



## Phase I Environmental and Mining Report

Application for the Development of Houghton Main, Renewable Energy Park (REP) comprising a Timber Resource Recovery Centre and an Anaerobic Digestion Facility (AD) including Associated Infrastructure, Barnsley, S72 0HN

**Peel Environmental Management (UK) Limited and Houghton Main Waste Limited**



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## Phase I Environmental and Mining Report

Project:	Renewable Energy Park, Houghton Main, Barnsley, S72 0HN
For:	Peel Environmental Management (UK) Limited and Houghton Main Waste Limited
Ref:	CRM.066.001
Status:	Final
Date:	April 2014
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## 12.1 INTRODUCTION

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### 12. Background

12.1.1 Enzygo Limited has been commissioned by Peel Environmental Management (UK) Limited and Houghton Main Waste Limited (Peel) to prepare a Phase I Environmental and Mining Report for a proposed Renewable Energy Park (REP) comprising a Timber Resource Recovery Centre (TRRC) and an Anaerobic Digestion Facility and (AD) including Associated infrastructure on land located off the Houghton Main Colliery Roundabout, Park Spring Road, Houghton Main, Barnsley.

#### Proposed Development

12.1.2 An initial proposed site Layout plan has been provided which includes the development of the site as an AD Facility and TRRC. A copy of the preliminary proposed site layout is included in the Drawing section of this report.

#### Objectives

12.1.3 The objectives of the study are to:

- Review historical plans, geology, hydrogeology, site sensitivity, mining records and contaminated land information provided by the local authority in order to complete a Desk Study. A Groundsure report has been provided, a copy of which is included in Appendix A;
- Assess the implications of any potential environmental risks, liabilities and development constraints associated with the site in relation to the future use of the site and in relation to off-site receptors;
- Provide a factual and interpretative report relating to the desk study; and
- Provide preliminary geotechnical recommendations in relation to environmental risk, potential remedial options and initial assessment of ground engineering considerations.

## Risk Classification

12.1.4 Enzygo has utilised the available information, together with our experience to assess the likely risks to development from land quality issues. Definitions of the risk terms used are provided on the following table.

Risk	Description
Negligible	No contamination risk has been identified which is likely to affect development.
Low	No significant contaminated land risks have been encountered affecting development and a low risk that remediation will be required.
Low-Moderate	There are unlikely to be significant contaminated land issue associated with the site which will adversely affect its re-development. However, minor or localised contamination may be present requiring remediation. Remediation should be possible under a discovery strategy and with a call out service.
Moderate	Some potential contaminated land risks have been encountered or identified which may affect re- development. The risks identified are unlikely to affect the entire site or preclude development. Remediation is considered feasible as part of the development process and no further investigation is considered necessary.
Moderate-High	Some potentially significant contaminated land risks have been identified at the property that requires remediation. It is recommended that a separate remedial methodology is prepared supported by a site specific risk assessment
High	Significant potential contaminated land risks have been identified and remediation is required supported by further intrusive ground investigation, risk assessment and remedial design.

12.1.5 Where adverse risks from ground instability are identified these are discussed within the report.

## SITE SETTING

### Site Description

Item	Description
Site Address	Houghton Main site, off Park Spring Road and Houghton main colliery roundabout, Houghton, nearest post code S72 0HN.
National Grid Reference	441652,406467.
Site Area	Approximately 4.14ha

### Current Site Description

12.1.6 The following site description has been compiled from the site inspection undertaken by an experienced environmental consultant, together with current maps and aerial photographs.

12.1.7 The site is currently comprises overgrown derelict land with shrub bushes and rough grassland.

A former railway embankment is shown on the north west boundary of the site.

12.1.8 There are no public restrictions on the site and there are numerous dog walking paths traversing the site.

12.1.9 Park Spring Road marks the eastern boundary of the site. There are no buildings currently on site.

Two metal pipes are shown in the centre of the site. These may be possible installations.

12.1.10 The site is accessed from the Houghton Main Colliery Roundabout to the south east of the site.

12.1.11 There do not appear to be any drains onsite.

12.1.12 The River Dearne is shown 10m to the south of the site.

### Surrounding Area

12.1.13 Land uses surrounding the site are summarised as follows:

Direction	Land Use
South	Open space, River Dearne and flood plain. SE corner commercial building (coal bed methane facility)
East	Park Spring Road (A6195), car parking associated with the commercial unit/warehouse, Large docking warehouse/commercial unit.
West	Old railway embankment open scrub land.
North	Park Spring Road (A6195) and open fields.

12.1.14 No significant contamination risk to the site is noted.

## SITE HISTORY

12.1.15 A review of historical Ordnance Survey maps and information pertinent to the site and within a 250m radius is summarised below:

Potentially Contaminative Historical Land Use		
Map Edition	Site	Surrounding Area
1890	Mineral railway within SW corner of the site. Remainder of the site comprises open fields. This railway line is shown on an embankment	Open fields surround the site, River Dearne 4m NW. Park Field House 250m NE. Houghton Main colliery 300m SE. Mineral Railway crossed the River Dearne 4m NW.
1906	A second railway line (Midland Railway) is present to the north east of the existing line with a set of siding in-between. A further line (Mineral Railway) is shown dissecting the site into two halves from the north to the south east. A third line (Dearne Valley Railway) is shown crossing the far northern corner of the site. All the additional lines are shown on embankments. A foot path is shown crossing the centre of the site.	Houghton Main Colliery has enlarged and now includes a Sewerage works 300m SE. Houghton Junction is shown 250m NW.
1931-1955	Foot path no longer shown.	Houghton Main Colliery has enlarged to the Wand N and includes numerous spoil heaps and an aerial cable.
1961-1967	Foot path shown on the S boundary of the northern railway (northern section of the site).	Houghton Main colliery shown as Mine. Spoil heaps shown 100m W.
1980	The additional tracks to the NE of the original line and the line dissecting the site are not shown. The central railway is shown as a dismantled railway. An additional line is shown on the NW boundary of the site which connects the line to the SW with the line to N. A further branch line is shown off the NW line which dissects the site and loops back onto the previous line to the N. A sludge pit is shown within the W of the site.	Mine renamed Houghton Main Colliery and totally reconfigured with a number of new scattered buildings in the area of the former spoil heaps including the main winching buildings and three conveyors. One of which is located 50m SE. Dearne railway shown as dismantled. The river Dearne has been realigned and now in on an embankment to the S and W of the site.
1983-1993	The branch line to the N is shown as dismantled.	Houghton Main Colliery has enlarged NE with a new conveyor linked the colliery with a new spoil heaps to the NE. Two tanks are also shown associated with the main building.
2002	The Railway to the S is not shown. The site is shown as open space with the exception of one previous railway embankment along the NW boundary of the site.	Houghton Main Colliery has been demolished and is shown as Disused Works with no buildings. The Spoil heaps to the NE still remains. A road and roundabout are shown on the eastern boundary of the site.
2012	The railway to the S and N are not shown and the perimeter railway along the northern western boundary is shown as dismantled.	A large commercial building is shown in the area of the former Houghton Main Colliery site 50m to 300m E of the site. A smaller commercial building is shown 10m SE of the site and to the S of the roundabout. The roundabout is referenced Houghton Main colliery Roundabout.

12.1.16 There is a low risk associated with the previous railway lines and sidings across the site.

12.1.17 Evidence supplied by the Coal Authority and the South Yorkshire Mining Advisory Service indicates that the site was used as an open cast coal pit from 1997 to 2000. There are no available historical plans for this time period. The open cast works was backfilled with compacted earthworks materials. There is a low to moderate risk associated with the backfill materials.

12.1.18 No other significant risks are identified.

## ENVIRONMENTAL SETTING

### Ground Conditions

12.1.19 The British Geological Survey (BGS) indicates that the site is underlain by the following geological sequence:

Geological Unit	Type	Description	Aquifer Classification
Drift.	Alluvium.	Clay and Silt.	Secondary (A).
Solid.	Middle Coal Measures.	Mudstone, Siltstone Sandstone and Coal.	Secondary (A).

12.1.20 Made Ground has been recorded on the site. This is associated with the backfill of the open cast coal pit. The permeability of the Made Ground is shown as very high to very low reflecting the mixed nature of the materials.

12.1.21 There are no records of landslip within 500m of the site.

12.1.22 Records of background soil chemistry do not show any elevated concentrations.

12.1.23 Boreholes records for the site indicate the presence of coal seams interbedded with sandstone and limestone although the majority of these have been removed as part of the open cast operations. There may however be remnant coal seams outside the areas of excavation to the NW of the site.

12.1.24 There is a normal fault on site which has been inferred from the coal seams. It is likely that this has been removed during the open cast operation.

### Groundwater

12.1.25 The recorded permeability of the drift geology is very low to low reflecting the cohesive nature of these materials. The recorded permeability of the solid geology depends on the classification as a sandstone, siltstone or mudstone and varies accordingly from low to high and has fracture flow type. The permeability of the materials underneath the site is dominated by the Made Ground.

12.1.26 The Ground Sure Report shows the site to be outside of any Source Protection Zones.

12.1.27 There are no groundwater abstraction licenses within 1000m of the site.

BGS records show the site to have a high risk to groundwater flooding based on geological conditions.

## **Coal Mining**

12.1.28 The ground sure report has identified coal working associated with the site. A coal mining report was obtained and is given in Appendix C. The Coal Mining report indicates that the site is underlain by 11 coal seams at depths of 300m bgl; to 850m bgl associated with the Houghton Colliery and Little Houghton Colliery. These workings were worked from the 1800's to 1991. The Coal Authority has concluded that any ground movements from these coal workings should have stopped.

12.1.29 The Coal Mining report indicates that there are no coal mine entries/shafts within 20m of the site.

12.1.30 The Coal Mining report together with information from the South Yorkshire Mining Advisory Service indicates that the site is within an area of opencast workings. The letter from the South Yorkshire Mining Advisory Service is given in Appendix C. There are number of points raised within this letter these are given below.

- The opencast operation started in 1997 and was completed in 2001 and is referenced as the Houghton Main Open Cast Colliery.
- The opencast works involved the workings from the Shafton and the Highgate Rider Coal seams.
- The open cast workings were restored to original levels using earthwork compaction methods, however a subsequent investigation as indicated that some of the fill areas will require further compaction.
- Mine gas can migrate through the backfill materials from capped mineshafts, with the nearest capped mineshafts 300m south.
- The mine gas is dependant on the minewater levels, investigations have concluded that the minewater has recovered and are the same as the surrounding boreholes reducing the risk of gas migration and therefore gas pockets.
- The plan was also shows the approximate batter location and the extent of the opencast area. This indicates that the side batter of this excavation is found within the site boundary and it recommends a no build area is considered for the area of the batter. This is likely to be associated with the differential settlements from the opencast materials as compared to the surrounding natural materials and the potential instability generated from additional loading this area.

- Further information indicates that the depth of the open cast excavation works is approximately 40m bgl.

12.1.31 Further information was also collected from the BGS and includes three boreholes logs across the site. Copies of these logs are given in Appendix C. These logs confirm the presence of coal, with the top of the Shaft Coal seam at 31m bgl. A second borehole has proved Coal at 2m bgl (Inferior seam), 19m bgl (Winter seam) and 32m bgl (Beanshaw Seam). This information ties up with the depth of the excavations works of approximately 40m bgl indicating that all these seams have been worked and removed as part of the open cast operations.

12.1.32 Given the open cast workings do not cover the entire site there will be remnant coal seams surrounding the excavation to the north west of the site. The underlying coal seams recorded by the Coal Authority Mining report are too deep to have any effect on the surface and the surface ground movements should have ceased.

12.1.33 The remaining risk associated with the coal working is dependant on the extent of the batter which dissects the current proposed buildings and could therefore result in differential settlement across the proposed buildings. Given the extent of the batter has been estimated it is recommended that physical investigations are carried out to confirm the location of the batter.

#### **Non Coal Mining and Cavities**

12.1.34 There are six non coal mining activities within 1000m of the site, these are for iron ore workings. The Groundsure report classifies the likelihood of these workings taking place is highly unlikely and it is considered that these workings if present will be localised and small scale mining.

#### **Ground Workings**

12.1.35 There are a number of no active ground workings within 250m of the site.

12.1.36 The following historic ground workings are identified within 250m of the site:

Details	Distance	Notes
Colliery	0m, 42m, 65m, and 76m SE	None of these are associated with then site and are associated with the main colliery site and so dismissed.

12.1.37 No new risks are identified from the ground workings.

## Hydrology

12.1.38 There are no water courses on the site. A tertiary river is located 4.0m south west and a main river 10m north west.

12.1.39 A main river is called the River Dearne and is shown 10m north west at a bridge crossing bordering the western and southern boundary. The river quality of this river has been recorded on the former railway bridge to the north west of the site with a general chemical quality grade D (Poor) and a general biological quality grade D (Poor) both of which were recorded in 2009.

12.1.40 Environment Agency records show that the site is located within a flood zone 2. This is assessed within the Flood Risk Assessment Report prepared by Enzygo Ltd.

## Radon Risk Potential

12.1.41 The Groundsure GeolInsight Report indicates that the site is outside a Radon Affected Area therefore no protective measures are necessary.

## Natural Hazards Finding

12.1.42 BGS information presented within the Groundsure Geoinsight report identifies the following ground conditions:

Hazard	Risk Designation (Groundsure)
Coal Mining	As described in the coal mining section.
Collapsible Ground	Negligible to Very low.
Compressible Ground	Negligible to very Low.
Ground Dissolution	Null.
Landslide	Very Low to Low.
Running Sand	Negligible to Low.
Swelling / Shrinking Clay	Negligible to low.

12.1.43 There are no further geotechnical ground risks which have not been described in the Coal Mining Section.

## Sensitive Land Uses

12.1.44 The site comprises a derelict land and is considered to be of low sensitivity.  
English heritage identifies no historical features on the site.

## **Environmental Sensitivity**

12.1.45 Overall the site is currently considered to be of Low/Moderate sensitivity due to the following:

- The underlying stratum is classified as an Secondary A Aquifer which can provide base-flow to water courses and there is a water course close to the site;
- Secondary aquifers can provide local water sources but there are no groundwater abstractions within 1000m or of the site;
- The site is not within a source protection zone;
- No ecological designations on the site.

12.1.46 The proposed end use of the site is employment and as such future sensitivity will be low for end users.

## **Industrial Land Uses**

12.1.47 Industrial land uses within 250m of the site are limited to an Electric Substation which is not considered a significant risk to the site.

12.1.48 The Groundsure EnviroInsight Report indicates that there are no open or closed fuel stations within 500m of the site.

12.1.49 No high pressure oil/gas pipelines within 500m of the site.

12.1.50 No new risks are identified from the register of industrial land uses.

## CONSULTATIONS

### Regulatory Database

12.1.51 The following information has been obtained from a commercially available environmental database.

Environmental Permits, Incidents and Registers	0 -250m	250-500m	Details
Site determined as contaminated land	0	0	Not applicable
Authorised industrial processes	0	0	Not applicable.
Registered radioactive substances	0	0	Not applicable.
Enforcements, prohibitions or prosecutions	0	0	Not applicable.
Pollution Incidents	0	0	Category 3 (Minor) impact to land from oil spill. 206 SE. Not considered a risk to the site.
Consents issued under the Planning (Hazardous Substances) Act 1990	0	0	Not Applicable.
Control of Major Accident Hazard (COMAH)/ Notification of Installations Handling Hazardous Substances (NIHHS) sites	0	0	Not Applicable.
Records of Licensed Discharge Consents	1	7 (all revoked)	One historical discharge on the site associated with Trade discharges which has been revoked in 1983. All other discharge consents have been revoked from 70m SW to 423m SE. Not considered a risk to the site.

12.1.52 No significant risks are identified from the regulatory data base.

### Landfill Sites and Waste Treatment Sites

12.1.53 There are no operational or historic landfill sites within 500m of the site.

There are no operational and non-operational waste treatment, transfer or disposal sites within 500m site. There was an historic planning application for a refuse heap 344m E of the site.

12.1.54 No significant risks are identified from waste activities.

## PRELIMINARY CONCEPTUAL MODEL

Source	Location	Exposure Pathway	Potential Receptor	Probability of Exposure	Details
<b>Human Health</b>					
Asbestos, metals and hydrocarbons.	Potential Made Ground on site from infill of colliery open cast pit.	Ingestion dermal and inhalation.	Construction Workers.	Dismissed.	Normal construction PPE will address risk under CDM.
			Site users.	Low/Moderate.	Unknown fill within the backfilled pit (apart from compacted earthwork materials). Low sensitive end use.
Metals.	Potential Made Ground and waste from former railways.	Ingestion dermal and inhalation.	Construction Workers.	Dismissed.	Normal construction PPE will address risk under CDM.
			Site users.	Low.	The majority of the Railway ballast materials will have been removed as part of the opencast works. Low sensitive end use.
Hydrocarbon and metals.	Migration from off-site sources.	Ingestion dermal and inhalation.	Construction Workers.	Dismissed.	No source identified.
			Site users.		
Ground Gas.	Historic Landfills.	Inhalation & Explosive.	Construction Workers.	Dismissed.	No source identified.
			Site users.		
	Made Ground.	Inhalation & Explosive.	Construction Workers.	Dismissed.	No confined access likely.
			Site users.	Negligible.	Unlikely to be significant highly putrescible matter.
	Mine Gas	Inhalation & Explosive.	Construction Workers.	Negligible/Low	No confined access likely and groundwater has stabilised therefore minimising risk of gas migration into compacted backfill materials. Given distance of recorded mine shafts 300m SE negligible risk
			Site users.	Negligible/Low	No confined access likely and groundwater has stabilised therefore minimising risk of gas migration into compacted backfill materials. Given distance of recorded mine shafts 300m SE. negligible risk
<b>Groundwater</b>					
Assessed within the Hydrogeological Desk Study Report.					
<b>Surface Water</b>					
Assessed within the Hydrogeological Desk Study Report.					
<b>Environmental Receptors</b>					
On site contaminants	Ingestion dermal and inhalation.		Ecology.	Dismissed.	No sensitive ecology designation.
	Direct.		Archaeology.	Dismissed.	None present.
	Direct.		Geology.	Dismissed.	None present.
	Phytotoxic.		Woodland.	Dismissed.	None present.
	Phytotoxic.		Crops.	Dismissed.	None present.
	Ingestion dermal and inhalation.		Livestock.	Dismissed.	None present.
<b>Building Services</b>					
On site contaminants	Direct.		Historic Buildings.	Dismissed.	No receptors
	Direct.		Proposed Buildings.	Dismissed.	No source identified.
	Permeate into pipework.		Water Pipes.	Dismissed.	No source identified.

12.1.55 There is a low to moderate risk associated with potential contaminants from the backfill materials.

12.1.56 There is a negligible to low risk of gas migration from the mine shafts 300m from the site, given that the groundwater has stabilised and the backfill materials have been compacted.

## **DISCUSSIONS AND RECOMMENDATIONS**

### **Environmental Discussion and Recommendations**

12.1.57 It is considered that there is a low/moderate risk associated with land quality issues at the site.

Given the site is derelict some form of site clearance is likely and this will remove the surface material and re-grade the site. These materials are unlikely to be reusable on site and will have to be disposed of off site appropriately.

12.1.58 Once site clearance has taken place and given there is a risk of low to moderate risk of contamination it is recommended that a ground investigation is undertaken to collect chemical samples.

Any contamination is likely to be associated with the Made Ground from the backfilled open cast works and could therefore be spread out across the site, however this is unlikely to be gross contamination and is likely to be localised hot spots which may require remediation.

12.1.59 Given the proposed end usage of the site with the majority of the site being covered with hardstanding with perimeter landscaping it is recommended that there will be no pollutant linkage for the areas of proposed hardstanding. In areas of the landscaping it is likely that 300mm of topsoil will be required for a planting medium, this may need to be increased if mature trees are to be planted.

12.1.60 Any imported Topsoil should be confirmed as clean and pass the chemical requirements (GAC) given in the proposed ground investigation report.

12.1.61 If unforeseen contamination is encountered during construction works such as localised spillage outside the areas investigated an Environmental consultant will be available on a 'call out' basis to undertake an assessment of risk. If 'unforeseen contamination' is encountered the discovery strategy will be to remove or cover the source using clean capping soils as it is likely to be very limited in extent and the Local Planning Authority advised.

12.1.62 Given the potential for Mine gas although a low to negligible it is recommended that gas monitoring is undertaken as part of the ground investigation and from deep boreholes to confirm that no gas exists. Should any gas be encountered then appropriate gas mitigation measures can be incorporated into the final design of the buildings and hardstanding areas.

### **Geotechnical Discussion and Recommendations**

12.1.63 The desk study as determined that an open cast coal pit covers the majority of the site with the approximate position of a batter towards the western and north western boundaries of

the site. The exact position of the batter has not been confirmed and therefore a ground investigation will be required to delineate the batter.

12.1.64 Given the proposed usage of the site it is likely that high load bearing structures will be required. Given the majority of the site has been backfilled with up to 40m thick of compacted earthworks materials and uncompacted materials have been encountered during the subsequent investigation, it is likely that some form of further assessment will be required in order to determine the current compaction and consolidation parameters of these materials.

12.1.65 It is likely that the backfill materials will require future compaction in order to achieve appropriate founding materials and appropriate settlements for the proposed structures.

12.1.66 Given the depth of the open cast working (40m deep) versus the unworked area it is likely there will be differential settlements between the natural and the backfilled materials which may preclude the use of piled and shallow foundations without appropriate consideration of the required loadings and the resulting settlements.

### **Recommendations**

12.1.67 It is recommended that an intrusive ground investigation is undertaken to confirm the ground conditions and provide information for the design of foundations and pavements.

It is considered that given the low risk from potential contamination that samples should be collected to confirm soil quality, although no significant risks are identified.

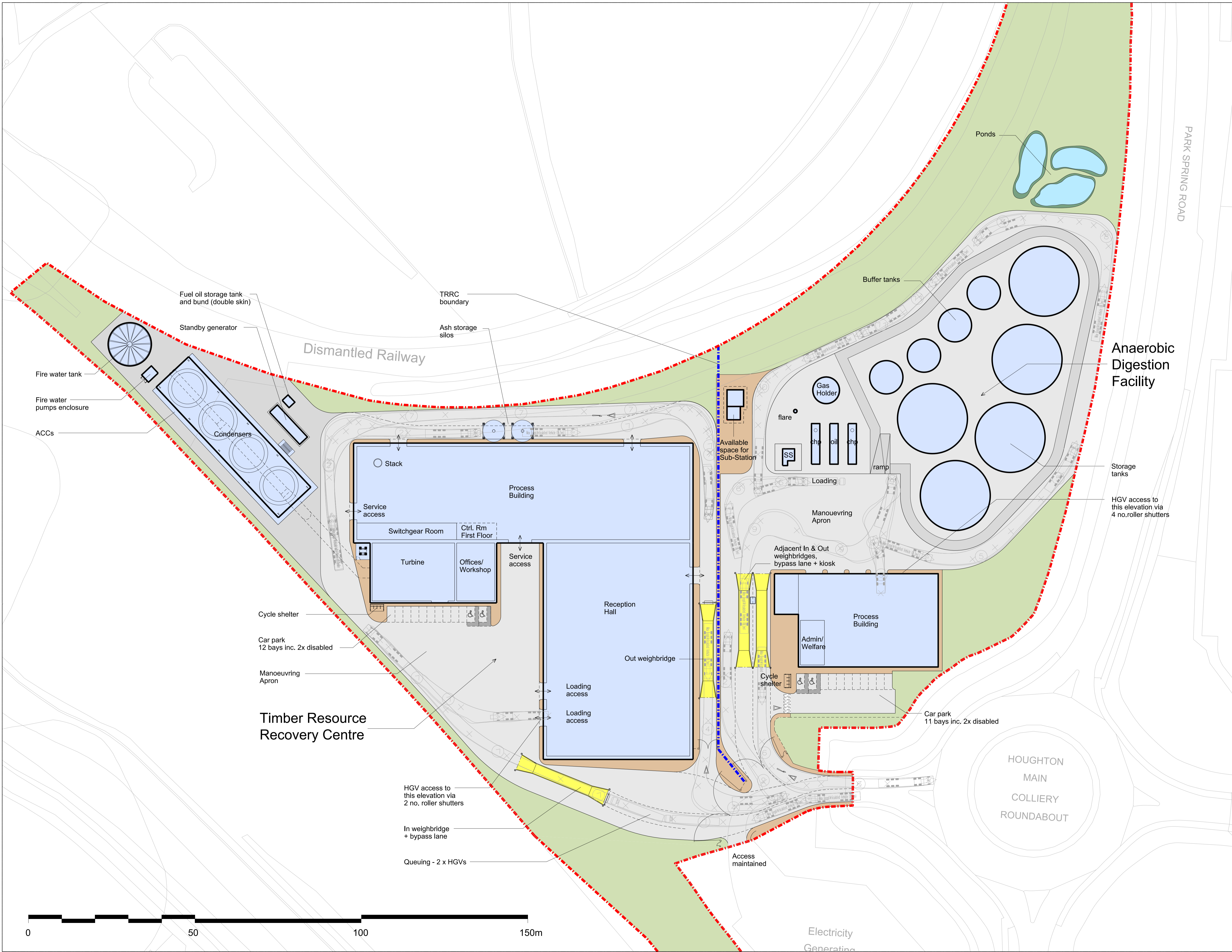
12.1.68 The preliminary scope of the ground investigation proposed is given below:

- Excavation of number of trial pits across the site.
- Advance of a number of boreholes through the backfill materials and into the underlying bedrock and to depths of 45m bgl to confirm the nature of the underlying soils and provide information for foundation design. A number of the boreholes will also contain installations which can monitor the potential for the migration of potential mine gas.
- Analysis of a number of soil samples for a suite of chemical analysis, including asbestos and WAC samples.
- Return gas and groundwater monitoring visit.
- Geotechnical tests to assist with foundation and pavement design.
- Preparation of a geo-environmental report based on the findings of the ground investigation providing geotechnical properties to assist with the development of the site and undertaking a Tier 1 contamination assessment. Provision of a 'discovery

strategy' to address any localised contamination than may be encountered during site development works.

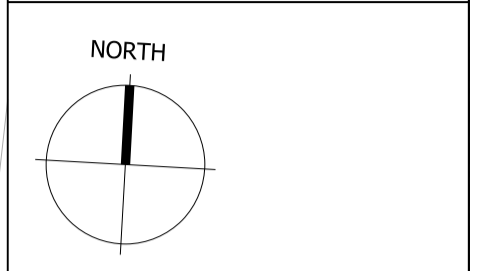
## APPENDIX A – DRAWINGS

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NOTE

1. THIS DRAWING IS COPYRIGHT STUDIO E LLP.
2. THE CONTRACTOR MUST NOT SCALE FROM THE DRAWING. ALL DIMENSIONS TO BE TAKEN FROM DIMENSION STRINGS.
3. WHERE ANY DISCREPANCIES ARE FOUND BETWEEN DIMENSIONS THESE MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECTS FOR RESOLUTION.
4. WHERE DISCREPANCIES EXIST BETWEEN REFERENCE OR ASSEMBLY DRAWINGS & DETAIL DRAWINGS, THE LATTER TAKE PREFERENCE.



KEY

- Site boundary
- For details of proposed landscaping and planting please refer to Enzygo's figure no. 9.7



140509	Issued for planning
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FOR PLANNING

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**HOUGHTON MAIN REP**  
 PROJECT

Proposed Site Layout  
 DRAWING

1:500@A1 140509  
 1:1000@A3 DATE

1302\_PL003 - GS  
 DWG. NO. REVISION CHECKED

## APPENDIX B – DESK STUDY INFORMATION

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# County Series 1:10,560 scale

**VEGETATION**


**ROADS**


**RAILWAYS**

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**GENERAL FEATURES**


**BOUNDARIES**


# 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

Vertical bench marks 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**

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**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**

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Where unfenced shown by piked lines.

**RAILWAYS**


**GENERAL FEATURES**


**VEGETATION**


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

# GroundSure Historical Map Pack Legend

## County Series & National Grid 1:10,560 scale & 1:10,000 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.

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GroundSure

# Historical Map Pack Legend

## 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.

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maps&data@groundsure.com  
www.groundsure.com

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

**GENERAL FEATURES**

Non-indigenous Trees	Slope	Antiquities (site of)
Coniferous Trees	Cree	Ordnance Survey
Deciduous Trees	Crack	Direction of Water Pipe
Shrubland	Rock	Electricity Transmission Line
Grassland	Slope Marker	Transmission Station
Other	Roofed Building	Traverse Station (Permanent)
Scrub	Roofed Building	Beach Rock
Marsh	Change of boundary marking	Surface Level
Rough Ground	Marsh, Sluice	Revision Point (non-metrically fixed)
Marsh, Sluice	Beak	Revision Point & Beach Part coincident
Beak		

Relief Heap	Sloping Mastery
Quarry	Top
Sand Pit	Archway
Sand Pit	Glazed Roof Building
Gravel Pit	

### BOUNDARIES

England & Wales	
.....	County Boundary (geographical)
.....	County & Civil Parish Boundary (conterminous)
.....	Admin County or County Borough Boundary
.....	London Borough Boundary
.....	County District Boundary based on civil parish
.....	England, Wales & Scotland
.....	Civil Parish Boundary
.....	Bere (or Burgh) Coast & Ward Bdy based on civil parish
.....	Co. Const Bdy
.....	Parly & Ward Boundaries not based on civil parish
Scotland	
.....	County Boundary (geographical)
.....	County Council Boundary
.....	Co. Civil Bdy
.....	Co. of City Bdy
.....	Co. of City Bdy
.....	Burgh Bdy
.....	Burgh Bdy
.....	Dist. Bdy
.....	Dist. Council Boundary

\* Not with parish      † Coincident with parish

### ABBREVIATIONS

B.H.	Beer House	F.S.	Free Station	M.P.U.	Mail Pickup	S.L.	Signal Light
B.M.	Bench Mark	G.C.	Gas Valve	N.T.	National Tidal Limit	S.P.	Signal Post
B.S.	Boundary Stone	H.	Hydrant or Hydraulic	N.T.L.	Normal Tidal Limit	S.Pr.	Spring
C.	Crane	Hc.	Hecare	N.T.S.	National Trust for Scotland	S.St.	Signal Station
C.H.	Club House	L.B.	Libelal Box	P.C.	Public Commemorative	T.C.B.	Telephone Call Box
C.L.	Club	L.C.S.	Level Crossing	P.C.B.	Police Call Box	Tk.	Tank or Truck
D.F.	Drinking Fountain	L.G.	Leading Gauge	P.H.	Public House	Trough	
D.P.	Dock	L.L.	Light House	P.L.	Police Telephone Pillar	Tr.	Traverse Station
E.T.L.	Electricity Transmission Line	L.P.	Light	P.P.	Police Telephone Pillar	W.B.	Weghbridge
F.A.	Fire Alarm	L.P.	Light	P.P.	Police Telephone Pillar	W.P.	Wind Pump
F.A.P.	Fire Alarm Pillar	M.H.W.	Mean High Water	Rer.	Reservoir	Wd.P.	Water Point
F.F.	Flagstaff	M.L.W.S.	Mean Low Water Springs	R.P.	Revision Point	W.P.	Water Tap
F.B.M.	Fundamental Bench Mark	M.P.	Mile or Posing Post	S.	Stone	W.T.	Water Tap
F.S.	Flagstaff			S.B.	Signal Box		

## County Series 1:2,500 scale

**GENERAL FEATURES**

SI	Sluice
Tr	Trough
Sp	Spring
W	Wall
M.R.	Mooring Ring
M.P.	Mooring Post
B.S.	Boundary Stone
B.P.	Boundary Post

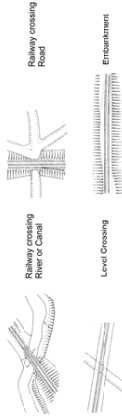
  

△	Trigonometrical Station
507 △	Altitude at Trigonometrical Station
8 M 325.9 ↑	Bench Mark
342 •	Surface Level
△	Permanent Traverse Station
+	Antiquities (site of)
←→	Arrow denotes flow of water

### ROADS



### RAILWAYS



### ABBREVIATIONS

△	Trigonometrical Station	SI	Sluice
507 △	Altitude at Trigonometrical Station	Tr	Trough
8 M 325.9 ↑	Bench Mark	Sp	Spring
342 •	Surface Level	M.R.	Mooring Ring
△	Permanent Traverse Station	M.P.	Mooring Post
+	Antiquities (site of)	B.S.	Boundary Stone
←→	Arrow denotes flow of water	B.P.	Boundary Post



EmapSite  
Masdar House, ,  
Eversley, RG27 ORP

GroundSure Reference: EMS-245265\_329172

Your Reference: EMS\_245265\_329172

Report Date 8 Apr 2014

Report Delivery Method: Email - pdf

## GroundSure EnviroInsight

Address: ,

Dear Sir/ Madam,

Thank you for placing your order with GroundSure. Please find enclosed the **GroundSure Enviroinsight** 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 Envirolnsight

Address: ,  
Date: 8 Apr 2014  
Reference: EMS-245265\_329172  
Client: EmapSite



SW S SE  
Aerial Photograph Capture date: 26-Mar-2012  
Grid Reference: 441652,406467  
Site Size: 5.85ha

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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.

