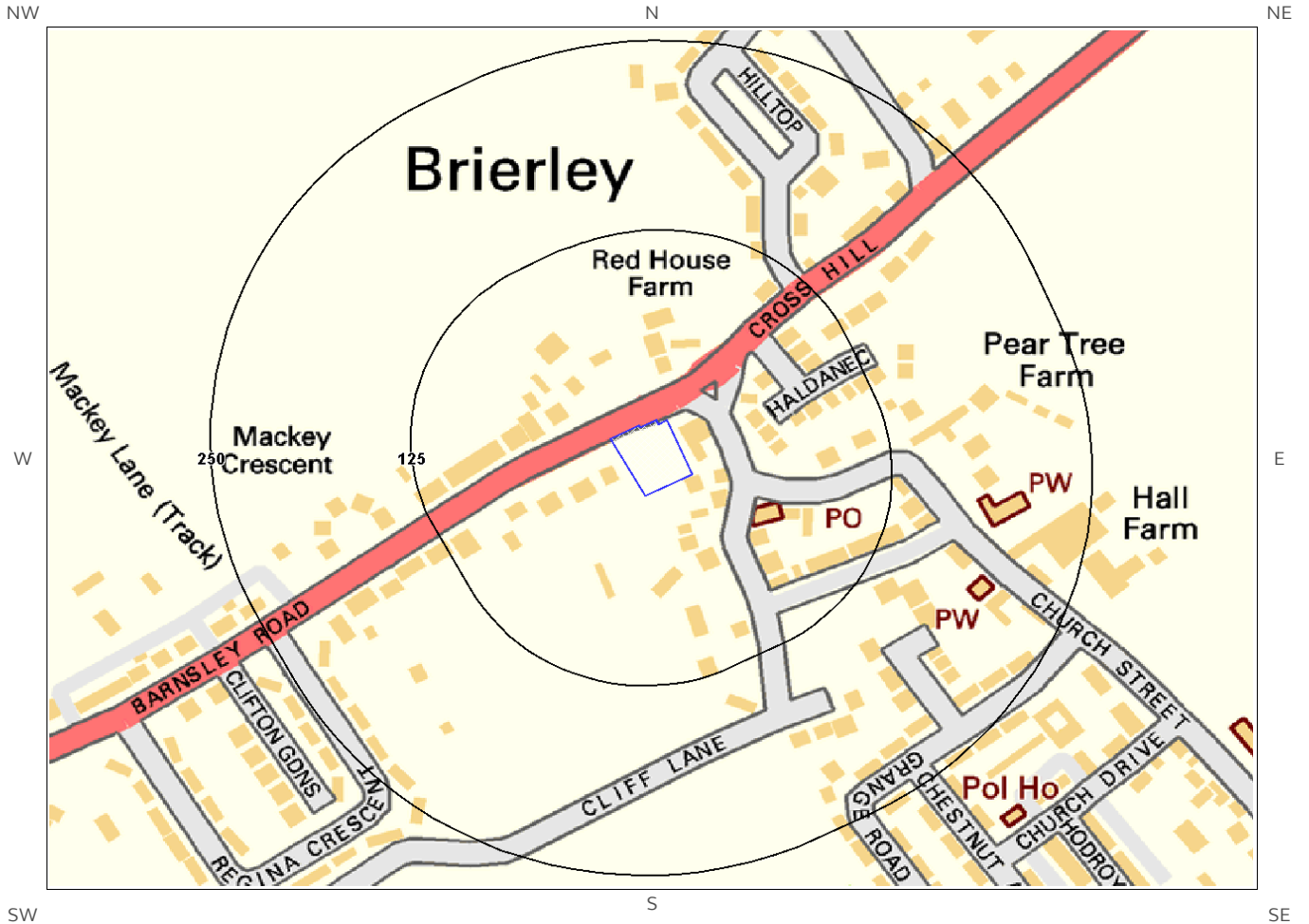
---

## 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?      No radon protective measures are necessary.





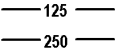
---

# 4 Ground Workings Map



Ground Workings Legend

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-  Site Outline
-  Historic Surface Ground Workings
-  Historic Underground Workings
-  Current Ground Workings
-  Search Buffers (m)

# 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? No

Database searched and no data found.

## 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? Yes

The following Historical Underground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	395.0	SE	440990 410820	Disused Colliery	1951
Not shown	401.0	SE	441006 410816	Colliery	1948
Not shown	779.0	NE	441362 411877	Tunnel	1951
Not shown	783.0	NE	441440 411865	Tunnel	1948
Not shown	783.0	NE	441440 411865	Tunnel	1904
Not shown	783.0	NE	441440 411865	Tunnel	1891
Not shown	789.0	NE	441362 411877	Disused Tunnel	1982
Not shown	789.0	NE	441362 411877	Tunnel	1967
Not shown	789.0	NE	441362 411877	Disused Tunnel	1988
Not shown	928.0	NE	441410 411868	Air Shaft	1982
Not shown	928.0	NE	441410 411868	Air Shaft	1967
Not shown	928.0	NE	441410 411868	Air Shaft	1951
Not shown	928.0	NE	441410 411868	Air Shaft	1988

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	932.0	NE	441411 411870	Air Shaft	1948
Not shown	932.0	NE	441411 411870	Ventilating Shaft	1904

### 4.3 Current Ground Workings

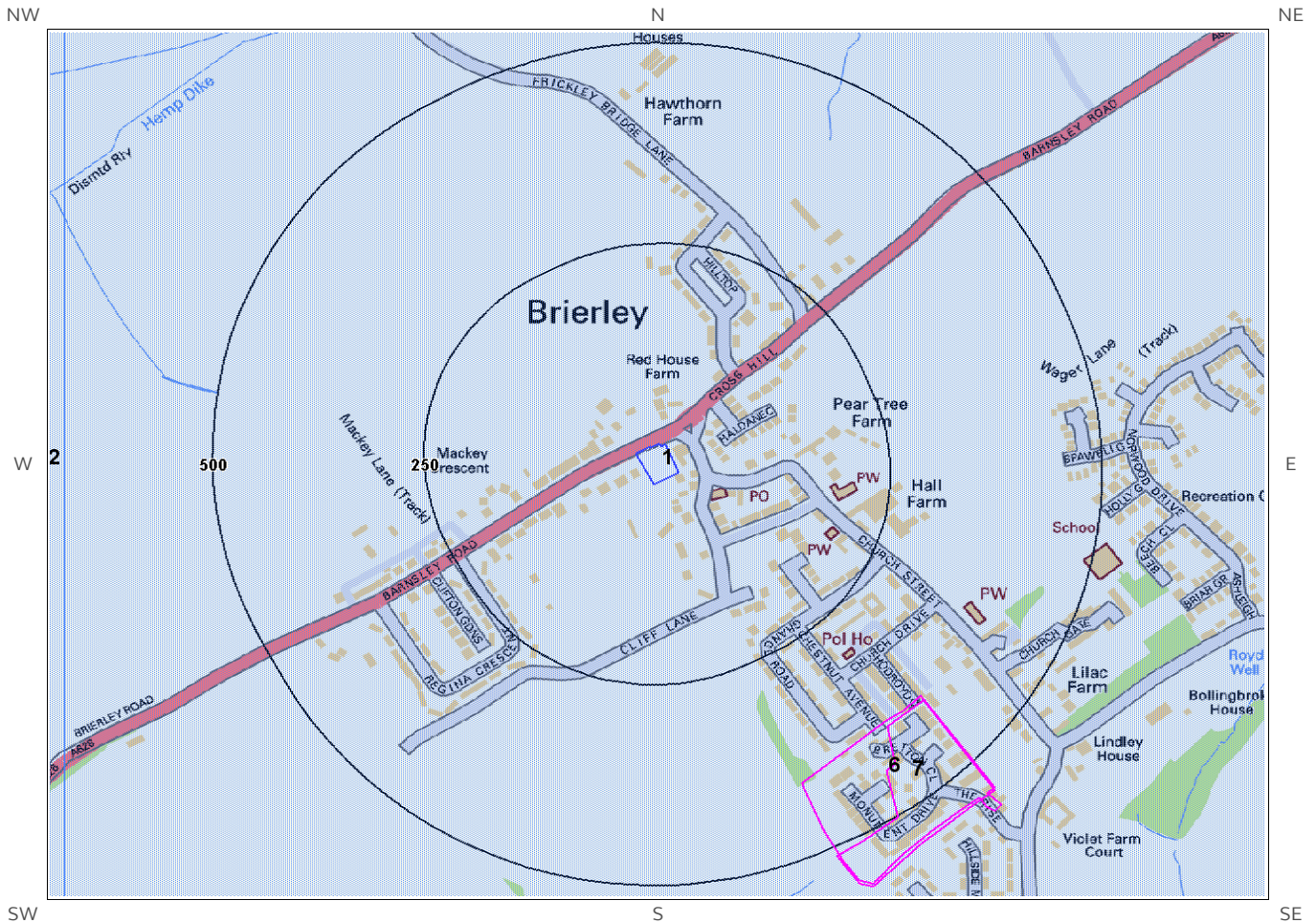
This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

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
Not shown	449.0	SW	440299 410993	Sandstone	Brierly	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	469.0	SE	441012 410844	Coal, Deep	Brierley Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	927.0	W	439785 410980	Coal, Deep	Shafton Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased

# 5 Mining, Extraction & Natural Cavities Map



Mining, Extraction and Natural Cavities Legend

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# 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? Yes

The following Historical Mining information is provided by Groundsure:

ID	Distance (m)	Direction	NGR	Details	Date
6	395.0	SE	440990 410820	Disused Colliery	1951
7	401.0	SE	441006 410816	Colliery	1948
Not shown	928.0	NE	441410 411868	Air Shaft	1982
Not shown	928.0	NE	441410 411868	Air Shaft	1967
Not shown	928.0	NE	441410 411868	Air Shaft	1951
Not shown	928.0	NE	441410 411868	Air Shaft	1988
Not shown	932.0	NE	441411 411870	Air Shaft	1948
Not shown	932.0	NE	441411 411870	Ventilating Shaft	1904

## 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? Yes

The following Coal Mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0.0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

### 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	Sheffield Area	Iron Ore	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	675.0	W	Sheffield Area	Iron Ore	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
Not shown	870.0	W	Not available	Iron Ore (Bedded)	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
Not shown	919.0	NW	Not available	Iron Ore (Bedded)	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
Not shown	986.0	NW	Not available	Iron Ore (Bedded)	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.

This dataset provides information based on Peter Brett Associates natural cavities database.

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 Coal Authority issued on behalf of 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 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level..

Are there any Tin 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.

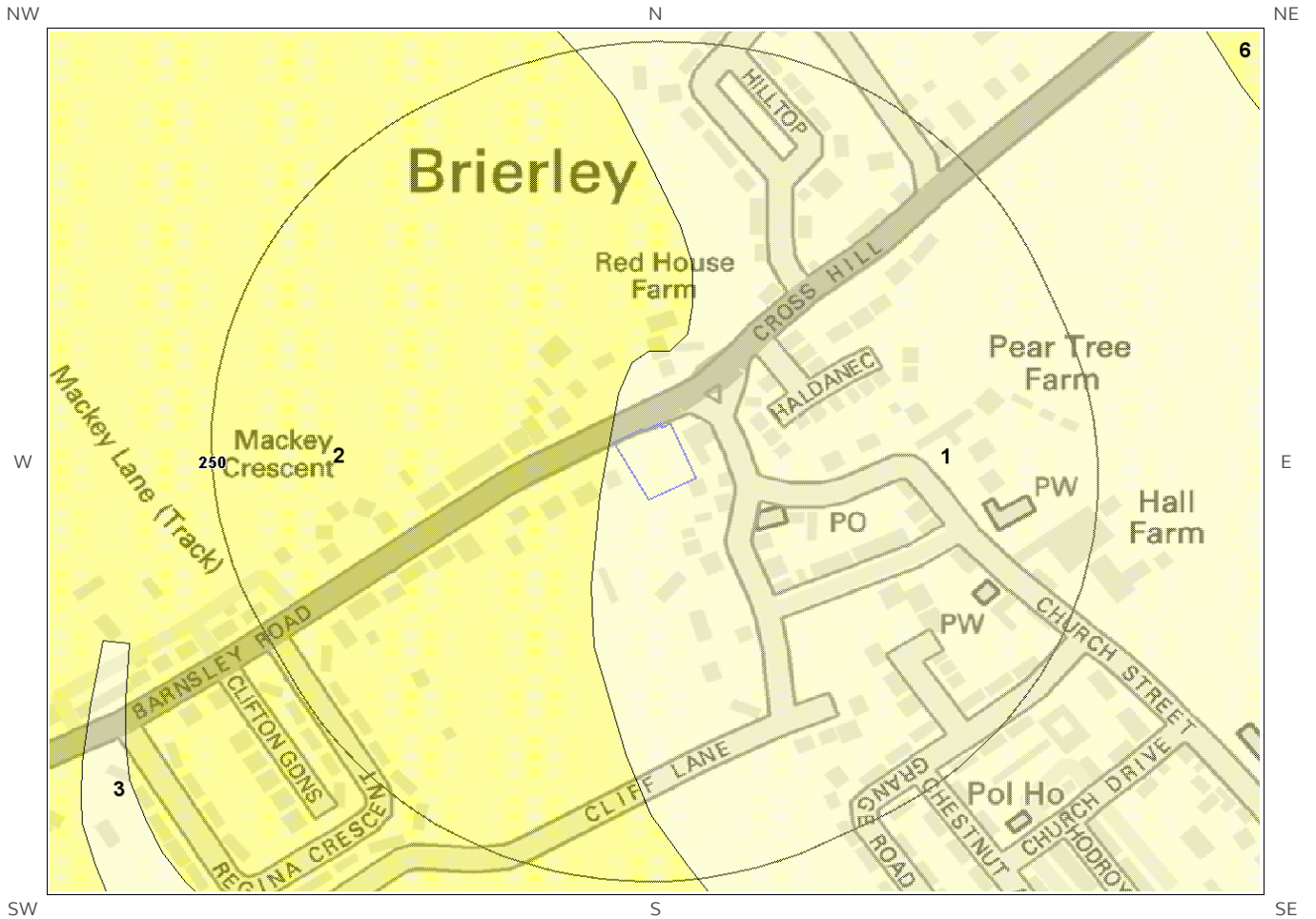
Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

