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PHASE 1 ENVIRONMENTAL DESK STUDY REPORT

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Rogers Geotechnical Services Ltd
Offices 1 & 2 Barncliffe Business Park, Near Bank, Shelley, Huddersfield, HD8 8LU
☎ 01484 604354 Company No. 5130864

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Report on a Phase One Desk Study

Location:	Crows Nest Farm Crawshaw Lane, Flockton, Huddersfield, WF4 4BY	
For:	Mr & Mrs Ellis	
Consultants:	Highstone Housing Services Ltd	
Report No.	C3875/23/E/5883	Report date: October 2023

For and on behalf of **Rogers Geotechnical Services Ltd**

James Finch BSc FGS
Graduate Engineer

Rob Palmer MSc FGS ACIEH
Senior Geo-environmental Engineer

1. Introduction

The site comprises an area of land located at Crows Nest Farm, Crawshaw Lane, Flockton, Huddersfield, WF4 4BY. The site is approximately 0.18 hectares in size and its National Grid reference is centred around 422708, 414807.

It is understood that the development proposals currently comprise the construction of a new detached residential dwelling with car parking and garden areas. In order to assist with this decision-making process, and any planning and construction aspects of the development, a phase one environmental desk study has been commissioned and is the subject of this report.

In accordance with issued guidance, a site walkover was conducted on the 27th October 2023 and the following observations were made:

General site description/current site use

The site comprises a yard in the northwest, a smaller yard with stables in the southwest and the lane leading from the road in the northeast to these yards. The whole of the site is situated within a larger farm.

Site boundaries/access

The site is accessible via Barnsley Road to the northeast.

Topography

The yards in the west of the site slope steeply to the south. The road leading to the site slopes more gently to the east and then north as it connects to Barnsley Road.

Surface cover of site

The access road to the site is paved in macadam, the yards are surfaced with gravel.

Visible evidence of contamination/ contaminative sources

An intact above ground diesel tank is located in the west of the northern yard, there was no evidence of leaks or spillages. There were no other visible signs of contamination present during the time of the walkover.

Presence of vegetation and wildlife

Short grasses were present along the sides of the access road. Vegetation seems to be healthy with no evidence of degradation. There were no obvious signs of invasive flora, fauna, nesting birds, burrowing animals or edible plants observed during the time of the site walkover.

Services

The status of underground services is unknown. There were no overhead services present within the site at the time of the walkover.

Site neighbours

To the west and north are a residential dwelling and barn associated with the farm. Fields also associated with the farm are present to the south and west.

In order to ensure that the site is fully characterised and to comply with the Environment Act 1995¹, a Phase One Desk Study has been commissioned by Highstone Housing Services Ltd. The desk study is intended to assess the environmental impact of historical, current and future factors on the development. This report will present the data obtained and provide a conceptual ground model and preliminary risk assessment as well as discussing the scope of any intrusive investigation that may be required. This report does not consider ecological impacts (e.g. bats) or botanical risks (e.g. Japanese Knotweed).

2. Review and Summary of Published Data

As a part of this desk study the following data has been considered.

- | | |
|-------------------------------|--------------|
| • Site Plan | - Appendix 1 |
| • Historical maps | - Appendix 2 |
| • Groundsure Reports | - Appendix 3 |
| • Photographs | - Appendix 4 |
| • Coal Mining Risk Assessment | - Appendix 5 |

The data obtained from the above-mentioned sources has been summarised below².

¹S57 of the Environment Act 1995 inserted the contaminated land regime into the Environmental Protection Act 1990 (Part 2A). The regime **'provides a risk-based approach to the identification and remediation of land where contamination poses an unacceptable risk to human health or the environment'** See <http://www.environment-agency.gov.uk/research/planning/40405.aspx>. This places a duty on local authorities to inspect their areas for contaminated land and require its remediation using the 'suitable for use' approach. Much of this duty is discharged via the planning regime under the Town and Country Planning Act 1990 as historical land contamination is a 'material planning consideration.' The local authorities are required to secure the removal of unacceptable risks via remediation of the land, to therefore ensure the site is suitable for its new use. This is fulfilled via completion of a Phase One Environmental Desk Study, Phase Two Intrusive Investigation, Phase Three Remediation Strategy and Phase Four Validation Report. Therefore, as a minimum, once a site has been developed it should not be capable of being designated as 'contaminated land' under Part 2A of the Environmental Protection Act 1990, as inserted by the Environment Act 1995 (see also PPS 23 Planning and Pollution Control Section 8)

² This report is a summary only and reference must be made in full to the information provided in the Groundsure Report.