Section 1: Environmental Permits, Incidents and Registers		On-site	0-50m	51-250	251-500		
1.1 Industrial Sites Holding Environmental Permits and/or Authorisations							
1.1.1	Records of historic IPC Authorisations	0	0	0	0		
1.1.2	Records of Part A(1) and IPPC Authorised Activities	0	0	0	0		
1.1.3	Records of Water Industry Referrals (potentially harmful discharges to the public sewer)	0	0	0	0		
1.1.4	Records of Red List Discharge Consents (potentially harmful discharges to controlled waters)	0	0	0	0		
1.1.5	Records of List 1 Dangerous Substances Inventory sites	0	0	0	0		
1.1.6	Records of List 2 Dangerous Substances Inventory sites	0	0	1	1		
1.1.7	Records of Part A(2) and Part B Activities and Enforcements	0	0	1	0		
1.1.8	Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0		
1.1.9	Records of Licensed Discharge Consents	1	0	4	18		
1.1.10	Records of Planning Hazardous Substance Consents and Enforcements	0	0	0	0		
1.2	Records of COMAH and NIHHS sites	0	0	0	0		
1.3 Environment Agency Recorded Pollution Incidents							
1.3.1	National Incidents Recording System, List 2	0	0	0	0		
1.3.2	National Incidents Recording System, List 1	0	0	0	0		
1.4	Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0		
Section 2: Landfill and Other Waste Sites		On-site	0-50m	51-250	251-500	501-1000	1000-5000
2.1 Landfill Sites							
2.1.1	Environment Agency Registered Landfill Sites	0	0	0	0	0	Not searched
2.1.2	Environment Agency Historic Landfill Sites	0	0	0	0	2	2
2.1.3	BGS/DoE Landfill Site Survey	0	0	0	0	1	0
2.1.4	GroundSure Local Authority Landfill Sites Data	0	0	0	0	0	0
2.2 Landfill and Other Waste Sites Findings							
2.2.1	Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	1	Not searched	Not searched
2.2.2	Environment Agency Licensed Waste Sites	0	0	0	0	0	2

Section 3: Current Land Use	On-site	0-50m	51-250	251-500
3.1 Current Industrial Sites Data	0	0	1	Not searched
3.2 Records of Petrol and Fuel Sites	0	0	0	0
3.3 Underground High Pressure Oil and Gas Pipelines	0	0	0	0

## Section 4: Geology

4.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	Yes
4.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes
4.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

## Section 5: Hydrogeology and Hydrology

	0-500m
5.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes
5.2 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
5.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	3
5.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	2
5.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
5.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
	On-site	0-50m	51-250	251-500	501-1000	1000-1500
5.7 Is there any Environment Agency information on river quality within 1500m of the study site?	Yes	No	No	No	No	Yes
5.8 Detailed River Network entries within 500m of the site	0	4	4	15	Not searched	Not searched
5.9 Surface water features within 250m of the study site	No	Yes	Yes	Not searched	Not searched	Not searched

## Section 6: Flooding

6.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	Yes
6.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site?	Yes
6.3 Are there any Flood Defences within 250m of the study site?	Yes
6.4 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
6.5 Are there any areas used for Flood Storage within 250m of the study site?	Yes
6.6 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Potential at Surface
6.7 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Moderate

## Section 7: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
7.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	1
7.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
7.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
7.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
7.5 Records of Ramsar sites	0	0	0	0	0	0
7.6 Records of Ancient Woodlands	0	0	0	0	2	4
7.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	1
7.8 Records of World Heritage Sites	0	0	0	0	0	0
7.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0
7.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
7.11 Records of National Parks	0	0	0	0	0	0
7.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
7.13 Records of Nitrate Vulnerable Zones	1	0	0	0	0	1

## Section 8: Natural Hazards

8.1 What is the maximum risk of natural ground subsidence?

Moderate

## Section 9: Mining

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

Yes

9.2 What is the risk of subsidence relating to shallow mining within 150m of the study site?

Low-Moderate

9.3 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. 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.

## 2. 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.

## 3. 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 underground oil and gas pipelines.

## 4. Geology

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

## 5. 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.

## 6. Flooding

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

## 7. 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.

## 8. 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.

## 9. Mining

Provides information on areas of coal and shallow mining.

## 10. 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.

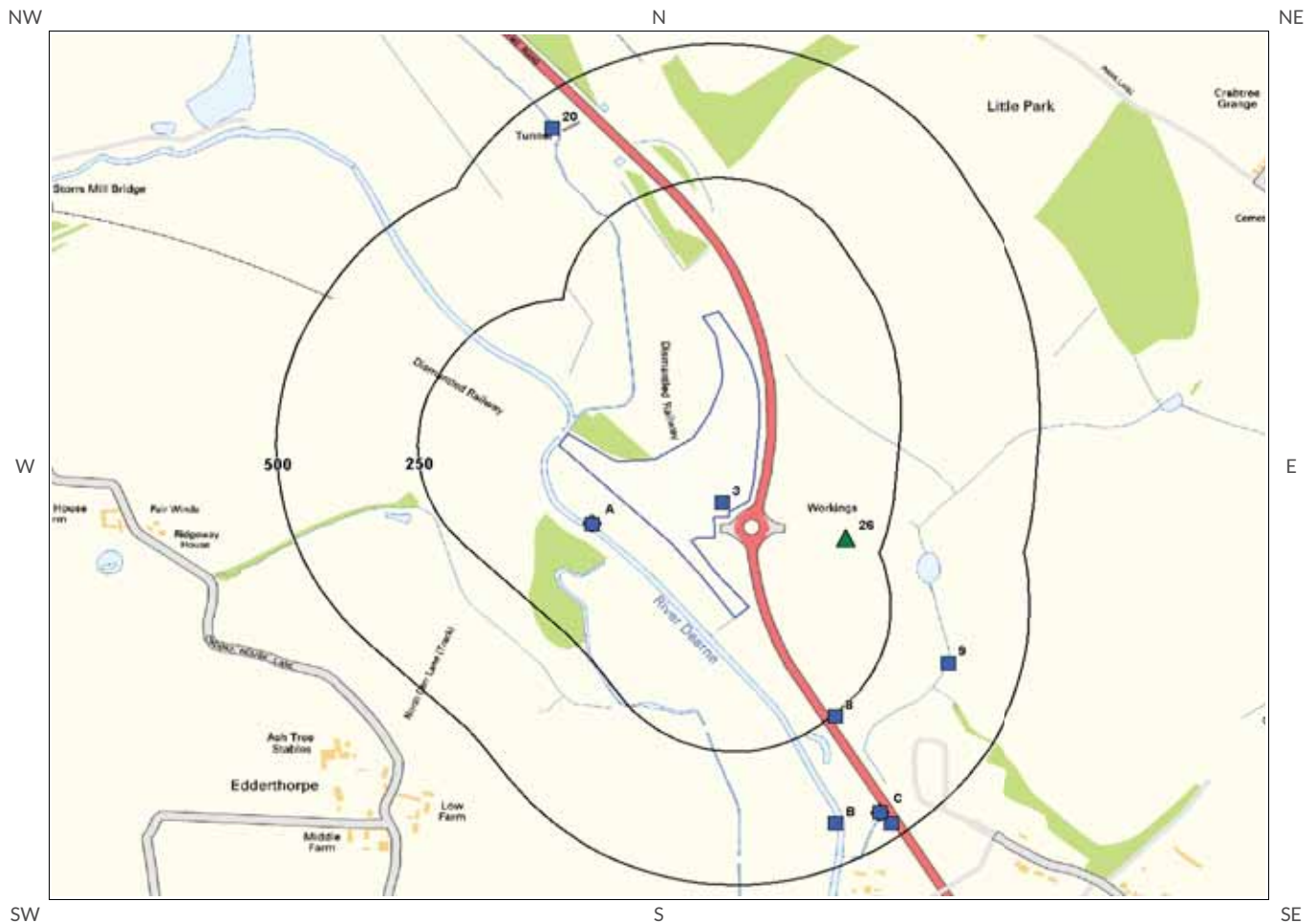
### Note: Maps

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. Environmental Permits, Incidents and Registers Map



Environmental Permits, Incidents and Registers Legend



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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 |
|  |                             |  | Dangerous Substances (List 2)         |  | Part A(2) and Part B Authorised Processes                      |
|  | Water Industry Referrals    |  | Licenced Discharge Consents           |  | COMAH / NIHHS Sites  |
|  | Red List Discharge Consents |  | Sites Determined as Contaminated Land |  | Hazardous Substance Consents and Enforcements                  |



# 1. Environmental Permits, Incidents and Registers

## 1.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

---

### 1.1.3 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.

---

### 1.1.4 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.

---

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

0

Database searched and no data found.

---

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

2

The following List 2 Dangerous Substance Inventory Site records are represented as points on the Authorisations, Incidents and Registers map:

ID	Distance	Direction	NGR	Details
1A	70.0	SW	441470 406360	Name: Rjb Mining Ltd - Outlet D2 - Sw Status: Not Active Receiving Water: River Dearne Authorised Substances: Iron
2C	446.0	SE	441980 405820	Name: Rjb Mining Ltd, Houghton Outlet D1 Status: Not Active Receiving Water: River Dearne Authorised Substances: Iron

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

1

The following Part A(2) and Part B Activities are represented as points on the Authorisations, Incidents and Registers map:

ID	Distance	Direction	NGR	Details
26	186.0	SE	441919 406331	Address: Rjb Mining Houghton Main Occs, Little Houghton, Barnsley, S72 0HY Process: Coal/gypsum/carbon Process Status: Historical Permit Permit Type: Part B Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified

1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

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

23

The following Licensed Discharge Consents records are represented as points on the Authorisations, Incidents and Registers map:

ID	Distance	Direction	NGR	Details
3	0.0	On Site	441700 406400	Address: Houghton Main, Sandhill, Barnsley, South Yorkshire Effluent Type: Trade Discharges - Unspecified Permit Number: 3712 Permit Version: 1 Receiving Water: - Status: Revoked - Unspecified Issue date: 12/9/1983 Effective Date: 12/9/1983 Revocation Date: -

ID	Distance	Direction	NGR	Details	
4A	70.0	SW	441470 406360	Address: Houghton Main Occs, Consent Wra7231, South Yorkshire Effluent Type: Trade Discharges - Site Drainage (contam Surface Water, Not Waste Sit) Permit Number: WRA7231 Permit Version: 1	Receiving Water: River Dearne Status: New Consent, By Application (wra 91, Section 88) Issue date: - Effective Date: - Revocation Date: 7/5/1997
5A	70.0	SW	441470 406360	Address: Houghton Main Occs, Consent Wra7231, South Yorkshire Effluent Type: Trade Discharges - Site Drainage (contam Surface Water, Not Waste Sit) Permit Number: WRA7231 Permit Version: 2	Receiving Water: River Dearne Status: Revoked (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: 8/5/1997 Effective Date: 8/5/1997 Revocation Date: 11/6/2002
6A	70.0	SW	441470 406360	Address: Houghton Main Occs, Consent Wra7231, South Yorkshire Effluent Type: Trade Discharges - Site Drainage (contam Surface Water, Not Waste Sit) Permit Number: WRA7231 Permit Version: 2	Receiving Water: River Dearne Status: Revoked (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: 8/5/1997 Effective Date: 8/5/1997 Revocation Date: 11/6/2002
7A	70.0	SW	441470 406360	Address: Houghton Main Occs, Consent Wra7231, South Yorkshire Effluent Type: Trade Discharges - Site Drainage (contam Surface Water, Not Waste Sit) Permit Number: WRA7231 Permit Version: 1	Receiving Water: River Dearne Status: New Consent, By Application (wra 91, Section 88) Issue date: - Effective Date: - Revocation Date: 7/5/1997
8	255.0	SE	441900 406000	Address: Ncb,houghton Main Colliery, Surface, Drainage Interceptor Effluent Type: Trade Discharges - Unspecified Permit Number: 3505 Permit Version: 1	Receiving Water: - Status: Revoked - Unspecified Issue date: 12/9/1983 Effective Date: 12/9/1983 Revocation Date: 15/2/1991
9	367.0	E	442100 406100	Address: Ncb,houghton Main Colliery, Surface, Drainage Interceptor Effluent Type: Trade Discharges - Unspecified Permit Number: 3505 Permit Version: 1	Receiving Water: - Status: Revoked - Unspecified Issue date: 12/9/1983 Effective Date: 12/9/1983 Revocation Date: 15/2/1991
10 B	423.0	SE	441900 405800	Address: Little Houghton Stw, Little Houghton, Barnsley, South Yorkshire Effluent Type: Sewage Discharges - Stw Storm Overflow/storm Tank - Water Company Permit Number: E284 Permit Version: 3	Receiving Water: River Dearne Status: Transferred From Copa 1974 Issue date: 12/7/1985 Effective Date: 12/7/1985 Revocation Date: 18/8/1997
11 B	423.0	SE	441900 405800	Address: Little Houghton Stw, Little Houghton, Barnsley, South Yorkshire Effluent Type: Sewage Discharges - Stw Storm Overflow/storm Tank - Water Company Permit Number: E284 Permit Version: 2	Receiving Water: River Dearne Status: Transferred From 1978 Order Issue date: 1/6/1981 Effective Date: 1/6/1981 Revocation Date: 11/7/1985
12 B	423.0	SE	441900 405800	Address: Little Houghton Stw, Little Houghton, Barnsley, South Yorkshire Effluent Type: Sewage Discharges - Stw Storm Overflow/storm Tank - Water Company Permit Number: E284 Permit Version: 1	Receiving Water: River Dearne Status: Transferred From R(pp)a 1951-1961 Issue date: 8/11/1973 Effective Date: 8/11/1973 Revocation Date: 31/5/1981
13 B	423.0	SE	441900 405800	Address: Little Houghton Stw, Little Houghton, Barnsley, South Yorkshire Effluent Type: Sewage Discharges - Final/treated Effluent - Water Company Permit Number: E284 Permit Version: 4	Receiving Water: River Dearne Status: Varied By Application - (wra 91 Sched 10 - As Amended By Env Act 1995) Issue date: 19/8/1997 Effective Date: 19/8/1997 Revocation Date: -
14 B	423.0	SE	441900 405800	Address: Little Houghton Stw, Little Houghton, Barnsley, South Yorkshire Effluent Type: Sewage Discharges - Final/treated Effluent - Water Company Permit Number: E284 Permit Version: 1	Receiving Water: River Dearne Status: Transferred From R(pp)a 1951-1961 Issue date: 8/11/1973 Effective Date: 8/11/1973 Revocation Date: 31/5/1981

ID	Distance	Direction	NGR	Details	
15 B	423.0	SE	441900 405800	Address: Little Houghton Stw, Little Houghton, Barnsley, South Yorkshire Effluent Type: Sewage Discharges - Stw Storm Overflow/storm Tank - Water Company Permit Number: E284 Permit Version: 5	Receiving Water: River Dearne Status: Revoked (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: 11/3/2005 Effective Date: - Revocation Date: 27/6/2008
16 B	423.0	SE	441900 405800	Address: Little Houghton Stw, Little Houghton, Barnsley, South Yorkshire Effluent Type: Sewage Discharges - Stw Storm Overflow/storm Tank - Water Company Permit Number: E284 Permit Version: 4	Receiving Water: River Dearne Status: Varied By Application - (wra 91 Sched 10 - As Amended By Env Act 1995) Issue date: 19/8/1997 Effective Date: 19/8/1997 Revocation Date: -
17 B	423.0	SE	441900 405800	Address: Little Houghton Stw, Little Houghton, Barnsley, South Yorkshire Effluent Type: Sewage Discharges - Final/treated Effluent - Water Company Permit Number: E284 Permit Version: 5	Receiving Water: River Dearne Status: Revoked (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: 11/3/2005 Effective Date: - Revocation Date: 27/6/2008
18 B	423.0	SE	441900 405800	Address: Little Houghton Stw, Little Houghton, Barnsley, South Yorkshire Effluent Type: Sewage Discharges - Final/treated Effluent - Water Company Permit Number: E284 Permit Version: 2	Receiving Water: River Dearne Status: Transferred From 1978 Order Issue date: 1/6/1981 Effective Date: 1/6/1981 Revocation Date: 11/7/1985
19 B	423.0	SE	441900 405800	Address: Little Houghton Stw, Little Houghton, Barnsley, South Yorkshire Effluent Type: Sewage Discharges - Final/treated Effluent - Water Company Permit Number: E284 Permit Version: 3	Receiving Water: River Dearne Status: Transferred From Copa 1974 Issue date: 12/7/1985 Effective Date: 12/7/1985 Revocation Date: 18/8/1997
20	442.0	NW	441400 407100	Address: Barnsley Metropolitan Borough Counc, II, New Park Springs Colliery Ti, P, Grimethorpe, Nr. Barnsley, So, Uth Yorkshire Effluent Type: Trade Discharges - Unspecified Permit Number: C4539 Permit Version: 1	Receiving Water: - Status: Revoked - Unspecified Issue date: 18/2/1987 Effective Date: 18/2/1987 Revocation Date: 25/5/1993
21 C	446.0	SE	441980 405820	Address: Houghton Main Occs, Consent Wra7231, South Yorkshire Effluent Type: Trade Discharges - Site Drainage (contam Surface Water, Not Waste Sit Permit Number: WRA7231 Permit Version: 1	Receiving Water: River Dearne Status: New Consent, By Application (wra 91, Section 88) Issue date: - Effective Date: - Revocation Date: 7/5/1997
22 C	446.0	SE	441980 405820	Address: Houghton Main Occs, Consent Wra7231, South Yorkshire Effluent Type: Trade Discharges - Site Drainage (contam Surface Water, Not Waste Sit Permit Number: WRA7231 Permit Version: 2	Receiving Water: River Dearne Status: Revoked (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: 8/5/1997 Effective Date: 8/5/1997 Revocation Date: 11/6/2002
23 C	446.0	SE	441980 405820	Address: Houghton Main Occs, Consent Wra7231, South Yorkshire Effluent Type: Trade Discharges - Site Drainage (contam Surface Water, Not Waste Sit Permit Number: WRA7231 Permit Version: 2	Receiving Water: River Dearne Status: Revoked (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: 8/5/1997 Effective Date: 8/5/1997 Revocation Date: 11/6/2002
24 C	446.0	SE	441980 405820	Address: Houghton Main Occs, Consent Wra7231, South Yorkshire Effluent Type: Trade Discharges - Site Drainage (contam Surface Water, Not Waste Sit Permit Number: WRA7231 Permit Version: 1	Receiving Water: River Dearne Status: New Consent, By Application (wra 91, Section 88) Issue date: - Effective Date: - Revocation Date: 7/5/1997
25 C	474.0	SE	442000 405800	Address: Houghton Main Colliery, Ncb Mw (cea, Sed) Effluent Type: Trade Discharges - Unspecified Permit Number: E 878 Permit Version: 1	Receiving Water: No Details Status: Consent Revoked - Discharge Ceased (wra 91, Sched 10 & 6) Issue date: 13/6/1983 Effective Date: 13/6/1983 Revocation Date: 13/8/1992

---

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

0

Database searched and no data found.

---

## 1.2 Dangerous or Hazardous Sites

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

0

Database searched and no data found.

---

## 1.3 Environment Agency Recorded Pollution Incidents

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

---

## 1.4 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.

---

# 2. Landfill and Other Waste Sites Map



Landfill and Other Waste Sites Legend



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- |  |                    |  |                          |  |                                  |
|--|--------------------|--|--------------------------|--|----------------------------------|
|  | Site Outline       |  | E.A. Active Landfill     |  | Historic and Planned Waste Sites |
|  | Search Buffers (m) |  | E.A. Historic Landfill   |  | E.A. Licensed Waste Site         |
|  |                    |  | Local Authority Landfill |  | BGS / DoE Survey Landfill        |



# 2. Landfill and Other Waste Sites

## 2.1 Landfill Sites

### 2.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

### 2.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

4

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	713.0	NE	442100 407400	Site Address: Quarry, Park Lane, Great Houghton, Near Barnsley, South Yorkshire Waste Licence: - Site Reference: - Waste Type: Commercial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: Hemsworth Rural District Council
Not shown	771.0	NW	441100 407600	Site Address: National Coal Board, New Park Spring Tip, Grimethorpe, Barnsley Waste Licence: Yes Site Reference: 20B160(45), 4400/B1060, WD20 B160, 20B1060, 4400/0448 Waste Type: Industrial Liquid sludge, Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 17-Nov-1977 Licence Surrendered: 22-Feb-1996 Licence Hold Address: Coalite Works, Grimethorpe, Barnsley Operator: Coalite and Chemical Products
Not shown	1156.0	N	441400 407900	Site Address: Part of New Park Spring Tip, Wood Lane, Grimethorpe, Barnsley Waste Licence: Yes Site Reference: WD20 B175, 4400/B175, 20B175 Waste Type: Commercial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 11-Jan-1978 Licence Surrendered: 10-Feb-1993 Licence Hold Address: Barnsley Area, Grimethorpe, Barnsley Operator: -
Not shown	1403.0	N	441100 408100	Site Address: Carlton Main Brickworks, Off Wood Lane, Grimethorpe, Barnsley, South Yorkshire Waste Licence: Yes Site Reference: WD20/B479, NE4242 Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: YQ1/L/CAR001 Licence Issue: 21-Oct-1985 Licence Surrendered: 23-Aug-2005 Licence Hold Address: - Operator: -

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

1

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

ID	Distance (m)	Direction	NGR	Details	
Not shown	677.0	NE	44210 0.0 40730 0.0	Address: Quarry, Park Lane, Gt Houghton, nr Barnsley BGS Number: 2524.0	Risk: No risk to aquifer Waste Type: N/A

### 2.1.4 Records of Local Authority landfill sites within 1500m of the study site:

0

Database searched and no data found.

## 2.2 Other Waste Sites

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

1

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		
2	344.0	E	442350 406195	Type of Site: Ground Workings and Refuse Heap Site Address: N/A	Planning Application Reference: N/A Date: 1961	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon

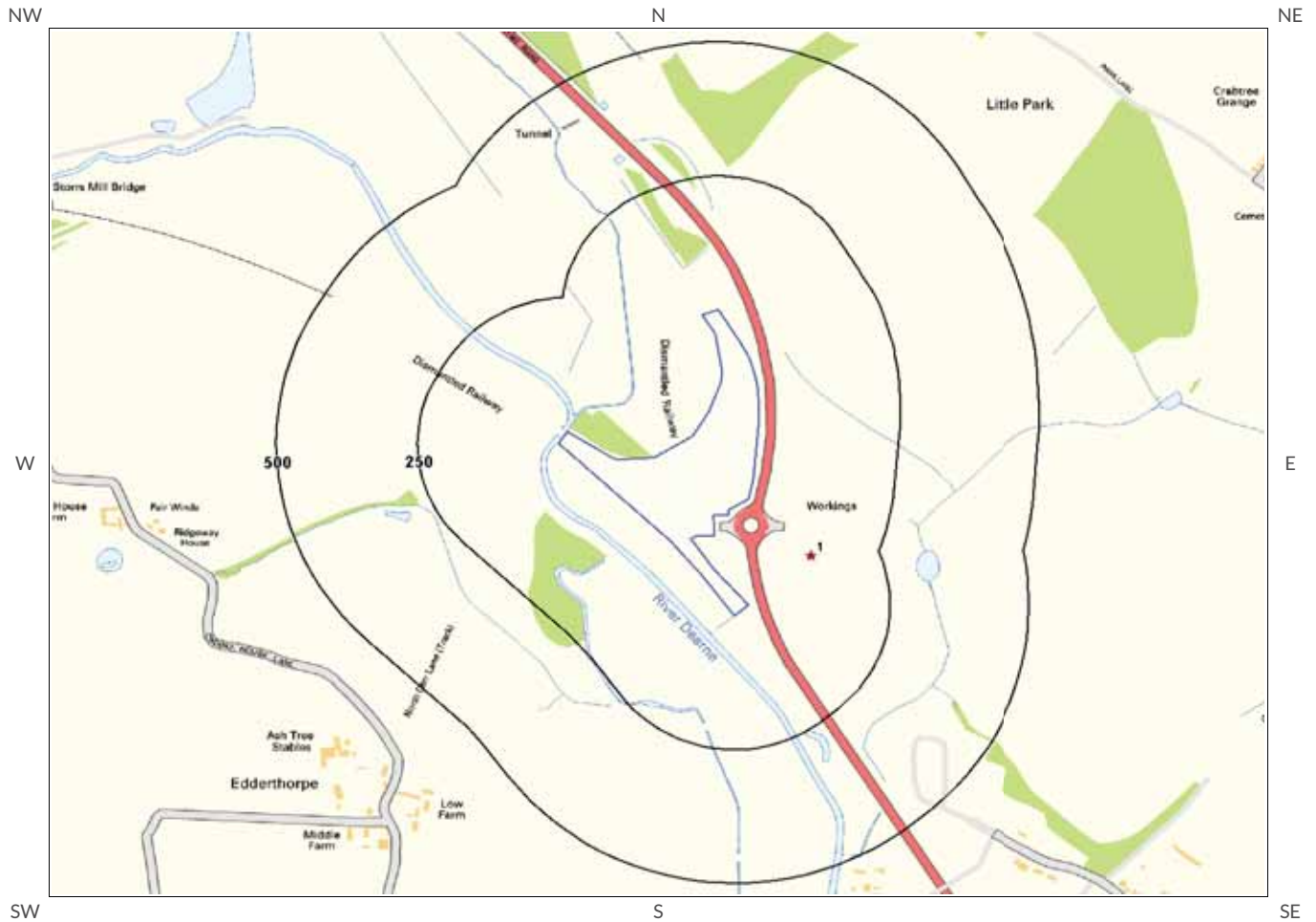
2.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

2

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	1472.0	N	441400 408200	Site Address: High Street, Grimethorpe, South Yorkshire, S72 7BG Type: Inert LF Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CAR172 EPR reference: EA/EPR/VP3238LC/ Operator: Carlton Main Brickworks Limited Waste Management licence No: 210082 Annual Tonnage: 0.0	Issue Date: 27/09/2007 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Carlton Brick Landfill Site Correspondence Address: -, High Street, Grimethorpe, South Yorkshire, S72 7BG
Not shown	1472.0	N	441400 408200	Site Address: Land / Premises At, High Street, Grimethorpe, South Yorkshire, S72 7BG Type: Inert LF Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CAR172 EPR reference: EA/EPR/VP3238LC/A001 Operator: Carlton Main Brickworks Limited Waste Management licence No: 210082 Annual Tonnage: 190000.0	Issue Date: 27/09/2007 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Carlton Brick Landfill Site Correspondence Address: -, -

# 3. Current Land Use Map



Current Land Use Legend



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# 3. Current Land Uses

## 3.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 1

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

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	143.0	NE	Electricity Sub Station	441859 406297	S72	Electrical Features	Infrastructure and Facilities

## 3.2 Petrol and Fuel Sites

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

Database searched and no data found.

## 3.3 Underground High Pressure Oil and Gas Pipelines

Records of high pressure underground pipelines within 500m of the study site: 0

Database searched and no data found.



## 4. Geology

### 4.1 Artificial Ground and Made Ground

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

Lex Code	Description	Rock Type
MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

### 4.2 Superficial Ground and Drift Geology

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

Lex Code	Description	Rock Type
ALV-CLSI	ALLUVIUM	CLAY AND SILT

### 4.3 Bedrock and Solid Geology

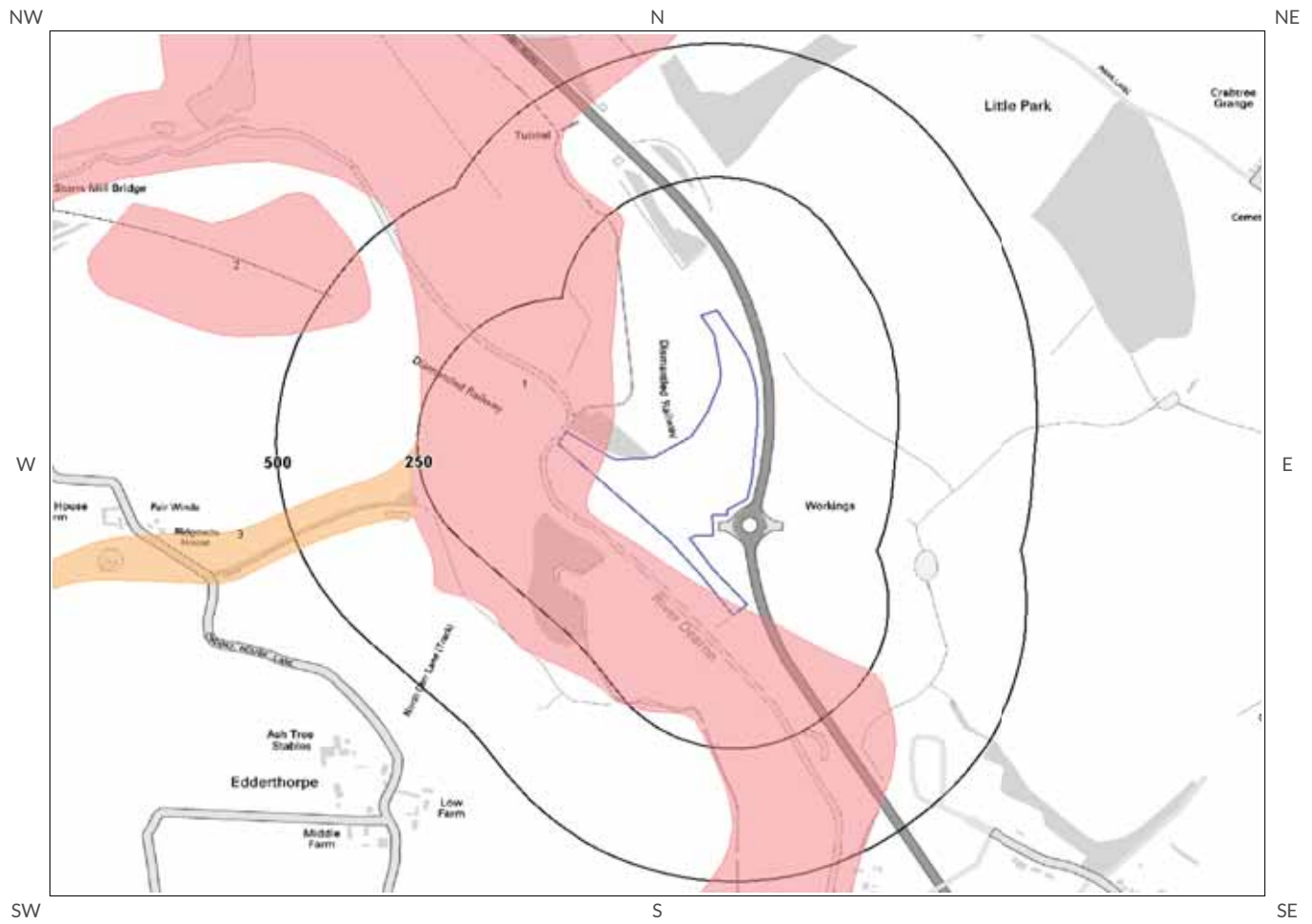
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE
PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION	SANDSTONE
PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION	SANDSTONE
PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE
MXR-SDST	MEXBOROUGH ROCK	SANDSTONE

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

# 5. Hydrogeology and Hydrology










## 5a. Aquifer Within Superficial Geology



Map Legend



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	Site Outline		Principal Aquifer		Secondary Aquifer - Undifferentiated Layers
	Search Buffers (m)		Secondary (A) Aquifer - Permeable Layers		Unproductive
			Secondary (B) Aquifer - Lower Permeability Layers		Unknown (lakes and landslip)

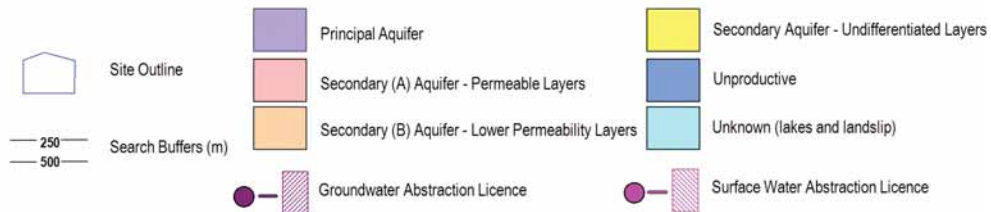
# 5b. Aquifer Within Bedrock Geology and Abstraction Licenses



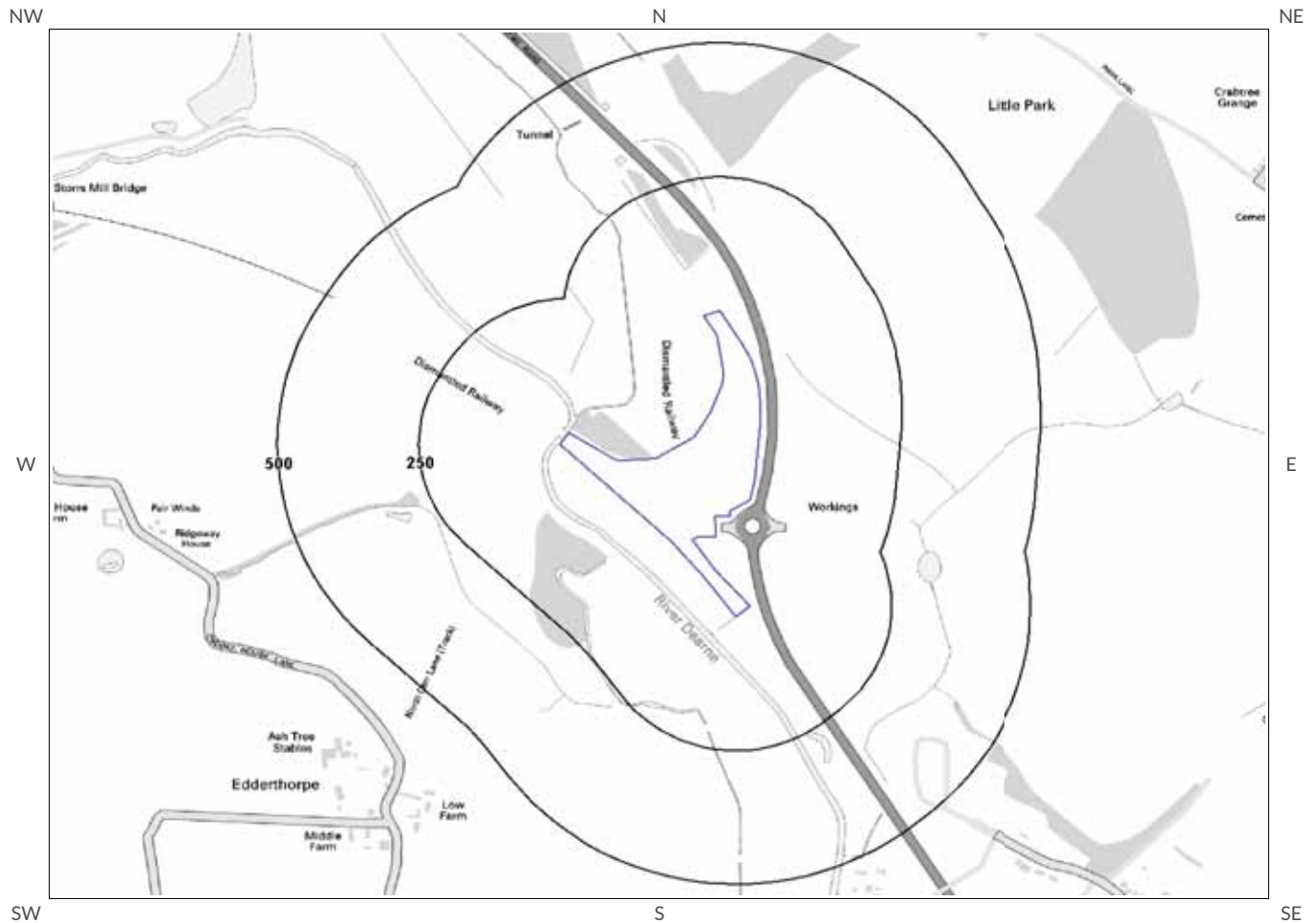
Map Legend

Mapping sourced from Ordnance Survey

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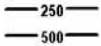