---

# 6 Natural Ground Subsidence

## 6.1 Shrink-Swell Clay Map

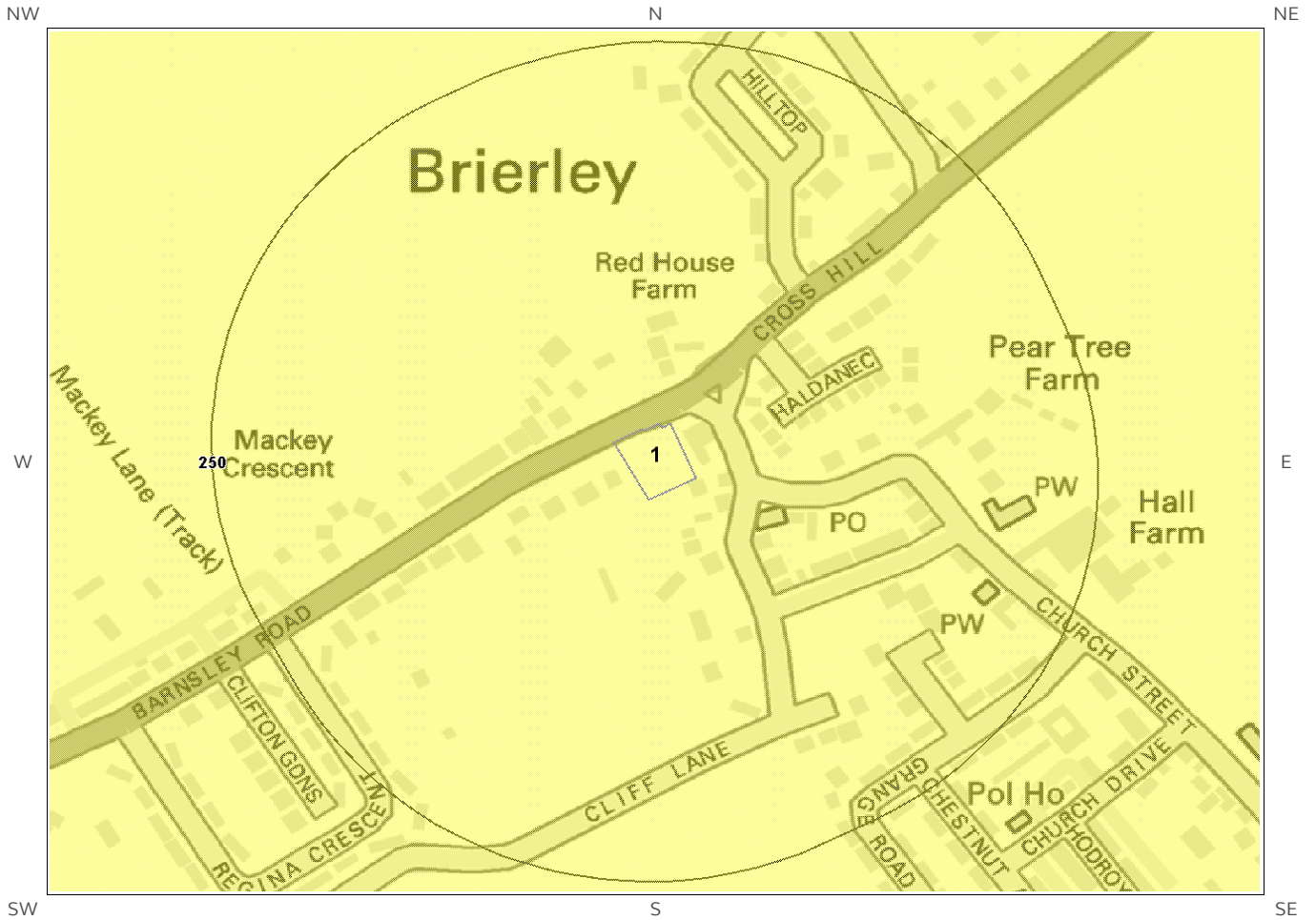


Shrink Swell Clay Legend

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# 6.2 Landslides Map

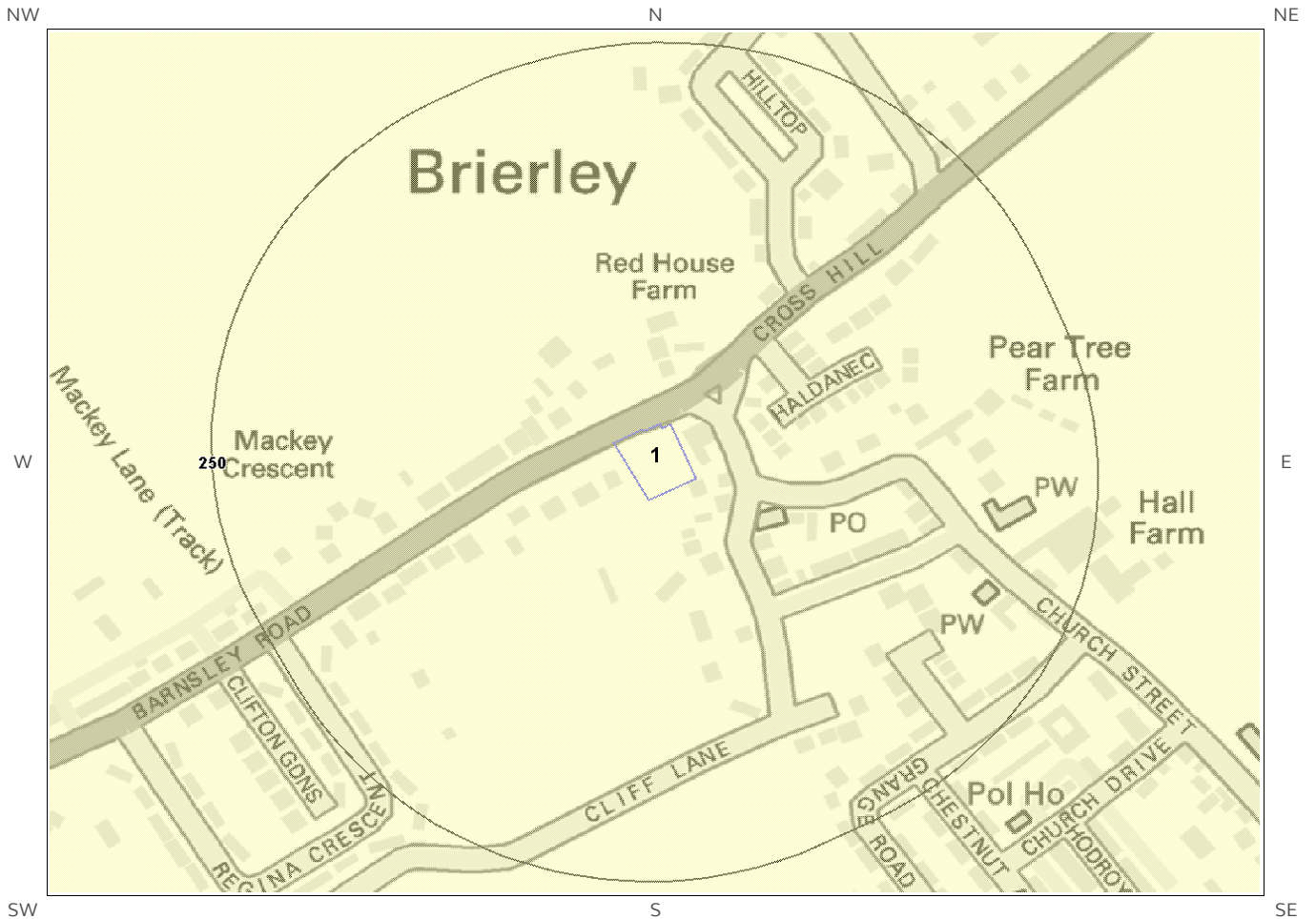


Landslides Legend

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# 6.3 Ground Dissolution of Soluble Rocks Map

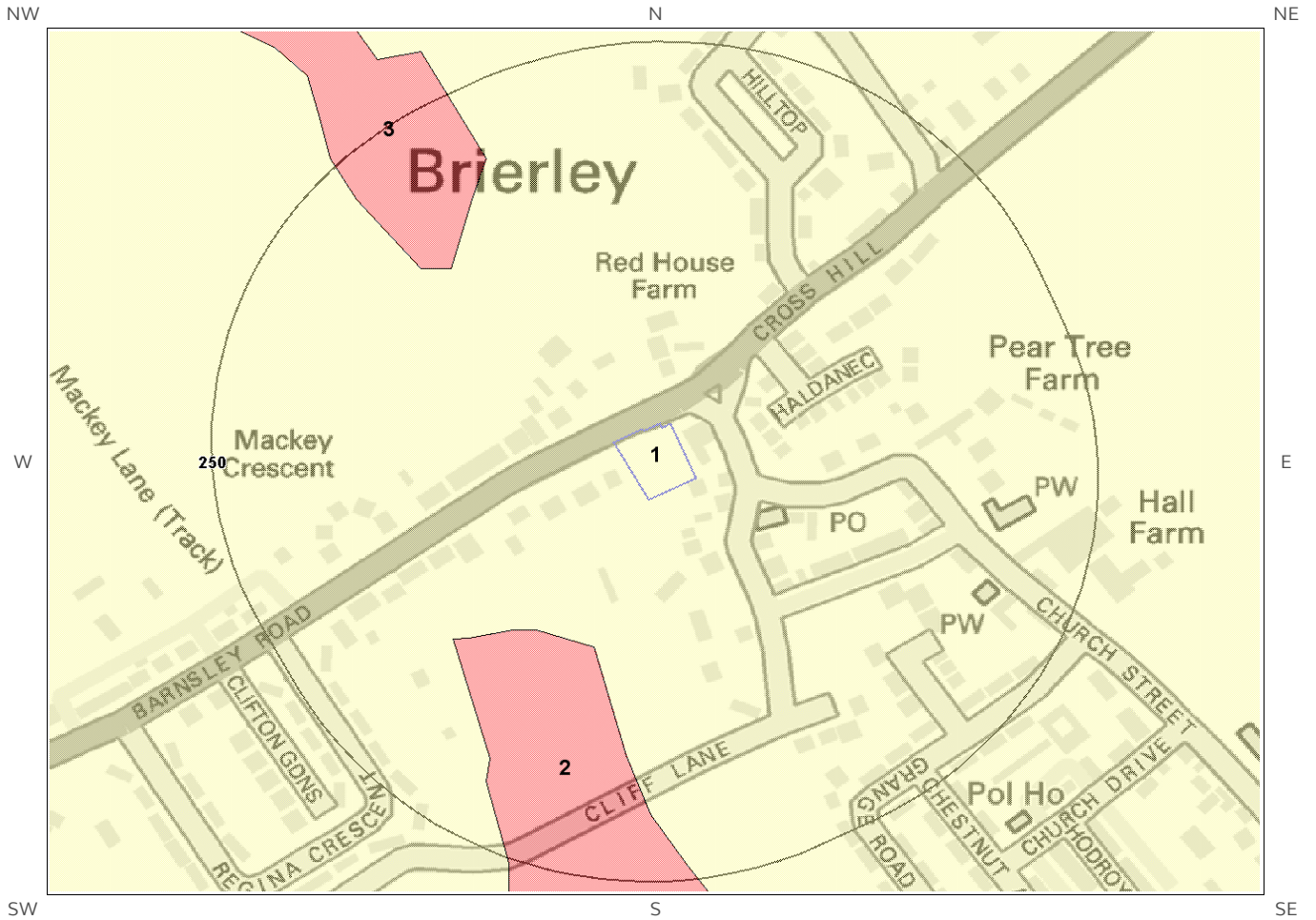


Ground Dissolution Soluble Rocks Legend

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# 6.4 Compressible Deposits Map

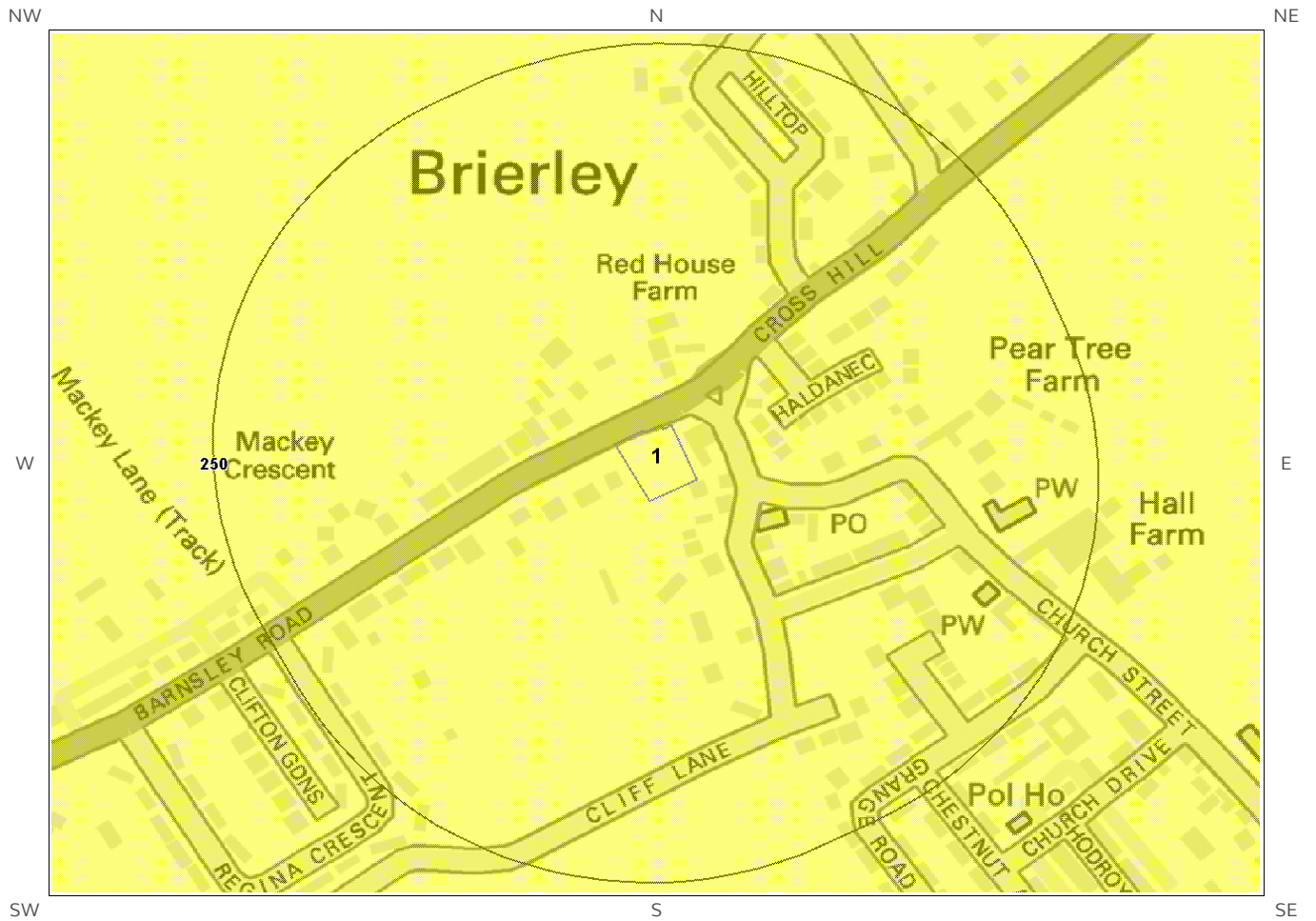


Compressible Deposits Legend

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# 6.5 Collapsible Deposits Map

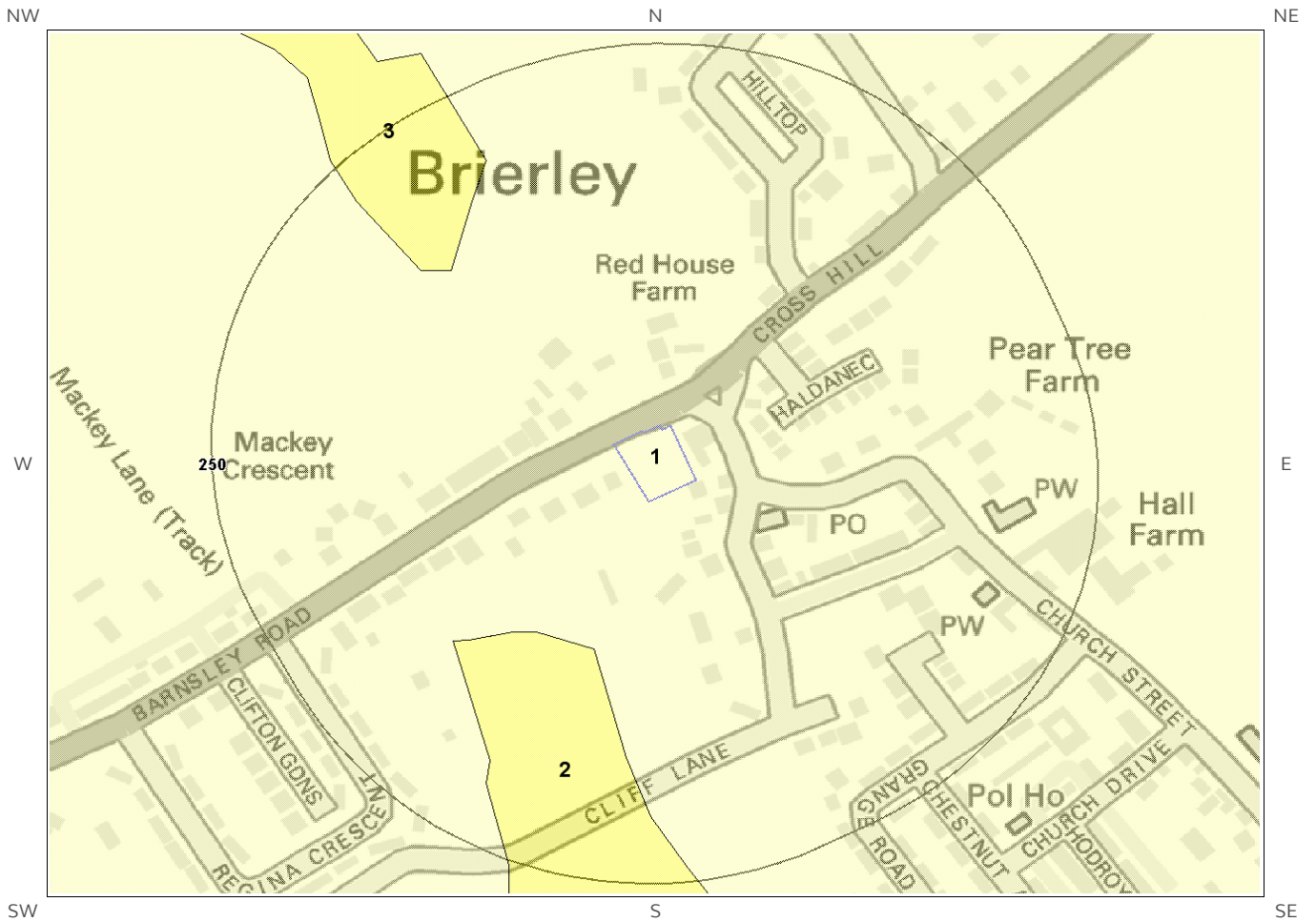


Collapsible Deposits Legend

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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? Very 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	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.
2	3.0	W	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.