2.1 Historical Land Use

Table 1: Historical Land Use³

HISTORICAL MAPPING SUMMARY		
Map Dates	On site	Within 250m
1855 - 1892	The site is comprised of the existing access road and sections of two fields, one to the north of the road and one to the south.	Farm houses – 10m W Rivers – 97m S, 135m W Coal Pits/Shafts – 10m N, 77m N, 90m N, 96m E, 101m NE, 118m SW, 119m W, 130m E, 142m N Ground Workings - 159m NE Cadwell Delf – 200m E
1904 - 1907	The site remains unchanged.	New farm building - 0m N Coal Pits/Shafts no longer shown or shown as 'Old Shaft'.
1930 - 1992	The site remains unchanged.	Cadwell Delf Disused – 200m E
1990 - 2003	The western sections of the site comprise parts of the yards associated with the farm buildings. Stables constructed in the southwest of the site.	Farm Building Demolished – 0m N
2003 – Present	The site remains generally unchanged. Above ground diesel tank in northwest of the site.	Drainage Ditch – 1m N of site access. Ground Workings Infilled – 159m NE

NB. All distances given are approximate only.

2.2 Published Geology and Geological Hazards

Table 2: Geological Data for the Site

BGS MAPPING DATA			
Strata Type	Strata Name ⁴	Previous Name ⁴	Description ⁵
Made Ground/Fill	N/A	N/A	Not indicated on site although infilled ground, presumably associated with coal workings, are shown to be present 10m south of the site.
Superficial Geology	N/A	N/A	Not indicated to underlie the site.
Solid Geology	Birstall Rock	Cropper Gate Rock Park Gate Rock	The Birstall Rock is a fine-grained, thickly bedded, cross bedded sandstone with common pebbles of ironstone, coal sandstone and mudstone, and common streaks of shaly coal.
GEOLOGICAL FEATURES			
Type	Location	Features	Comments
Mining Activity	On site	Coal mining	The study site is located within the specified search distance of an identified mining area.
		Non-coal Mining	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered.
Faults	200m SW	Fault	Normal fault with downthrow to the northwest.

³ See Appendix 3

⁴ Sources: British Geological Survey (NERC) Map Sheets 77; Huddersfield; Solid and Drift Edition, and Geology of Britain Viewer [online resource from www.bgs.ac.uk]

⁵ Sources: British Geological Survey (NERC) Lexicon of Named Rock Units [online resource from www.bgs.ac.uk]

Landslip Deposits	No data	No data	No data.
BGS BOREHOLE DATA			
Reference ⁶	Location	Strata Description	Depth
SE21SW6	445m S	No Core Recovery	0.00m
		Siltstone	3.20m
		Shale	5.79m
		Coal	6.48m
		Clunch	6.63m
SE21NW211	765m NW	Topsoil	0.00m
		Very stiff gravelly CLAY. Gravel is mudstone and ironstone.	0.30m
		Stiff gravelly CLAY. Gravel is Mudstone. (Weathered Mudstone)	1.70m
		GRAVEL of Mudstone and Ironstone (Weathered Mudstone)	2.10m
NATURAL GROUND SUBSIDENCE & HAZARDS ⁷			
Type		Risk Rating	
Potential for shrinking or swelling clay ground stability		Negligible for main site, very low in far northeast of site at the beginning of the access road.	
Potential for running sand ground stability		Negligible.	
Potential for compressible ground stability		Negligible.	
Potential for collapsible ground stability hazards		Very Low.	
Potential for landslide ground stability		Very Low.	
Potential for ground dissolution stability		Negligible.	
Radon		The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level. No radon protective measures are necessary.	

2.3 Construction Issues

2.3.1 Foundation Construction

On the basis of the prevailing geology and assuming that there are no areas of significantly filled ground, it is anticipated that shallow strip or spread foundations could be utilised at this site. It should be appreciated that an intrusive investigation will be required to validate this opinion.

Moreover, it is possible that undifferentiated strata within the Birstall Rock may include very fine-grained rocks which are likely to have weathered to cohesive soils at or near the surface. Such soils could be sensitive to soil moisture variations and thus be susceptible to desiccation as result of tree

⁶ <http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html>

⁷ See Groundsure report

root action. In light of this, it is possible that footings within the zone of influence of trees (existing or previously removed), may need to be founded at extended depths in excess of 1m.