# 5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licences



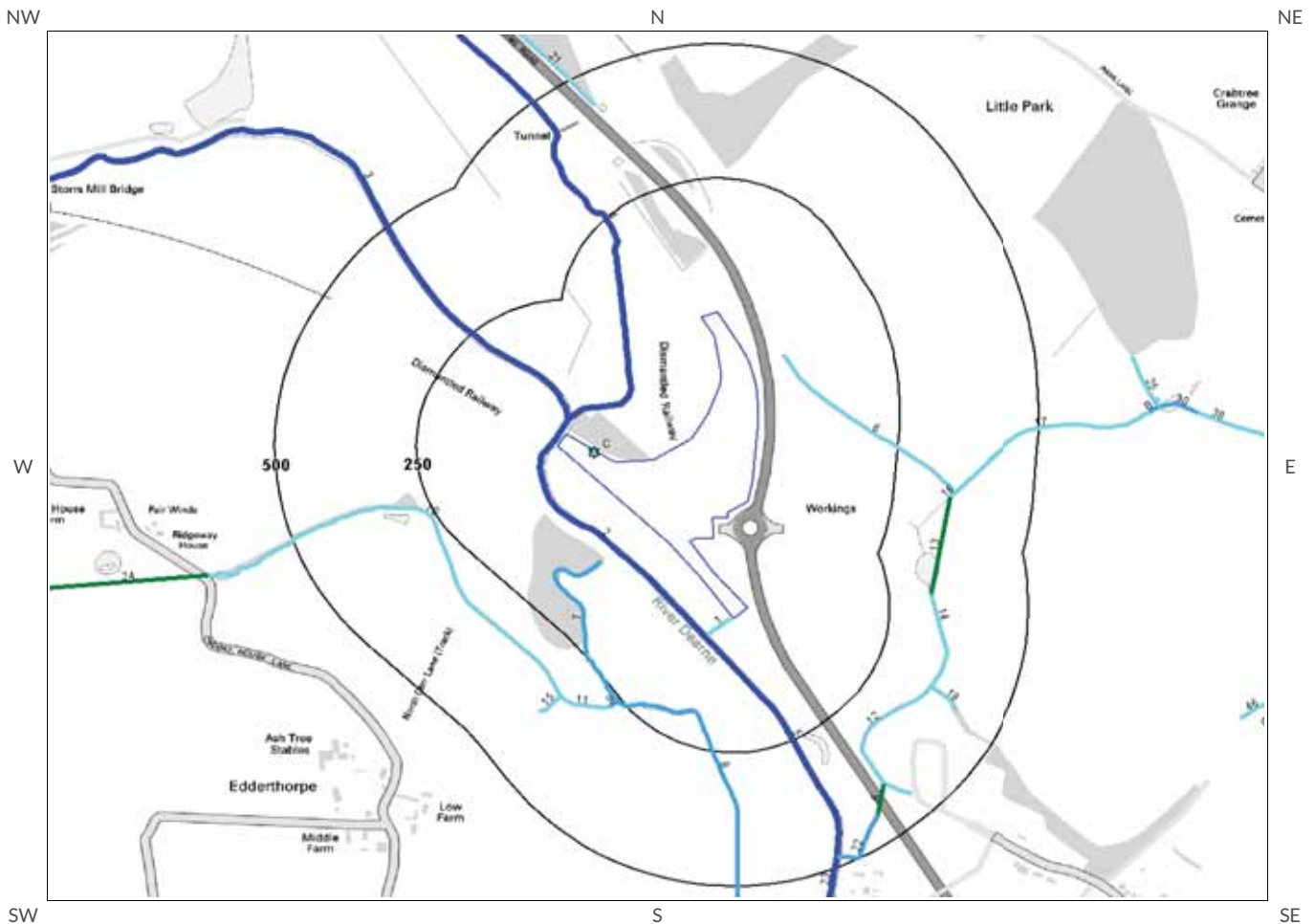
Map Legend



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-  Site Outline
-  Search Buffers (m)
-  Source Protection Zone 1 - Inner Catchment
-  Source Protection Zone 2 - Outer Catchment
-  Source Protection Zone 3 - Total Catchment
-  Source Protection Zone 4 - Zone of Special Interest
-  Potable Water Abstraction Licence

# 5d. Hydrology – Detailed River Network and River Quality



Map Legend



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- |  |                        |  |                                       |  |                                     |
|--|------------------------|--|---------------------------------------|--|-------------------------------------|
|  | Site Outline           |  | Primary River                         |  | Canal                               |
|  | 250 Search Buffers (m) |  | Secondary River                       |  | Canal Tunnel                        |
|  | 500 Search Buffers (m) |  | 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 |  |                                     |



# 5. Hydrogeology and Hydrology

## 5.1 Aquifer within Superficial Deposits

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

From 1 April 2010, the Environment Agency'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 Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (5a):

ID	Distance (m)	Direction	Designation	Description
1	0.0	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
3	252.0	W	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers
2	420.0	NW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

## 5.2 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'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 Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	Designation	Description
1	0.0	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

### 5.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site?

Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	NGR	Details
Not shown	1246.0	N	441600 408000	Licence No: 2/27/08/137 Details: Mineral Washing Direct Source: Groundwaters Point: Borehole - Coal Measures - Grimethorpe Colliery Data Type: Point Annual Volume (m <sup>3</sup> ): 430000 Max Daily Volume (m <sup>3</sup> ): 1600 Original Application No: NPS/WR/002582 Original Start Date: 25/5/2005 Expiry Date: 31/3/2017 Issue No: 3 Version Start Date: 23/11/2009 Version End Date:
Not shown	1829.0	W	439584 406499	Licence No: NE/027/0008/011 Details: Heat Pump Direct Source: Groundwaters Point: Borehole - Coal Measures - Tyers Hall - Barnsley Data Type: Point Annual Volume (m <sup>3</sup> ): 30000 Max Daily Volume (m <sup>3</sup> ): 100 Original Application No: NPS/WR/010886 Original Start Date: 19/12/2012 Expiry Date: 31/3/2029 Issue No: 1 Version Start Date: 19/12/2012 Version End Date:
Not shown	1829.0	W	439584 406499	Licence No: NE/027/0008/011 Details: General Farming & Domestic Direct Source: Groundwaters Point: Borehole - Coal Measures - Tyers Hall - Barnsley Data Type: Point Annual Volume (m <sup>3</sup> ): 30000 Max Daily Volume (m <sup>3</sup> ): 100 Original Application No: NPS/WR/010886 Original Start Date: 19/12/2012 Expiry Date: 31/3/2029 Issue No: 1 Version Start Date: 19/12/2012 Version End Date:

### 5.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site?

Yes

The following Surface Water Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	NGR	Details
Not shown	1730.0	W	439770 407050	Licence No: 2/27/08/090 Details: Spray Irrigation - Direct Direct Source: Surface Water Point: River Dearne Data Type: Point Annual Volume (m <sup>3</sup> ): 180000 Max Daily Volume (m <sup>3</sup> ): 5278 Application No: 5519 Original Start Date: 25/7/1977 Expiry Date: - Issue No: 101 Version Start Date: 19/7/2004 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1730.0	W	439770 407050	Licence No: 2/27/08/090 Details: Spray Irrigation - Storage Direct Source: Surface Water Point: River Dearne Data Type: Point	Annual Volume (m <sup>3</sup> ): 180000 Max Daily Volume (m <sup>3</sup> ): 5278 Application No: 5519 Original Start Date: 25/7/1977 Expiry Date: - Issue No: 101 Version Start Date: 19/7/2004 Version End Date:

## 5.5 Potable Water Abstraction Licences

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

Database searched and no data found.

## 5.6 Source Protection Zones

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

Database searched and no data found.

## 5.7 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site? Yes

### 5.7.1 Biological Quality:

Biological Quality data describes water quality in terms of 83 groups of macroinvertebrates, some of which are pollution sensitive. The results are graded from A ('Very Good') to F ('Bad').

The following Biological Quality records are shown on the Hydrology Map (5d):

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
50C	0.0	On Site	441478 406495	River Name: Dearne Reach: Grimethorpe Dike Billingley Dyke End/Start of Stretch: Start of Stretch NGR	D	D	D	D	D
51C	0.0	On Site	441478 406495	River Name: Dearne Reach: Cudworth Dyke Grimethorpe Dike End/Start of Stretch: End of Stretch NGR	D	D	D	D	D

### 5.7.2 Chemical Quality:

Chemical quality data is based on the General Quality Assessment Headline Indicators scheme (GQAHI). In England, each chemical sample is measured for ammonia and dissolved oxygen. In Wales, the samples are measured for biological oxygen demand (BOD), ammonia and dissolved oxygen. The results are graded from A ('Very Good') to F ('Bad').

The following Chemical Quality records are shown on the Hydrology Map (5d):

ID	Distance (m)	Direction	NGR	River Quality Grade	Chemical Quality Grade				
					2005	2006	2007	2008	2009
52C	0.0	On Site	441478 406495	River Name: River Dearne Reach: Cudworth Dyke Grimethorpe Dike End/Start of Stretch: End of Stretch NGR	E	E	E	D	D
53C	0.0	On Site	441478 406495	River Name: River Dearne Reach: Grimethorpe Dike Billingley Dyke End/Start of Stretch: Start of Stretch NGR	C	C	C	C	B
Not shown	1129.0	NW	440378 406959	River Name: River Dearne Reach: Cudworth Dyke Grimethorpe Dike End/Start of Stretch: Sample Point NGR	E	E	E	D	D

## 5.8 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 (5d):

ID	Distance (m)	Direction	Details
1	4.0	SW	River Name: Drain Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined
2	10.0	NW	River Name: River Dearne Welsh River Name: - Alternative Name: - River Type: Primary River Main River Status: Currently Undefined
3	27.0	N	River Name: River Dearne Welsh River Name: - Alternative Name: - River Type: Primary River Main River Status: Currently Undefined
4	27.0	N	River Name: - Welsh River Name: - Alternative Name: - River Type: Primary River Main River Status: Currently Undefined
5	61.0	SW	River Name: River Dearne Welsh River Name: - Alternative Name: - River Type: Primary River Main River Status: Currently Undefined
6	61.0	E	River Name: Drain Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined
7	107.0	SW	River Name: Drain Welsh River Name: - Alternative Name: - River Type: Secondary River Main River Status: Currently Undefined
8	186.0	S	River Name: - Welsh River Name: - Alternative Name: - River Type: Secondary River Main River Status: Currently Undefined
9	256.0	SW	River Name: - Welsh River Name: - Alternative Name: - River Type: Secondary River Main River Status: Currently Undefined
10	259.0	SW	River Name: - Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined
11	273.0	SW	River Name: - Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined
12	311.0	SE	River Name: Drain Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined
13	325.0	E	River Name: - Welsh River Name: - Alternative Name: - River Type: Culvert Main River Status: Currently Undefined
14	325.0	E	River Name: - Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined
15	331.0	SW	River Name: - Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined
16	350.0	E	River Name: - Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined
17	355.0	E	River Name: - Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined
18	355.0	SE	River Name: - Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined
19 A	406.0	SE	River Name: Drain Welsh River Name: - Alternative Name: - River Type: Culvert Main River Status: Currently Undefined
20 A	406.0	SE	River Name: Drain Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined
21	438.0	NW	River Name: Drain Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined

ID	Distance (m)	Direction	Details	
22	446.0	SE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
23	480.0	S	River Name: River Dearne Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined

---

## 5.9 Surface Water Features

Are there any surface water features within 250m of the study site?

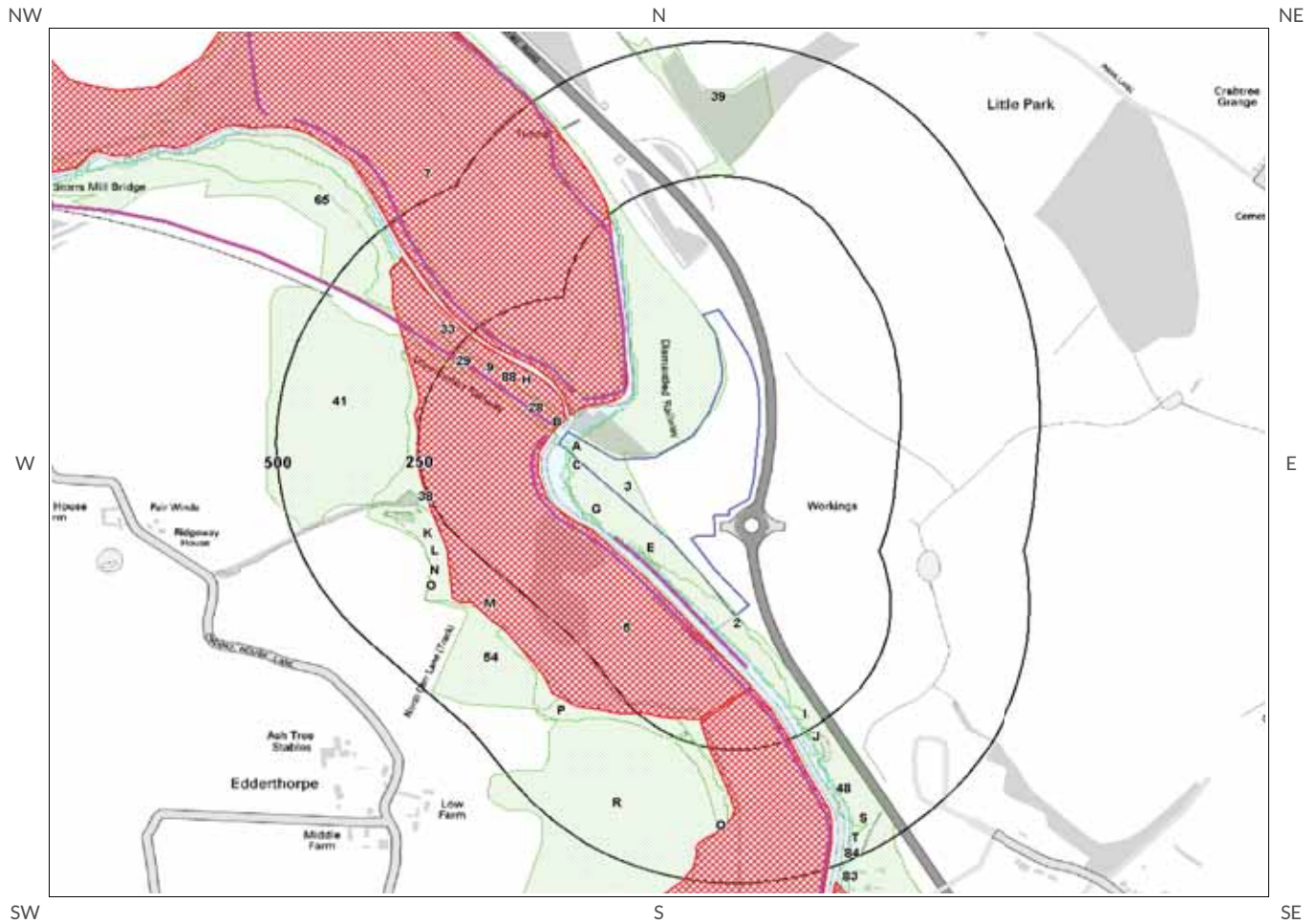
Yes

The following surface water records are not represented on mapping:

Distance (m)	Direction
3.0	NW
3.0	NW
4.0	SW
61.0	E
63.0	S
94.0	N
106.0	SW
113.0	N
119.0	N
187.0	N
217.0	S
219.0	NW
228.0	SE
247.0	SE
249.0	SE









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# 6. Environment Agency Flood Map for planning (from rivers and the sea)



Map Legend



-  Site Outline
-  250 Search Buffers (m)
-  500 Search Buffers (m)
-  Zone 2 Floodplain
-  Zone 3 Floodplain
-  Flood Storage Area
-  Area Benefiting from Flood Defences
-  Flood Defences



# 6. Flooding

## 6.1 Zone 2 Flooding

Environment Agency 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 1 – Environment Agency Flood Map for Planning:

Is the site within 250m of an Environment Agency Zone 2 floodplain? Yes

The following floodplain records are represented as green shading on the Flood Map:

ID	Distance (m)	Direction	Update	Type
1A	0.0	On Site	27-Feb-2014	Zone 2 - (Fluvial / Undefined Events )
2	0.0	On Site	27-Feb-2014	Zone 2 - (Fluvial / Undefined Events )
3	0.0	On Site	27-Feb-2014	Zone 2 - (Fluvial Events )
4	0.0	On Site	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial Events )
5	0.0	On Site	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial / Undefined Events )
6A	14.0	SW	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial Events )
7	22.0	N	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial / Undefined Events )
8C	22.0	SW	27-Feb-2014	Zone 2 - (Fluvial / Undefined Events )
9	24.0	NW	27-Feb-2014	Zone 2 - (Fluvial Models )
10B	25.0	NW	27-Feb-2014	Zone 2 - (Fluvial Models and Undefined Events )
11B	27.0	NW	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial Events )
12C	35.0	SW	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial Events )
13E	49.0	SW	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial / Undefined Events )
14D	50.0	SW	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial / Undefined Events )
15D	51.0	SW	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial / Undefined Events )
16E	51.0	SW	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial Events )
17D	51.0	SW	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial / Undefined Events )
18D	52.0	SW	27-Feb-2014	Zone 2 - (Fluvial Events )
19D	52.0	SW	27-Feb-2014	Zone 2 - (Fluvial Events )
20D	53.0	SW	27-Feb-2014	Zone 2 - (Fluvial Events )

ID	Distance (m)	Direction	Update	Type
21F	53.0	SW	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial Events )
22F	56.0	SW	27-Feb-2014	Zone 2 - (Fluvial / Undefined Events )
23G	59.0	SW	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial Events )
24F	63.0	SW	27-Feb-2014	Zone 2 - (Fluvial / Undefined Events )
25G	64.0	SW	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial Events )
26G	64.0	SW	27-Feb-2014	Zone 2 - (Fluvial / Undefined Events )
27G	65.0	SW	27-Feb-2014	Zone 2 - (Fluvial / Undefined Events )
28	65.0	NW	27-Feb-2014	Zone 2 - (Fluvial Models and Undefined Events )
29	75.0	NW	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial Events )
30H	94.0	NW	27-Feb-2014	Zone 2 - (Fluvial Models and Undefined Events )
31H	140.0	NW	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial Events )
32H	144.0	NW	27-Feb-2014	Zone 2 - (Fluvial Models and Undefined Events )
33	150.0	NW	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial Events )
34	217.0	SW	27-Feb-2014	Zone 2 - (Fluvial / Undefined Events )
35I	224.0	SE	27-Feb-2014	Zone 2 - (Fluvial Models and Fluvial Events )
36R	234.0	S	27-Feb-2014	Zone 2 - (Fluvial Events )
37I	237.0	SE	27-Feb-2014	Zone 2 - (Fluvial / Undefined Events )
38	247.0	W	27-Feb-2014	Zone 2 - (Fluvial / Undefined Events )
39	248.0	N	27-Feb-2014	Zone 2 - (Fluvial Events )

## 6.2 Zone 3 Flooding

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 1 – Environment Agency Flood Map for Planning.

Is the site within 250m of an Environment Agency Zone 3 floodplain? Yes

The following floodplain records are represented as blue shading on the Flood Map:

ID	Distance (m)	Direction	Update	Type
88	0.0	On Site	27-Feb-2014	Zone 3 - (Fluvial Models)

### 6.3 Flood Defences

Are there any Flood Defences within 250m of the study site? Yes

The following flood defence records are represented as lines on the Flood Map:

ID	Distance (m)	Direction	Update
93	28.0	NW	26-Feb-2014
94	31.0	NW	26-Feb-2014
95	50.0	SW	26-Feb-2014
96	64.0	N	26-Feb-2014
97	72.0	N	26-Feb-2014

---

### 6.4 Areas benefiting from Flood Defences

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

---

### 6.5 Areas benefiting from Flood Storage

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

---

### 6.6 Groundwater Flooding Susceptibility Areas

6.6.1 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).

---

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

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

## 6.7 Groundwater Flooding Confidence Areas

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

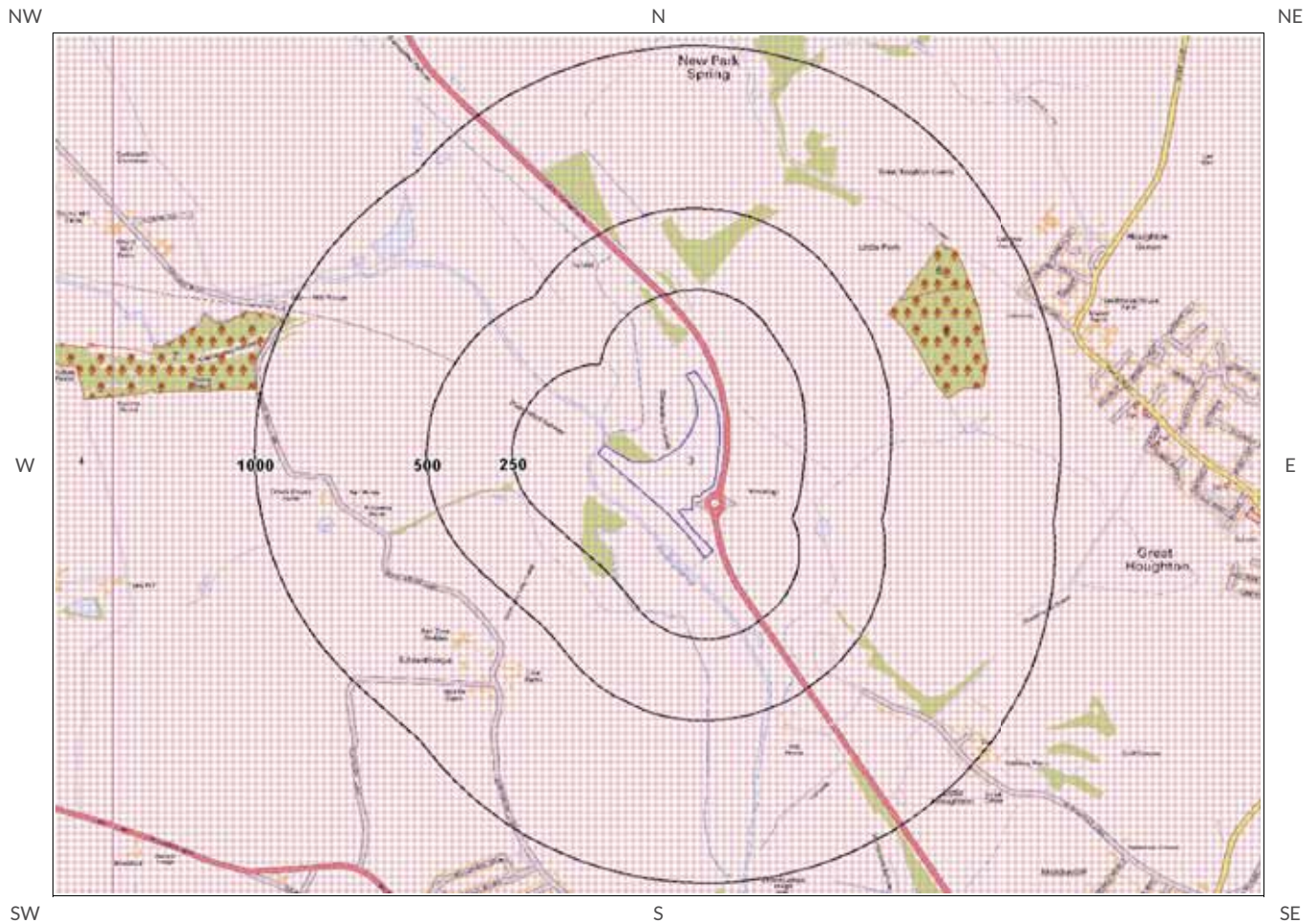
Moderate

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.

---

# 7. Designated Environmentally Sensitive Sites Map



Map Legend

Mapping sourced from Ordnance Survey

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- |                                     |                          |                         |                |                                 |
|-------------------------------------|--------------------------|-------------------------|----------------|---------------------------------|
| Site Outline                        | SAC                      | SSSI                    | NNR            | World Heritage Sites            |
| Areas of Outstanding Natural Beauty | SPA                      | Ramsar                  | LNR            | Environmentally Sensitive Areas |
|                                     | Nitrate Vulnerable Zones | Nitrate Sensitive Areas | National Parks | Ancient Woodlands               |



# 7. Designated Environmentally Sensitive Sites

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

---

7.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site: 1

The following Site of Special Scientific Interest (SSSI) records provided by Natural England/Countryside Council for Wales and Scottish Natural Heritage are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	SSSI Name	Data Source
Not shown	1209.0	N	Carlton Main Brickworks	Natural England

7.2 Records of National Nature Reserves (NNR) within 2000m of the study site: 0

Database searched and no data found.

7.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site: 0

Database searched and no data found.

7.4 Records of Special Protection Areas (SPA) within 2000m of the study site: 0

Database searched and no data found.

7.5 Records of Ramsar sites within 2000m of the study site: 0

Database searched and no data found.

7.6 Records of Ancient Woodland within 2000m of the study site:

6

The following Ancient Woodland records are supplied by English Nature/Scottish Natural Heritage/Countryside Council for Wales and are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
5	570.0	NE	LITTLE PARK	Ancient and Semi-Natural Woodland
6	617.0	NE	LITTLE PARK	Ancient Replanted Woodland
7	1006.0	NW	STORRS WOOD	Ancient and Semi-Natural Woodland
Not shown	1550.0	N	WEST HAIGH WOOD	Ancient and Semi-Natural Woodland
Not shown	1606.0	N	WEST HAIGH WOOD	Ancient Replanted Woodland
Not shown	1913.0	W	UNKNOWN	Ancient and Semi-Natural Woodland

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

1

The following Local Nature Reserve (LNR) records provided by Natural England/Countryside Council for Wales and Scottish Natural Heritage are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	LNR Name	Data Source
Not shown	1552.0	N	West haigh Wood	Natural England

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

---

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

2

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
3	0.0	On Site	NVZ Area	DEFRA
4	1413.0	W	NVZ Area	DEFRA

---



# 8. Natural Hazards Findings

## 8.1 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 GeoInsight**, available from our [website](#). The following information has been found:

### 8.1.1 Shrink Swell

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

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

---

**Hazard**

---

Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

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### 8.1.2 Landslides

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

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

---

**Hazard**

---

Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property no significant increase in insurance risk due to natural slope instability problems.

---



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

### 8.1.3 Soluble Rocks

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

Soluble rocks are not present in the search area. 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.

### 8.1.4 Compressible Ground

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

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

**Hazard**

Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.

### 8.1.5 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.

### 8.1.6 Running Sand

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

Low

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

---

**Hazard**

---

Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property no significant increase in insurance risk due to running sand problems is likely.

---



---

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



# 9. Mining

## 9.1 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	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.

## 9.2 Shallow Mining

What is the subsidence hazard relating to shallow mining on-site\*? Low-Moderate

\*Please note this data is searched with a 150m buffer.

## 9.3 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: [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



## Environment Agency

National Customer Contact Centre, PO Box 544  
Rotherham, S60 1BY  
Tel: 08708 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  
<https://www.gov.uk/government/organisations/public-health-england>  
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: [www.barnsley.gov.uk/index.asp](http://www.barnsley.gov.uk/index.asp)  
Address: Town Hall, Barnsley, South Yorkshire, S70 2TA

## Gemapping PLC

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



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, English Nature who retain the Copyright and Intellectual Property Rights for the data. PointX © Database Right/Copyright, Thomson Directories Limited © Copyright Link Interchange Network Limited © Database Right/Copyright and Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028].  
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

### 1 Definitions

In these terms and conditions unless the context otherwise requires:

“Beneficiary” means the person or entity for whose benefit the Client has obtained the Services.

“Client” means the party or parties entering into a Contract with GroundSure.

“Commercial” means any building or property which is not Residential.

“Confidential Information” means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

- (i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and
- (ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

“Support Services” means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

“Contract” means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

“Third Party Data Provider” means any third party providing Third Party Content to GroundSure.

“Data Reports” means reports comprising factual data with no accompanying interpretation.

“Fees” has the meaning set out in clause 5.1.

“GroundSure” means GroundSure Limited, a company registered in England and Wales under number 03421028.

“GroundSure Materials” means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

“Intellectual Property” means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

“Mapping” means a map, map data or a combination of historical maps of various ages, time periods and scales.

“Order” means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

“Ordnance Survey” means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

“Order Website” means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

“Report” means a Risk Screening Report or Data Report for Commercial or Residential property.

“Residential” means any building or property used as or intended to be used as a single dwelling.

“Risk Screening Report” means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

“Services” means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

“Site” means the area of land in respect of which the Client has requested GroundSure to provide the Services.

“Third Party Content” means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

“User Guide” means the user guide, as amended from time to time, available upon request from GroundSure and on the website ([www.GroundSure.com](http://www.GroundSure.com)) and forming part of this Contract.

### 2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions

implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

### 3 The Client's obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

### 4 Reliance

4.1 The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

- (i) the Beneficiary,
- (ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
- (iv) the first purchaser or first tenant of the Site, and
- (v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

### 5 Fees and Disbursements

5.1 GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together “Fees”).

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

## 6 Intellectual Property and Confidentiality

### 6.1 Subject to

(i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

## 7. Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death

or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

## 8 GroundSure's right to suspend or terminate

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to GroundSure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

## 9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

(a) supplied to the Client's specification(s) and in any event

(b) by their nature cannot be returned.