## 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.

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

## 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	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with 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:

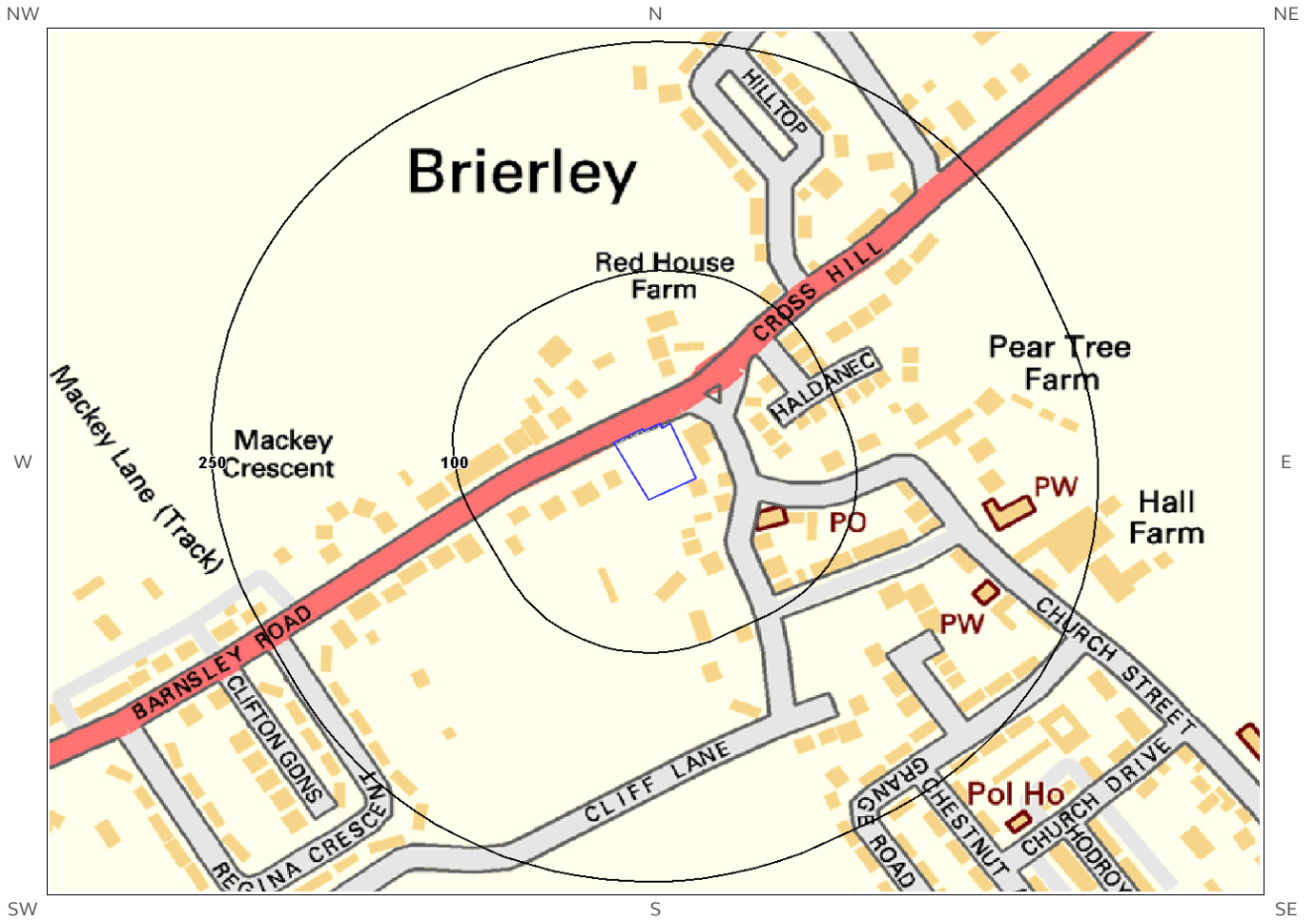
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible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

## 6.6 Running Sands

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

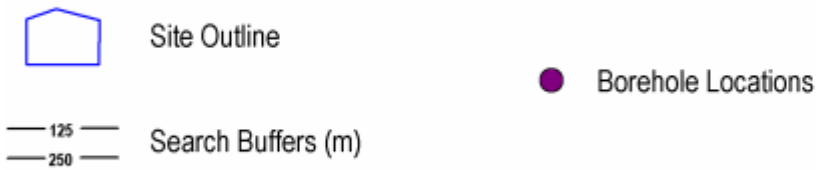
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due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

# 7 Borehole Records Map



Borehole Records Legend

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# 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: 0

Database searched and no data found.

---

# 8 Estimated Background Soil Chemistry

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

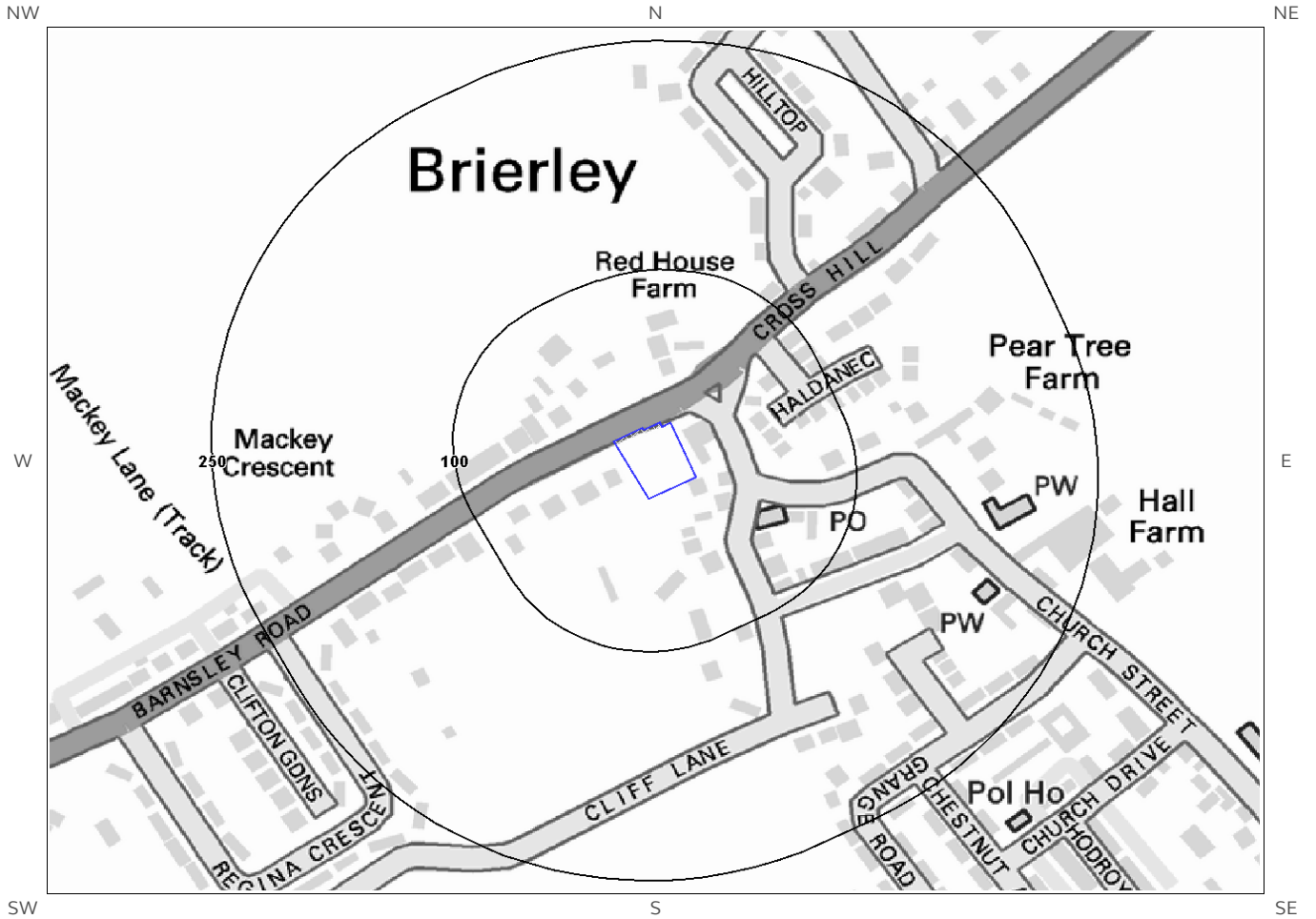
2

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	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
22.0	NW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 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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- |   |                             |   |  |   |   |
|---|-----------------------------|---|--|---|---|
|  | Site Outline                |  | Underground or Partially Underground Railway / Subway System |  | Railway Track (OpenStreetMap)                         |
|  | Railway Tunnel (OS Mapping) |  | High Speed 2   |  | High Speed 2 Revised Proposed Route                   |
|  | Search Buffers (m)          |  | Abandoned or Dismantled Railway (OpenStreetMap)              |  | Crossrail 1   |
|  | 250                         |  | Railway Track (OS Mapping)                                   |  | Railway and/or Tunnel Feature from Historical Mapping |
|  | 500                         |   |  |   |   |

# 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? No

Database searched and no data found.

*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? 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.*

---

### 9.5 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? Yes

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.

# Contact Details

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Telephone: 0118 9736883  
sales@emapsite.com



## British Geological Survey Enquiries

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Email: [enquiries@bgs.ac.uk](mailto:enquiries@bgs.ac.uk)  
Web: [www.bgs.ac.uk](http://www.bgs.ac.uk)

BGS Geological Hazards Reports and general geological enquiries



**British Geological Survey**  
NATURAL ENVIRONMENT RESEARCH COUNCIL

## British Gypsum

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LE12 6HX



## The Coal Authority

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Tel: 0345 7626 848  
DX 716176 Mansfield 5  
[www.coal.gov.uk](http://www.coal.gov.uk)



The Coal Authority

## Public Health England

Public information access office  
Public Health England, Wellington House  
133-155 Waterloo Road, London, SE1 8UG  
<https://www.gov.uk/government/organisations/public-health-england>  
Email: [enquiries@phe.gov.uk](mailto:enquiries@phe.gov.uk)  
Main switchboard: 020 7654 8000



Public Health England

## Johnson Poole & Bloomer Limited

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Tel: +44 (0) 1384 262 000  
Email: [enquiries.gs@jpb.co.uk](mailto:enquiries.gs@jpb.co.uk)  
Website: [www.jpb.co.uk](http://www.jpb.co.uk)



## Ordnance Survey

Adanac Drive, Southampton  
SO16 0AS  
Tel: 08456 050505  
Website: <http://www.ordnancesurvey.co.uk/>



## Getmapping PLC

Virginia Villas, High Street, Hartley Witney,  
Hampshire RG27 8NW  
Tel: 01252 845444  
Website: <http://www1.getmapping.com/>



---

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Tel: +44 (0)118 950 0761 E-mail: [reading@pba.co.uk](mailto:reading@pba.co.uk)  
Website: <http://www.peterbrett.com/home>



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<https://www.groundsure.com/terms-and-conditions-sept-2016/>



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Eversley, RG27 0RP

Groundsure Reference: EMS-421655\_563467

Your Reference: EMS\_421655\_563467

Report Date 22 May 2017

Report Delivery Method: Email - pdf

## Groundsure Enviro Insight

Address: Three Horse Shoes, Brierley, S72 9JY,

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Enviro Insight** as requested.

If you would like further assistance regarding this report then please contact the emapsite customer services team on 0118 9736883 quoting the above report reference number.

Yours faithfully,

emapsite customer services team

Enc.  
Groundsure Enviroinsight

# Groundsure Enviro Insight

Address: Three Horse Shoes, Brierley, S72 9JY,  
Date: 22 May 2017  
Reference: EMS-421655\_563467  
Client: emapsite

NW

N

NE



W

E

SW

S

SE

Aerial Photograph Capture date: 26-Mar-2012  
Grid Reference: 440701,411228  
Site Size: 0.15ha

Report Reference: EMS-421655\_563467  
Client Reference: EMS\_421655\_563467

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# Overview of Findings

For further details on each dataset, please refer to each individual section in the main 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.

<b>Section 1: Historical Industrial Sites</b>	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	0	4	5	58
1.2 Additional Information – Historical Tank Database	0	0	0	9
1.3 Additional Information – Historical Energy Features Database	0	0	0	2
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 Potentially Infilled Land	0	0	0	20
<b>Section 2: Environmental Permits, Incidents and Registers</b>	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	0	0
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	0
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	0
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	0	0
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
<b>3.1 Landfill Sites</b>						
3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	0	0	0	0	2
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	0
<b>3.2 Landfill and Other Waste Sites Findings</b>						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	0	0	3	3

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	0	4	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	0
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology	
5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	None
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology	0-500m					
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	No					
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes					
	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	1	0	0	1	Not searched	Not searched

## Section 6: Hydrogeology and Hydrology

0-500m

	On-site	0-50m	51-250	251-500	501-1000	1000-1500
6.9 Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site?	No	No	No	No	No	No
6.10 Detailed River Network entries within 500m of the site	0	0	0	1	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	No	No	Not searched	Not searched	Not searched

## Section 7: Flooding

7.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	No					
7.2 Are there any Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	No					
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Very Low					
7.4 Are there any Flood Defences within 250m of the study site?	No					
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	No					
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No					
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Limited potential					
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Low					

## Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	0	0
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	1	0	0	1	1	3
8.14 Records of Green Belt land	0	0	1	0	3	2

## Section 9: Natural Hazards

9.1 What is the maximum risk of natural ground subsidence?	Very Low
9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Very Low
9.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Negligible
9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
9.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Negligible
9.2 Radon	
9.2.1 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 not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
9.2.2 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?	No radon protective measures are necessary.