2.3.2 Site Won Materials

Where sandstone outcrops, it is possible that the resulting soil may provide a suitable bulk granular fill and may prove suitable for re-compaction.

Should any residual mudstone be encountered at shallow depth over much of the site, this material is likely to be relatively difficult to re-engineer as a construction material. Therefore, depending on the results of laboratory testing, it may be possible to modify/stabilise the soil using lime and/or cement to form a suitable sub-base replacement for pavements and hard standings.

2.3.3 Disposal of Site Materials

If made ground is present, then contamination/WAC testing will be required to establish the nature of the underlying soil before disposal to a licensed landfill site. However, it is anticipated that the naturally occurring soils would not be significantly contaminated, thus would probably be accepted by a waste disposal site catering for inert material.

2.4 Mining and Natural Cavities

2.4.1 Coal Mining

The Groundsure Report states that the site is within an area that may be affected by coal mining. A Coal Mining Risk Assessment has previously been carried out by ARP Geotechnical Ltd. This report referenced ELS/01/JED and Issued 24th April 2020 includes a CON29M OFFICIAL NON-RESIDENTIAL COAL REPORT, both of these are presented in Appendix 5. These reports have identified several issues relating to coal mining in the area, which are summarised as follows:

Table 3: Summary of the Consultant's Coal Mining Report

Has the report highlighted evidence or potential of:			
Ref	Mining Feature	Yes/No	Comments
1	Underground Coal Mining	Yes	The Site (including the existing buildings) is underlain by historical shallow underground coal workings associated with the "Low Fenton" seam, and the eastern part of the Site is also underlain by workings associated with the "Parkgate" seam. The coal seams are recorded to be approximately 0.53 metres and 0.48 metres thick respectively. Workings within the "Low Fenton" seam beneath the existing building are calculated to occur at a depth of approximately 7-8 metres beneath the surface. Within the remainder of the Site, workings within the "Low Fenton" and "Parkgate" seams are calculated to occur at depths of between 5 - 12 metres beneath the Site.
2	Probable Unrecorded Shallow Workings	Yes	The Site is recorded to be situated within 20 metres of a known coal seam outcrop. This coal is suspected to have been historically worked at depth of less than 30 metres beneath the surface, within the vicinity of the Site.
3	Mine Entries	Yes	1 mine entry has been identified within 20 metres of the site. Reference: 422414-017 Type: Shaft Depth: 11m Treated: False Diameter: 2.5m Distance: 10.29m
4	Outcrops	Yes	The Site is recorded to be situated within 20 metres of a known coal seam outcrop.
5	Geological Faults	No	There are no recorded faults, fissures or breaklines beneath or within the vicinity of the Site.

6	Opencast Mines	Yes	The Site is not situated within any past licence areas for the opencast extraction of coal. The Site is situated within an unlicensed opencast coal mining area.
7	Site Investigations	No	The report does not include a Site Investigation, nor does Terrafirma make specific information requests of the regulatory authorities for any relevant information they may hold.
8	Coal Mining Subsidence	Yes	There is no record of any coal mining-related damage notices or subsidence claims for the Site or for any Site within 50 metres of the Site. There is no record of a request that has been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.
9	Mine Gas	No	There are no records of any Mine Gas hazards within the influence of the Site and there is no record of any Mine Gas emissions requiring action..
10	Future Underground Mining	No	The Site is not situated within an area which could be affected by any future underground coal mining. However, reserves of coal exist in the local area which could be worked at some time in the future.
11	Section 46 Notices	No	The Site is not situated within the influence of a Section 46 Notice.
12	Withdrawal of Support Notices	Yes	The property is in an area where notices to withdraw support were given in 1946. The property is in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.
13	Payments to Owners of Former Copyhold Land	No	The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

2.4.2 Non-Coal Mining

Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered.