## 10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in

GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

## 11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

## 12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

- (i) the Client or Beneficiary's failure to provide facilities, access or information;
- (ii) fire, storm, flood, tempest or epidemic;
- (iii) Acts of God or the public enemy;
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
- (viii) changes in law; or
- (ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English

law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law. © GroundSure Limited June 2013



EmapSite

Masdar House,  
Eversley, RG27 0RP

Report Reference: EMS-245265\_329171

Your Reference: EMS\_245265\_329171

Report Date 8 Apr 2014

Report Delivery Method: Email - pdf

## GroundSure Geoinsight

Address: ,

Dear Sir/ Madam,

Thank you for placing your order with GroundSure. Please find enclosed the **GroundSure Geolnsight** 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 Geolnsight



# GroundSure GeoInsight

Address: ,  
Date: 8 Apr 2014  
Reference: EMS-245265\_329171  
Client: EmapSite

NW N NE

W E



SW S SE

Aerial Photograph Capture date: 26-Mar-2012  
Grid Reference: 441652,406467  
Site Size: 5.85ha

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# Overview of Findings

The GroundSure GeoInsight 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 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow 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

1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	Yes
	1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	Yes
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	Yes
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	Yes
	1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	1.2.4 Are there any records relating to permeability of landslips within the study site boundary?	No
1.3 Bedrock, Solid Geology & 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 relating to permeability of bedrock within the study site boundary?	Yes
	1.3.3 Are there any records of faults within 500m of the study site boundary?	Yes
1.4 Radon data	1.4.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is in a Radon Affected Area, as between 1 and 3% of properties are above the Action Level
	1.4.2 Is the property in an area where Radon Protection Measures 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 2: Ground Workings

	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	10	3	15	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	1	1	2	2	7
2.3 Current Ground Workings	0	0	2	1	3

Section 3: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	1	1	2	0	7
3.2 Coal Mining	1	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
3.4 Non-Coal Mining	1	0	2	1	2
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0

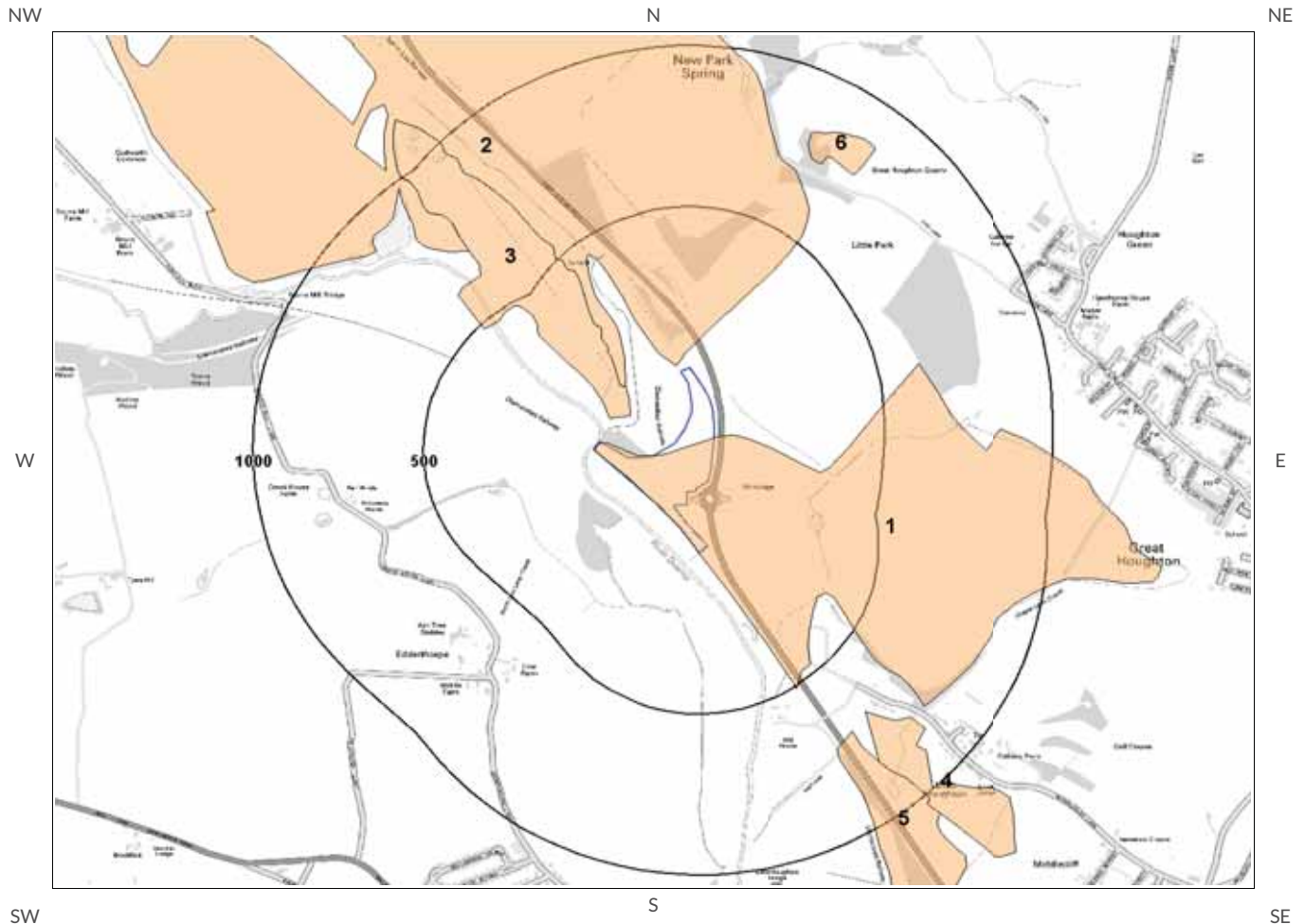
Section 4: Natural Ground Subsidence	On-site
4.1 Shrink Swell Clay	Low
4.2 Landslides	Low
4.3 Ground Dissolution of Soluble Rocks	Null
4.4 Compressible Deposits	Moderate
4.5 Collapsible Deposits	Very Low
4.6 Running Sand	Low

Section 5: Borehole Records	On-site	0-50m	51-250
5 BGS Recorded Boreholes	3	3	13

Section 6: Estimated Background Soil Chemistry	On-site	0-50m	51-250
6 Records of Background Soil Chemistry	5	0	12

# 1 Geology




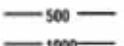




## 1.1 Artificial Ground Map



Artificial Ground Legend



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- |  |   |   |
|--|---|---|
|  Site Outline       |  Made Ground (undivided)   |  Disturbed Ground (undivided)  |
|  Search Buffers (m) |  Worked Ground (undivided) |  Landscaped Ground (undivided) |
|  |  Infilled Ground           |  Reclaimed Ground              |



# 1 Geology

## 1.1 Artificial Ground

### 1.1.1 Artificial/ Made Ground

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

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

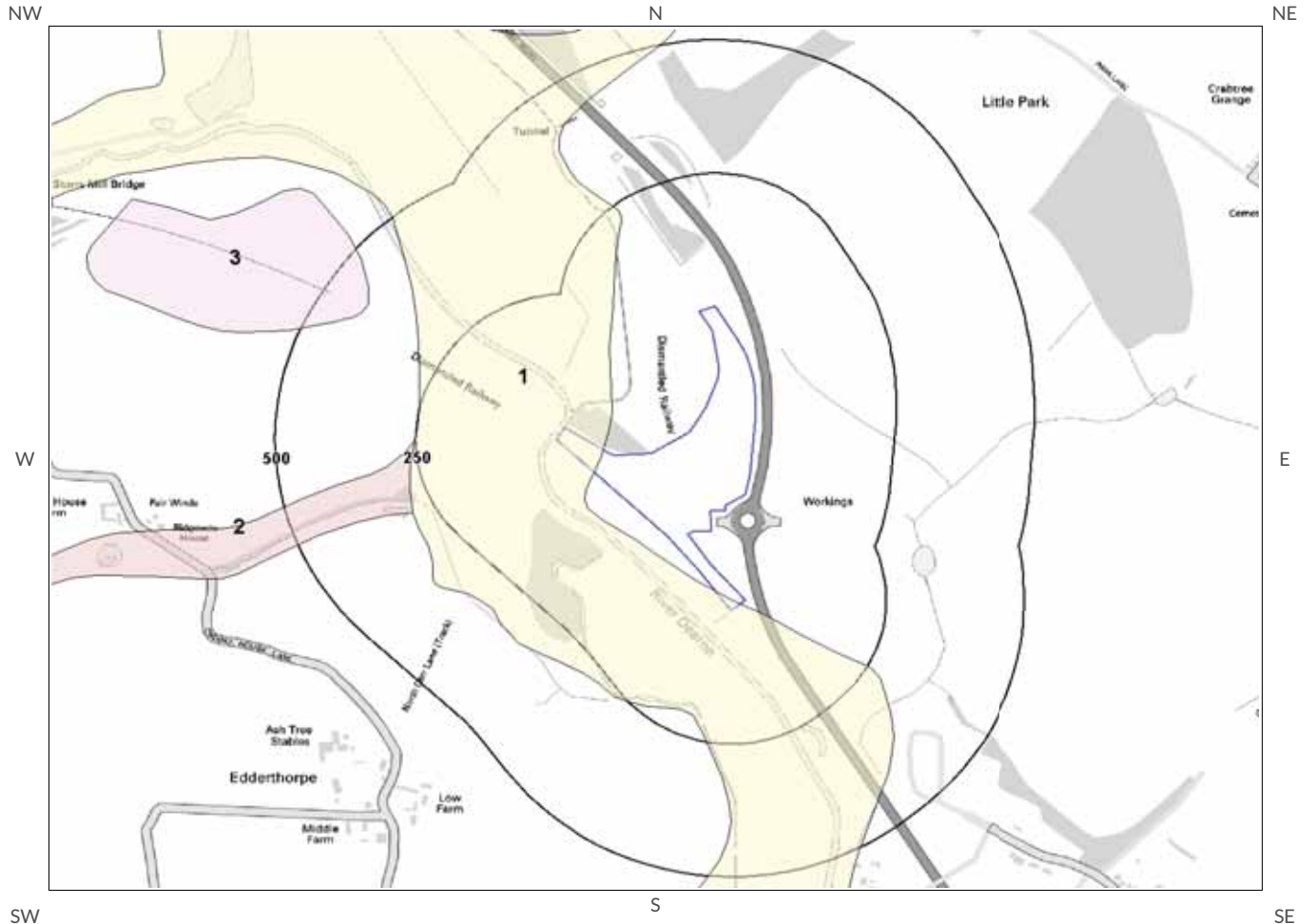
ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	21.0	NW	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
3	78.0	NE	WMGR-MGRD	INFILLED GROUND	ARTIFICIAL DEPOSIT

### 1.1.2 Permeability of Artificial Ground

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

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	Very High	Very Low
21.0	NW	Intergranular	Very High	Very Low

# 1.2 Superficial Deposits and Landslips Map



Superficial Deposits and Landslips Legend



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 Site Outline

 Search Buffers (m)

# 1.2 Superficial Deposits and Landslips

## 1.2.1 Superficial Deposits/ Drift Geology

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

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	ALV-CLSI	ALLUVIUM	CLAY AND SILT
2	252.0	W	HEAD-DMTN	HEAD	DIAMICTON
3	420.0	NW	GFDMP-SAGR	GLACIOFLUVIAL DEPOSITS, MID PLEISTOCENE	SAND AND GRAVEL

## 1.2.2 Permeability of Superficial Ground

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

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	Low	Very Low

## 1.2.3 Landslip

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

Database searched and no data found.

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.

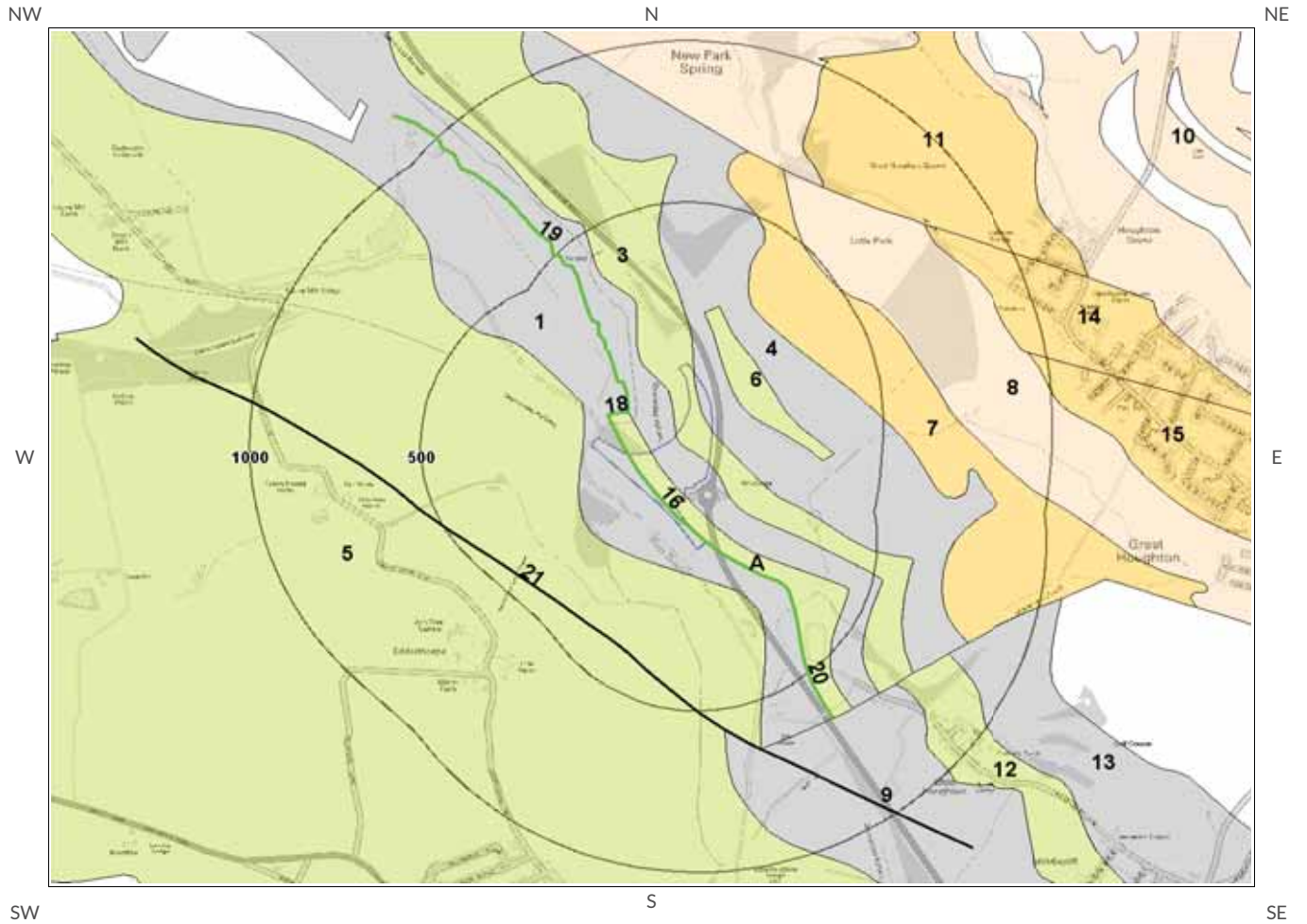
## 1.2.4 Landslip Permeability

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

Database searched and no data found.

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


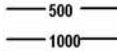
# 1.3 Bedrock and Faults Map



Bedrock and Faults Legend



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-  Site Outline
-  Search Buffers (m)

# 1.3 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

## 1.3.1 Bedrock/ Solid Geology

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

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsoviaian (westphalian C) / Duckmantian (westphalian B)
2A	0.0	On Site	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsoviaian (westphalian C) / Duckmantian (westphalian B)
3	0.0	On Site	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsoviaian (westphalian C) / Duckmantian (westphalian B)
4	0.0	On Site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsoviaian (westphalian C) / Duckmantian (westphalian B)
5	26.0	W	MXR-SDST	Mexborough Rock - Sandstone	Bolsoviaian (westphalian C)
6	71.0	E	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsoviaian (westphalian C) / Duckmantian (westphalian B)
7	258.0	NE	AR-SDST	Ackworth Rock - Sandstone	Bolsoviaian (westphalian C)
8	486.0	NE	PUCM-MDSS	Pennine Upper Coal Measures Formation - Mudstone, Siltstone And Sandstone	Westphalian D / Bolsoviaian (westphalian C)

## 1.3.2 Permeability of Bedrock Ground

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

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	High	Moderate
0.0	On Site	Fracture	Moderate	Low
0.0	On Site	Fracture	High	Moderate
0.0	On Site	Fracture	Moderate	Low
26.0	W	Fracture	High	Moderate

## 1.3.3 Faults

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

ID	Distance (m)	Direction	Category Description	Feature Description
16	0.0	On Site	ROCK	Coal seam, inferred
17A	47.0	SE	ROCK	Coal seam, inferred
18	78.0	NE	ROCK	Coal seam, inferred
19	115.0	NE	ROCK	Coal seam, inferred
20	336.0	SE	ROCK	Coal seam, inferred

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

ID	Distance (m)	Direction	Category Description	Feature Description
21	377.0	SW	FAULT	Normal fault, 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 nationwide coverage.



# 1.4 Radon Data

## 1.4.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is in a Radon Affected Area, as between 1 and 3% of properties are above the Action Level

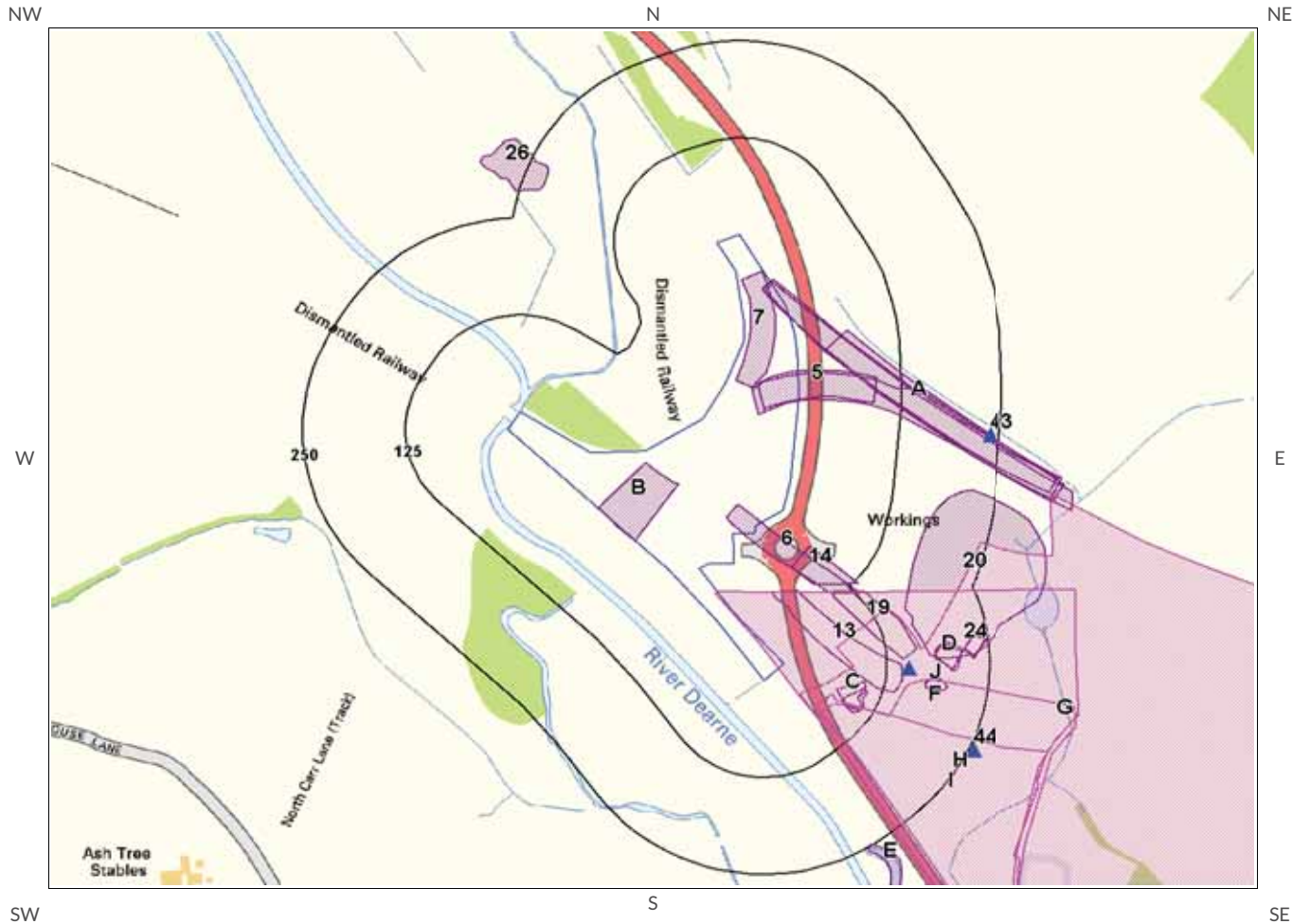
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## 1.4.2 Radon Protection

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

---

# 2 Ground Workings Map



Ground Workings Legend



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



# 2 Ground Workings

## 2.1 Historical Surface Ground Working Features derived from Historical Mapping

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

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

The following Historical Surface Ground Working Features are provided by GroundSure:

ID	Distance (m)	Direction	NGR	Use	Date
1F	0.0	On Site	441891 406018	Colliery	1948
2A	0.0	On Site	441914 406550	Cuttings	1948
3A	0.0	On Site	441914 406550	Cuttings	1904
4A	0.0	On Site	441968 406499	Cuttings	1981
5	0.0	On Site	441789 406559	Cuttings	1988
6	0.0	On Site	441760 406354	Cuttings	1904
7	0.0	On Site	441714 406637	Cuttings	1988
8B	0.0	On Site	441571 406414	Cuttings	1904
9B	0.0	On Site	441571 406414	Cuttings	1948
10A	0.0	On Site	441879 406563	Cuttings	1951
11A	35.0	E	441945 406527	Cuttings	1967
12G	42.0	SE	442198 406079	Colliery	1951
13	49.0	NE	441814 406235	Cuttings	1904
14	55.0	SE	441799 406333	Cuttings	1948
15H	65.0	SE	441947 405970	Colliery	1904
16C	72.0	SE	441830 406165	Unspecified Ground Workings	1951
17I	76.0	SE	441955 405941	Colliery	1890
18C	84.0	SE	441836 406159	Unspecified Pit	1948
19	103.0	NE	441859 406256	Cuttings	1904
20	163.0	NE	441983 406321	Refuse Heap	1967
21J	173.0	E	441934 406178	Unspecified Pit	1904

ID	Distance (m)	Direction	NGR	Use	Date
22D	184.0	E	441949 406214	Unspecified Pit	1948
23D	184.0	E	441950 406216	Unspecified Pit	1951
24	220.0	E	441981 406230	Cuttings	1951
25D	221.0	E	441982 406228	Cuttings	1948
26	223.0	W	441420 406848	Pond	1988
27E	248.0	SE	441884 405945	Pond	1988
28E	248.0	SE	441884 405945	Pond	1981

## 2.2 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
29F	0.0	On Site	441891 406018	Colliery	1948
30G	42.0	SE	442198 406079	Colliery	1951
31H	65.0	SE	441947 405970	Colliery	1904
32I	76.0	SE	441955 405941	Colliery	1890
Not shown	421.0	NW	441432 407103	Tunnel	1988
Not shown	421.0	NW	441432 407103	Tunnel	1981
Not shown	642.0	SE	442253 405445	Colliery	1951
Not shown	645.0	SE	442266 405442	Colliery	1938
Not shown	646.0	SE	442266 405496	Colliery	1904
Not shown	649.0	SE	442310 405405	Unspecified Mine	1967
Not shown	649.0	SE	442310 405405	Colliery	1981
Not shown	649.0	SE	442310 405405	Colliery	1988
Not shown	739.0	NW	440859 408124	Colliery	1948

## 2.3 Current Ground Workings

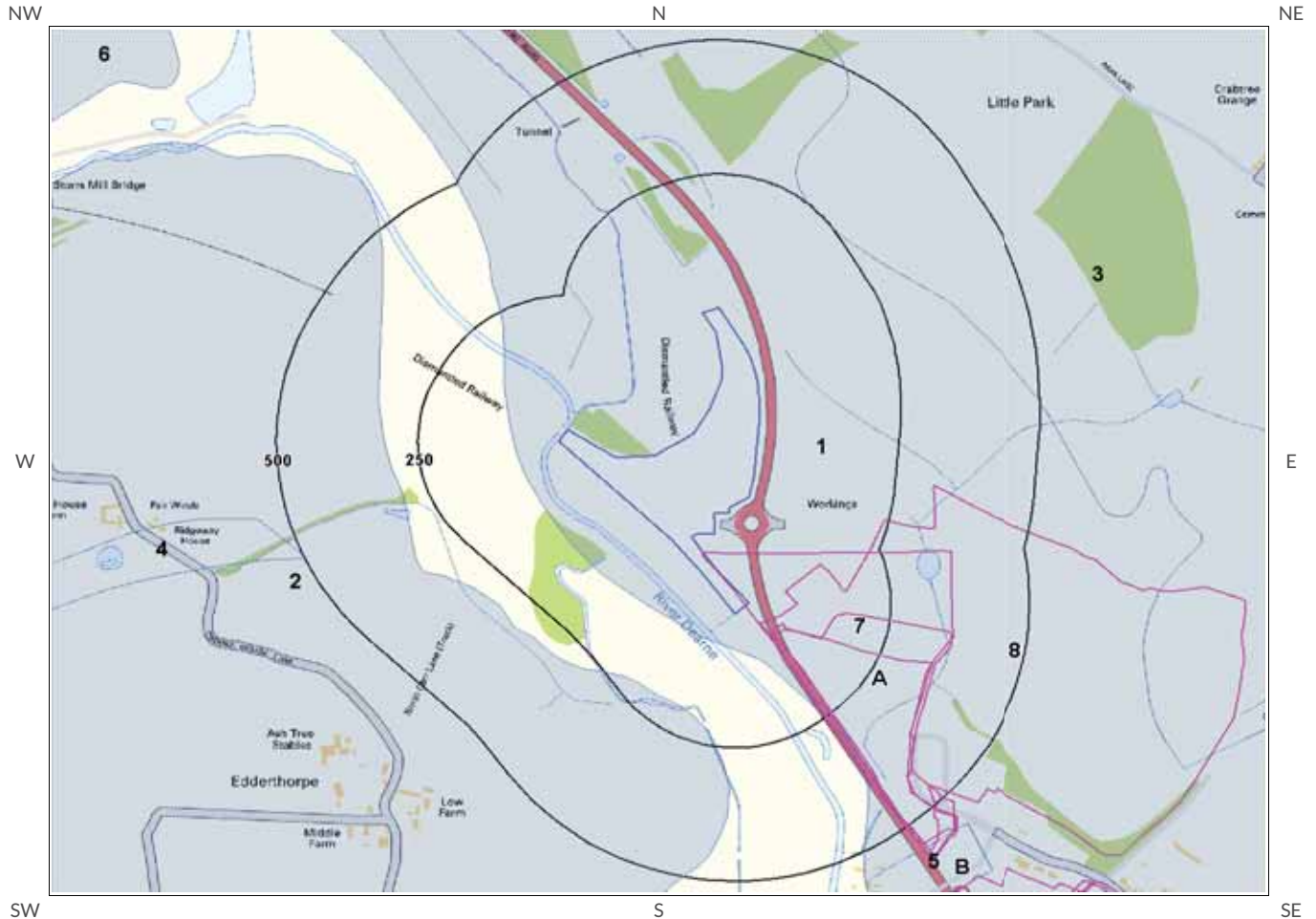
This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

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
42J	151.0	E	441900 406200	Coal, Surface Mined	Houghton Main Extension OCCS	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
43	237.0	E	442000 406500	Coal, Surface Mined	Houghton Main OCCS	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
44	256.0	SE	441980 406095	Coal, Deep	Houghton Main 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	785.0	NE	442125 407415	Sandstone	Great Houghton	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	804.0	SE	442210 405545	Coal, Deep	Dearne Valley 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	918.0	SE	442200 405400	Coal, Surface Mined	Firtree Link Road	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

# 3 Mining, Extraction & Natural Cavities Map



Mining, Extraction and Natural Cavities Legend



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<p> Site Outline</p> <p> 250 Search Buffers (m)</p> <p> 500 Search Buffers (m)</p>	<p> Historical Mining</p> <p> Non-Coal Mining Cavities</p> <p> Natural Cavities</p>	<p><b>Non-Coal Mining</b></p> <p> Highly likely</p> <p> Likely</p> <p> Unlikely</p> <p> Highly unlikely</p> <p> Rare</p>
--	---	--



# 3 Mining, Extraction & Natural Cavities

## 3.1 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
7	0.0	On Site	441891 406018	Colliery	1948
8	42.0	SE	442198 406079	Colliery	1951
9A	65.0	SE	441947 405970	Colliery	1904
10A	76.0	SE	441955 405941	Colliery	1890
11B	642.0	SE	442253 405445	Colliery	1951
12B	645.0	SE	442266 405442	Colliery	1938
13	646.0	SE	442266 405496	Colliery	1904
14B	649.0	SE	442310 405405	Colliery	1981
15B	649.0	SE	442310 405405	Colliery	1988
16B	649.0	SE	442310 405405	Unspecified Mine	1967
Not shown	739.0	NW	440859 408124	Colliery	1948

## 3.2 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.

### 3.3 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.

### 3.4 Non-Coal Mining

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

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

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

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	0.0	On Site	Not available	Iron Ore (Bedded)	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
2	198.0	SW	Sheffield Area	Iron Ore	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
3	247.0	NE	Sheffield Area	Iron Ore	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
4	496.0	SW	Not available	Iron Ore (Bedded)	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
5	546.0	SE	Sheffield Area	Iron Ore	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
6	952.0	NW	Sheffield Area	Iron Ore	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.

### 3.5 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.

### 3.6 Natural Cavities

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.

### 3.7 Brine Extraction

This dataset provides information from the Brine Compensation Board which has been discontinued and is now covered by the Coal Authority.

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

Database searched and no data found.

---

### 3.8 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.

---

### 3.9 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.

---

### 3.10 Clay Mining

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

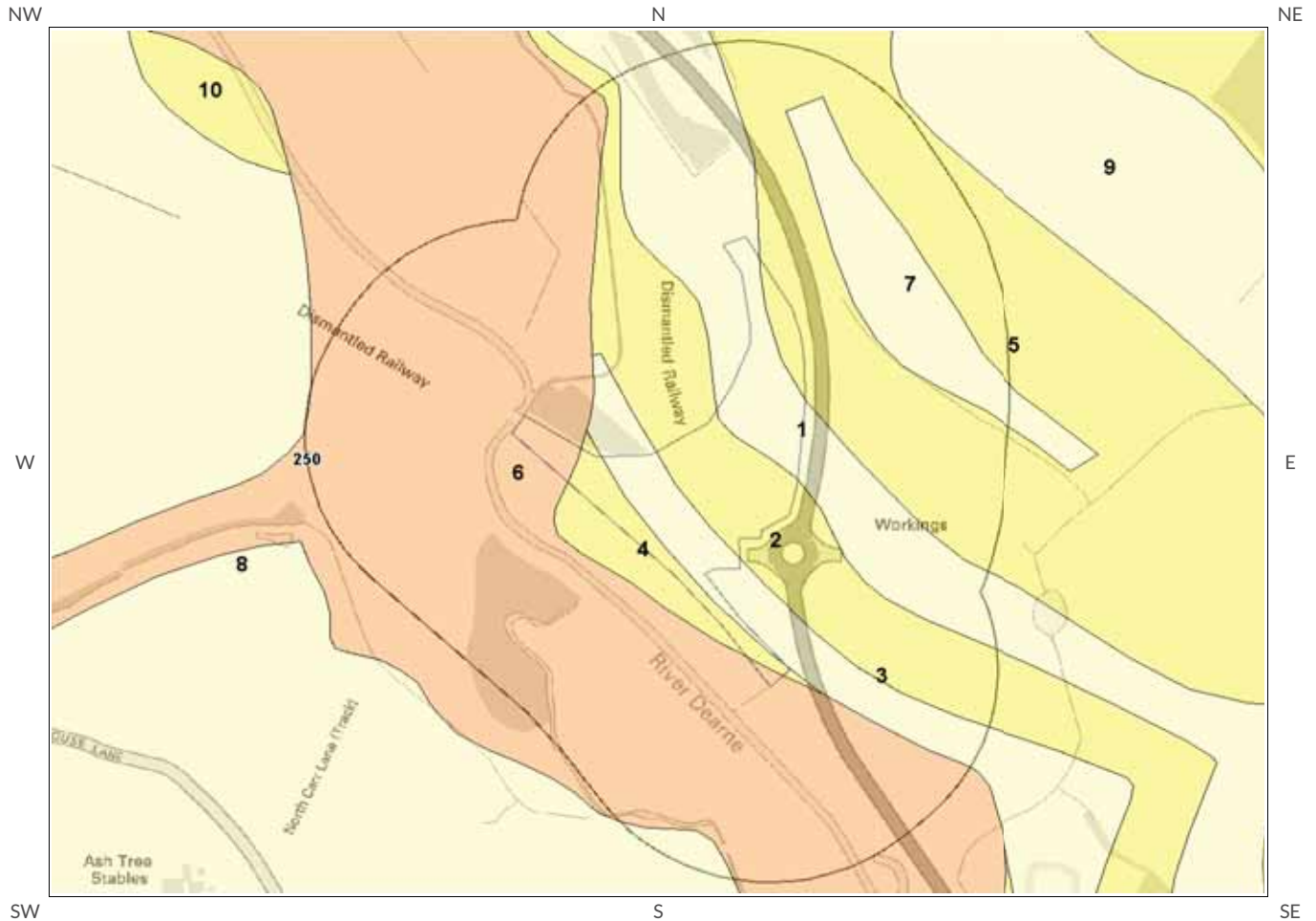
Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

---

# 4 Natural Ground Subsidence

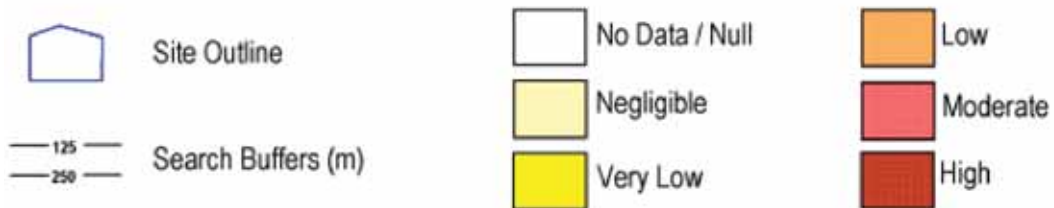
## 4.1 Shrink-Swell Clay Map



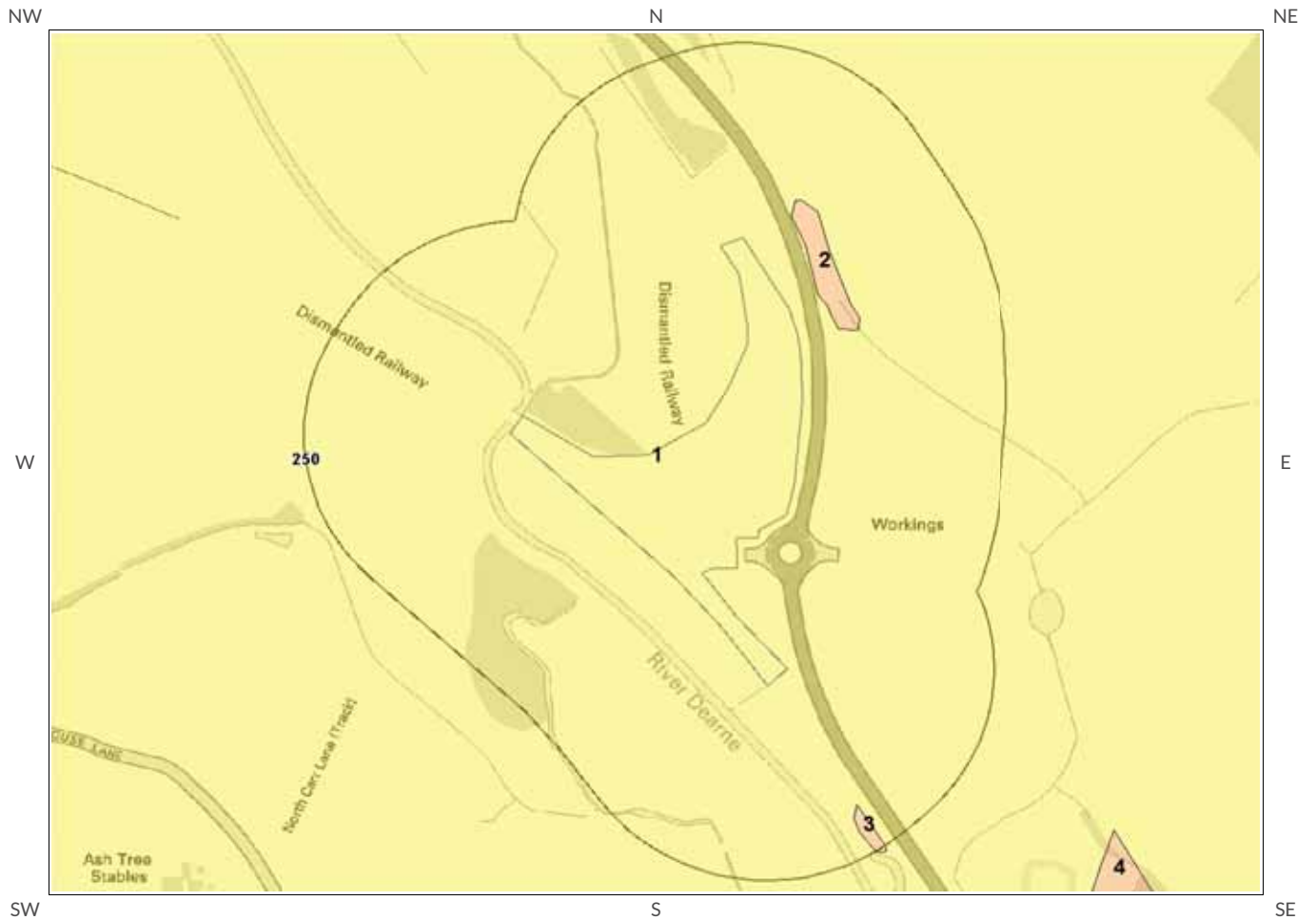
Shrink Swell Clay Legend



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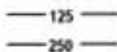