## Section 10: Mining

10.1 Are there any coal mining areas within 75m of the study site?	Yes
10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?	Yes
10.3 Are there any brine affected areas within 75m of the study site?	No

# Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

## 1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

## 2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

## 3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

## 4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

## 5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

## 6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

## 7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

## 8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

## 9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

## 10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

## 11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

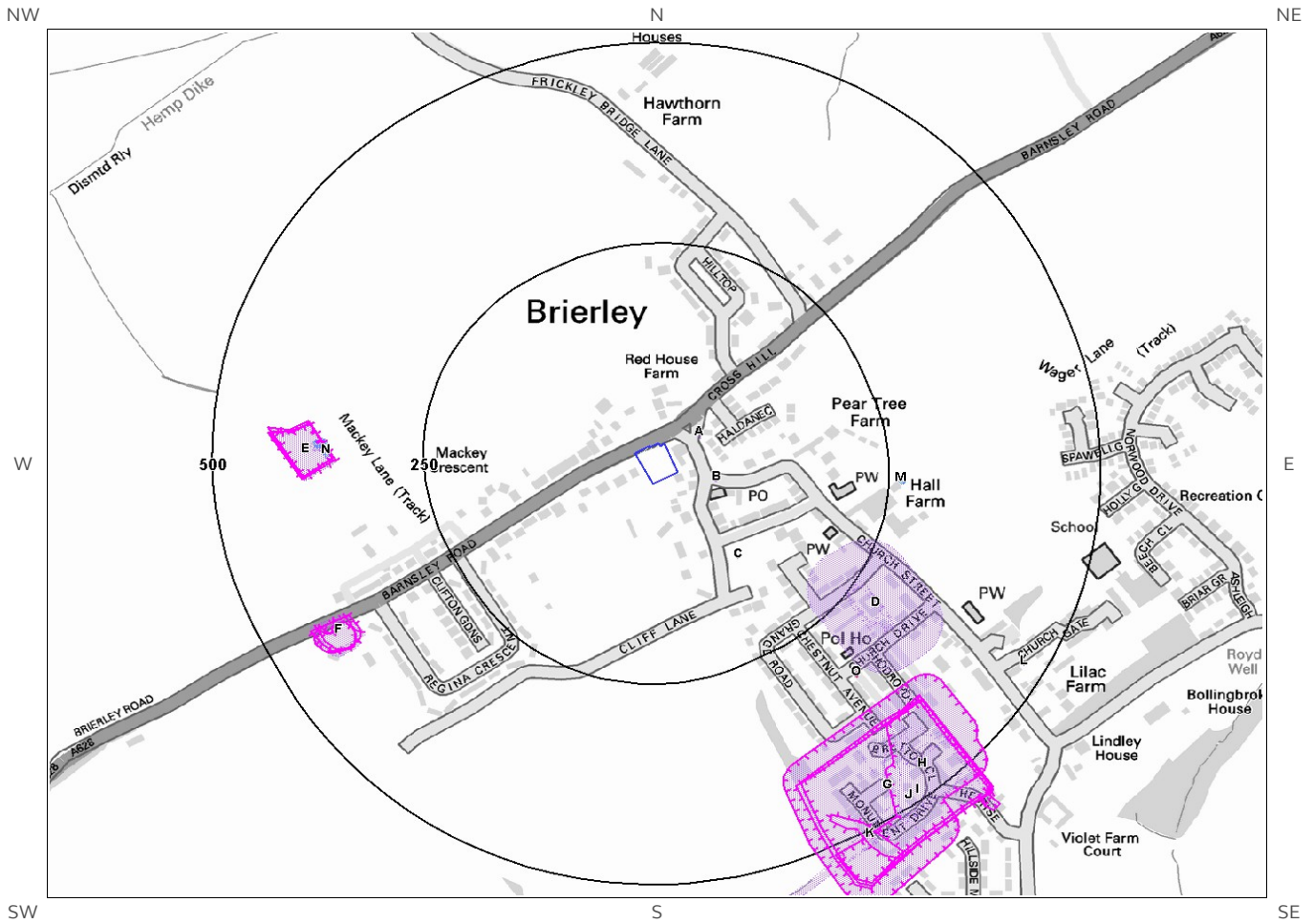
### Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

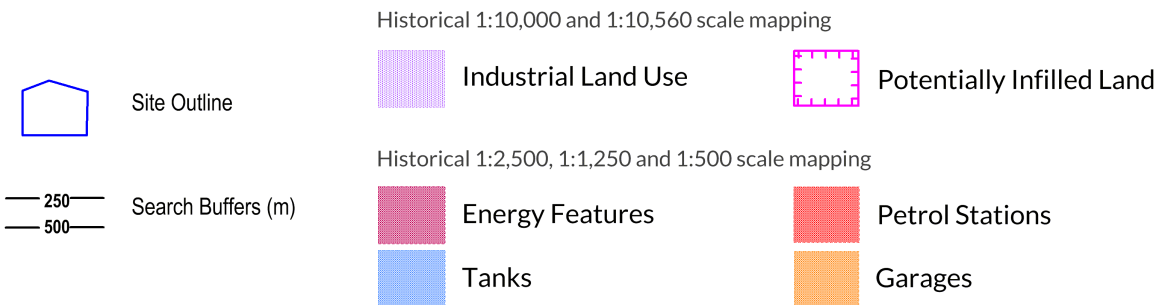
Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

# 1. Historical Land Use



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# 1. Historical Industrial Sites

## 1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 67

ID	Distance [m]	Direction	Use	Date
1A	39	NE	Smithy	1854
2A	39	NE	Smithy	1854
3B	43	E	Unspecified Pump	1854
4B	43	E	Unspecified Pump	1854
5C	125	SE	Unspecified Pump	1854
6C	125	SE	Unspecified Pump	1854
7D	200	SE	Rescue Training Station	1967
8D	249	SE	Rescue Training Station	1951
9D	250	SE	Rescue Training Station	1938
10D	251	SE	Unspecified Station	1948
11E	354	W	Sewage Works	1930
12E	354	W	Sewage Works	1930
13E	354	W	Sewage Works	1930
14E	354	W	Sewage Works	1930
15E	355	W	Sewage Works	1948
16E	357	W	Disused Sewage Works	1988
17E	357	W	Sewage Works	1951
18E	357	W	Unspecified Works	1967
19E	357	W	Disused Sewage Works	1982
20E	357	W	Sewage Works	1938
21E	357	W	Sewage Works	1938
22E	372	W	Unspecified Tank	1948
23E	372	W	Unspecified Tank	1930
24E	372	W	Unspecified Tank	1930
25E	372	W	Unspecified Tank	1930
26E	372	W	Unspecified Tank	1930
27G	373	SE	Unspecified Disused Mine	1967
28E	373	W	Unspecified Tank	1938
29E	374	W	Unspecified Tank	1988
30E	374	W	Unspecified Tank	1988
31E	374	W	Unspecified Tank	1951
32E	374	W	Unspecified Tank	1967
33E	374	W	Unspecified Tank	1982
34F	389	SW	Sandstone Quarry	1854

35F	389	SW	Sandstone Quarry	1854
36F	391	SW	Unspecified Old Quarry	1904
37F	391	SW	Unspecified Pit	1891
38F	391	SW	Unspecified Pit	1948
39G	395	SE	Disused Colliery	1951
40H	395	SE	Unspecified Depot	1982
41H	395	SE	Unspecified Depot	1988
42H	396	SE	Railway Sidings	1951
43F	396	SW	Unspecified Pit	1951
44F	397	SW	Unspecified Pit	1930
45F	397	SW	Unspecified Pit	1930
46F	397	SW	Unspecified Pit	1930
47F	397	SW	Unspecified Pit	1930
48F	398	SW	Unspecified Pit	1938
49F	398	SW	Unspecified Pit	1938
50G	398	SE	Colliery	1938
51G	398	SE	Colliery	1938
52G	400	SE	Colliery	1930
53G	400	SE	Colliery	1930
54G	400	SE	Colliery	1930
55G	400	SE	Colliery	1930
56I	401	SE	Colliery	1948
57I	417	SE	Tramway Sidings	1948
58J	419	SE	Tramway Sidings	1930
59J	419	SE	Tramway Sidings	1930
60J	419	SE	Tramway Sidings	1930
61J	419	SE	Tramway Sidings	1930
62I	421	SE	Tramway Sidings	1938
63K	463	SE	Unspecified Heap	1967
64K	463	SE	Unspecified Heap	1988
65K	463	SE	Unspecified Heap	1982
66L	472	SE	Unspecified Pump	1854
67L	472	SE	Unspecified Pump	1854

## 1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary:

9

ID	Distance (m)	Direction	Use	Date
68M	260	E	Tanks	1988
69M	260	E	Tanks	1988

70M	264	E	Tanks	1977
71N	361	W	Unspecified Tank	1913
72N	365	W	Unspecified Tank	1977
73N	365	W	Unspecified Tank	1961
74E	367	W	Unspecified Tank	1988
75E	367	W	Unspecified Tank	1988
76E	371	W	Unspecified Tank	1913

### 1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary: 2

ID	Distance (m)	Direction	Use	Date
770	326	SE	Electricity Substation	1983
780	327	SE	Electricity Substation	1983

### 1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

### 1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 0

Database searched and no data found.

### 1.6 Potentially Infilled Land

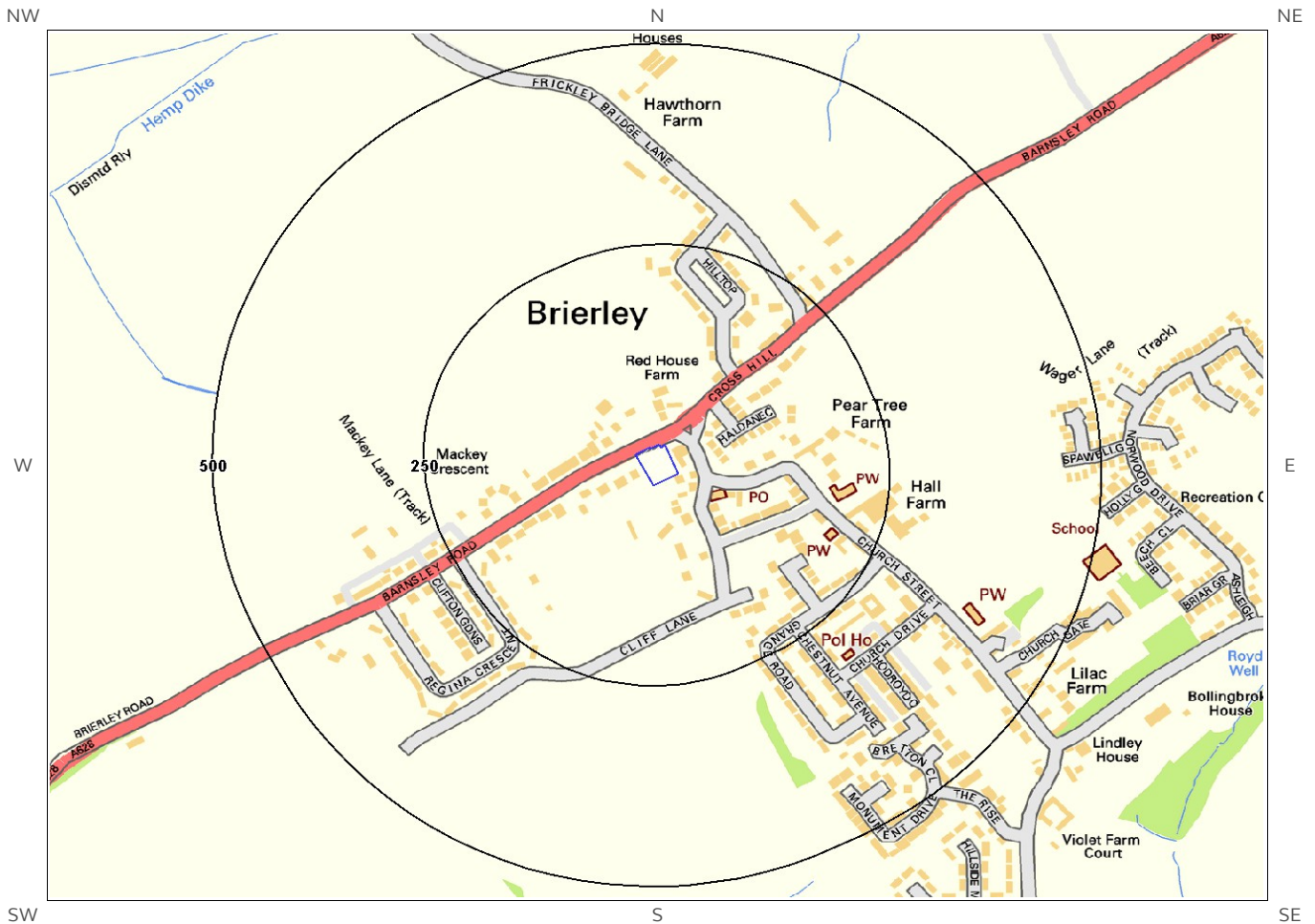
Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 20

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

















ID	Distance(m)	Direction	Use	Date
79E	355	W	Sewage Works	1948
80E	357	W	Disused Sewage Works	1988
81E	357	W	Disused Sewage Works	1982
82E	357	W	Sewage Works	1951
83E	357	W	Sewage Works	1938
84E	357	W	Sewage Works	1938
85G	373	SE	Unspecified Disused Mine	1967
86F	391	SW	Unspecified Old Quarry	1904
87F	391	SW	Unspecified Pit	1948
88F	391	SW	Unspecified Pit	1891
89G	395	SE	Disused Colliery	1951
90F	396	SW	Unspecified Pit	1951
91F	398	SW	Unspecified Pit	1938
92F	398	SW	Unspecified Pit	1938
93G	398	SE	Colliery	1938
94G	398	SE	Colliery	1938
95I	401	SE	Colliery	1948
96K	463	SE	Unspecified Heap	1967
97K	463	SE	Unspecified Heap	1982
98K	463	SE	Unspecified Heap	1988



# 2. Environmental Permits, Incidents and Registers Map



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- |   |                    |   |                               |   |  |
|---|--------------------|---|-------------------------------|---|--|
|  | Site Outline       |  | Recorded Pollution Incident   |  | RAS 3 & 4 Authorisations                                       |
|  | Search Buffers (m) |  | Dangerous Substances (List 1) |  | Part A(1) Authorised Processes and Historic IPC Authorisations |
|  | 250                |  | Dangerous Substances (List 2) |  | Part A(2) and Part B Authorised Processes                      |
|  | 500                |  | Water Industry Referrals      |  | COMAH / NIHHS Sites  |
|   |                    |  | Licenced Discharge Consents   |  | Sites Determined as Contaminated Land                          |
|   |                    |  | Red List Discharge Consents   |  | Hazardous Substance Consents and Enforcements                  |

# 2. Environmental Permits, Incidents and Registers

## 2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency/Natural Resources Wales and Local Authorities reveal the following information:

### 2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

---

### 2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

---

### 2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

### 2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

---

### 2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

---

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

0

Database searched and no data found.

---

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

---

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

0

Database searched and no data found.

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

---

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

---

## 2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

0

Database searched and no data found.

---

## 2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

0

Database searched and no data found.

---

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

Database searched and no data found.

---

## 2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?

0

Database searched and no data found.










---



# 3. Landfill and Other Waste Sites Map



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-  Site Outline
-  250 Search Buffers (m)
-  500 Search Buffers (m)
-  EA/NRW Active Landfill
-  EA/NRW Historic Landfill
-  BGS / DoE Survey Landfill
-  Historic and Planned Waste Sites
-  EA/NRW Licensed Waste Site
-  Local Authority/Historical Mapping Landfill Records

# 3. Landfill and Other Waste Sites

## 3.1 Landfill Sites

3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site:

2

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1046	W	439600 410800	Site Address: Shafton Welfare Playing Fields, High Street, Shafton, Barnsley Waste Licence: Yes Site Reference: WD20 B866, 4400/B866, 20B866 Waste Type: Inert, Commercial Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 21-Jul-1992 Licence Surrendered: 28-Feb-1994 Licence Holder Address: Vicarage Street North, Wakefield Operator: British Gas Plc Licence Holder: British Gas NE Plc First Recorded: 31-Dec-1992 Last Recorded: 31-Dec-1993
Not shown	1397	NE	442000 411800	Site Address: Land at Bellholme, Warland, Todmorden Waste Licence: Yes Site Reference: 4400/B63, 41B63 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 19-Jul-1995 Licence Surrendered: Licence Holder Address: Hooton, South Wirral, Cheshire Operator: - Licence Holder: Alfred McAlpine Construction Limited First Recorded: - Last Recorded: -

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

### 3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

0

Database searched and no data found.