2.5 Waste Management and Gas Monitoring

Table 4: Landfill Data and Artificial Ground, Recorded and Anticipated			
ENVIRONMENT AGENCY, LOCAL AUTHORITY, BGS & HISTORIC LANDFILLS			
Waste Type	Location	Comments	Monitoring Requirement
Active Landfill	Within 250m	None recorded within 250m	-
Historic Landfill	Within 250m	None recorded within 250m	-
Historic waste sites	Within 250m	None recorded within 250m	-
Licensed waste sites	Within 250m	None recorded within 250m	-
Waste Exceptions	102m W 118m W	Storage of Sludge: Non-Agricultural Waste Only	Y
MADE GROUND & INFILLED GROUNDWORKINGS			
Description	Location	Comments	Monitoring Requirement
Records of Potentially Infilled Features	29m SE	Infilled Ground (Open Cast Coal Workings)	Y
	44m E	Infilled Ground (Assumed to be Coal Workings)	Y
	201m E	Infilled Ground (Cadwell Delf)	Y

2.6 Hydrogeology, Hydrology

Table 5: Ground/Controlled Water Sensitivity and Flooding			
ENVIRONMENT AGENCY AQUIFER DESIGNATION⁸			
Strata	Designation	Description	
Solid Geology 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.	
GROUNDWATER SENSITIVITY⁹			
Description	Location	Details	
Source Protection Zone	-	None recorded within 250m.	
Abstraction Licences	-	None recorded within 250m.	
Records of Part A(2) and Part B Activities and Enforcements	-	None recorded within 250m.	
Records of Licensed Discharge Consents	-	None recorded within 250m.	
High Soil Leaching Potential	N/A	Leaching Class Low Onsite	
CONTROLLED WATERS¹⁰			
Description	Location	Details	
River Network Entries	1m N	Drain	
	96m SW	River	
	135m E	River	
Surface Water Features	Within 250m	6 surface water records present within 250m. Unknown type.	
POLLUTION INCIDENTS¹¹			
Pollutant	Receptor	Location	Date
-	-	None recorded within 250m.	-
ENVIRONMENT AGENCY FLOOD RISK¹²			
Description	Location	Details	
Zone 2	-	The site is not situated within a Zone 2 flood plain.	
Zone 3	-	The site is not situated within a Zone 3 flood plain.	
Flood Defences	-	None recorded within 250m.	
Groundwater Flooding Area	-	Negligible potential for groundwater flooding to occur.	

⁸ See Appendix 2

⁹ See Appendix 2

¹⁰ See Appendix 2

¹¹ See Appendix 2

¹² See Appendix 2

2.7 Sensitive Land Use

Table 6: Sensitive Land Uses within 250m

REGISTERED SENSITIVE LAND USES ¹³		
Description	Location	Details
Nitrate Vulnerable Zone	On site	River Dearne NVZ - Status: Existing.
Green Belt Land	On site	South and West Yorkshire

2.8 Industrial Land Use and Potential Sources of Contamination

In order for a conceptual site model and preliminary risk assessment to be completed the historical maps and Groundsure data requires analysis to identify any past or present activities on the site and in the area that may have the potential to cause contamination on the site. Guidance has been issued by the Environment Agency, NHBC and Chartered Institute of Environmental Health.¹⁴ Within this document, annex 3 provides examples of important contaminants that are associated with individual uses of land. This data assists in the formulation of any chemical testing regime.

Those that we consider potentially contaminative according to the guidance are given below:

Table 7: Potentially Contaminative Sources

HISTORICAL		
Land Use	Location	Classification
Coal Pits/Shafts	10m N 77m N 90m N 96m E 101m NE 118m SW 119m W 130m E 142m N	Coal Works, Artificial/made ground.
Infilled Ground (Open Cast Coal Workings)	29m SE	
Ground Workings	159m NE	Artificial/made ground.
Cadwell Delf	200m E	
CURRENT		
Land Use	Location	Classification
Diesel Tank	On site	An intact above ground diesel tank is located in the west of the northern yard, there was no evidence of leaks or spillages.
TANKS (Buried and Above Ground)		
Land Use	Location	Classification
Underground Storage Tanks	-	None recorded within 250m.
Overground Storage Tanks	-	None recorded within 250m.

¹³ See Appendix 2

¹⁴ Guidance for the Safe Development of Housing on Land Affected by Contamination, R&D Publication 66: 2008 Volume 1 and 2.