# 4.2 Landslides Map



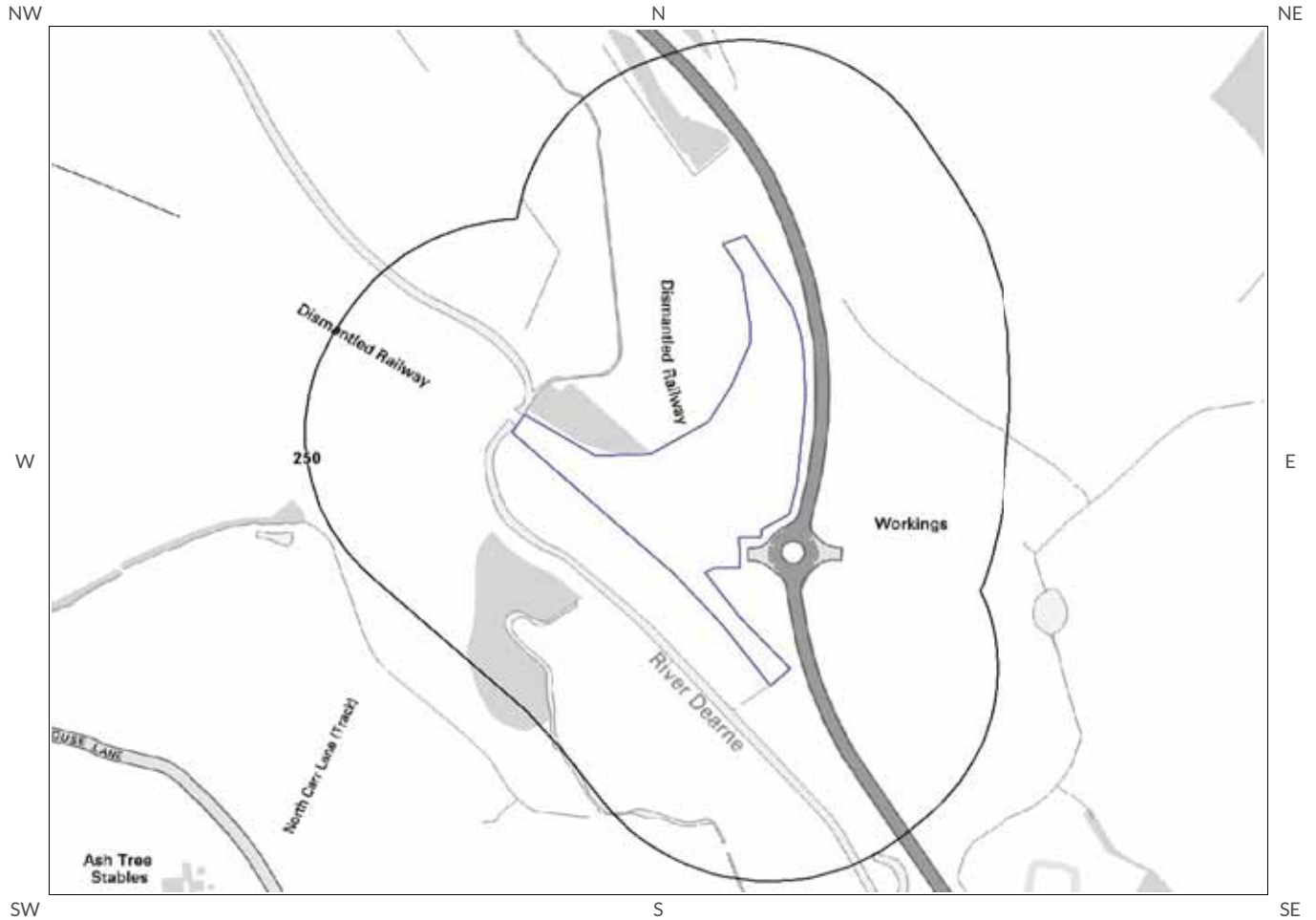
Landslides Legend



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	Site Outline		No Data / Null		Low
	Search Buffers (m)		Negligible		Moderate
			Very Low		High

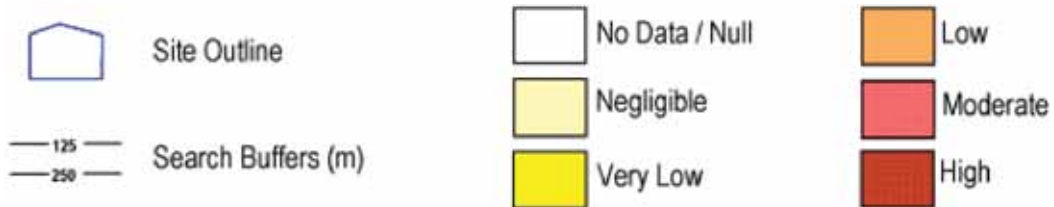
# 4.3 Ground Dissolution Soluble Rocks Map



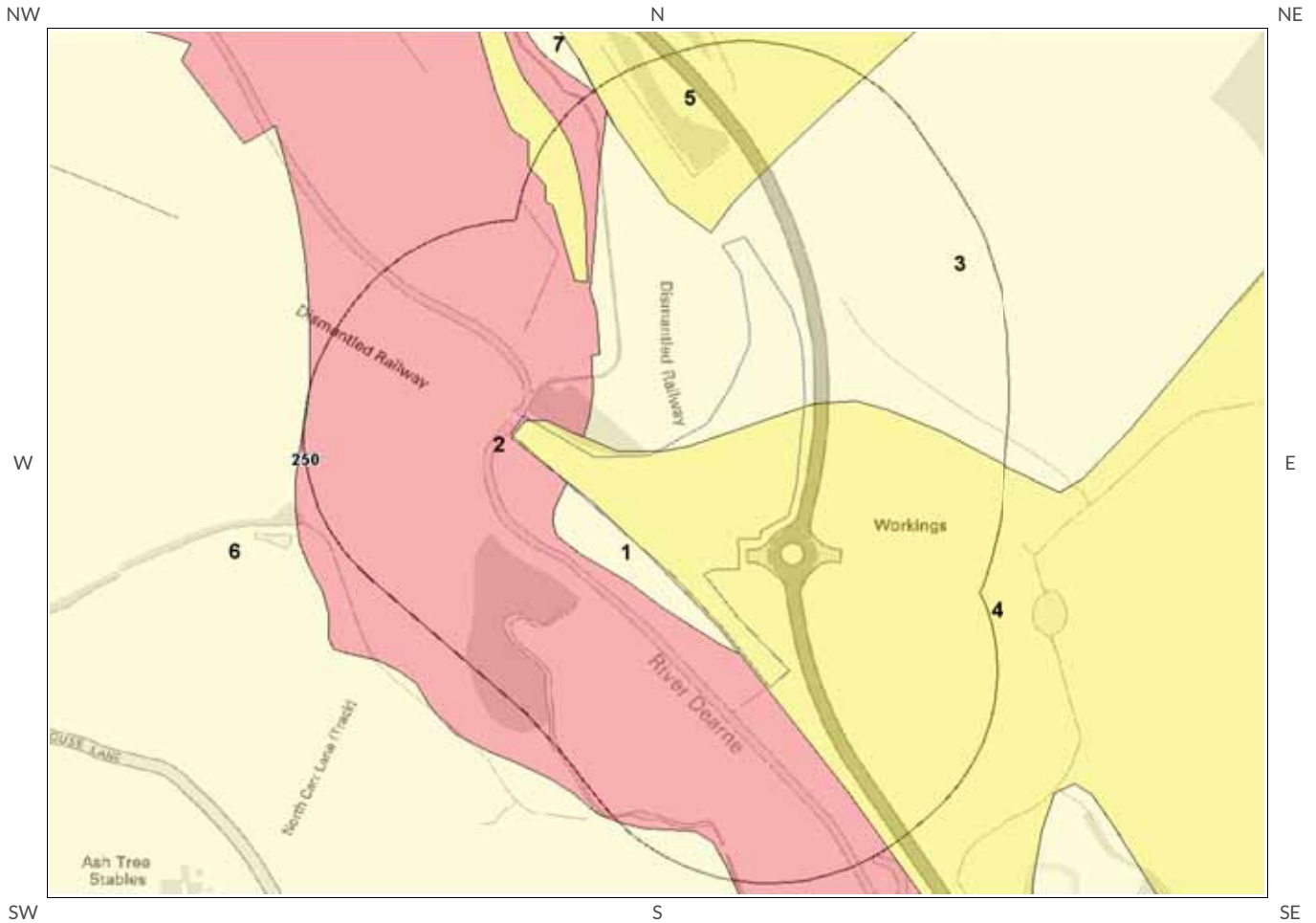
Ground Dissolution Soluble Rocks Legend



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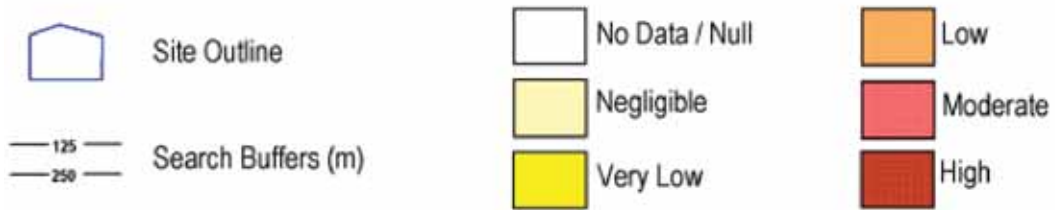
# 4.4 Compressible Deposits Map



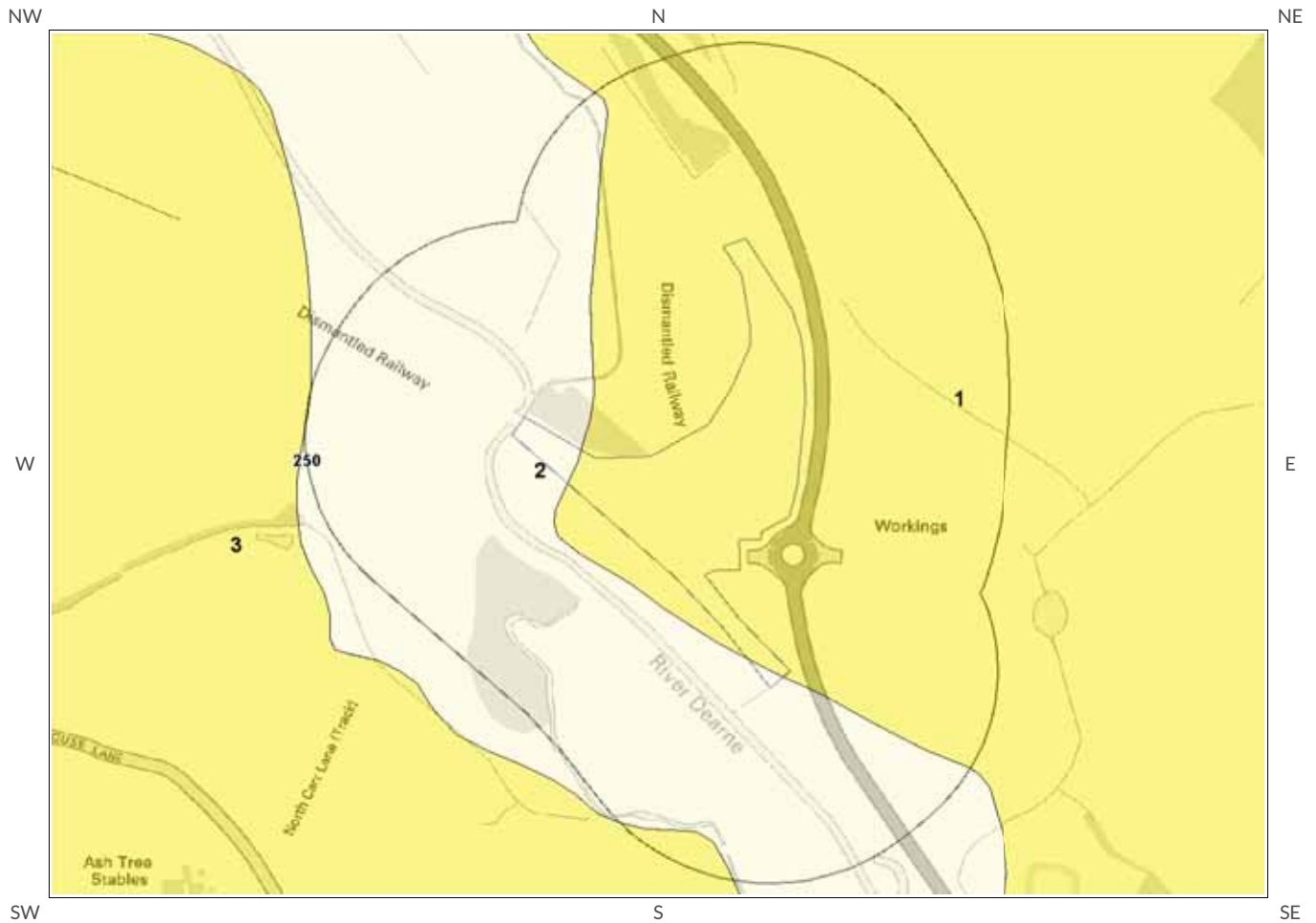
Compressible Deposits Legend



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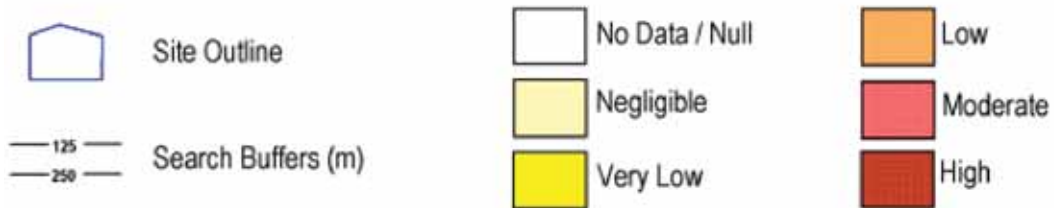
# 4.5 Collapsible Deposits Map



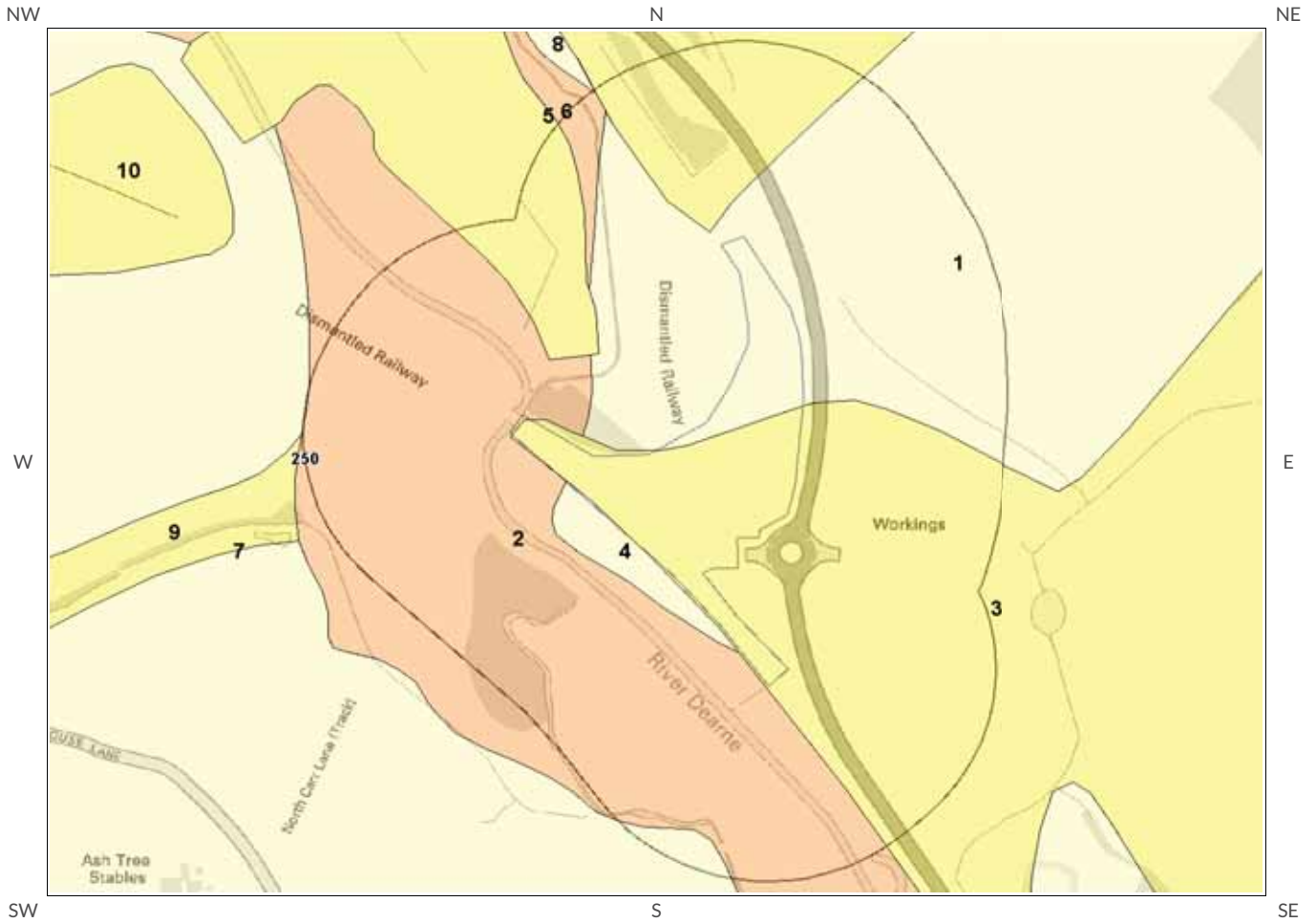
Collapsible Deposits Legend



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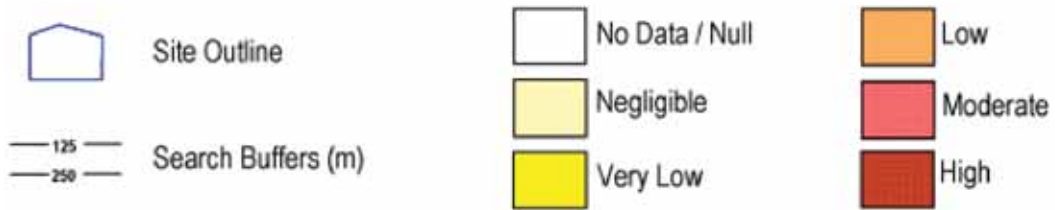
# 4.6 Running Sand Map



Running Sand Legend



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# 4 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? Moderate

## 4.1 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	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.
3	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.
4	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.
5	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.
6	0.0	On Site	Low	Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

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

## 4.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.
2	39.0	NE	Low	Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property - no significant increase in insurance risk due to natural slope instability problems.

## 4.3 Ground Dissolution of Soluble Rocks

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

Distance (m)	Direction	Hazard Rating	Details
0	On site	Null-Negligible	Soluble rocks are not present in the search area. 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.

## 4.4 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.
2	0.0	On Site	Moderate	Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build - consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property - possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.
3	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.
4	0.0	On Site	Very Low	Very low potential for compressible deposits to be present. 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.

ID	Distance (m)	Direction	Hazard Rating	Details
5	21.0	NW	Very Low	Very low potential for compressible deposits to be present. 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.

## 4.5 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.
2	0.0	On Site	Negligible	No indicators for collapsible deposits identified. No actions required to avoid problems due to collapsible deposits. No special ground investigation required, or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

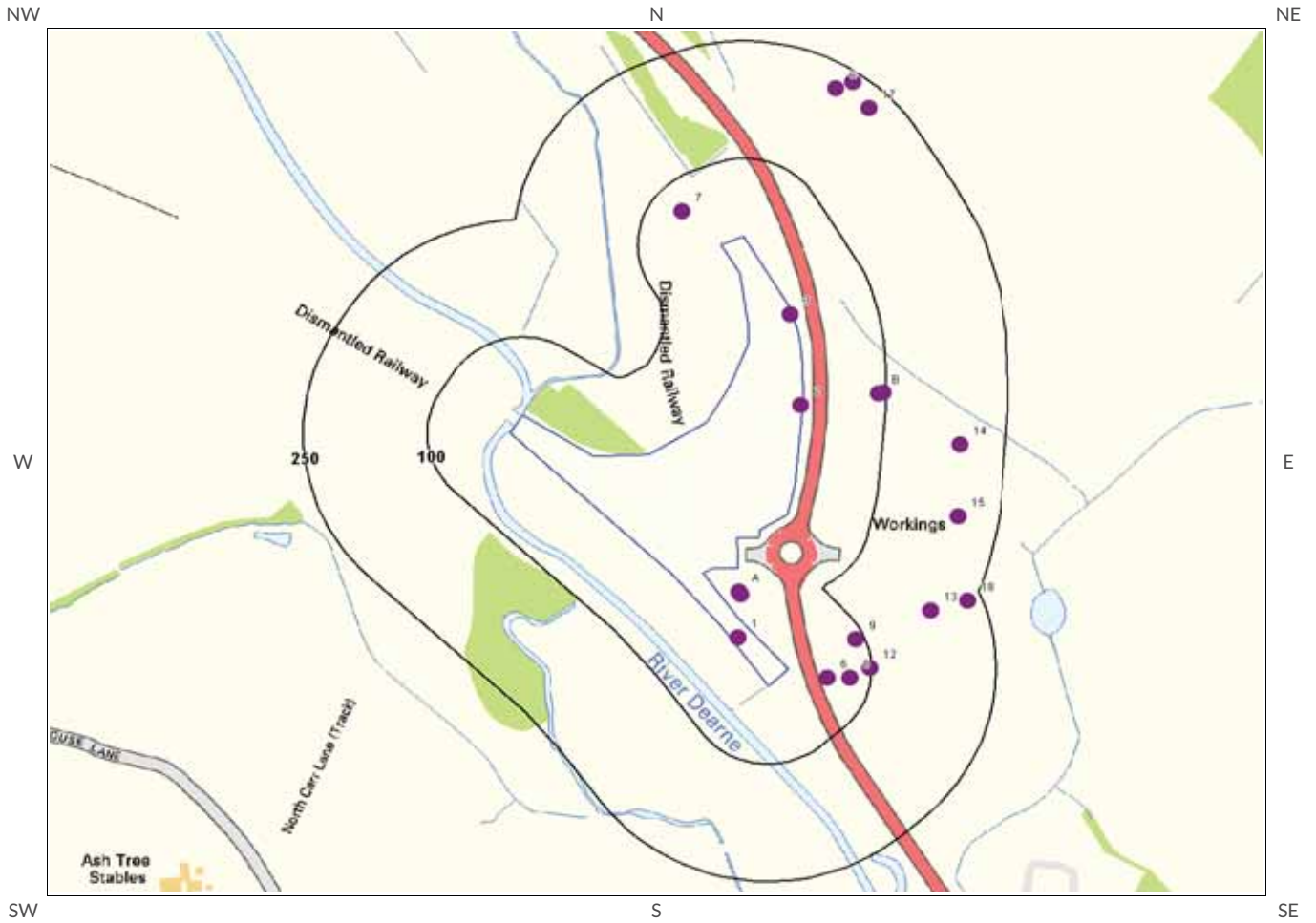
## 4.6 Running Sands

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.
2	0.0	On Site	Low	Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build - consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property - no significant increase in insurance risk due to running sand problems is likely.
3	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
4	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.

ID	Distance (m)	Direction	Hazard Rating	Details
5	21.0	NW	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.



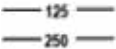
# 5 Borehole Records Map



Borehole Records Legend



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-  Site Outline
-  Borehole Locations
-  Search Buffers (m)
  - 125
  - 250



# 5 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:

19

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	0.0	On Site	441687 406246	SE40NW19	37.8	HOUGHTON MAIN COLLIERY 4 U/G
2	0.0	On Site	441763 406543	SE40NW22	32.61	HOUGHTON MAIN COLLIERY 11 U/G
3	0.0	On Site	441750 406658	SE40NW12/C	7.01	GRIMETHORPE
4A	19.0	NE	441688 406304	SE40NW397	-1.0	HOUGHTON MAIN 2
5A	20.0	NE	441691 406301	SE40NW398	-1.0	HOUGHTON MAIN BOREHOLE
6	48.0	E	441795 406194	SE40NW108	12.77	HOUGHTON MAIN COLLIERY NO.6A SURF BH
7	63.0	NW	441620 406790	SE40NW400	31.0	HOUGHTON MAIN COLLIERY BARNESLEY
8	75.0	E	441823 406194	SE40NW365	-1.0	HOUGHTON MAIN BARNESLEY TP 3
9	89.0	NE	441829 406244	SE40NW106	19.45	HOUGHTON MAIN COLLIERY NO.4A SURF BH
10B	90.0	E	441857 406557	SE40NW12/B	9.14	THREE BHS AT GRIMETHORPE
11B	96.0	E	441863 406558	SE40NW20	31.39	HOUGHTON MAIN COLLIERY 5 U/G
12	98.0	E	441847 406207	SE40NW107	17.08	HOUGHTON MAIN COLLIERY NO.5A SURF BH
13	186.0	NE	441920 406280	SE40NW363	-1.0	HOUGHTON MAIN BARNESLEY TP 1
14	193.0	E	441955 406492	SE40NW12/A	8.84	THREE BHS AT GRIMETHORPE
15	200.0	E	441953 406401	SE40NW364	-1.0	HOUGHTON MAIN BARNESLEY TP 2
16C	219.0	NE	441805 406947	SE40NW360	-1.0	HOUGHTON MAIN BARNESLEY R2
17	222.0	NE	441845 406922	SE40NW367	-1.0	HOUGHTON MAIN BARNESLEY TP 5
18	233.0	E	441965 406293	SE40NW105	33.1	HOUGHTON MAIN COLLIERY NO.1A SURF BH
19C	237.0	NE	441826 406955	SE40NW366	-1.0	HOUGHTON MAIN BARNESLEY TP 4

Additional online information is available for the following boreholes listed above:

#1: [scans.bgs.ac.uk/sobi\\_scans/boreholes/105480](https://scans.bgs.ac.uk/sobi_scans/boreholes/105480)  
#2: [scans.bgs.ac.uk/sobi\\_scans/boreholes/105483](https://scans.bgs.ac.uk/sobi_scans/boreholes/105483)  
#3: [scans.bgs.ac.uk/sobi\\_scans/boreholes/105473](https://scans.bgs.ac.uk/sobi_scans/boreholes/105473)  
#6: [scans.bgs.ac.uk/sobi\\_scans/boreholes/105590](https://scans.bgs.ac.uk/sobi_scans/boreholes/105590)  
#7: [scans.bgs.ac.uk/sobi\\_scans/boreholes/18532958](https://scans.bgs.ac.uk/sobi_scans/boreholes/18532958)  
#9: [scans.bgs.ac.uk/sobi\\_scans/boreholes/105588](https://scans.bgs.ac.uk/sobi_scans/boreholes/105588)  
#10B: [scans.bgs.ac.uk/sobi\\_scans/boreholes/105472](https://scans.bgs.ac.uk/sobi_scans/boreholes/105472)  
#11B: [scans.bgs.ac.uk/sobi\\_scans/boreholes/105481](https://scans.bgs.ac.uk/sobi_scans/boreholes/105481)  
#12: [scans.bgs.ac.uk/sobi\\_scans/boreholes/105589](https://scans.bgs.ac.uk/sobi_scans/boreholes/105589)  
#14: [scans.bgs.ac.uk/sobi\\_scans/boreholes/105471](https://scans.bgs.ac.uk/sobi_scans/boreholes/105471)  
#18: [scans.bgs.ac.uk/sobi\\_scans/boreholes/105587](https://scans.bgs.ac.uk/sobi_scans/boreholes/105587)

---



## 6 Estimated Background Soil Chemistry

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

17

For further information on how this data is calculated and limitations upon its use, please see the GroundSure Geolnsight 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	90 - 120 mg/kg	30 - 45 mg/kg	<150 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<150 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<150 mg/kg
62.0	S	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<150 mg/kg
107.0	NE	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<150 mg/kg
185.0	S	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<150 mg/kg
198.0	SW	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<150 mg/kg
201.0	SE	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<150 mg/kg
202.0	SW	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<150 mg/kg
233.0	E	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<150 mg/kg
235.0	E	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<150 mg/kg
239.0	SE	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<150 mg/kg
242.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<150 mg/kg
245.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<150 mg/kg
247.0	NE	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<150 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.

# 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: [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 Gypsum

British Gypsum Ltd  
East Leake  
Loughborough  
Leicestershire  
LE12 6HX



## 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)



## 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



## Johnson Poole & Bloomer Limited

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Brierley Hill, West Midlands  
DY5 3LH  
Tel: +44 (0) 1384 262 000  
Email: [enquiries.gs@jpb.co.uk](mailto:enquiries.gs@jpb.co.uk)  
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## Ordnance Survey

Adanac Drive, Southampton  
SO16 0AS  
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## Getmapping PLC

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Report Reference: EMS-245265\_329171

Client Reference: EMS\_245265\_329171

## Standard Terms and Conditions

### 1 Definitions

In these terms and conditions unless the context otherwise requires:

**"Beneficiary"** means the person or entity for whose benefit the Client has obtained the Services.

**"Client"** means the party or parties entering into a Contract with GroundSure.

**"Commercial"** means any building or property which is not Residential.

**"Confidential Information"** means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

**"Support Services"** means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

**"Contract"** means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

**"Third Party Data Provider"** means any third party providing Third Party Content to GroundSure.

**"Data Reports"** means reports comprising factual data with no accompanying interpretation.

**"Fees"** has the meaning set out in clause 5.1.

**"GroundSure"** means GroundSure Limited, a company registered in England and Wales under number 03421028.

**"GroundSure Materials"** means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

**"Intellectual Property"** means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

**"Mapping"** means a map, map data or a combination of historical maps of various ages, time periods and scales.

**"Order"** means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

**"Ordnance Survey"** means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

**"Order Website"** means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

**"Report"** means a Risk Screening Report or Data Report for Commercial or Residential property.

**"Residential"** means any building or property used as or intended to be used as a single dwelling.

**"Risk Screening Report"** means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

**"Services"** means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

**"Site"** means the area of land in respect of which the Client has requested GroundSure to provide the Services.

**"Third Party Content"** means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

**"User Guide"** means the user guide, as amended from time to time, available upon request from GroundSure and on the website ([www.GroundSure.com](http://www.GroundSure.com)) and forming part of this Contract.

### 2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order

shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

### 3 The Client's obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

### 4 Reliance

4.1 The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

(iv) the first purchaser or first tenant of the Site, and

(v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

### 5 Fees and Disbursements

5.1 GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

### 6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

#### **7. Liability: Particular Attention Should Be Paid To This Clause**

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

#### **8 GroundSure's right to suspend or terminate**

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to GroundSure within 30

days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

#### **9. Client's Right to Terminate and Suspend**

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

(a) supplied to the Client's specification(s) and in any event

(b) by their nature cannot be returned.