## 3.2 Other Waste Sites

### 3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

Database searched and no data found.

### 3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site:

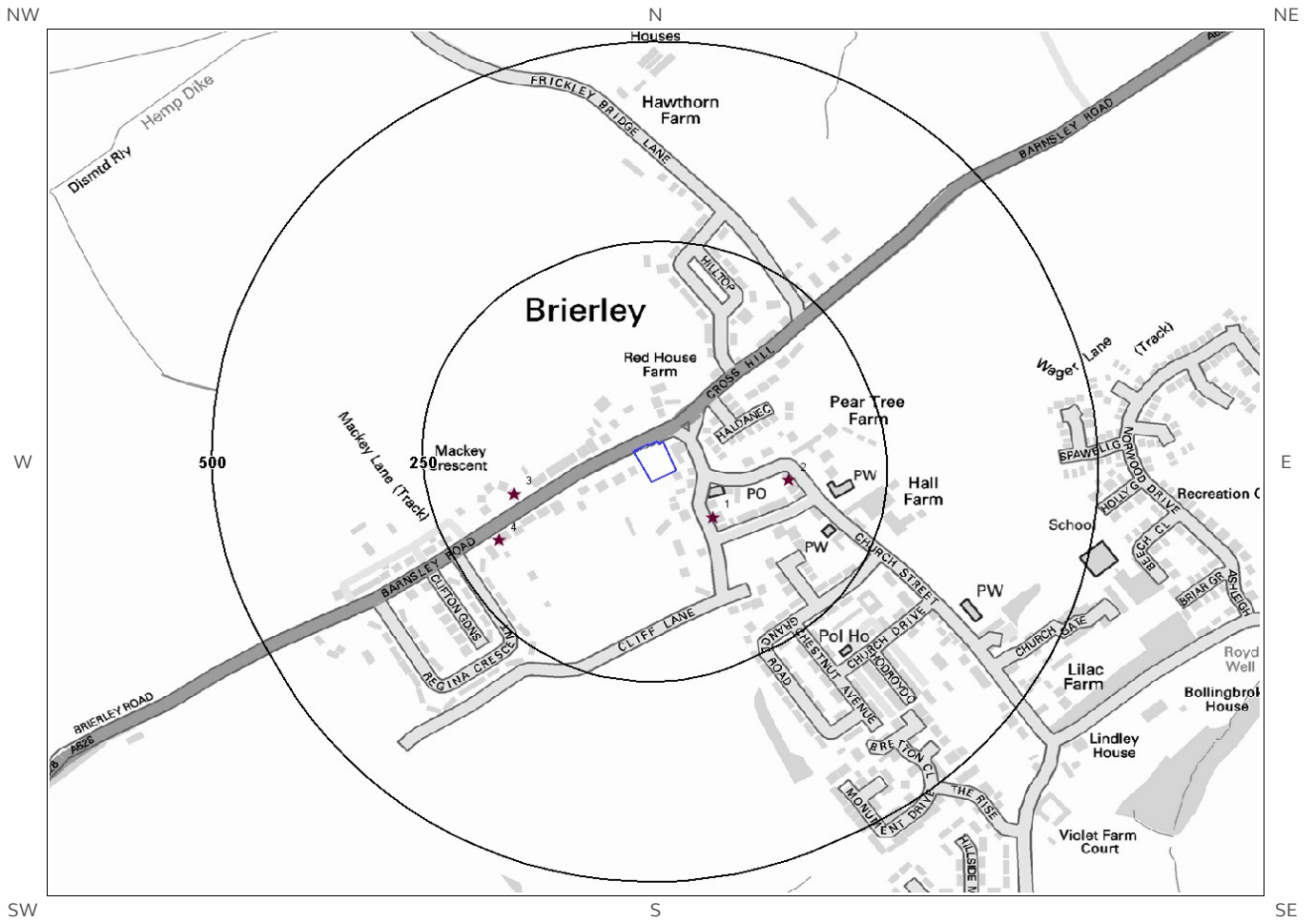
6

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
Not shown	846	SW	439900 410900	<p>Site Address: 39, Brierley Road, Shafton, Barnsley, South Yorkshire, S72 8QW            Type: Metal Recycling Site (mixed MRS's)            Size: &gt;= 25000 tonnes &lt; 75000 tonnes            Environmental Permitting Regulations (Waste) Licence Number: PJP004            EPR reference: EA/EPR/HP3494VH/T001            Operator: P J Plant &amp; Equipment Ltd            Waste Management licence No: 60571            Annual Tonnage: 74999.0</p> <p>Issue Date: 18/03/1993            Effective Date: 16/06/2010            Modified: 11/03/2008            Surrendered Date: -            Expiry Date: -            Cancelled Date: -            Status: Transferred            Site Name: P J Plant &amp; Equipment            Correspondence Address: -</p>
Not shown	846	SW	439900 410900	<p>Site Address: 39, Brierley Road, Shafton, Barnsley, S Yorks, S72 8QW            Type: Metal Recycling Site (mixed MRS's)            Size: &gt;= 25000 tonnes &lt; 75000 tonnes            Environmental Permitting Regulations (Waste) Licence Number: GEO001            EPR reference: -            Operator: George Booth &amp; Sons            Waste Management licence No: 60571            Annual Tonnage: 0.0</p> <p>Issue Date: 18/03/1993            Effective Date: -            Modified: -            Surrendered Date: -            Expiry Date: -            Cancelled Date: -            Status: Issued            Site Name: George Booth &amp; Sons            Correspondence Address: 39, Brierley Road, Shafton, Barnsley, S Yorks, S72 8QW</p>
Not shown	846	SW	439900 410900	<p>Site Address: 39, Brierley Road, Shafton, Barnsley, S Yorks, S72 8QW            Type: Metal Recycling Site (mixed MRS's)            Size: &gt;= 25000 tonnes &lt; 75000 tonnes            Environmental Permitting Regulations (Waste) Licence Number: GEO004            EPR reference: -            Operator: George Booth &amp; Sons Ltd            Waste Management licence No: 60571            Annual Tonnage: 0.0</p> <p>Issue Date: 18/03/1993            Effective Date: 25/11/2005            Modified: -            Surrendered Date: -            Expiry Date: -            Cancelled Date: -            Status: Transferred            Site Name: George Booth &amp; Sons Ltd            Correspondence Address: 39, Brierley Road, Shafton, Barnsley, South Yorkshire, S72 8QW</p>

ID	Distance (m)	Direction	NGR	Details
Not shown	1242	SW	439825 410316	<p>Site Address: Land/premises At, Engine Lane, Shafton, Barnsley, South Yorkshire, S72 8SP</p> <p>Type: Physical Treatment Facility Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: RUB015 EPR reference: EA/EPR/FP3196LD/T001 Operator: Rubber Recovery Ltd Waste Management licence No: 65385 Annual Tonnage: 344.0</p> <p>Issue Date: 28/01/2005 Effective Date: 03/12/2009 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred Site Name: Rubber Recovery Correspondence Address: -</p>
Not shown	1242	SW	439825 410316	<p>Site Address: Rubber Recovery Ltd, Engine Lane, Shafton, Barnsley, South Yorkshire, S72 8SP</p> <p>Type: 75kte HCl Waste TS + treatment Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: RUB015 EPR reference: EA/EPR/FP3196LD/V002 Operator: Rubber Recovery Ltd Waste Management licence No: 65385 Annual Tonnage: 74999.0</p> <p>Issue Date: 28/01/2005 Effective Date: 03/12/2009 Modified: 25/07/2012 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired Site Name: Rubber Recovery Ltd Correspondence Address: -</p>
Not shown	1242	SW	439825 410316	<p>Site Address: Rubber Recovery Ltd, Engine Lane, Shafton, Barnsley, South Yorkshire, S72 8SP</p> <p>Type: 75kte HCl Waste TS + treatment Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: RUB015 EPR reference: EA/EPR/FP3196LD/V002 Operator: Rubber Recovery Limited Waste Management licence No: 65385 Annual Tonnage: 74999.0</p> <p>Issue Date: 28/01/2005 Effective Date: 03/12/2009 Modified: 25/07/2012 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Rubber Recovery Ltd Correspondence Address: -</p>

# 4. Current Land Use Map



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-  Site Outline
-  Current Industrial Sites
-  Electricity Transmission Cables
-  Petrol & Fuel Sites
-  Gas Transmission Pipelines
-  Search Buffers (m)

# 4. Current Land Uses

## 4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 4

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	72	SE	Precision Engineering Yorkshire Ltd	440769 411157	Precision Engineering Yorkshire Ltd, 1, Cliff Lane, Brierley, Barnsley, S72 9HR	Precision Engineers	Engineering Services
2	133	E	A D Y Shorthouse Transport Ltd	440858 411204	A D Y Shorthouse Transport Ltd, 1, Church Street, Brierley, Barnsley, S72 9JR	Distribution and Haulage	Transport, Storage and Delivery
3	151	W	J J Electrical	440533 411186	J J Electrical, 1, Mackey Crescent, Brierley, Barnsley, S72 9LB	Electrical and Electronic Engineers	Engineering Services
4	193	SW	Hartley Engineering	440515 411129	Hartley Engineering, 43, Barnsley Road, Brierley, Barnsley, S72 9JT	Vehicle Repair, Testing and Servicing	Repair and Servicing

## 4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 0

Database searched and no data found.

## 4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site: 0

Database searched and no data found.



#### 4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site: 0

Database searched and no data found.

---

# 5. Geology

## 5.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

---

## 5.2 Superficial Ground and Drift Geology

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

---

## 5.3 Bedrock and Solid Geology

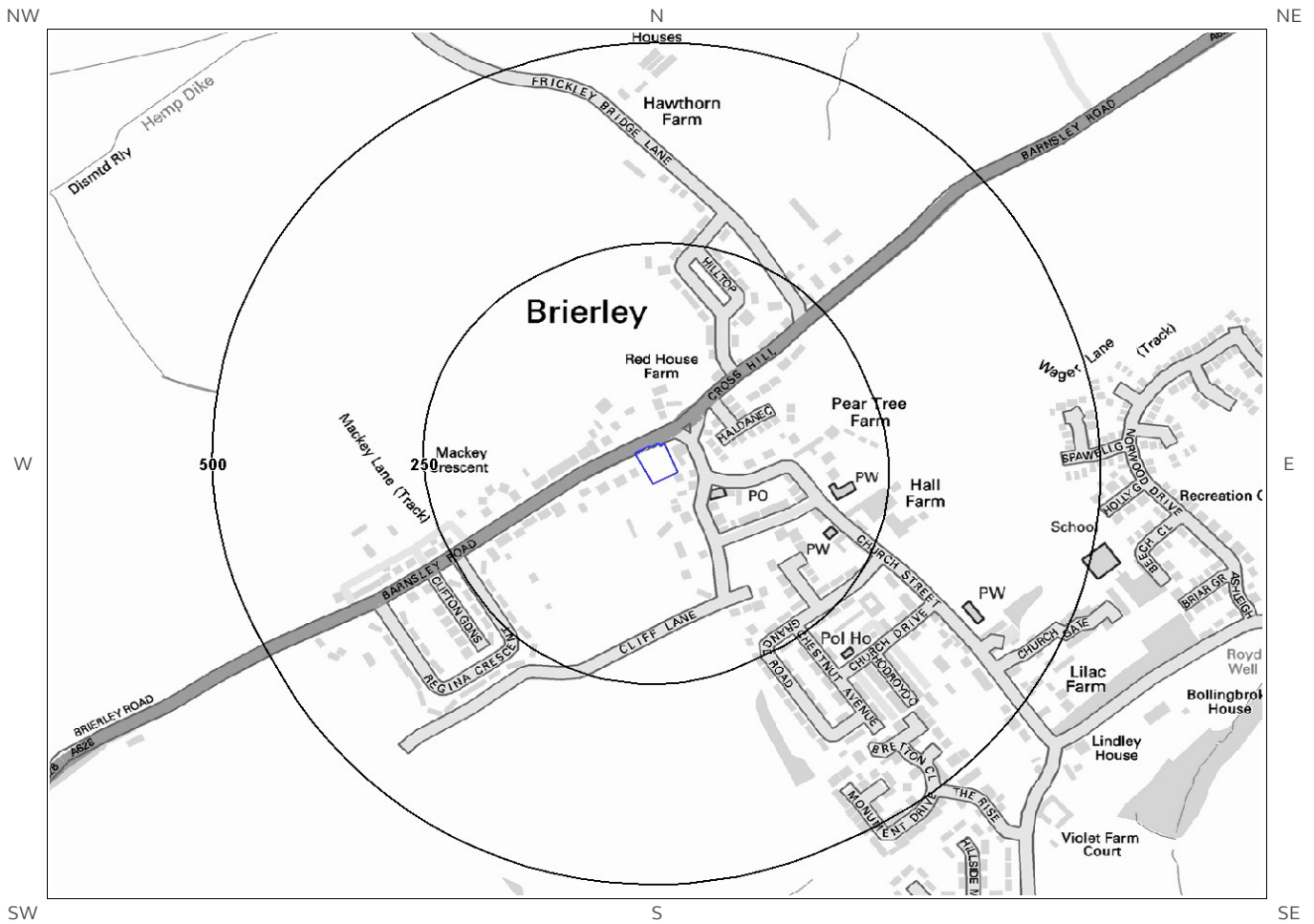
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
BYR-SDST	BRIERLEY ROCK	SANDSTONE
PUCM-MDSS	PENNINE UPPER COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE

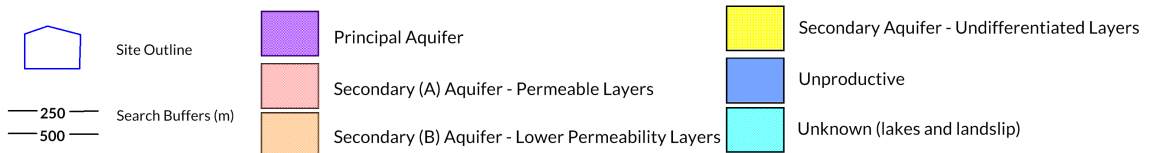
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

# 6 Hydrogeology and Hydrology

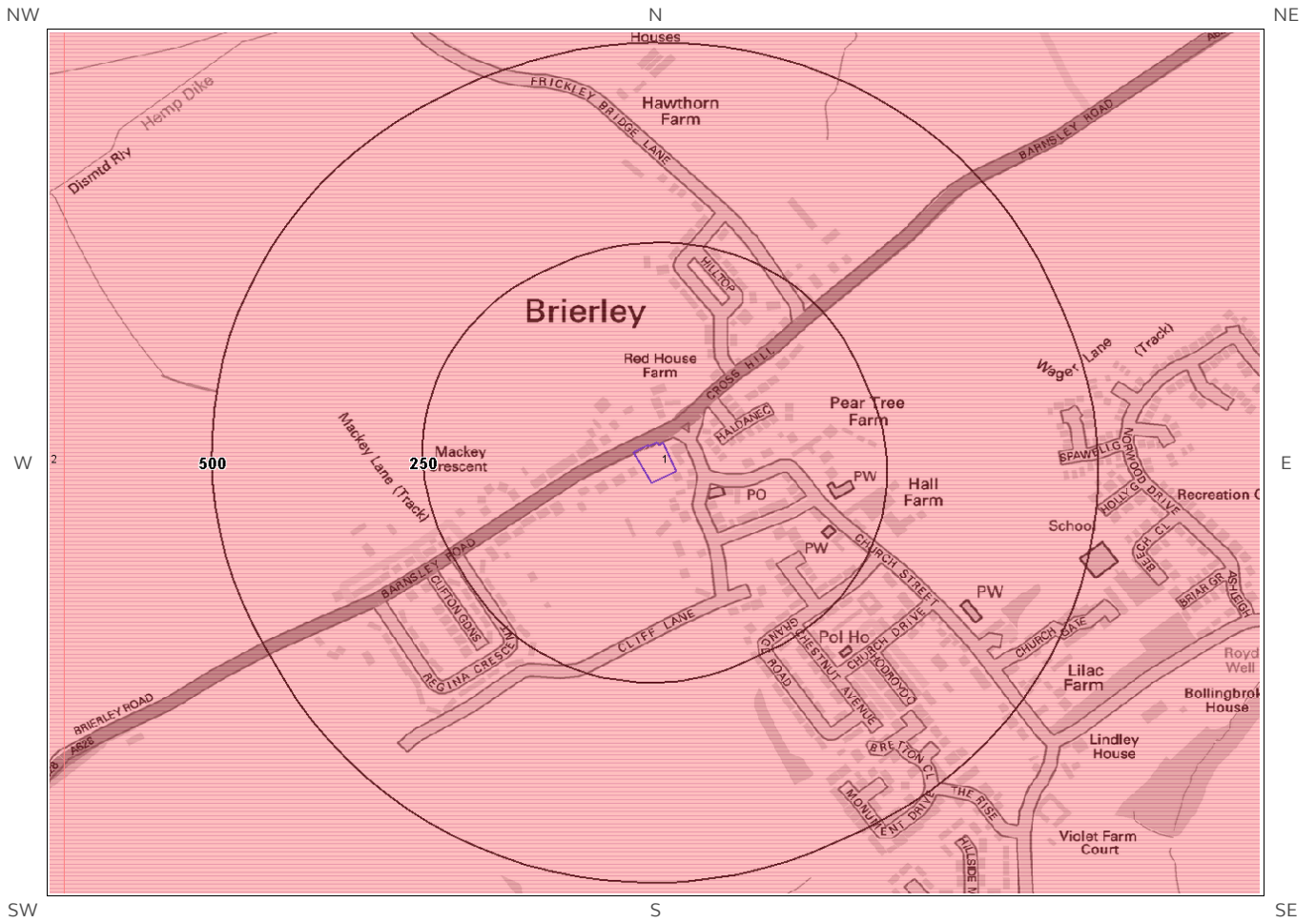
## 6a. Aquifer Within Superficial Geology



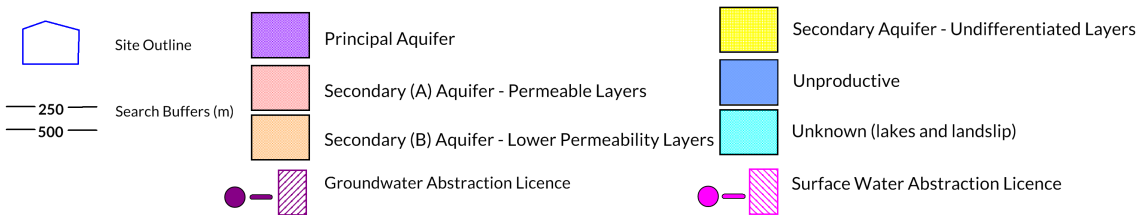
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# 6b. Aquifer Within Bedrock Geology and Abstraction Licenses



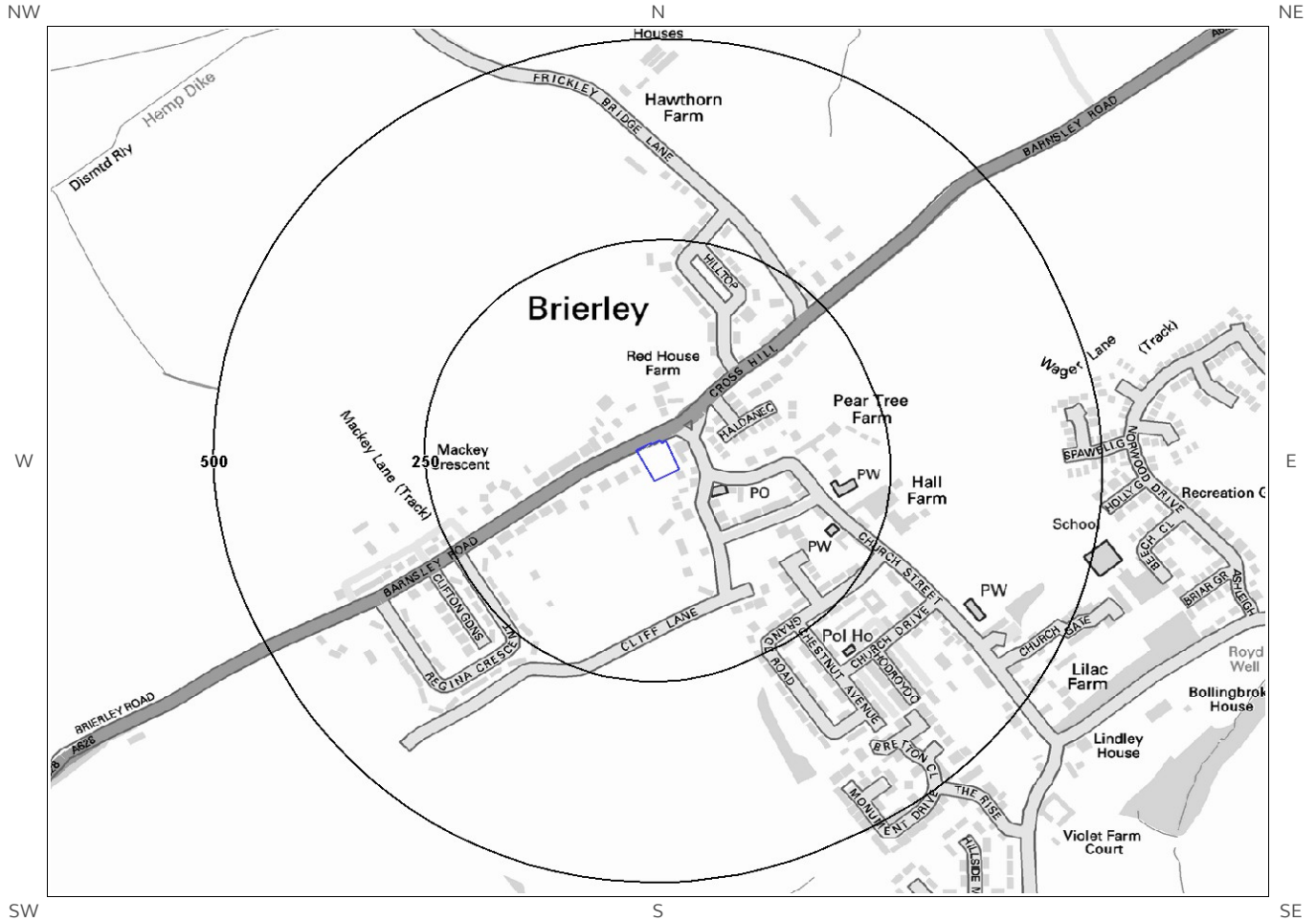
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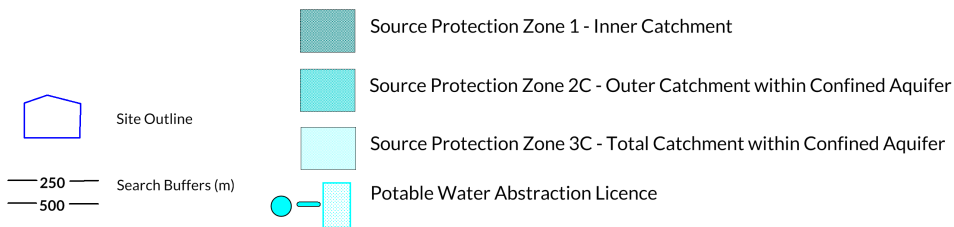




# 6d. Hydrogeology – Source Protection Zones within confined aquifer

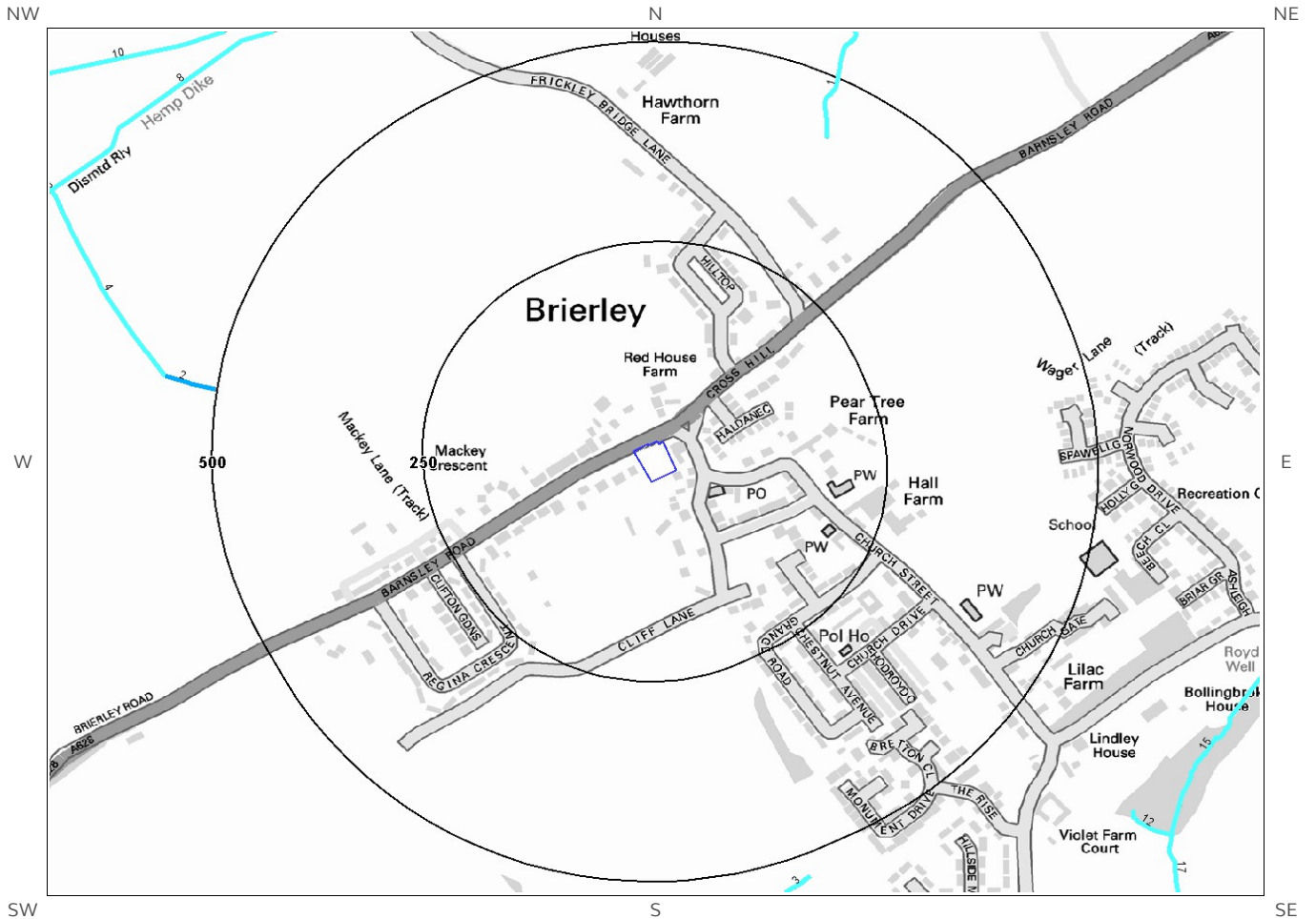


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# 6e. Hydrology – Detailed River Network and River Quality



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- |   |                    |   |                                       |  |                                     |
|---|--------------------|---|---------------------------------------|--|-------------------------------------|
|  | Site Outline       |  | Primary River                         |  | Canal                               |
|  | Search Buffers (m) |  | Secondary River                       |  | Canal Tunnel                        |
|  |                    |  | Tertiary River                        |  | Culvert                             |
|   |                    |  | Lake/Reservoir                        |  | Multiple Channel Culvert            |
|   |                    |  | Underground River (inferred)          |  | Underground River (Potential Sewer) |
|   |                    |  | General Quality Assessment: Biology   |  | Underground River (local knowledge) |
|   |                    |  | General Quality Assessment: Chemistry |  |                                     |

# 6. Hydrogeology and Hydrology

## 6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? No

Database searched and no data found.

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

## 6.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
1	0	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

## 6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

## 6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

## 6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

## 6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site? No

Database searched and no data found.

## 6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site? No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

## 6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency/Natural Resources Wales information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Minor Aquifer/High Leaching Potential	H3	Coarse textured or moderately shallow soils which readily transmit non-adsorbed pollutants and liquid discharges but have some ability to attenuate adsorbed pollutants because of their clay or organic matter content.
337	SW	Minor Aquifer/Low Leaching Potential	L	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.

Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site? No

---

**6.9.1 Biological Quality:**

Database searched and no data found.

---

**6.9.2 Chemical Quality:**

Database searched and no data found.

---

**6.10 Detailed River Network**

Are there any Detailed River Network entries within 500m of the study site? Yes

The following Detailed River Network records are represented on the Hydrology Map (6e):

ID	Distance (m)	Direction	Details	
1	426	NE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined

---

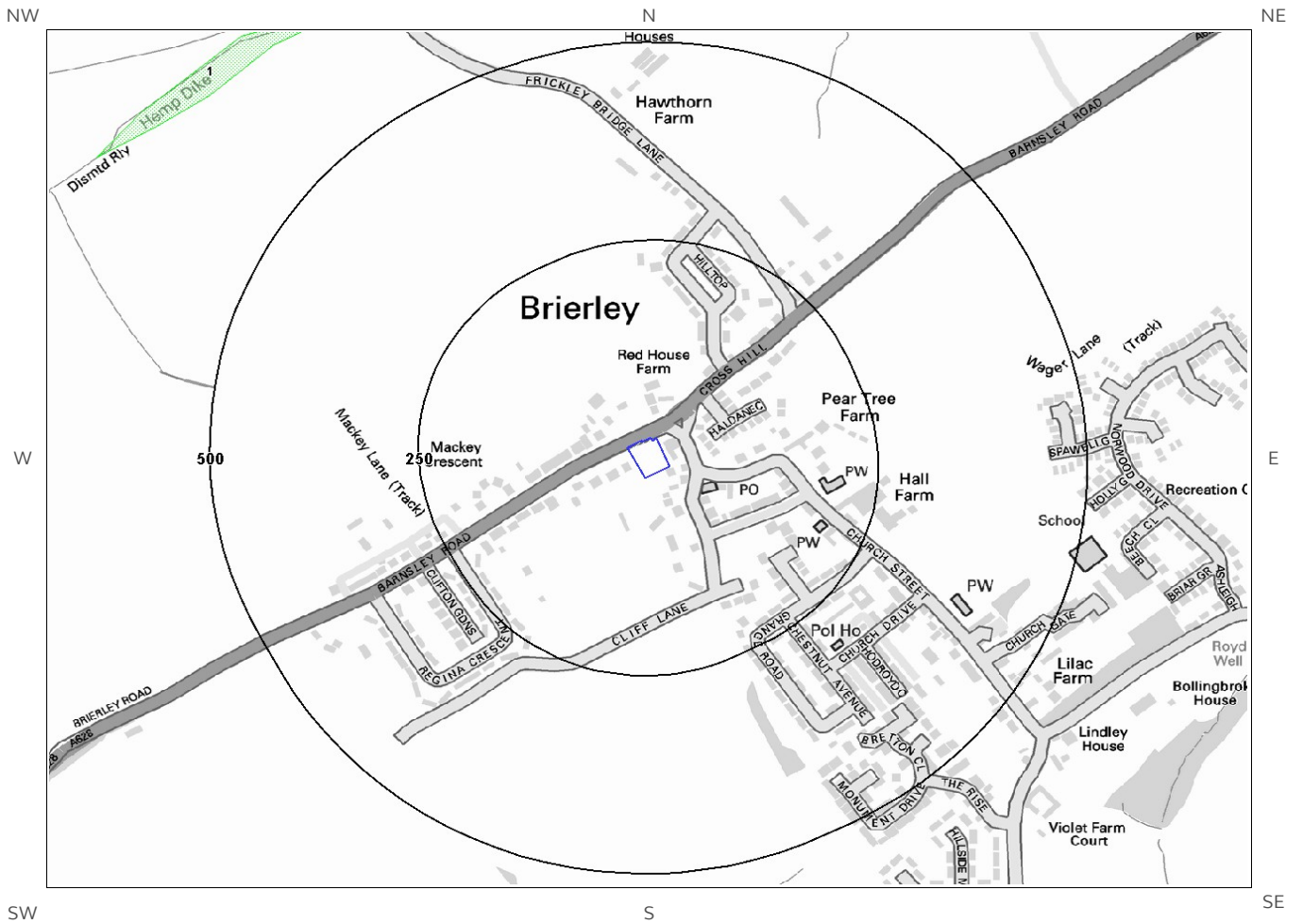
**6.11 Surface Water Features**

Are there any surface water features within 250m of the study site? No

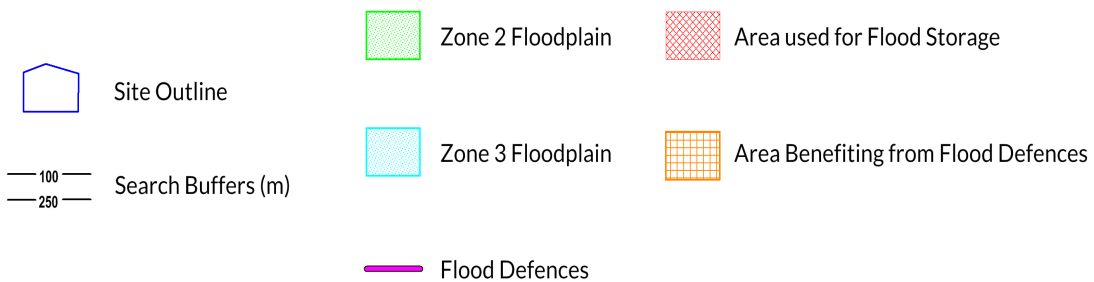
Database searched and no data found.

---

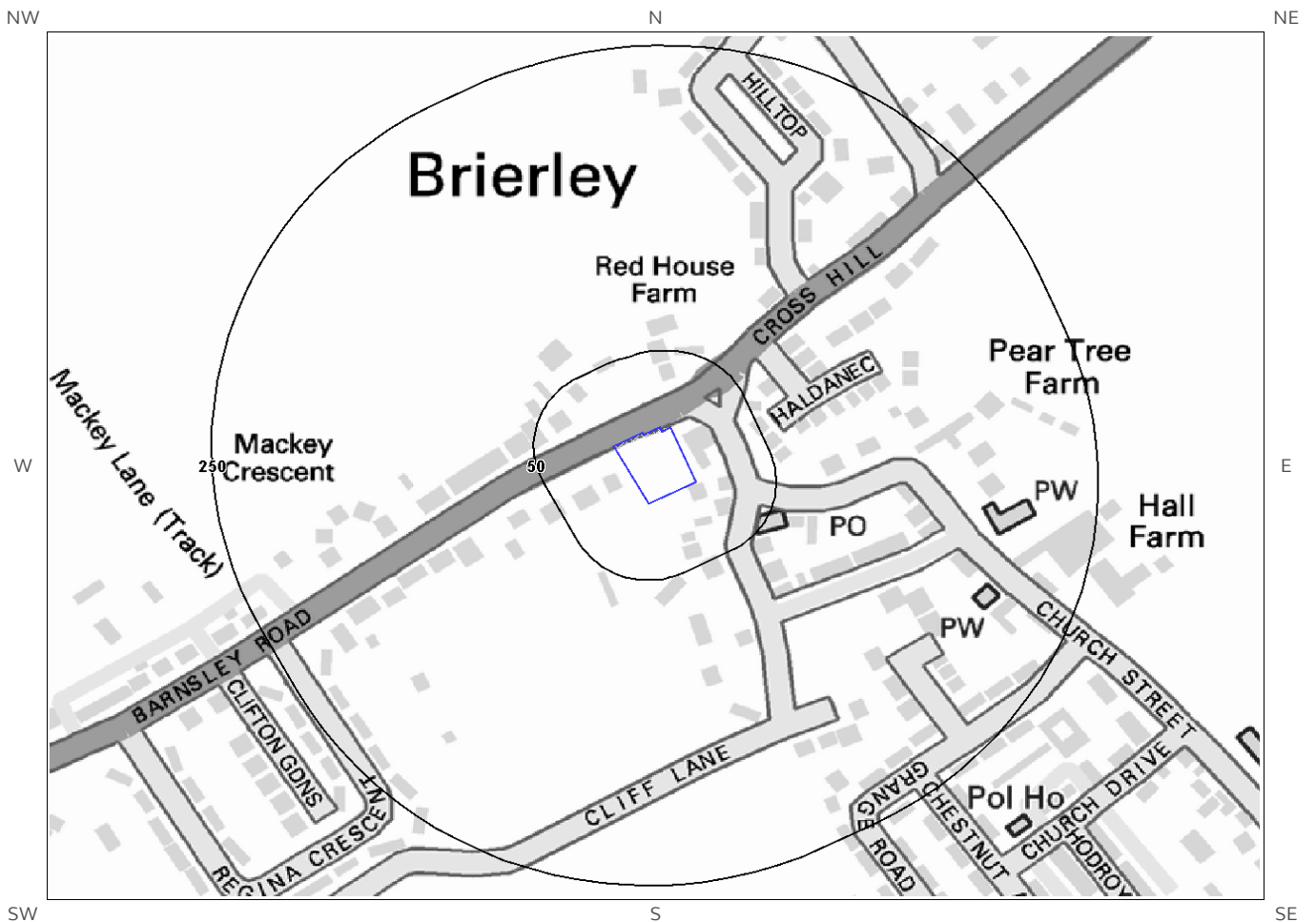
# 7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)



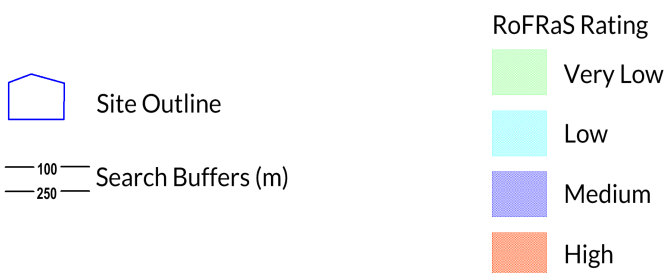
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# 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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# 7 Flooding

## 7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 2 floodplain? No

Environment Agency/Natural Resources Wales Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

Database searched and no data found.

---

## 7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 3 floodplain? No

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

Database searched and no data found.

---

## 7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

What is the highest risk of flooding onsite? Very Low

The Environment Agency/Natural Resources Wales RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

---

## 7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? No  
Database searched and no data found.

---

## 7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

---

## 7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site?

No

---

## 7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding?

Clearwater Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

---

7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Limited potential

Where limited potential for groundwater flooding to occur is indicated, this means that although given the geological conditions there may be a groundwater flooding hazard, unless other relevant information, e.g. records of previous flooding, suggests groundwater flooding has occurred before in this area, you need take no further action in relation to groundwater flooding hazard.

---

## 7.8 Groundwater Flooding Confidence Areas

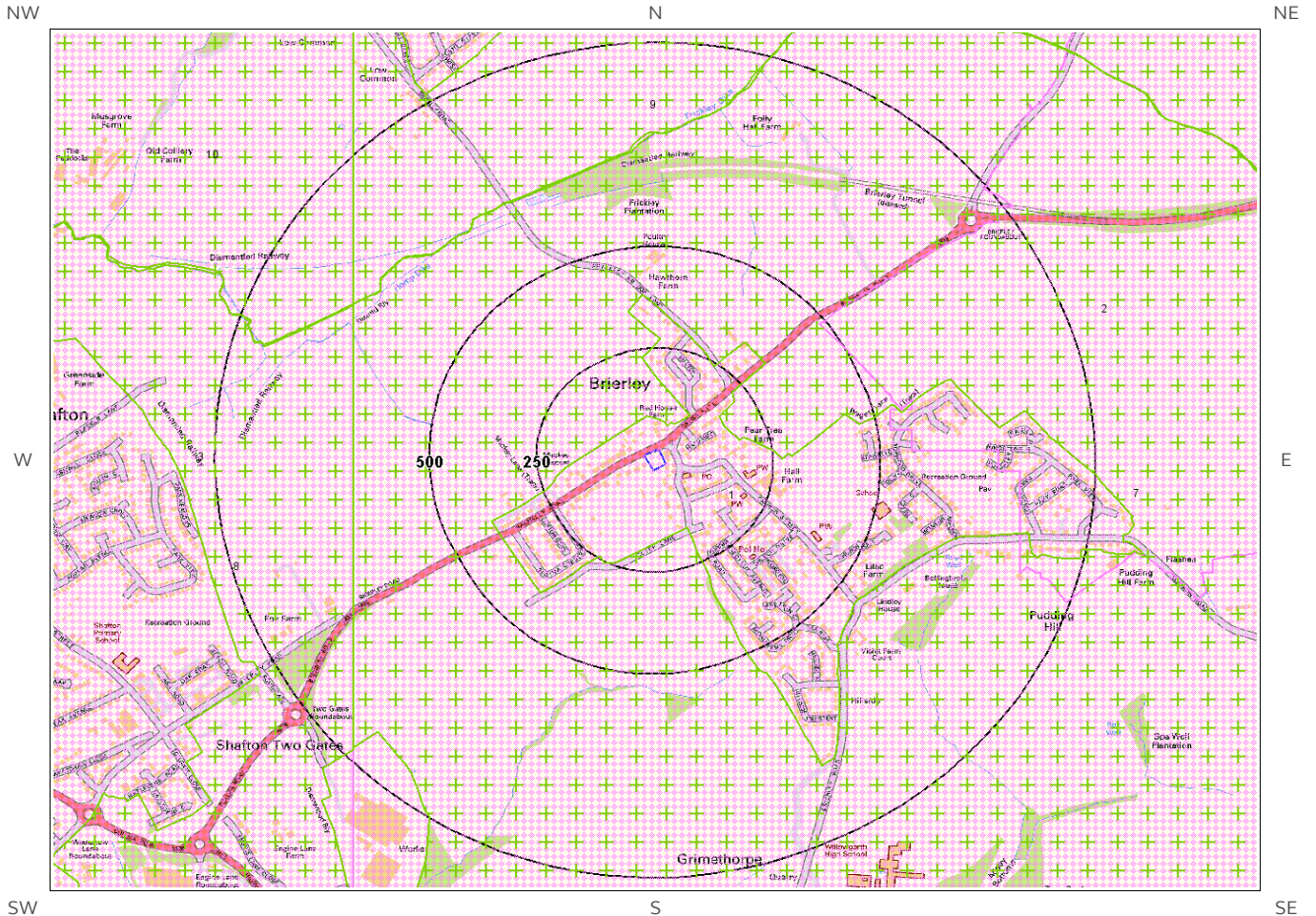
What is the British Geological Survey confidence rating in this result?

Low

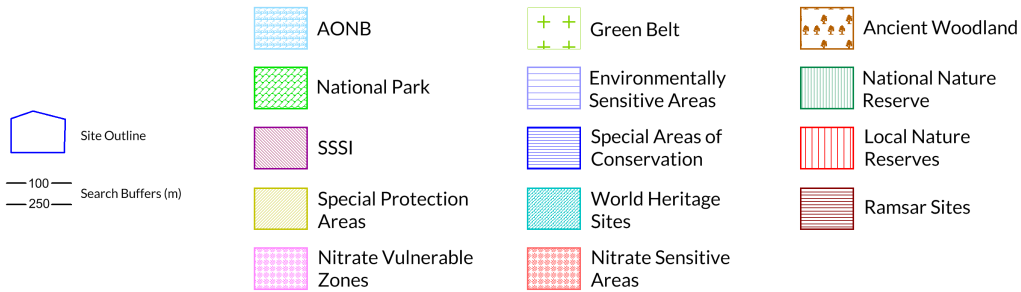
Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

# 8. Designated Environmentally Sensitive Sites Map



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# 8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Yes

---

## 8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

0

Database searched and no data found.

---

## 8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

---

## 8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

---

## 8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

---

## 8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

---

**8.6 Records of Ancient Woodland within 2000m of the study site:**

Database searched and no data found.

---

0

**8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:**

Database searched and no data found.

---

0

**8.8 Records of World Heritage Sites within 2000m of the study site:**

Database searched and no data found.

---

0

**8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:**

Database searched and no data found.

---

0

**8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:**

Database searched and no data found.

---

0

**8.11 Records of National Parks (NP) within 2000m of the study site:**

Database searched and no data found.

---

0

**8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:**

Database searched and no data found.

---

0

### 8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

6

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
1	0	On Site	Existing	DEFRA
2	485	NE	Existing	DEFRA
3	675	W	Existing	DEFRA
Not shown	1201	S	Existing	DEFRA
Not shown	1217	N	Existing	DEFRA
Not shown	1388	SW	Existing	DEFRA

### 8.14 Records of Green Belt land within 2000m of the study site:

6

Green Belt data contains Ordnance Survey data © Crown copyright and database right [2015].

ID	Distance	Direction	Green Belt Name	Local Authority Name
7	63	N	Liverpool, Manchester and West Yorks Greenbelt	Barnsley District (B)
8	675	W	Liverpool, Manchester and West Yorks Greenbelt	Barnsley District (B)
9	684	NW	Liverpool, Manchester and West Yorks Greenbelt	Wakefield District (B)
10	771	NW	Liverpool, Manchester and West Yorks Greenbelt	Wakefield District (B)
Not shown	1201	S	Liverpool, Manchester and West Yorks Greenbelt	Barnsley District (B)
Not shown	1388	SW	Liverpool, Manchester and West Yorks Greenbelt	Barnsley District (B)

# 9. Natural Hazards Findings

## 9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a **Groundsure Geo Insight**, available from our [website](#). The following information has been found:

### 9.1.1 Shrink Swell

What is the maximum Shrink-Swell\* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
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.

### 9.1.2 Landslides

What is the maximum Landslide\* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
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.

### 9.1.3 Soluble Rocks

What is the maximum Soluble Rocks\* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

\* This indicates an automatically generated 50m buffer and site.

### 9.1.4 Compressible Ground

What is the maximum Compressible Ground\* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

---

**Hazard**

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.

---

### 9.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks\* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

---

**Hazard**

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.

---

### 9.1.6 Running Sand

What is the maximum Running Sand\*\* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

---

**Hazard**

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.

---

## 9.2 Radon

### 9.2.1 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 not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

---



---

\* This indicates an automatically generated 50m buffer and site.



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?  No radon protective measures are necessary.

# 10. Mining

## 10.1 Coal Mining

Are there any coal mining areas within 75m of the study site? Yes

The following coal mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

## 10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary? Yes

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

Distance (m)	Direction	Name	Commodity	Assessment of likelihood
0.0	On Site	Sheffield Area	Iron Ore	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

Past underground mine workings may occur. The rock types present in these areas are such that small mineral veins may be present on which it is possible that small scale mining has been undertaken and/or it is possible that limited underground extraction of other materials may have occurred. All such occurrences are likely to be of minor localised extent and infrequent. It should be noted, however, that there is always the possibility of the existence of other sub-surface excavations, such as wells, cess pits, follies, air raid shelters/bunkers and other military structures etc. that could affect surface ground stability but which are outside the scope of this dataset. However, if in a coalfield area you should still consider a Coal Authority mining search for the area of interest.