#### **10 Consequences of Withdrawal, Termination or Suspension**

10.1 Upon termination of the Contract:

(i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

#### **11 Anti-Bribery**

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

#### **12 General**

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i) the Client or Beneficiary's failure to provide facilities, access or information;

(ii) fire, storm, flood, tempest or epidemic;

(iii) Acts of God or the public enemy;

(iv) riot, civil commotion or war;

(v) strikes, labour disputes or industrial action;

(vi) acts or regulations of any governmental or other agency;

(vii) suspension or delay of services at public registries by Third

Party Data Providers;

(viii) changes in law; or

(ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly

given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law

**Site Details:**

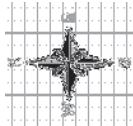
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**Report Ref:** EMS-245265\_329170  
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**Map Name:** National Grid

**Map date:** 2012

**Scale:** 1:10,000

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



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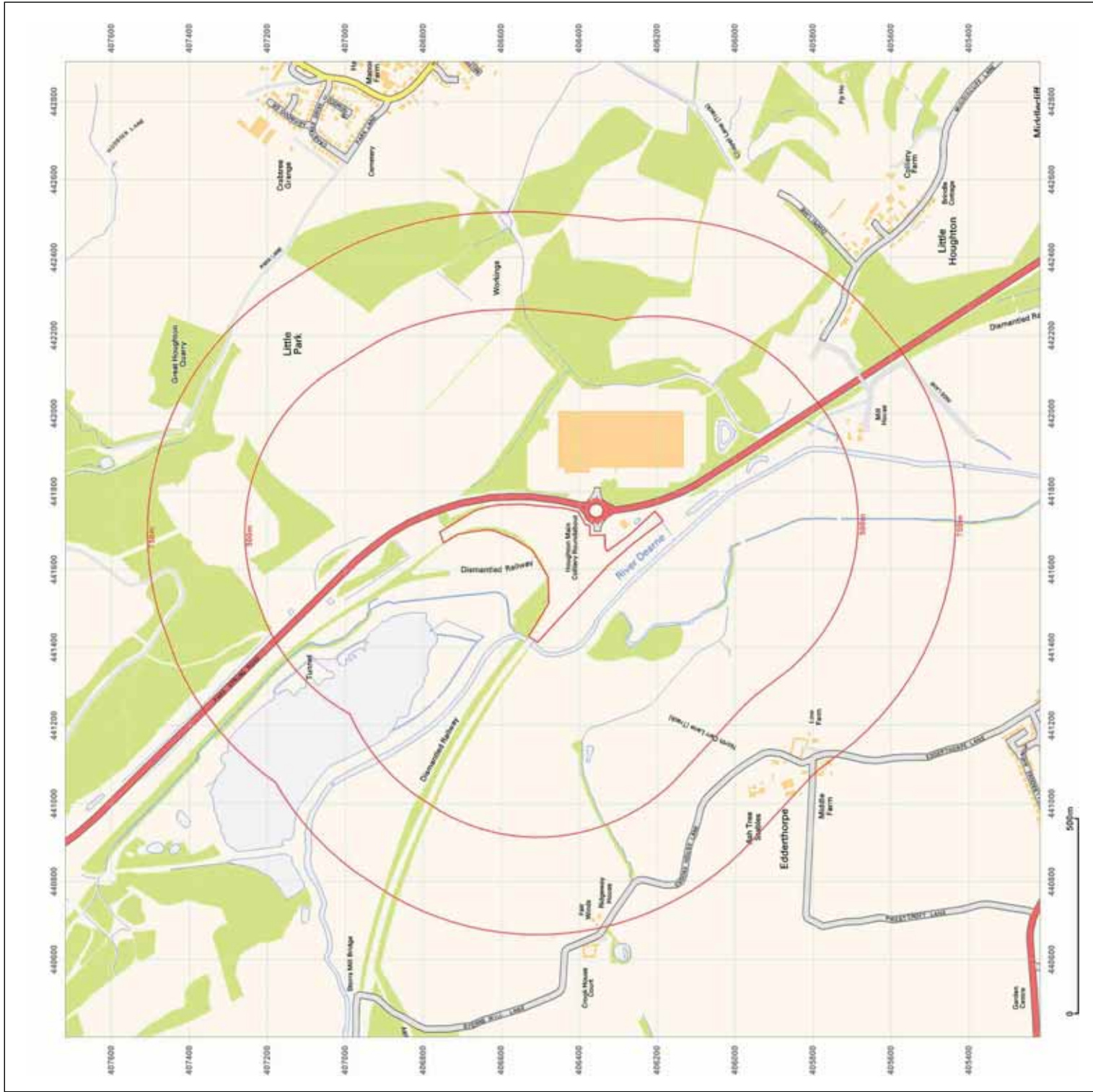


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**Site Details:**

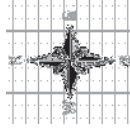
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**Map date:** 1988

**Scale:** 1:10,000

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



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Revised 1988  
Edition N/A  
Copyright N/A  
Levelled N/A



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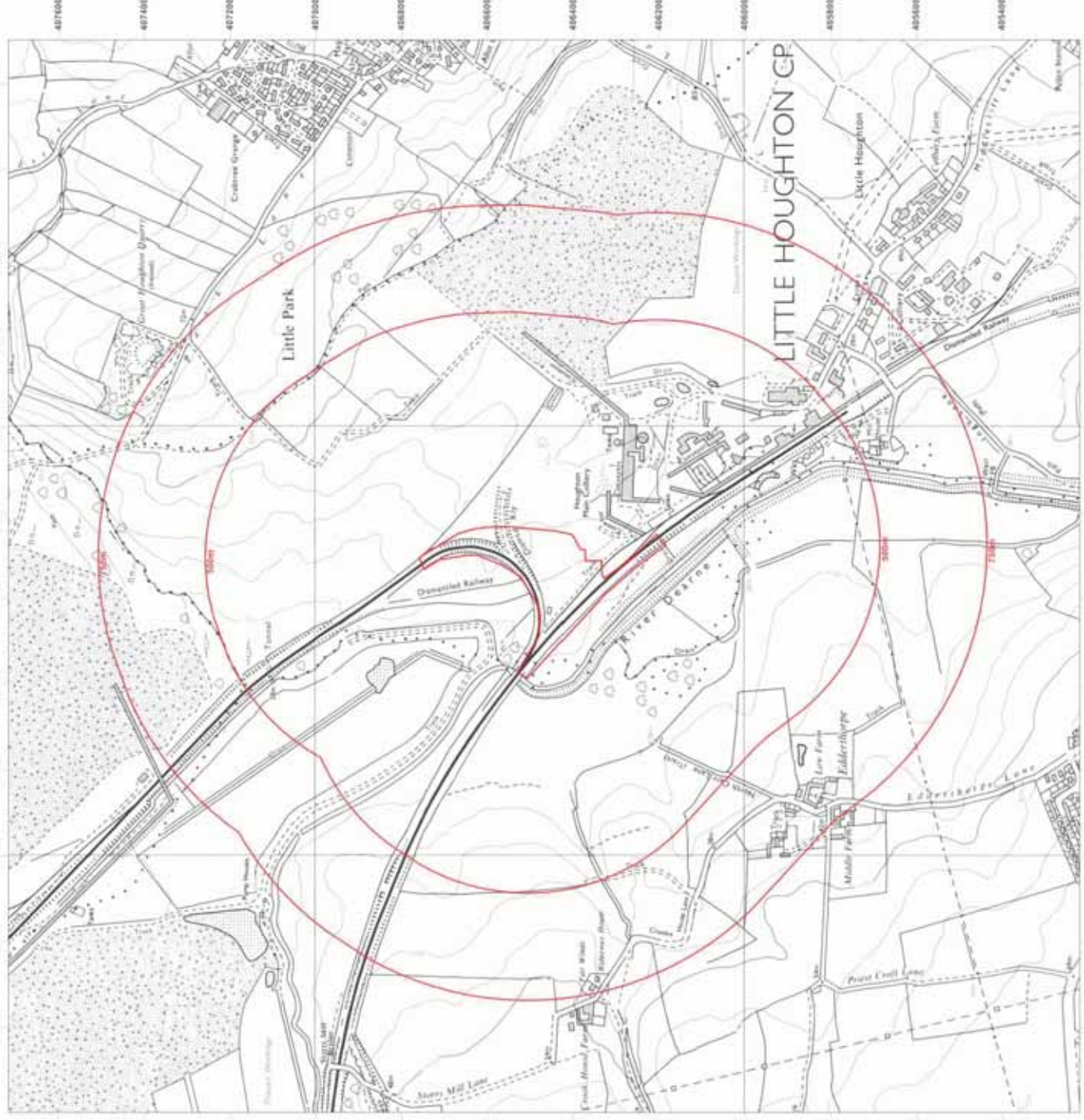


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**Site Details:**

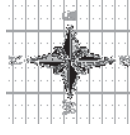
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**Printed at:** 1:10,000



Surveyed 1980  
Revised 1981  
Edition N/A  
Copyright N/A  
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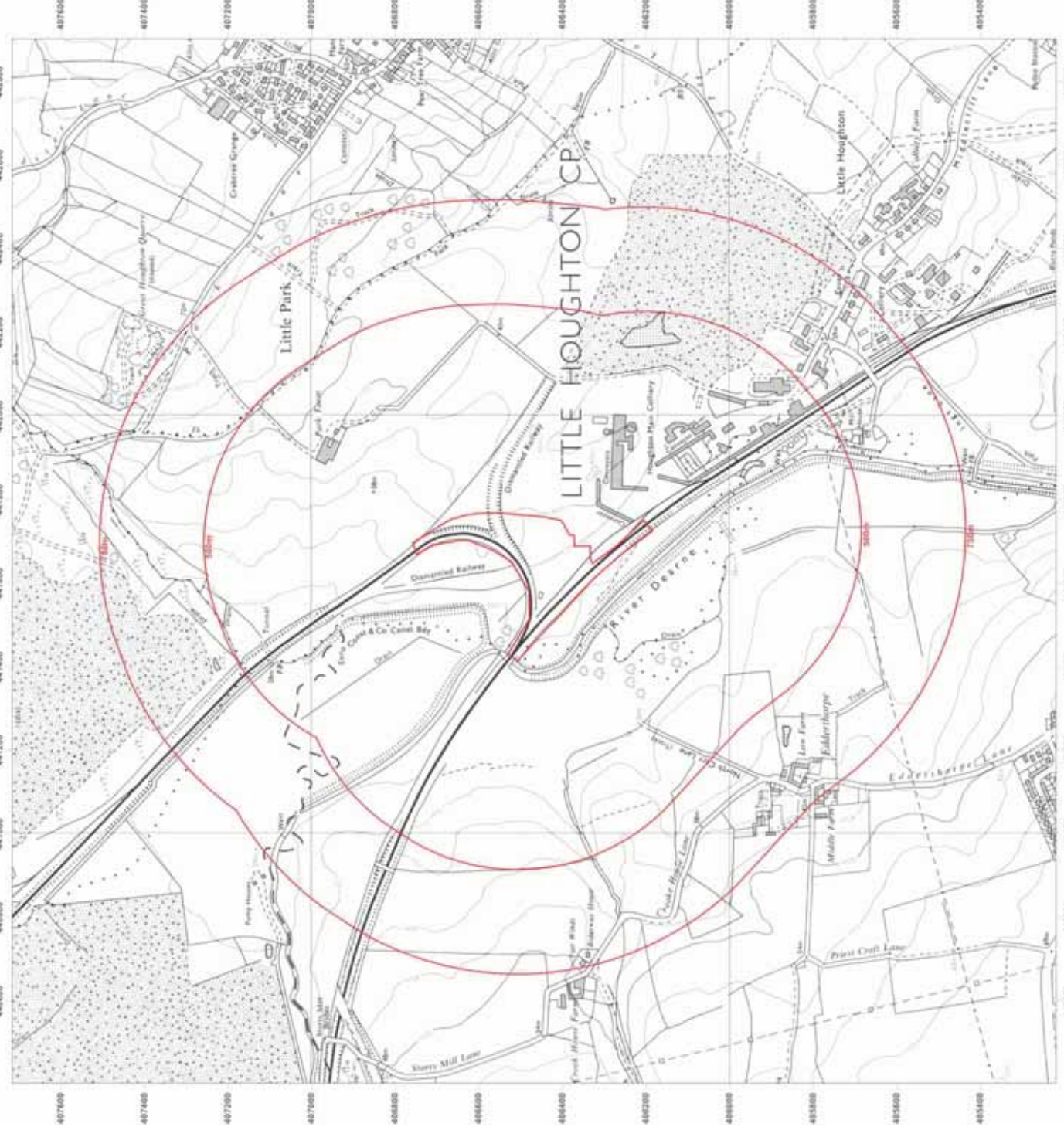


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**Site Details:**

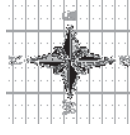
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**Map Name:** Provisional

**Map date:** 1967

**Scale:** 1:10,560

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



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



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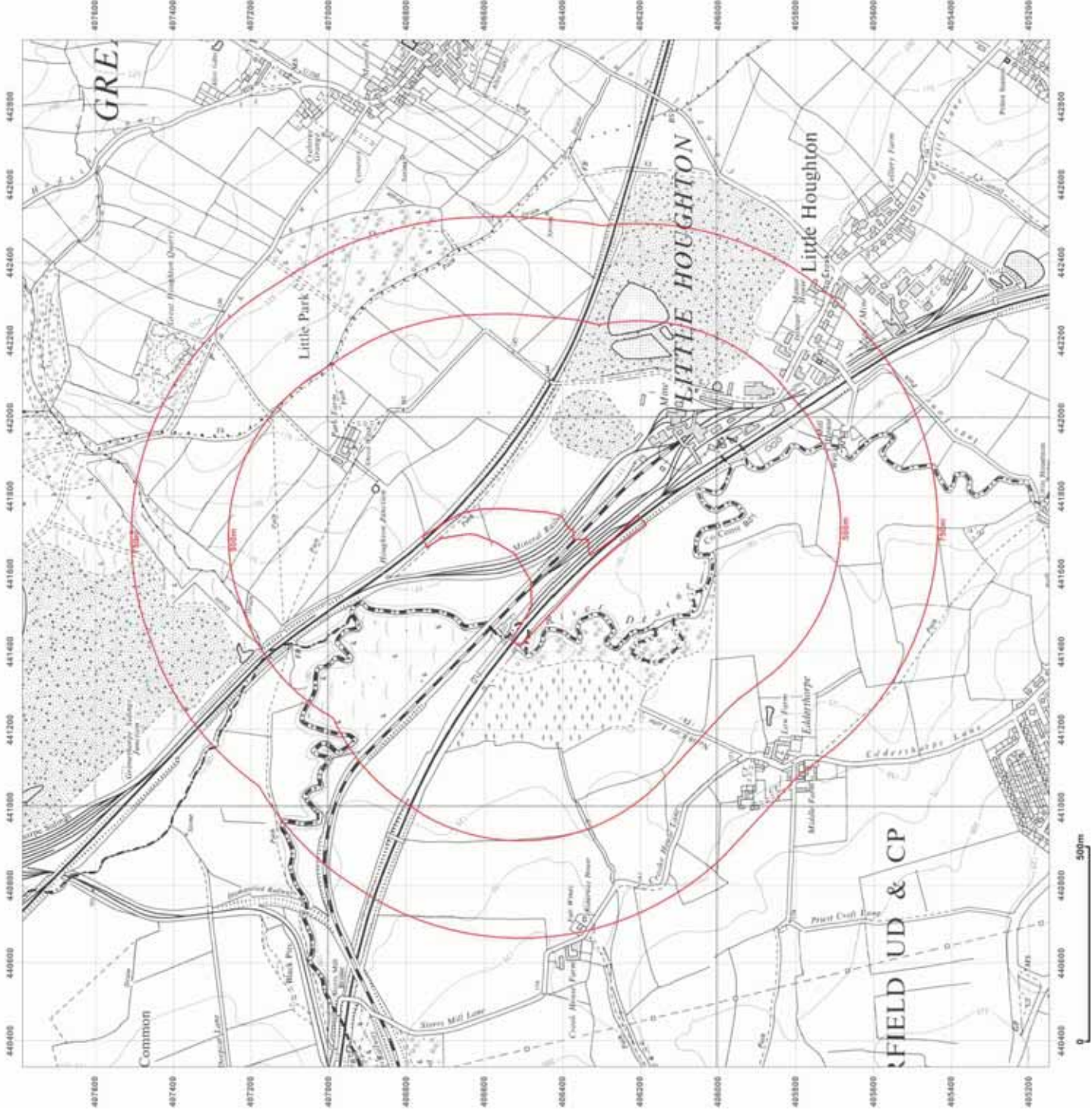


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**Site Details:**

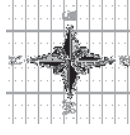
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**Map Name:** Provisional

**Map date:** 1955

**Scale:** 1:10,560

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



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



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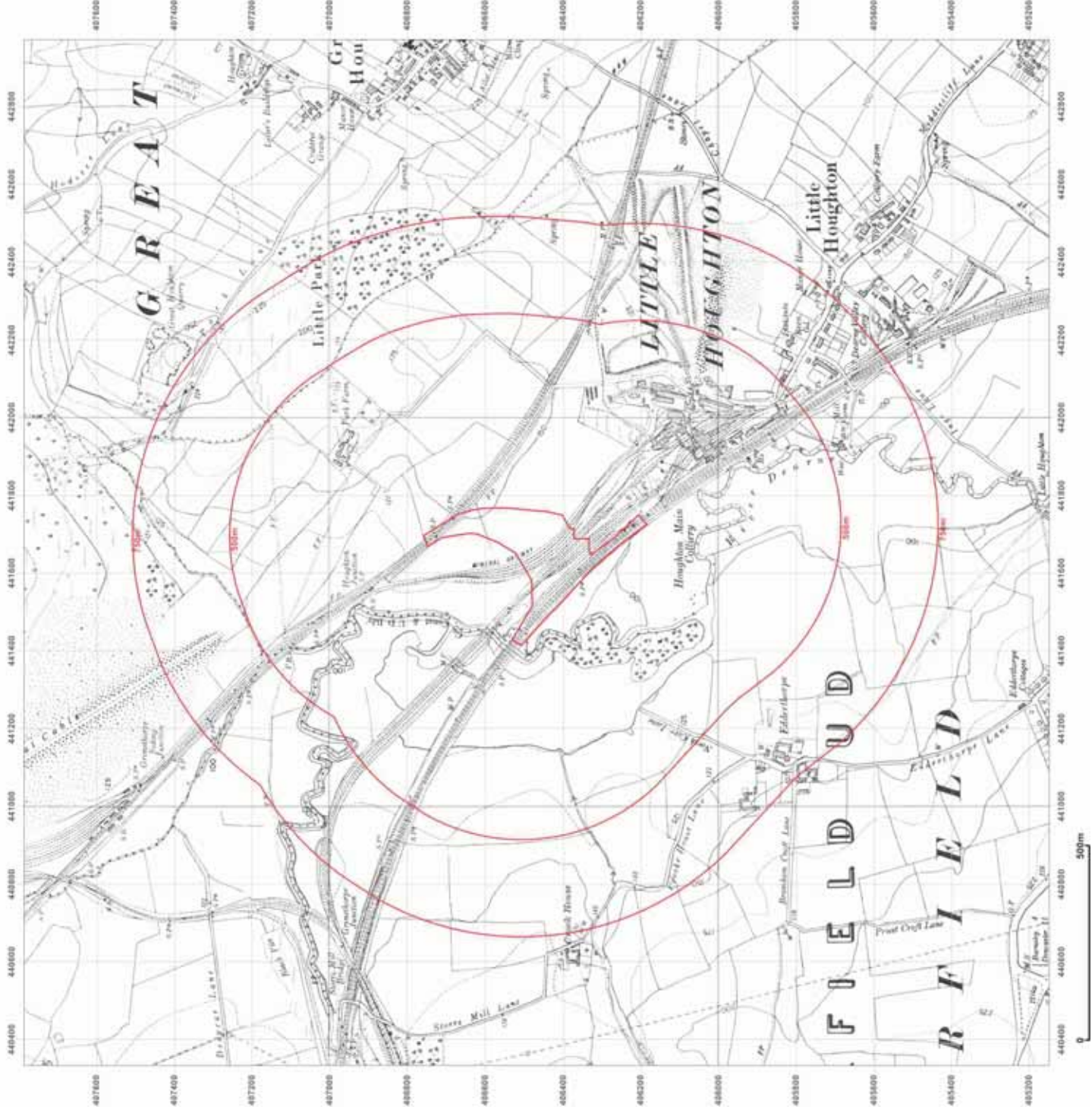


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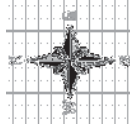
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**Grid Ref:** 441652, 406467

**Map Name:** County Series

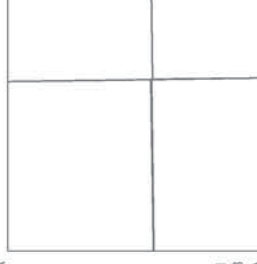
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**Scale:** 1:10,560

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



Surveyed 1850  
 Revised 1948  
 Edition N/A  
 Copyright N/A  
 Levelled N/A



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

Surveyed 1820  
 Revised 1948  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

Surveyed 1850  
 Revised 1948  
 Edition 1948  
 Copyright N/A  
 Levelled N/A



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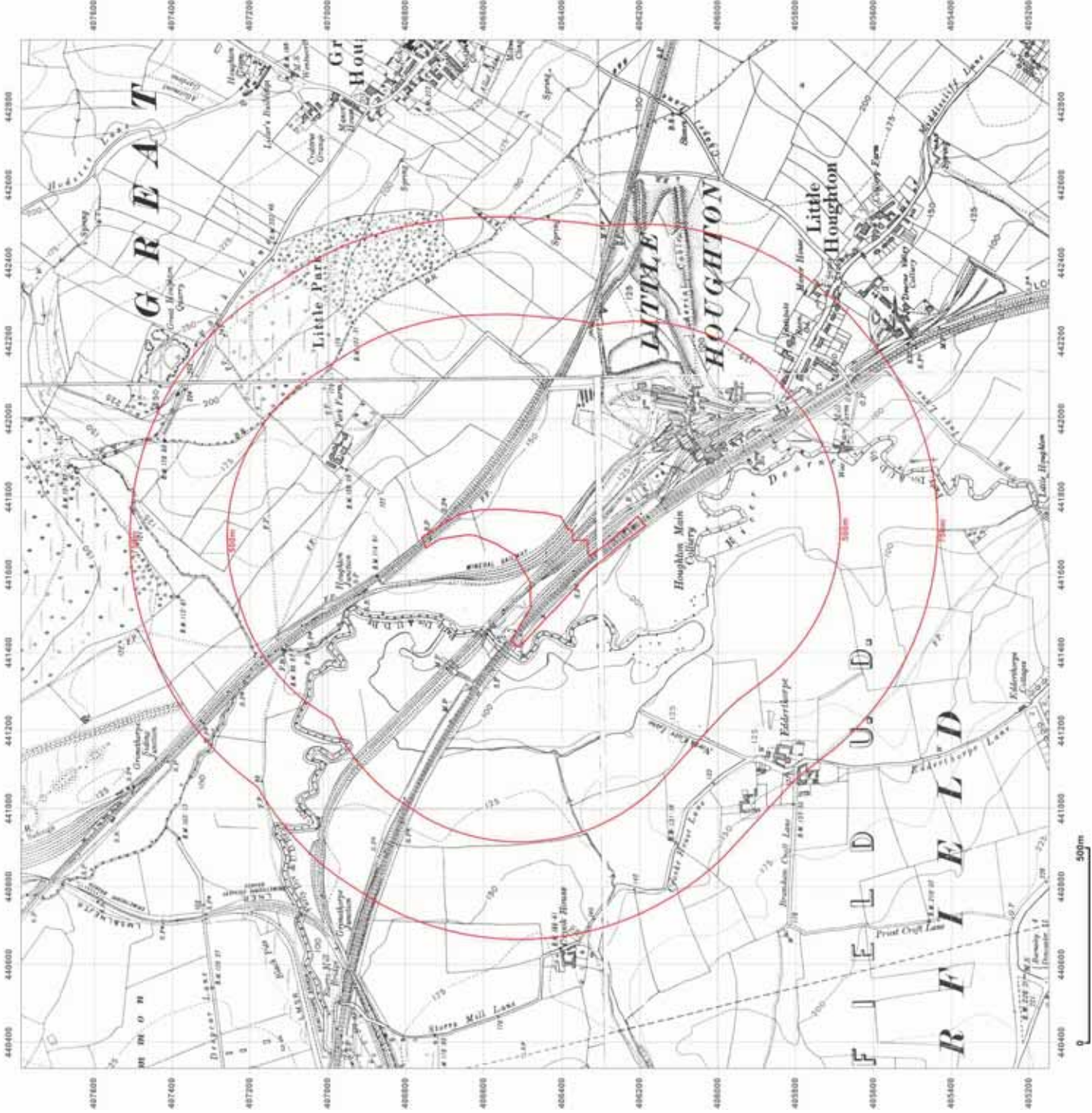


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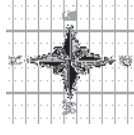
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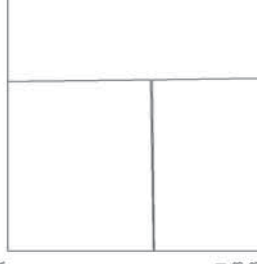
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Surveyed 1850  
Revised 1938  
Edition 1938  
Copyright N/A  
Levelled N/A



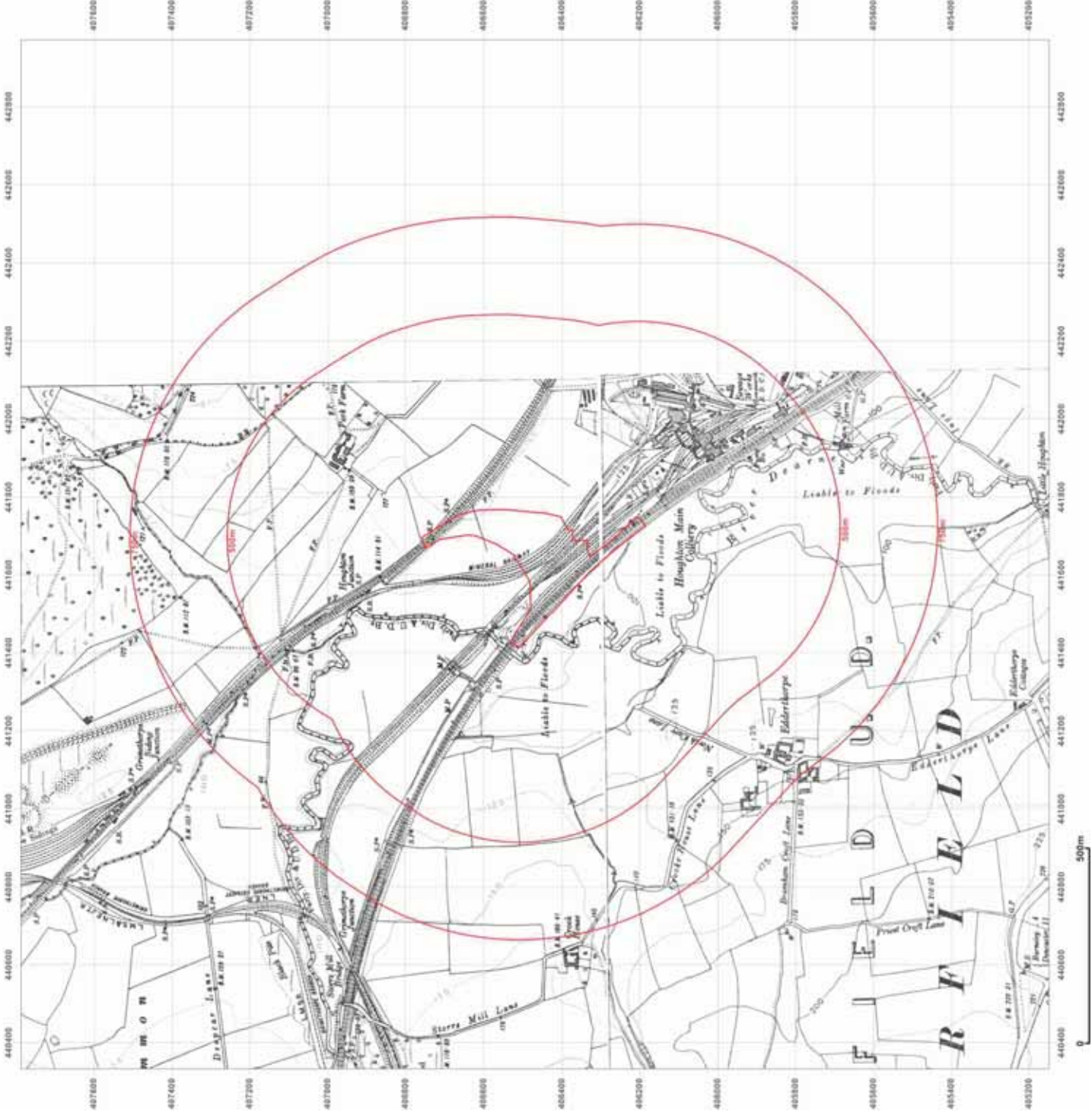
Surveyed 1851  
Revised 1938  
Edition 1938  
Copyright N/A  
Levelled N/A



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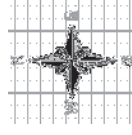
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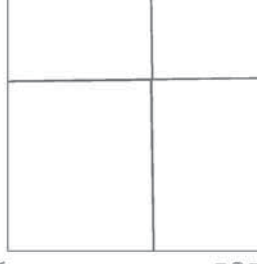
**Map date:** 1929-1932

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



Surveyed 1850  
 Revised 1930  
 Edition 1932  
 Copyright N/A  
 Levelled N/A



Surveyed 1851  
 Revised 1929  
 Edition 1931  
 Copyright N/A  
 Levelled N/A

Surveyed 1850  
 Revised 1932  
 Edition 1932  
 Copyright N/A  
 Levelled N/A

Surveyed 1850  
 Revised 1929  
 Edition N/A  
 Copyright N/A  
 Levelled N/A



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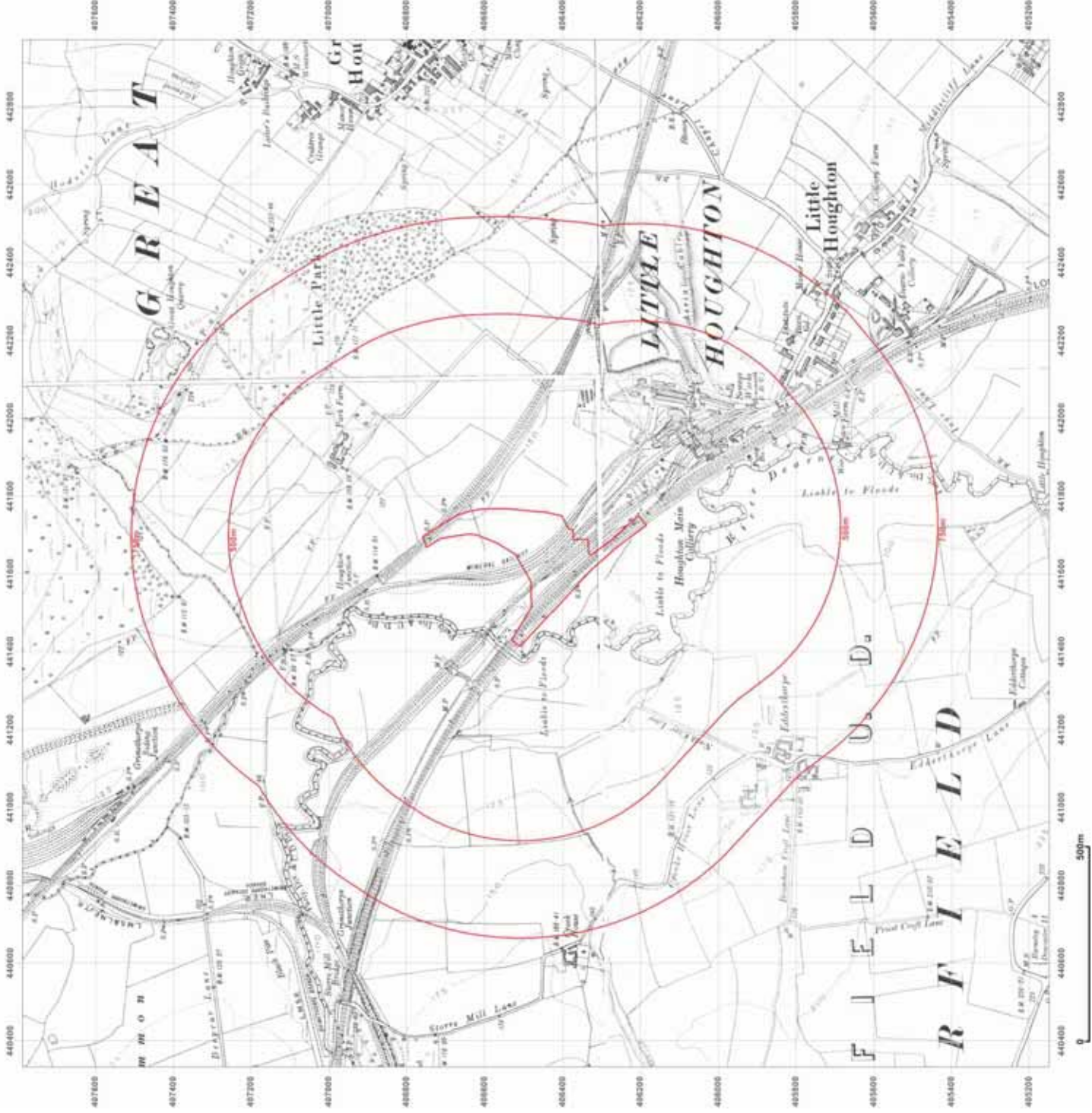


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**Site Details:**

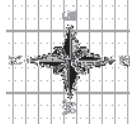
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**Grid Ref:** 441652, 406467

**Map Name:** County Series

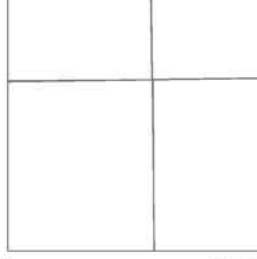
**Map date:** 1904

**Scale:** 1:10,560

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



Surveyed 1890  
 Revised 1904  
 Edition N/A  
 Copyright N/A  
 Levelled N/A



Surveyed 1890  
 Revised 1904  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

Surveyed 1891  
 Revised 1904  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

Surveyed 1890  
 Revised 1904  
 Edition N/A  
 Copyright N/A  
 Levelled N/A



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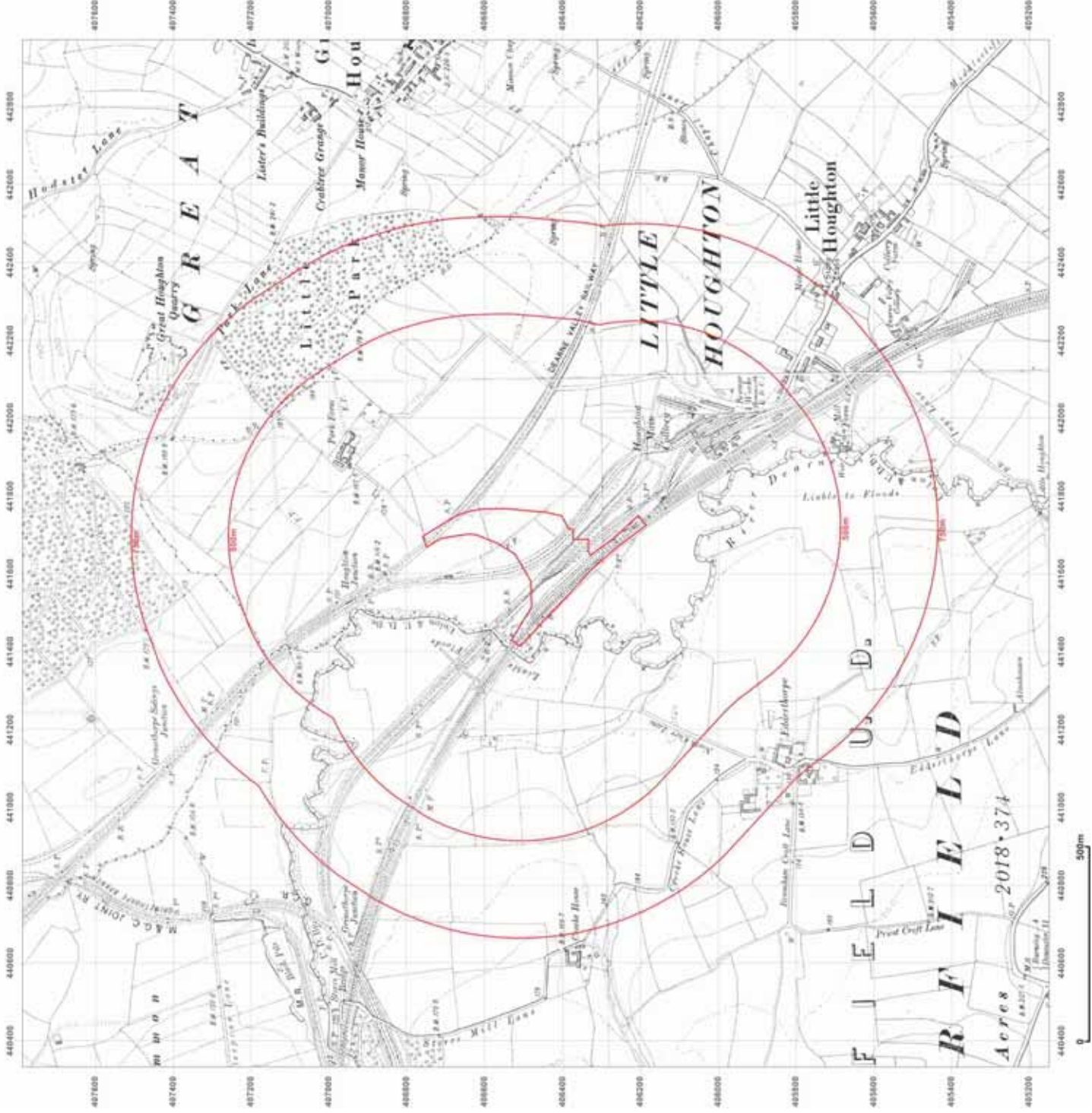


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**Site Details:**

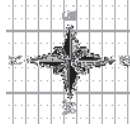
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**Grid Ref:** 441652, 406467

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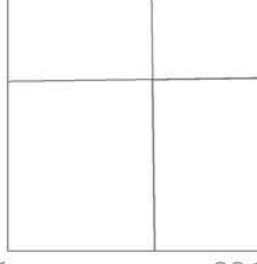
**Map date:** 1890

**Scale:** 1:10,560

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



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



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

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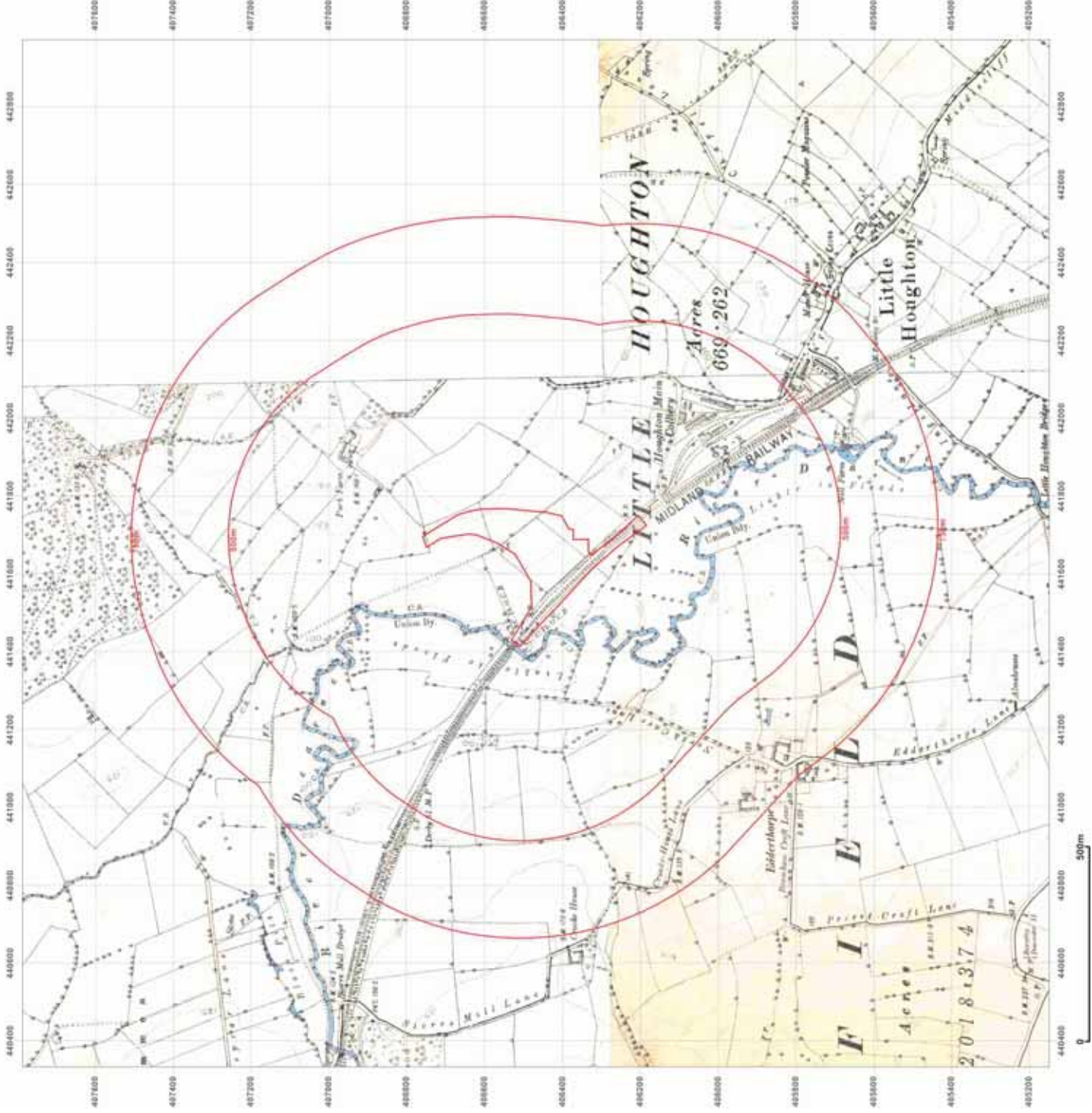


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Production date: 08 April 2014

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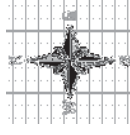
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**Map Name:** County Series

**Map date:** 1850

**Scale:** 1:10,560

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



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



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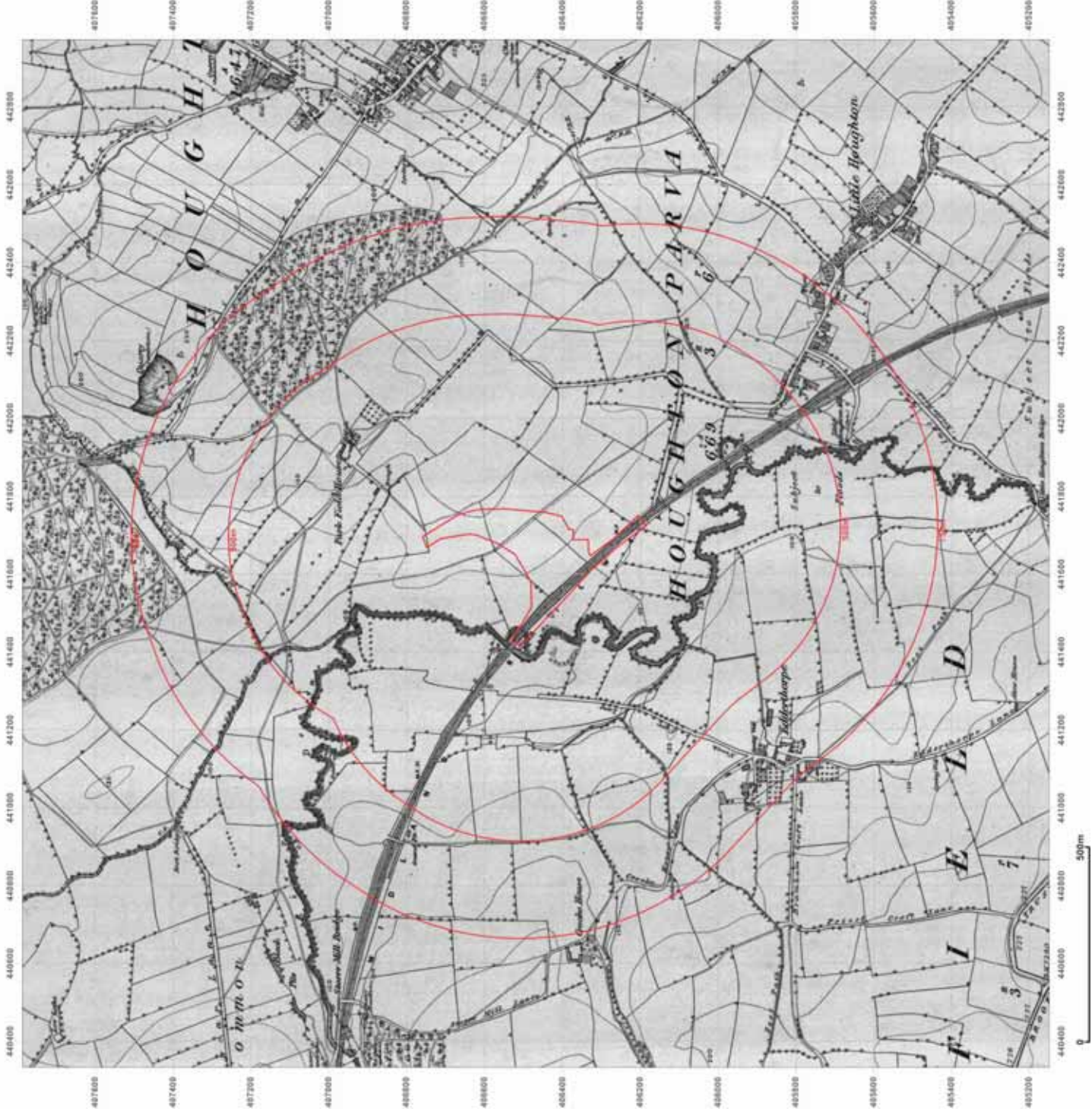


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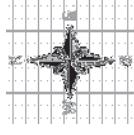
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**Grid Ref:** 441652, 406467

**Map Name:** MasterMap

**Map date:** 2012

**Scale:** 1:1,250

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



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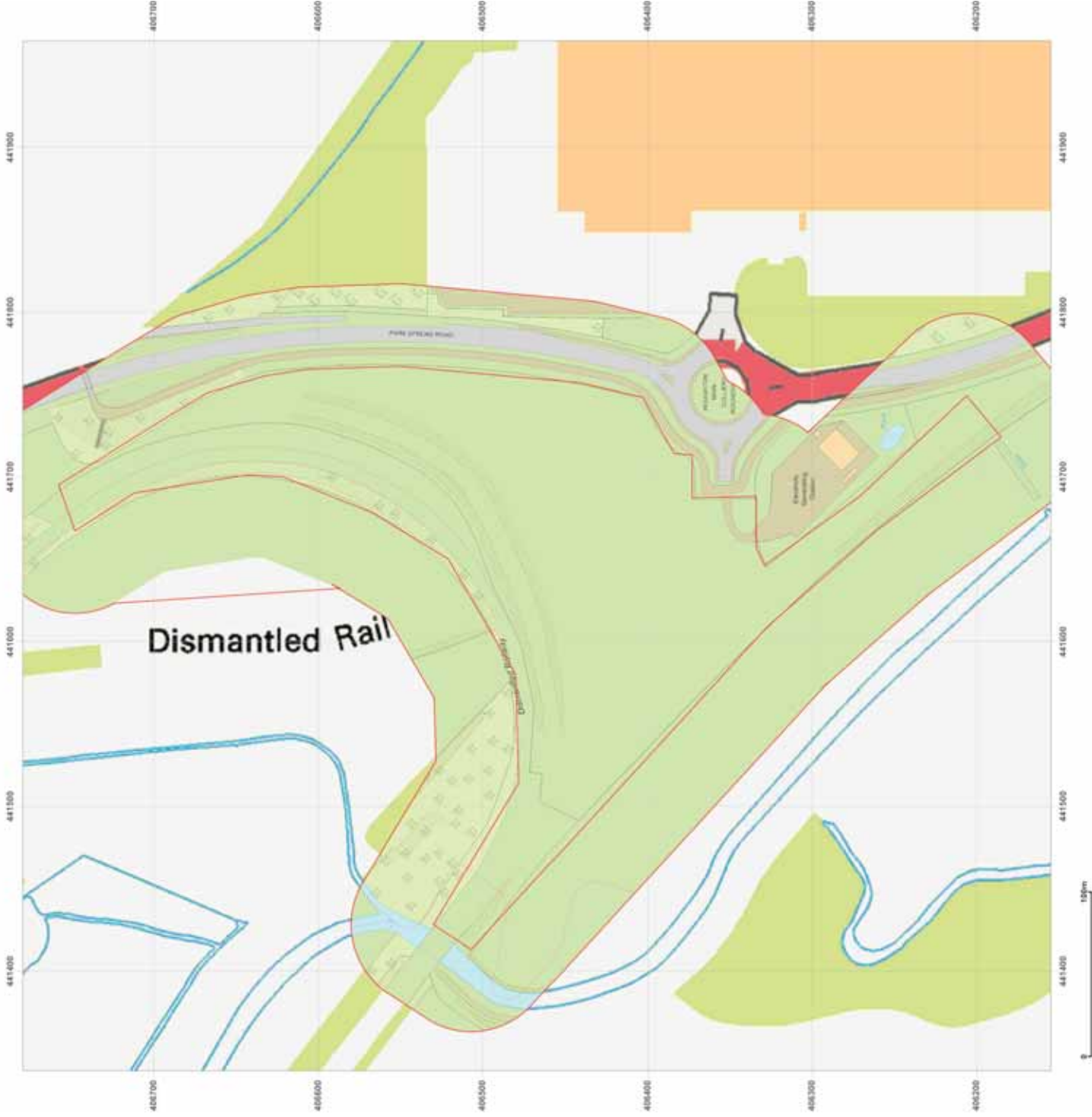


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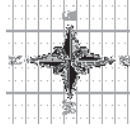
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**Grid Ref:** 441652, 406467

**Map Name:** National Grid

**Map date:** 1985

**Scale:** 1:2,500

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



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



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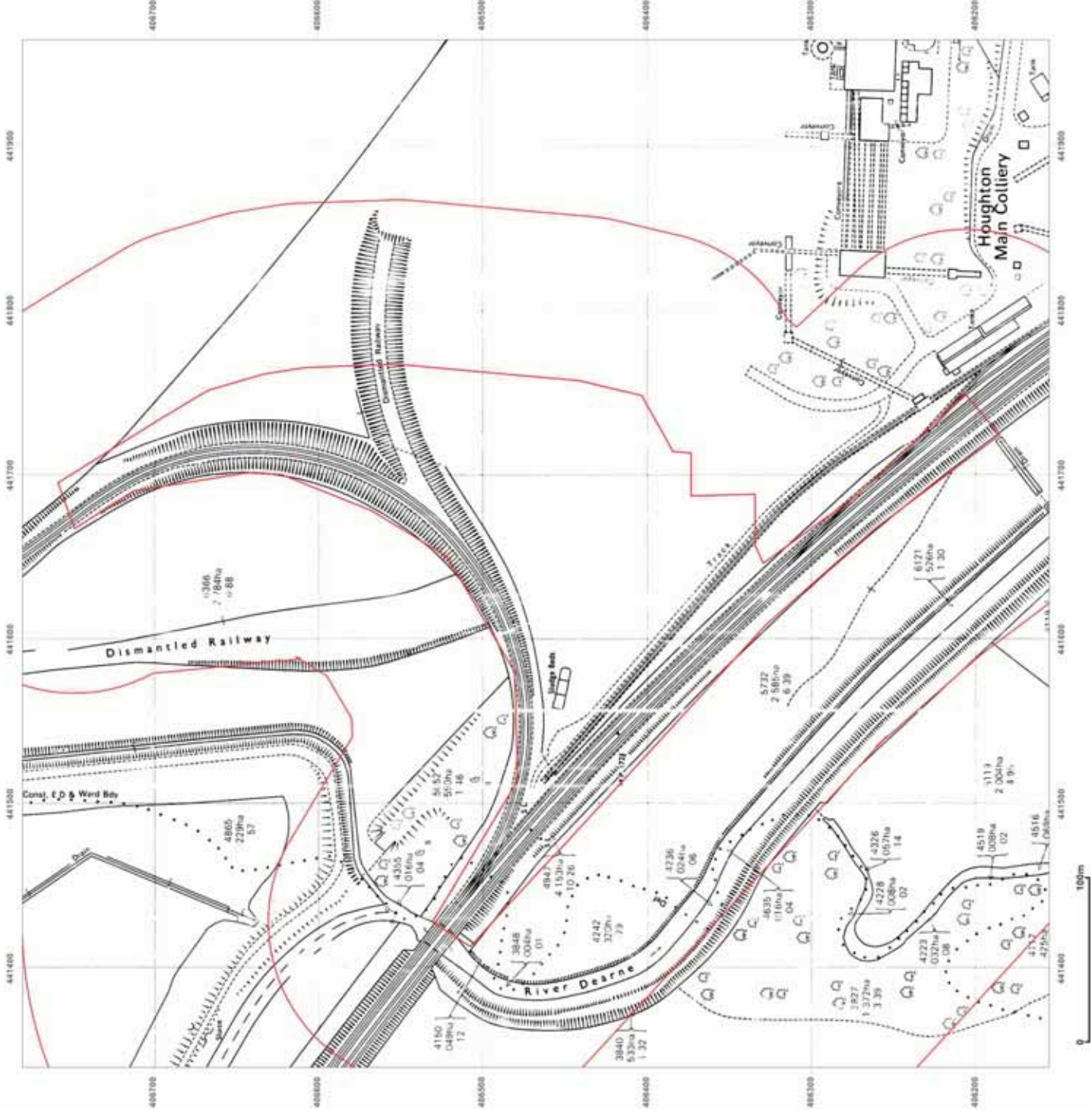


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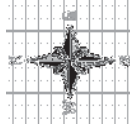
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**Grid Ref:** 441652, 406467

**Map Name:** National Grid

**Map date:** 1983

**Scale:** 1:2,500

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



Surveyed 1983  
 Revised 1983  
 Edition N/A  
 Copyright 1985  
 Levelled 1964



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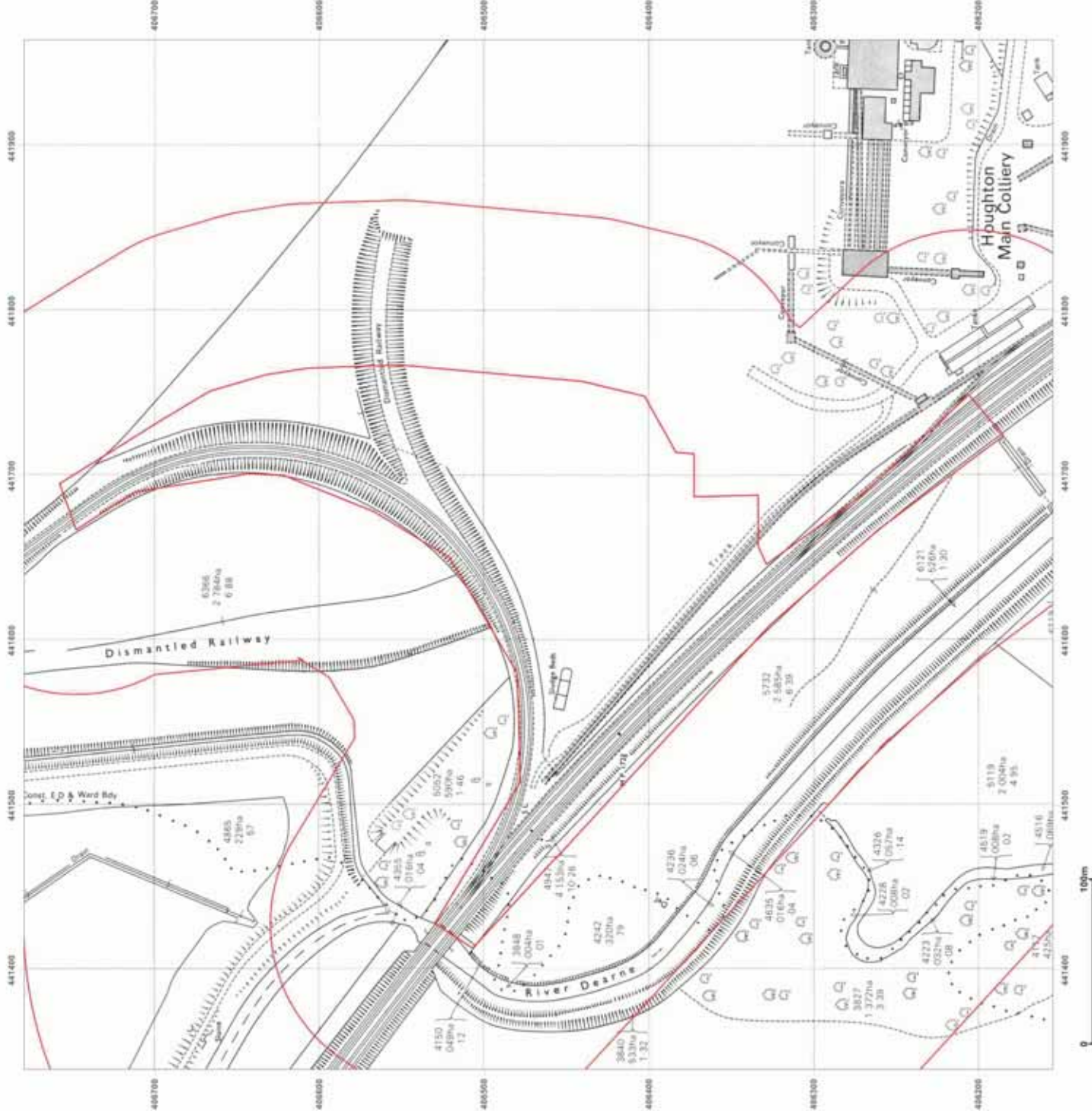


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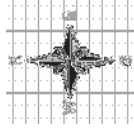
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**Map Name:** National Grid

**Map date:** 1980

**Scale:** 1:2,500

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



Surveyed 1980  
Revised 1980  
Edition N/A  
Copyright 1981  
Levelled 1964



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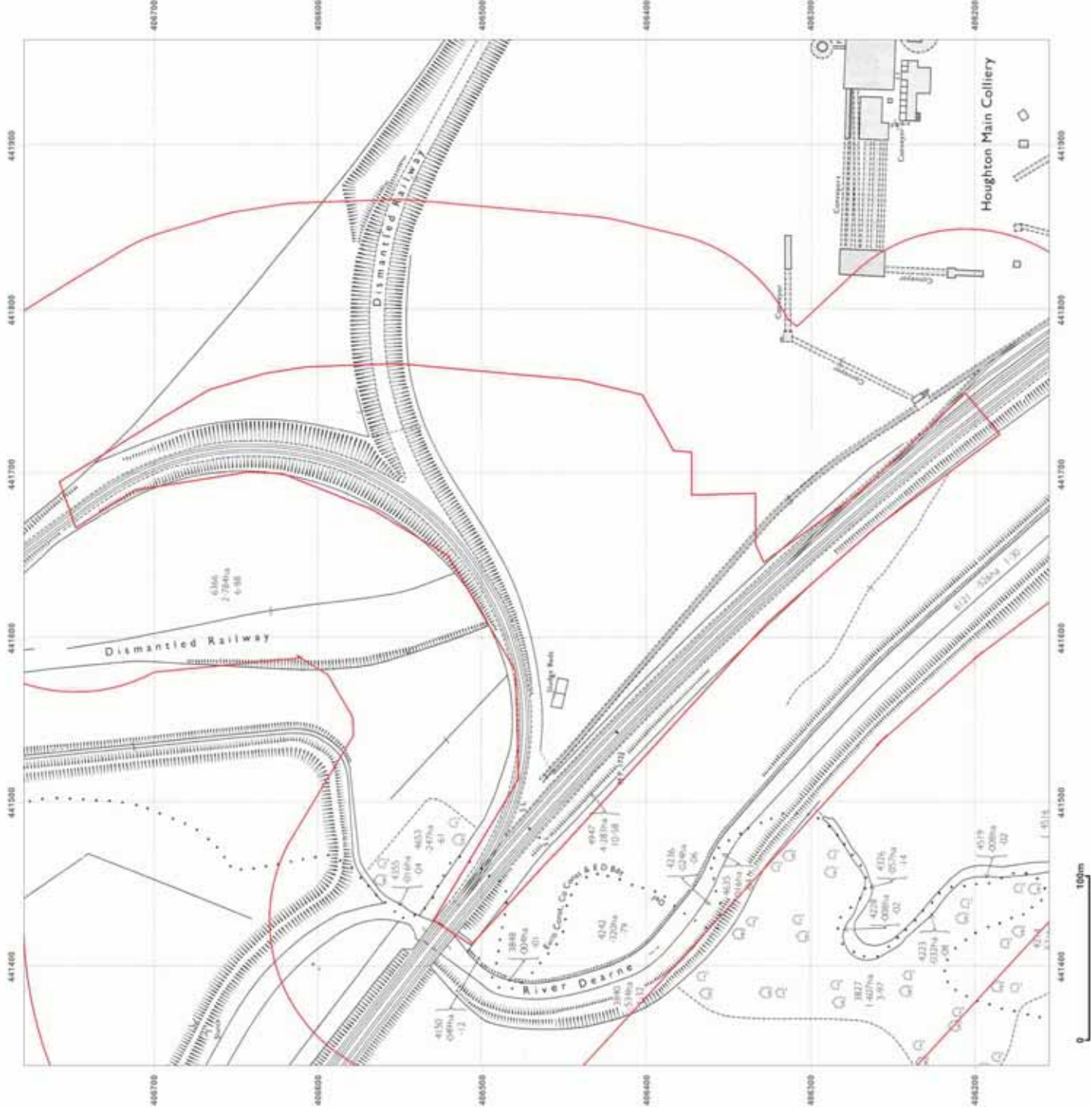


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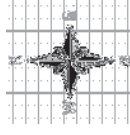
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**Map Name:** National Grid

**Map date:** 1962

**Scale:** 1:2,500

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



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



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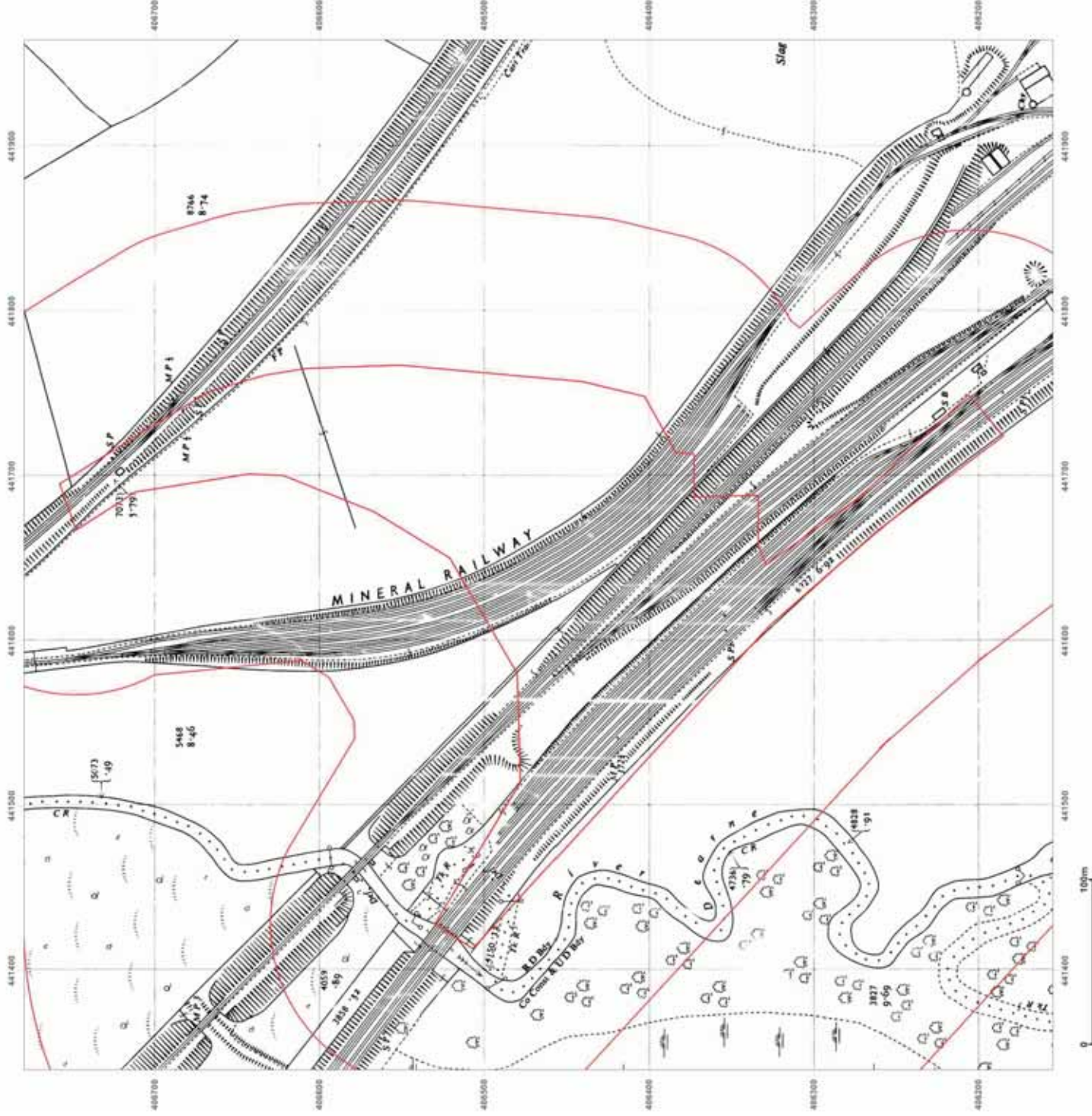


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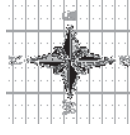
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**Map Name:** National Grid

**Map date:** 1961

**Scale:** 1:2,500

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



Surveyed 1961  
Revised 1961  
Edition N/A  
Copyright 1982  
Levelled 1959



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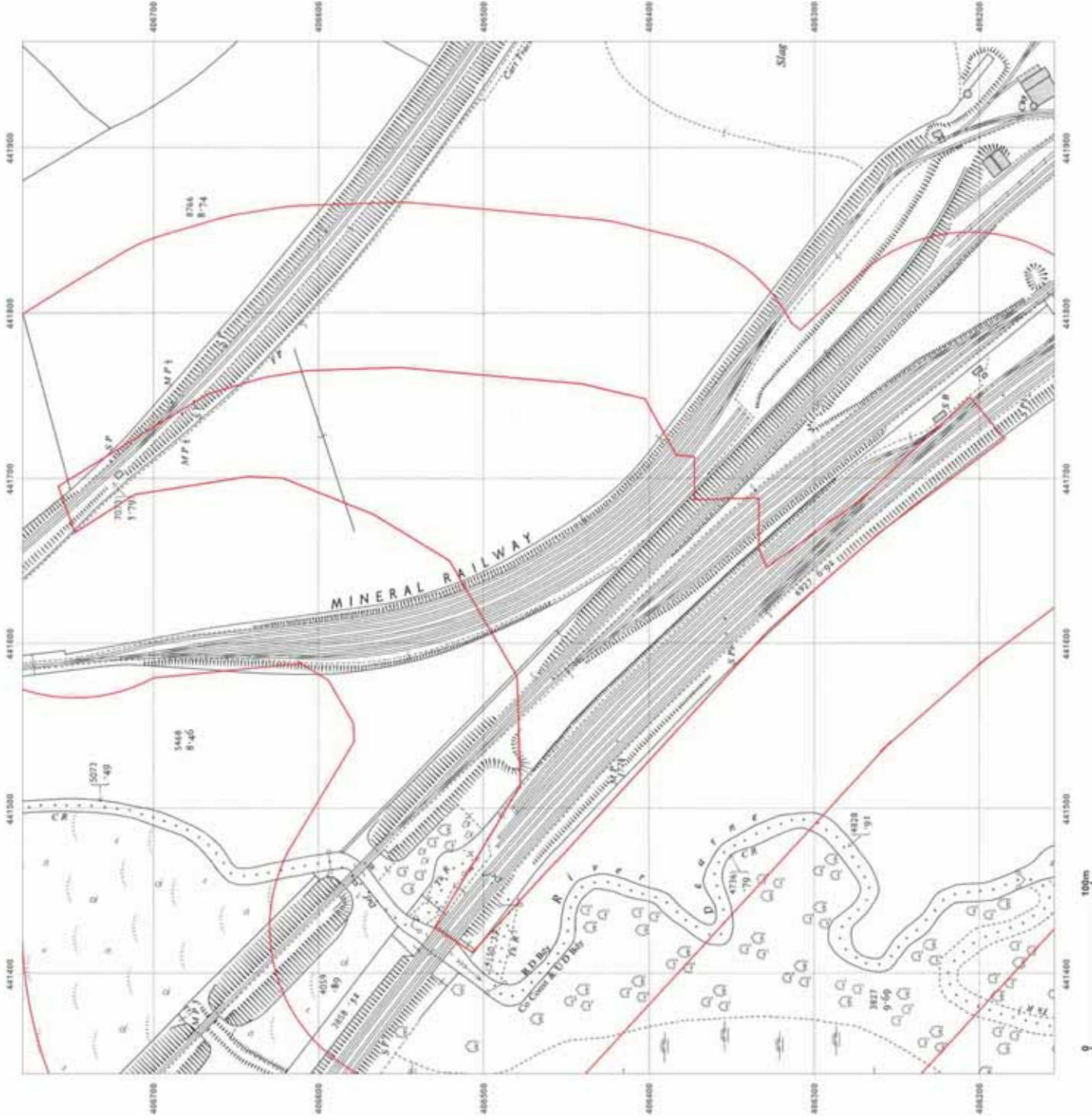