## 10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No  
Guidance: No Guidance Required.

# Contact Details

**emapsite**  
Telephone: 0118 9736883  
sales@emapsite.com

## British Geological Survey Enquiries

Kingsley Dunham Centre  
Keyworth, Nottingham NG12 5GG  
Tel: 0115 936 3143.  
Fax: 0115 936 3276.  
Email:

Web: [www.bgs.ac.uk](http://www.bgs.ac.uk)

BGS Geological Hazards Reports and general geological enquiries:  
[enquiries@bgs.ac.uk](mailto:enquiries@bgs.ac.uk)

## Environment Agency

National Customer Contact Centre, PO Box 544  
Rotherham, S60 1BY  
Tel: 03708 506 506

Web: [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

Email: [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)

## Public Health England

Public information access office  
Public Health England, Wellington House  
133-155 Waterloo Road, London, SE1 8UG  
[www.gov.uk/phe](http://www.gov.uk/phe)

Email: [enquiries@phe.gov.uk](mailto:enquiries@phe.gov.uk)  
Main switchboard: 020 7654 8000

## The Coal Authority

200 Lichfield Lane  
Mansfield  
Notts NG18 4RG  
Tel: 0345 7626 848  
DX 716176 Mansfield 5  
[www.coal.gov.uk](http://www.coal.gov.uk)

## Ordnance Survey

Adanac Drive, Southampton  
SO16 0AS  
Tel: 08456 050505

## Local Authority

Authority: Barnsley Metropolitan Borough Council  
Phone: 01226 770770  
Web: <http://www.barnsley.gov.uk/>  
Address: PO Box 634, Barnsley, South Yorkshir, S70 9GG

## Gemapping PLC

Virginia Villas, High Street, Hartley Witney,  
Hampshire RG27 8NW  
Tel: 01252 845444

**emapsite™**



**Public Health England**



**The Coal Authority**





**Groundsure**

LOCATION INTELLIGENCE

**emapsite™**

Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England who retain the Copyright and Intellectual Property Rights for the data.

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This report has been prepared in accordance with the Groundsure Ltd standard Terms and Conditions of business for work of this nature.

# Standard Terms and Conditions

Groundsure's Terms and Conditions can be viewed online at this link:  
<https://www.groundsure.com/terms-and-conditions-sept-2016>

## **Appendix II**

### Walkover Photographs





## **Appendix III**

### Coal Authority Report



The Coal  
Authority

Resolving the **impacts** of mining

# CON29M Non-Residential Mining Report

LINCOLN HOUSE  
7 BARNSELY ROAD  
BRIERLEY  
BARNSELY  
S72 9JT

Date of enquiry: 22 May 2017  
Date enquiry received: 22 May 2017  
Issue date: 22 May 2017

Our reference: 51001459357001  
Your reference: 13187/5001



# CON29M Non-Residential Mining Report

This report is based on, and limited to, the records held by the Coal Authority and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

## Client name

Met Engineers Ltd

## Enquiry address

LINCOLN HOUSE, 7 BARNSELY ROAD, BRIERLEY,  
BARNSELY, S72 9JT


## How to contact us


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

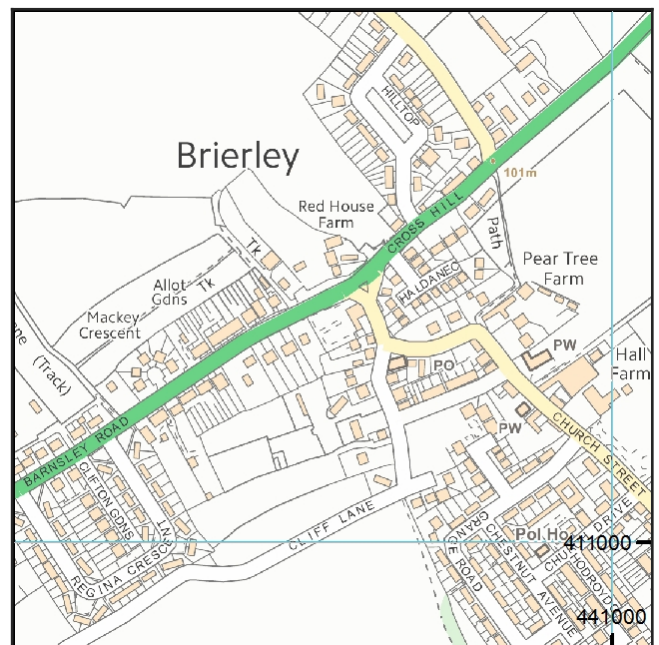
200 Lichfield Lane  
Mansfield  
Nottinghamshire  
NG18 4RG

[www.groundstability.com](http://www.groundstability.com)

 /company/the-coal-authority

 /thecoalauthority

 /coalauthority



Approximate position of property



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# Summary

Has the search report highlighted evidence or potential of		
1	Past underground coal mining	Yes
2	Present underground coal mining	No
3	Future underground coal mining	Yes
4	Mine entries	Yes
5	Coal mining geology	No
6	Past opencast coal mining	No
7	Present opencast coal mining	No
8	Future opencast coal mining	No
9	Coal mining subsidence	Yes
10	Mine gas	No
11	Hazards related to coal mining	No
12	Withdrawal of support	Yes
13	Working facilities order	No
14	Payments to owners of former copyhold land	No
15	Information from the Cheshire Brine Subsidence Compensation Board	No

Further recommended reports
Mine entry interpretive report
Mine entry plan and data sheets
Coal mining subsidence claims 50m buffer report
Coal mining subsidence claims history

**For detailed findings, please go to page 4.**

# Detailed findings

## 1. Past underground coal mining

The property is in a surface area that could be affected by underground mining in 4 seams of coal at 180m to 870m depth, and last worked in 1954.

Any movement in the ground due to coal mining activity should have stopped.

## 2. Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

## 3. Future underground coal mining

The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

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

## 4. Mine entries

Within, or within 20 metres of, the boundary of the property there is 1 mine entry, the approximate position of which is shown on the enquiry boundary plot.

There is no record of what steps, if any, have been taken to treat the mine entry.

For an additional fee, the Coal Authority can provide a Mine Entry Interpretive Report. The report will provide a separate assessment for the mine entry/entries referred to in this report. It gives an opinion on the likelihood of mining subsidence damage caused from ground movement as a consequence of the mine entry/entries. It also gives details of the remedies available for subsidence damage where the mine entry was sunk in connection with coal mining.

Please note that it may not be possible to produce a report if the main building to the property cannot be identified from Coal Authority plans (ie for development sites and new build).

For further advice on how to order this additional information please visit [www.groundstability.com](http://www.groundstability.com).

### **5. Coal mining geology**

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

### **6. Past opencast coal mining**

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

### **7. Present opencast coal mining**

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

### **8. Future opencast coal mining**

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

### **9. Coal mining subsidence**

There are 1 claim(s) within 50 metres of the property boundary that do not match the property address. These are shown on the enquiry boundary plot.

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

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

If further subsidence damage claims information is required, please visit [www.groundstability.com](http://www.groundstability.com).

### **10. Mine gas**

The Coal Authority has no record of a mine gas emission requiring action.

### **11. Hazards related to coal mining**

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

## **12. Withdrawal of support**

The property is in an area where a notice to withdraw support was given in 1983.

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

## **13. Working facilities order**

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

## **14. Payments to owners of former copyhold land**

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

## **15. Information from the Cheshire Brine Subsidence Compensation Board**

The property lies outside the Cheshire Brine Compensation District.

# Comments on the Coal Authority information

The Coal Authority own the copyright in this report and the information used is protected by our database right.

The boundary plot shows the approximate location of the disused mine entry/entries referred to in this report. For reasons of clarity, mine entry symbols may not be drawn to the same scale as the plan.

Property owners have the benefit of statutory protection (under the Coal Mining Subsidence Act 1991\*). This contains provision for the making good, to the reasonable satisfaction of the owner, of physical damage from disused coal mine workings including disused coal mine entries. A leaflet setting out the rights and obligations of either the Coal Authority or other responsible persons under the 1991 Act can be obtained by visiting [www.groundstability.com](http://www.groundstability.com).

If you wish to discuss the relevance of any of the information contained in this report, you should seek the advice of a qualified mining engineer or surveyor. If you or your advisor wish to examine the source plans from which the information has been taken, these are available to view, free of charge, at our Head Office in Mansfield. To book an appointment please ring 01623 637225. Should you or your advisor wish to carry out a physical investigation that may enter, disturb or interfere with any disused mine entry, prior permission of the owner must be sought. For coal mine entries, the owner will normally be the Coal Authority.

The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency call out facility in coalfield areas to assess the public safety implications of mining features (including disused mine entries). Our emergency telephone number is 01623 646333.

\*Note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore if development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before

beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed. This is necessary due to the public safety implications of any development in these circumstances.

## Additional remarks

Information provided by the Coal Authority in this report is compiled in response to the Law Society's Con29M Coal Mining and Brine Subsidence Claim enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL. Please note that Brine Subsidence Claim enquiries are only relevant for England and Wales. This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions applicable at the time the report was produced.

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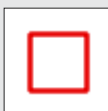
## Alternative formats

If you would like this report in an alternative format, please contact our communications team.

# Enquiry boundary

## Key

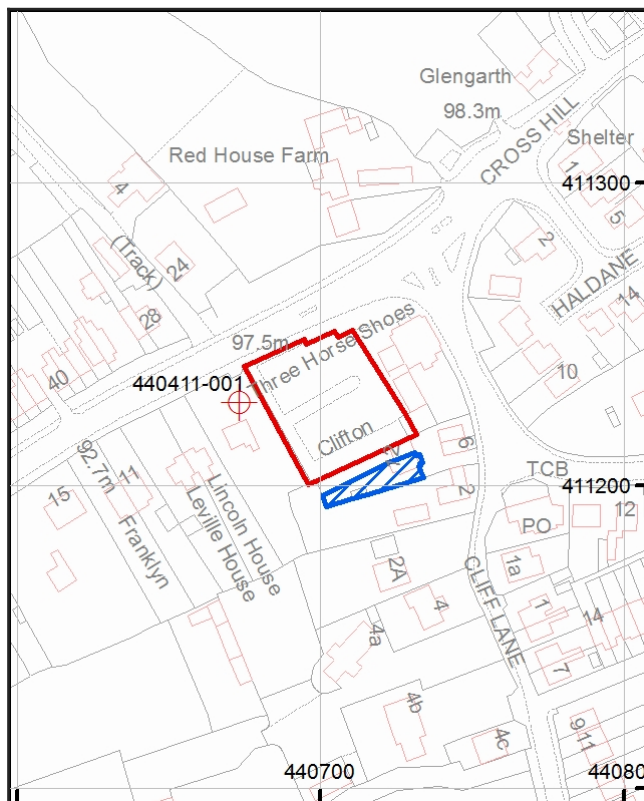
Approximate position of enquiry boundary shown



Disused mineshaft



Coal claims




## How to contact us

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 /thecoalauthority

 /coalauthority

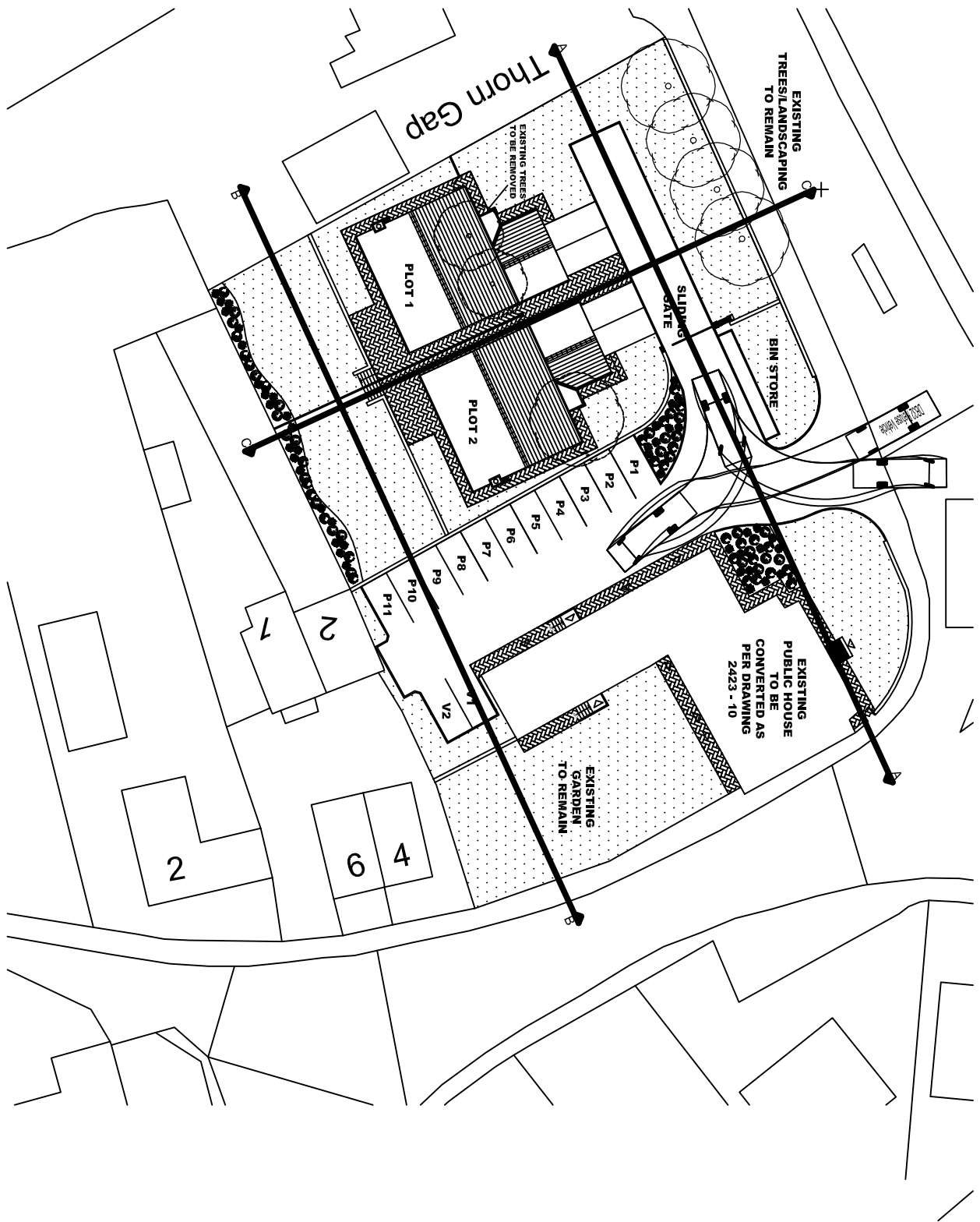


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## **Appendix IV**

### Proposed Site Layout



## **Appendix V**

### **Risk Matrix**

Severity	Consequence
Very Low	Nil or slight injury/ illness ( <i>possibly requiring first aid treatment on site</i> ), property damage or environmental issue.
Low	Minor injury/ illness ( <i>requiring medical treatment off site</i> ), property damage or environmental issue.
Moderate	Moderate injury or illness ( <i>including those where a person would be off work for up to 7 days or would be on light duties</i> ), property damage or environmental issue.
High	Major injury or illness ( <i>including those where a person would be off work for more than 7 days</i> ) property damage or environmental issue.
Very High	Fatal or long term disabling injury or illness. Massive property damage or environmental issue.

Potential Risk		Likelihood				
		Very Low	Low	Moderate	High	Very High
Severity	Very Low	Very Low	Low	Low	Moderate	Moderate
	Low	Low	Low	Low/Moderate	Moderate	Moderate/High
	Moderate	Low	Low/Moderate	Moderate	Moderate/High	High
	High	Moderate	Moderate	Moderate/High	High	High/Very High
	Very High	Moderate	Moderate/High	High	High/Very High	Very High