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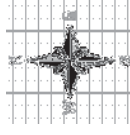
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**Grid Ref:** 441652, 406467

**Map Name:** County Series

**Map date:** 1931

**Scale:** 1:2,500

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



Surveyed 1931  
 Revised 1931  
 Edition N/A  
 Copyright N/A  
 Levelled N/A



Surveyed 1931  
 Revised 1931  
 Edition N/A  
 Copyright N/A  
 Levelled N/A



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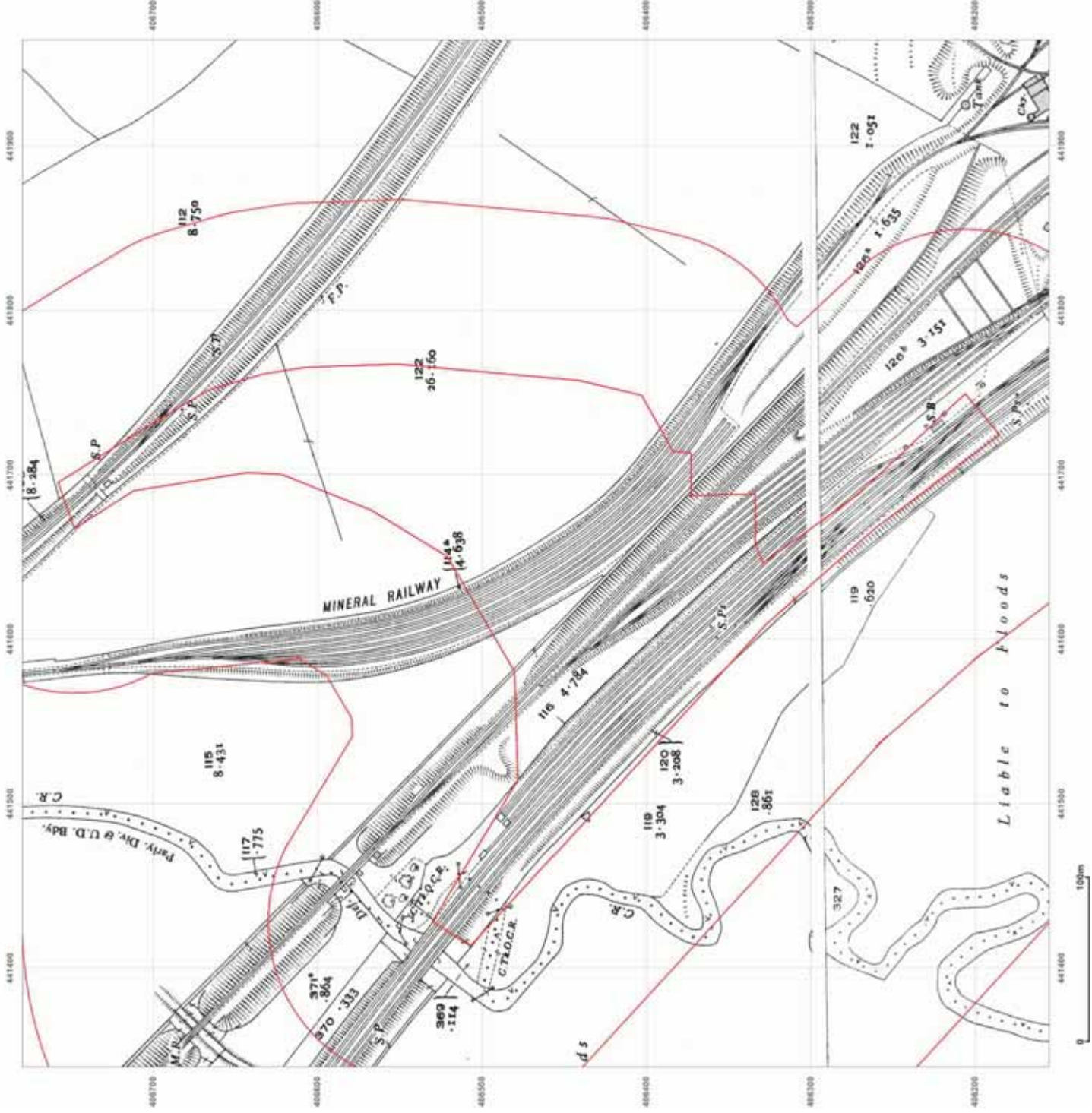


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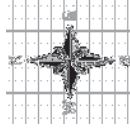
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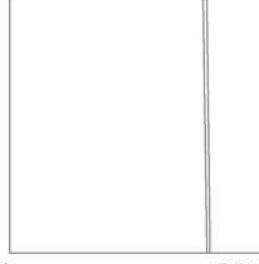
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**Printed at:** 1:2,500



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



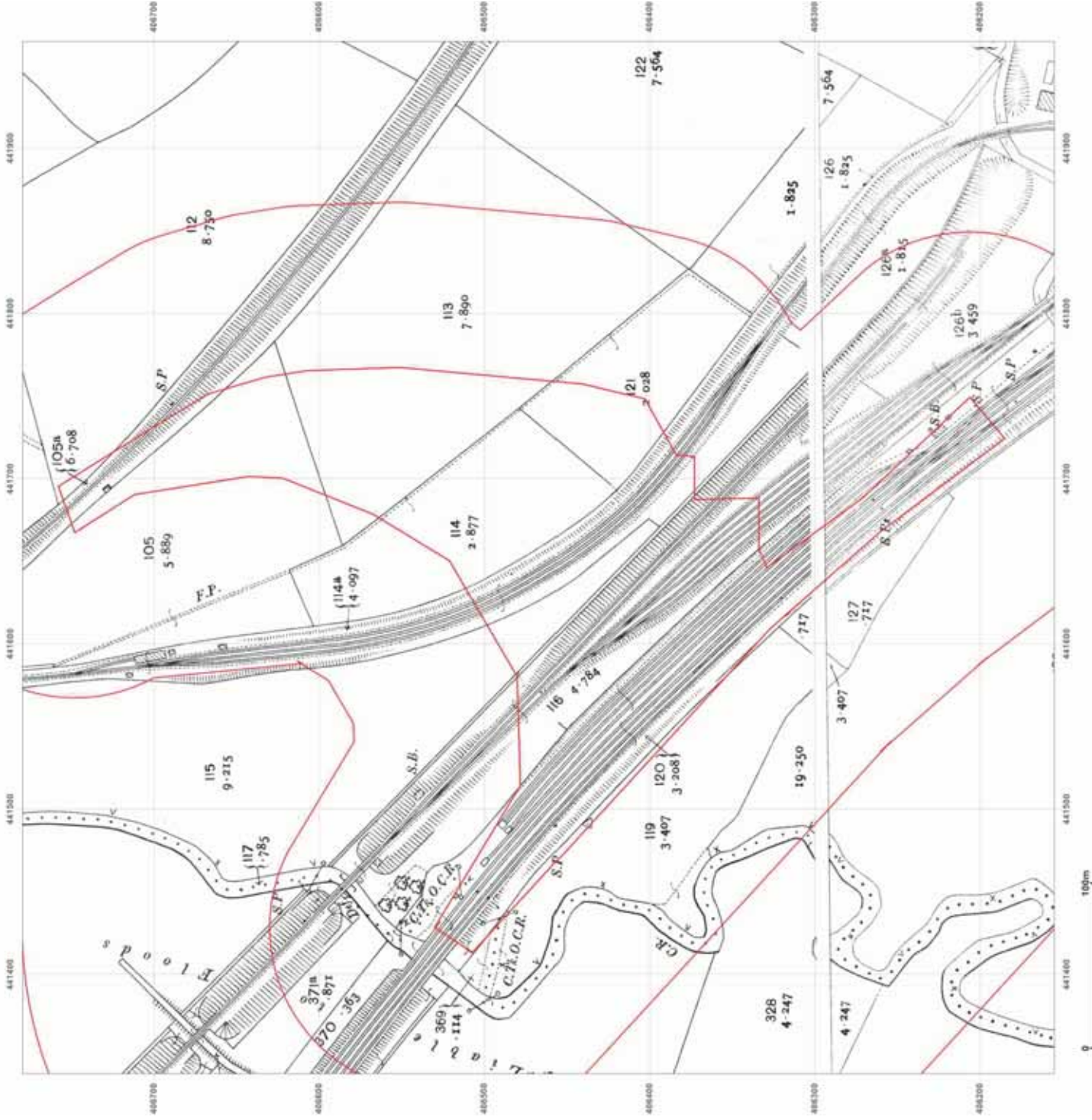
Surveyed 1906  
 Revised 1906  
 Edition N/A  
 Copyright N/A  
 Levelled N/A



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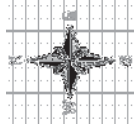
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**Map Name:** County Series

**Map date:** 1890-1893

**Scale:** 1:2,500

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



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



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



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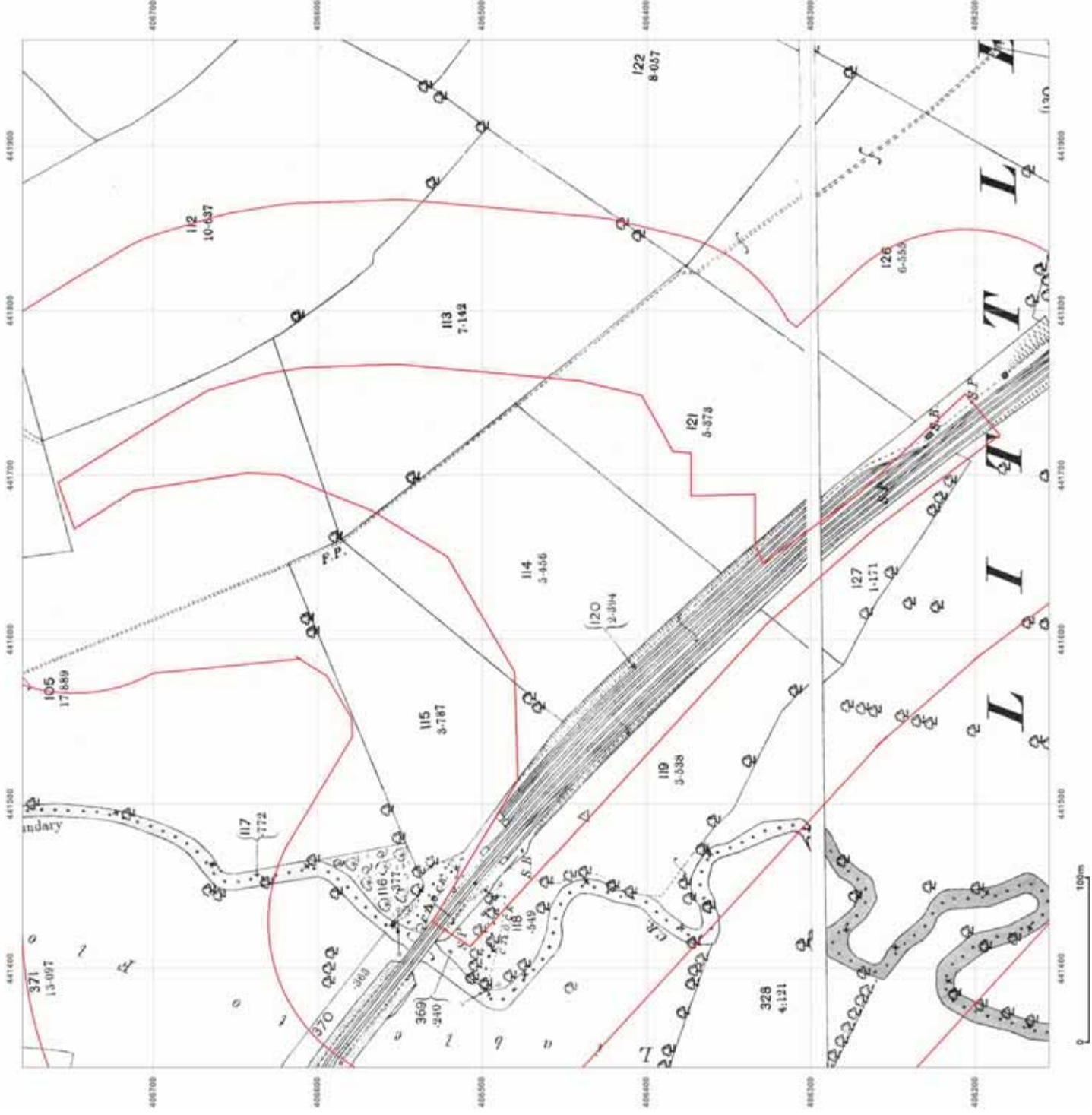


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## APPENDIX C – COAL MINING INFORMATION

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The Coal Authority, Property Search Services, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire, NG18 4RG  
Website: www.groundstability.com Phone: 0845 762 6848 DX 716176 MANSFIELD 5

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THE GRANARY  
WOODEND  
WOTTON-UNDER-EDGE  
GLOUCESTERSHIRE  
GL12 8AA**

Our reference: **51000510350001**  
Your reference: **CRM.066.001/ PO 486**  
Date of your enquiry: **08 April 2014**  
Date we received your enquiry: **08 April 2014**  
Date of issue: **08 April 2014**

This report is for the property described in the address below and the attached plan.

**Non-Residential Coal Authority Mining Report**

**MIDDLECLIFF LANE, LITTLE HOUGHTON, BARNSELY, SOUTH YORKSHIRE, S72 0HN**

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.

Coal mining	See comments below
Brine Compensation District	No

**Information from the Coal Authority**

**Underground coal mining**

**Past**

The property is in the likely zone of influence from workings in 11 seams of coal at 300m to 850m depth, and last worked in 1991.

Any ground movement from these coal workings should have stopped by now.

In addition the property is in an area where the Coal Authority believe there is coal at or close to the surface. This coal may have been worked at some time in the past.

**Present**

The property is not in the likely zone of influence of any present underground coal workings.

**Future**

The property is not in an area for which the Coal Authority is determining whether to grant a licence to remove coal using underground methods.

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

The property is not in an area that is likely to be affected at the surface from any planned future workings.

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

No notice of the risk of the land being affected by subsidence has been given under section 46 of the Coal Mining Subsidence Act 1991.

### **Mine entries**

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

Records may be incomplete. Consequently, there may exist in the local area mine entries of which the Coal Authority has no knowledge.

### **Coal mining geology**

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

### **Opencast coal mining**

#### **Past**

The property is within the boundary of an opencast site from which coal has been removed by opencast methods.

#### **Present**

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

#### **Future**

The property is not within 800 metres of the boundary of an opencast site for which the Coal Authority is determining whether to grant a licence to remove coal by opencast methods.

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.

### **Coal mining subsidence**

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

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

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

### **Mine gas**

There is no record of a mine gas emission requiring action by the Coal Authority within the boundary of the property.

### **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.

### **Withdrawal of support**

The property is in an area for which a notice of entitlement to withdraw support was published in 1982.

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

### **Working facilities orders**

The property is not in an area for which 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.

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

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

### **Comments on Coal Authority information**

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.

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

The property lies outside the Cheshire Brine Compensation District.

### **Additional Remarks**

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 2006. The Coal Authority owns the copyright in this report. The information we have used to write this report is protected by our database right. All rights are reserved and unauthorised use is prohibited. If we provide a report for you, this does not mean that copyright and any other rights will pass to you. However, you can use the report for your own purposes.

Issued by:	The Coal Authority, 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG
Tax Point Date:	08 April 2014
Issued to:	ENZYGO LTD THE GRANARY WOODEND WOTTON-UNDER-EDGE GLOUCESTERSHIRE GL12 8AA
Property Search for:	MIDDLECLIFF LANE, LITTLE HOUGHTON, BARNSELY, SOUTH YORKSHIRE, S72 0HN
Reference Number:	51000510350001
Date of Issue:	08 April 2014
Cost:	£59.00
VAT @ 20%:	£11.80
Total Received:	£70.80
VAT Registration	598 5850 68



SECTION OF HOUGHTON MAIN COLLIERY -  
No. 11 Underground Borehole  
PURPOSE To prove thickness and quality of  
the Top Beams Shaw and Winter Seams  
EXACT SITE N.C.B. N.G.R. SE/41772/06539  
N.C.B. N.G.R. 44/4140/772539

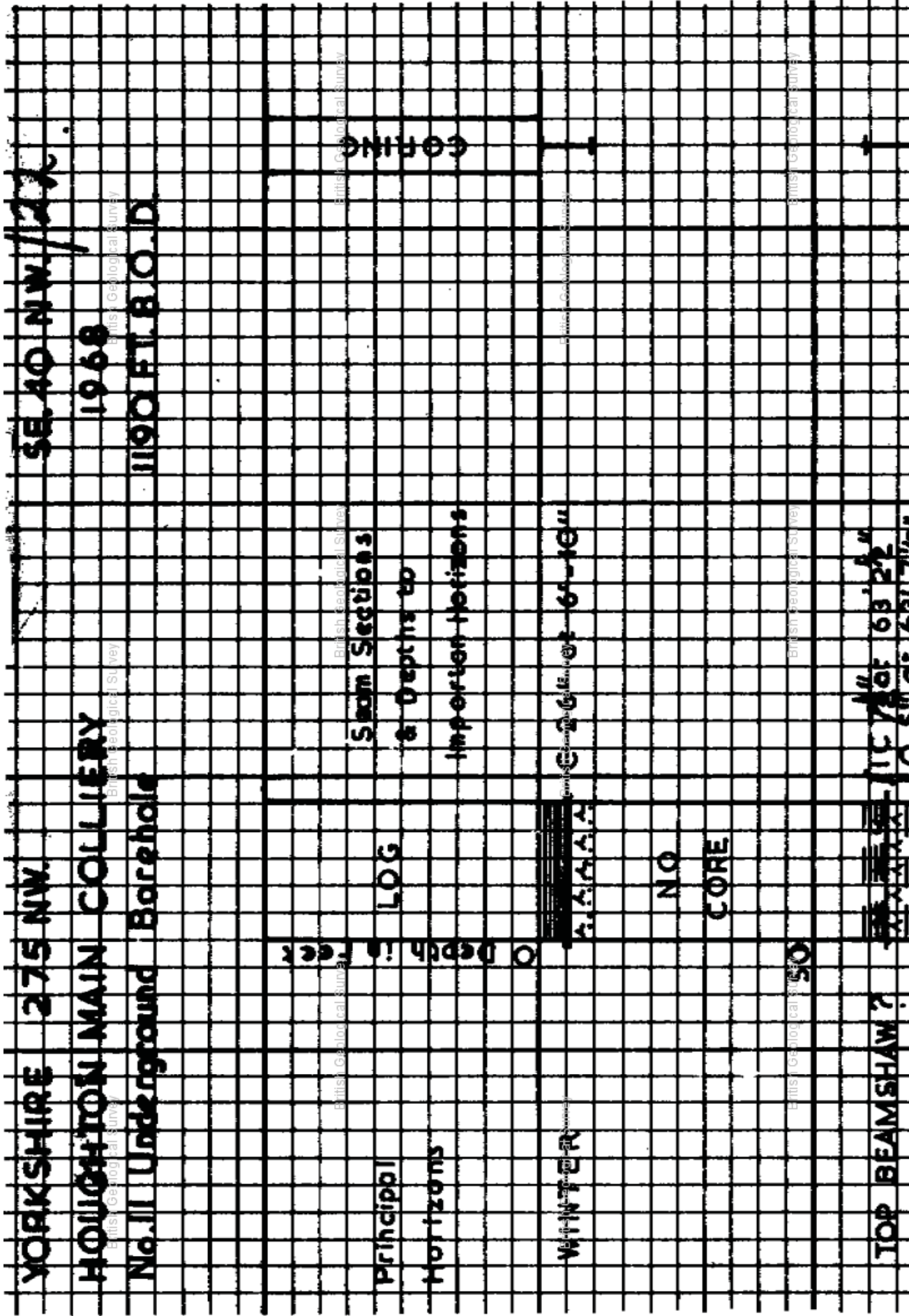
LEVEL AT WHICH <sup>shall</sup> <sub>bore</sub> COMMENCED RELATIVE TO O.D. 1190 ft B.G.D.  
<sub>level</sub>

DATE OF SINKING OR BORING January 1968

SINKER OR BORER National Coal Board

Cores other than coal examined by W. J. Smith

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS		DEPTH	
		FEET	IN.	FEET	IN.
	TOP OF HOLE	-	-	-	-
	Rather weak grey shaly mudstone with ironstone bands	1.22	4	0	4
	Black shale	0.20		8	4
WINTER	COAL	0.66	2	2	6
	Grey silty mudstone-seatearth with rootlets	0.25		10	7
	Grey siltstone with rootlets	0.16		6	8
	Pale grey sandstone	0.20		10	9
	OPEN HOLE - NO CORE	15.07	4.9	6	58
	Grey silty mudstone with ironstone bands	0.3	1	0	59
	Grey shaly mudstone with ironstone bands, mussel fragments at top	0.79	2	7	62
	Dark grey mudstone with <u>Anthracosis</u> , <u>Naiadites</u> and ostracods	0.13		5	62
TOP BEAMSHAW (?)	Inferior COAL 7 1/2" 0.19				
	COAL 5" 0.13	0.21	1	0	63
	Strong grey silty mudstone-seatearth with rootlets	0.85	2	9	66
	Grey silty mudstone with rootlets	0.66	2	2	68
	OPEN HOLE - NO CORE	11.89	3.9	0	107
	Floor of LOW BEAMSHAW				





# SURVEY OF EXISTING BOREHOLES



**Licence No.** CCL5, MOUNTAIN, BATHONIC

**App No.** -

**Authorised Abstraction**

- tcma

- cu m/d

- cu m/h

**Surface flow** 33.21m<sup>3</sup>/d

**Dia.** 50mm

**Depth** 31m

**Lining** 50mm PEHD 4000, 22.4

50mm PEHD 4000, 20.31m

**Well Sinker** .P.B.L.S.I.V.I.S.E.

**Date** Oct 1997

**R.W.L.** 6.8 m AOD

**P.W.L.** - Authority website

**Rate** -

**B.G.S. Ref. No.** - **N.G.R.** SE 4162 0679

**Owners Name** CJS, Houghton Main Spenceast A EDZ

**Address** Houghton Main, Bathons, Somerset, BA29 2JY

BATHONIC

Depth	Strata
0.1	Topsoil
1.8	Light brown clay
2.1	Brown weak sst
4.1	Brown fine sst
6.2	Brown mudstone
7.0	Green silt mudstone
10.8	Green silt mudstone
13.6	Green sst
17.4	Green silt mudstone
18.3	Black mudstone
19.8	Green sst
21.5	Green silt sst
31.0	Green sst

## STRATA DETAILS

British Geological Survey

# BOREHOLE LOG

SE 40 NW/12c

REPORT NO 300

SITE GRIMETHORPE

DATE 21 JUN 1965 BORE NO 3

BRITISH RAILWAYS. North Eastern Region. Chief Civil Engineer's Office. YORK. SOIL MECHANICS SECTION

Datum					
A.O.D.	Depth	Key	Description	Water	Remarks
138.8	0				
	1		1'10" Top Soil 0.56 m		
	2				J
	3		3'8" Brown & Grey CLAY 1.12 m		U.4
	4				16,16,24,28,
	5				34,36
	6		6" Blue Grey CLAY 0.15 m		J
	7		with trace of SHALE		
	8		4'0" MUDSTONE 1.22 m		
	9				
128.8	10				J
	11		3'6" SANDSTONE 1.07 m		
	12				
	13				
	14		2'0" Grey SANDSTONE 0.61 m		J
	15				
	16		6" Brown SHALE 0.15 m		J
	17				SPT
	18		Blue SHALE		60,76
	19				Water Level
	20				overnight
	21				
	22				SPT
	23		Finish of Hole.		20,72,60,76.
115.8	24				
	25				
	26				
	27				
	28				
	29				
	30				
	31				
	32				
	33				
	34				
	35				
	36				
	37				
	38				
	39				
	40				
	41				
	42				
	43				
	44				
	45				



**Conclusion**

In our opinion the site is considered suitable for development subject to the appropriate investigative and mitigating measures in place to safeguard the development. A condition to ensure this may be utilised in the decision notice under NPPF 120/121 - Land Stability.

I trust this satisfies your enquiry, however please do not hesitate to contact us for any further information or advice.



**Principal Mining Engineer.**

DRAWING TITLE

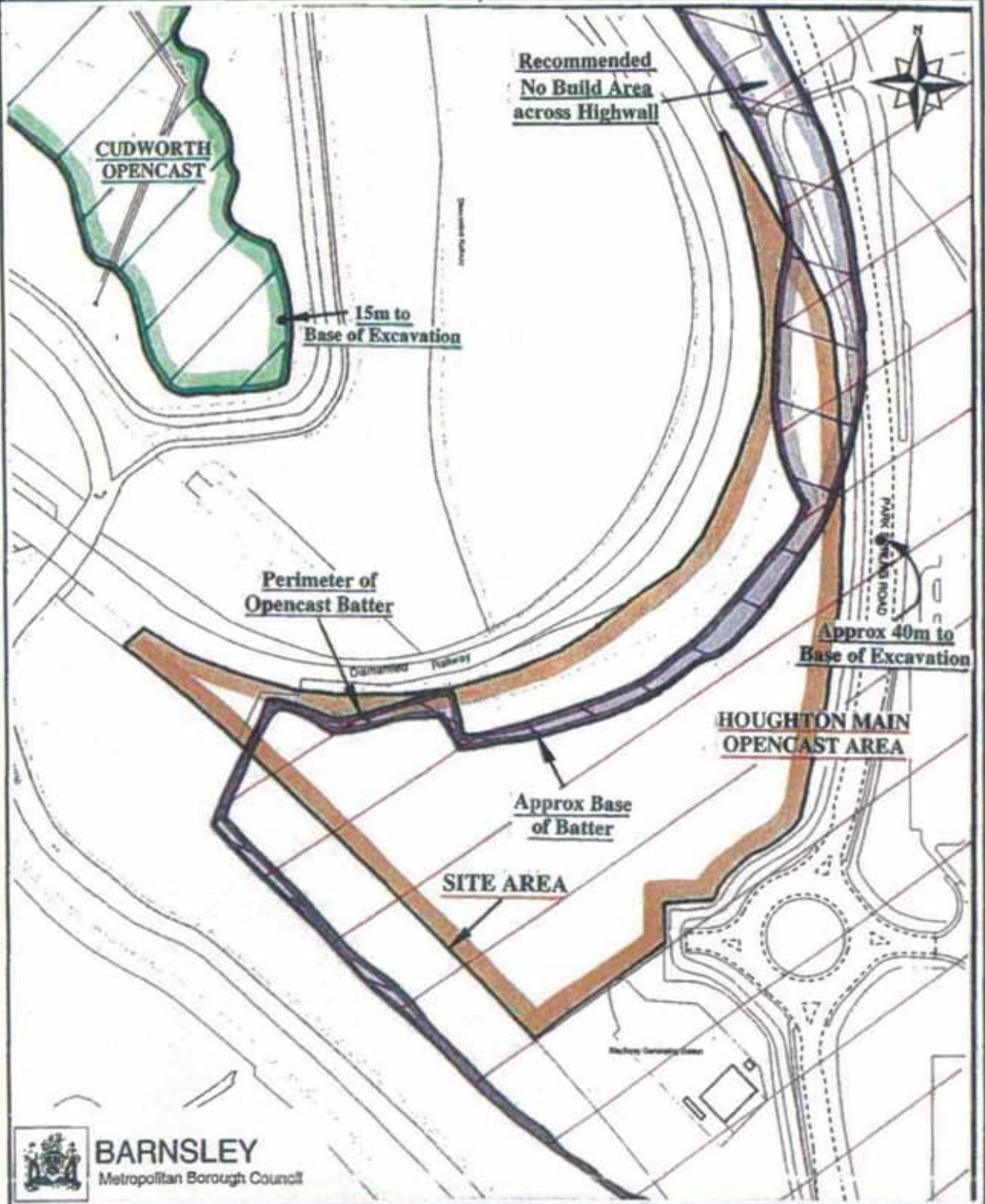
**PROPOSED ANAEROBIC DIGESTION FACILITY  
& TIMBER RESOURCE RECOVERY CENTRE  
PARK SPRING ROAD, LITTLE HOUGHTON**

DRAWING NO.

M1979/10A

**(EXTRACT FROM HOUGHTON MAIN OPENCAST COMPLETION PLAN)**

BMC Licence Number 100022284 2012



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SCALE	DATE
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DRAWN BY	CHECKED BY
AS	

**SOUTH YORKSHIRE MINING  
ADVISORY SERVICE**

O.S REFERENCE
SE 4106
P. JAMES BSc (Hons) PRINCIPAL MINING ENGINEER

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**KEY**  
 --- Site boundary  
 --- AD lease boundary  
 --- Flood zone 2 (EA ref 27506)

- C 131219 AD layout revised
- B 131125 AD layout revised
- A 131115 WW circulation revised

**STUDIO E LLP**

Police Ward, Spittle Road,  
 14, 15, 16, 17, 18, 19, 20, 21, 22,  
 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

**HOUGHTON MAIN**

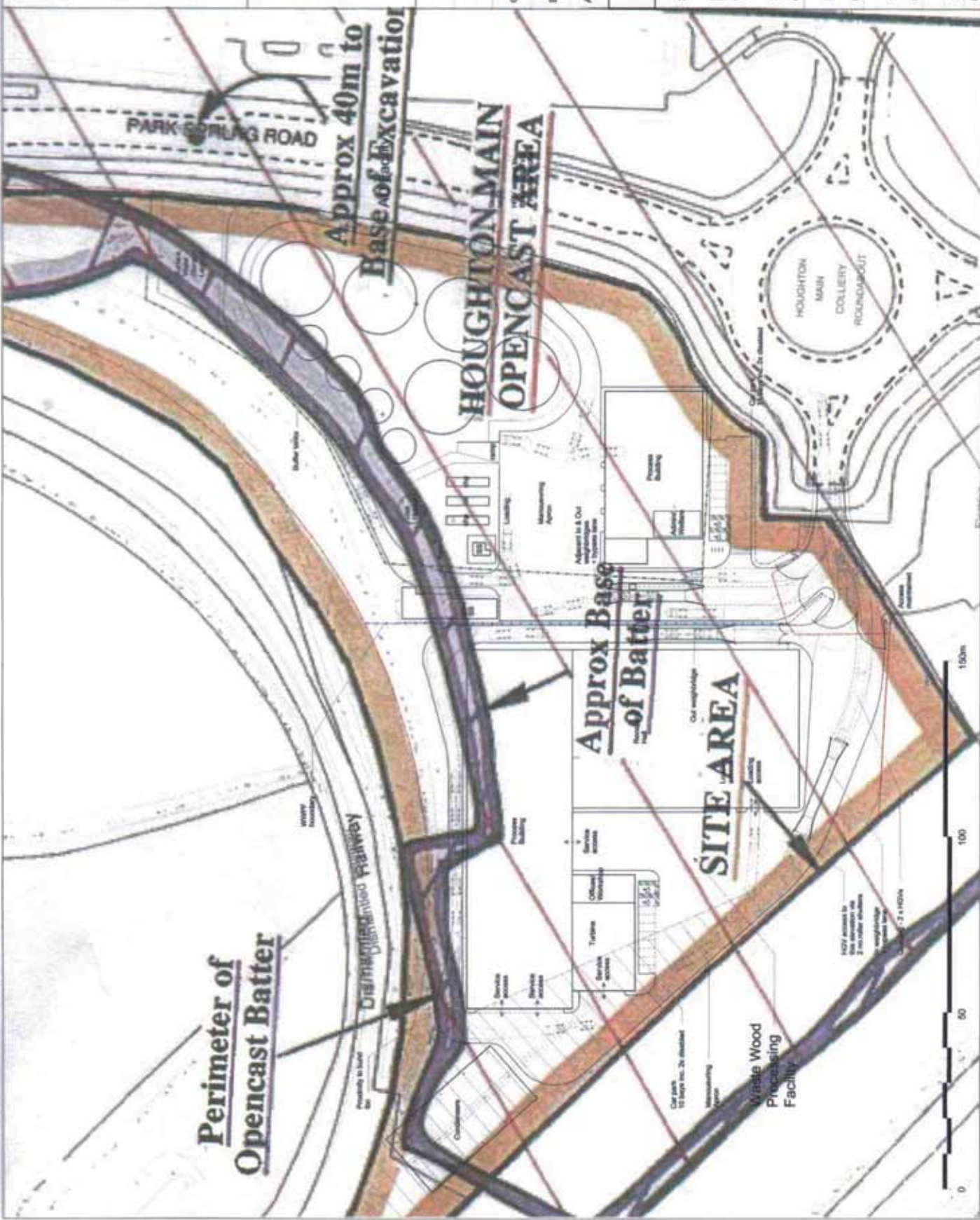
Proposed Site Layout

1-500@A1 131106

SCALE DATE

1302\_SK002 C

DWG. NO. REVISION CHECKED





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