3. Preliminary Qualitative Risk Assessment

The potential of contamination hazards on the land has been identified and the risks associated with them are assessed in the following preliminary risk assessment in accordance with industry practice and the 'suitable for use' approach. This has been conducted using the source-pathway-receptor approach. This method dictates that there must be a risk contaminant produced at a 'source' in sufficient concentration to cause harm and there must be a 'pathway' for the contaminant to reach an identifiable 'receptor' for the linkage to be proved and a contamination hazard to be considered present. Not all substances are contaminants and not all contaminants are considered to be a risk. Indeed, DEFRA and The Environment Agency state that **'a contaminant is a substance which has the potential to cause harm, while a risk itself is considered to exist if such a substance is present in sufficient concentration to cause harm and a pathway exists for a receptor to be exposed to the substance.'**

R&D Publication 66: 2008 states that the groups at risk of harm (receptors) can be identified by the following categorisation:

1. Humans: site personnel, end users, visitors and adjacent land users.
2. The water environment – receptors: groundwater, surface water, coastal waters and artificial drainage.
3. Ecosystems: plants and animals.
4. Construction/building materials/services

In order to complete a conceptual site model and therefore a preliminary risk assessment, an appraisal of the sources of contamination, potential and actual, on and in the area of the site has therefore been completed with reference to this pollution linkage.¹⁵

3.1 Conceptual Ground Model & Preliminary Qualitative Risk Assessment

It is understood that the development proposals currently comprise the construction of a detached residential dwelling with garden areas. In view of the sensitivity of the end users it is considered that the soil screening values (SSVs) for a residential with plant uptake end use should be employed.

The preliminary risk assessment has been evaluated with reference to the following ratings and definitions:

N/A -	A source-pathway-receptor linkage is not considered to exist and therefore a risk assessment is not required.
Low -	A pollution linkage is unlikely and/or the likelihood of harm occurring is low and of minor consequence.
Moderate -	The linkage exists but further field or laboratory data is required to confirm that the contaminant has reached the receptor and the levels of contaminant are harmful.
High -	The linkage exists and the available data indicates that significant harm may be caused and remedial action could be necessary.

¹⁵ This assessment has been based on the information as to the proposed development that has been provided by the client. If the plans should change, the assessment should be re-evaluated.



Table 8: Conceptual Site Model and Preliminary Qualitative Risk Assessment

CONCEPTUAL SITE MODEL			PRELIMINARY RISK ASSESSMENT	
Pathways	Receptor	Linkage Present?	Risk Rating	Notes
Direct contact/dermal absorption/soil ingestion	Operative	Yes – operatives are likely to come in contact with the soil, possible off site sources.	Moderate	There are potential off-site sources of contamination that may have caused contamination of the site. Further testing required to reach a firm conclusion.
	End User	Yes – end users are likely to come in contact with the soil, possible off site sources.	Moderate	
	Neighbours	Yes – possible source off site and immediate neighbours are present.	Low	
Inhalation of Dust/Vapours	Operative	Yes – contact with soil likely during works and vapours may accumulate in enclosed spaces.	Moderate	There are potential off-site sources of contamination that may have caused contamination of the site. Construction activities may create dust on and off site, which, if contaminated, could adversely affect operatives, end users and neighbours. In the event that harmful vapours are present they may accumulate in enclosed spaces, affecting operatives, end users and neighbours. Further testing required to reach a firm conclusion.
	End User	Yes – vapours may accumulate in enclosed spaces.	Moderate	
	Neighbours	Yes – neighbouring properties present and possible inhalation of dust during the works.	Moderate	
Ingestion of fruit/vegetables and/or waters	Operative	No – no edible plants or contained water sources in the area of the proposed new works.	N/A	There are potential off-site sources of contamination that may have caused contamination of the site. Further testing required to reach a firm conclusion.
	End User	Yes – soft landscaping proposed as part of the new development.	Moderate	
	Neighbours	Yes – residential dwellings present within 250m of the proposed development.	Moderate	



Migration of hazardous gases via permeable strata	Operative	Yes – off-site sources associated with coal mining.	Moderate	Possible source on site and within 250m. A programme of monitoring is recommended but is suggested to be limited to 4 readings over one month in the first instance. If significant made ground considered capable of producing harmful gases is revealed during the investigation works, the monitoring regime may require reassessment to consider a higher potential risk.
	End User		Moderate	
	Neighbours	Yes – off-site sources associated with coal mining.	Low	It is not considered likely that any made ground that has been brought onto site for the construction of the demolished development will produce high levels of gas, thus presenting a significant risk of harm to this receptor. This should be re-assessed during any intrusive works should this be proven to the contrary.
Spillage/loss/run off direct to receiving water	Controlled Waters	Yes – possible source off site and controlled waters within 250m.	Low	There are potential off-site sources of contamination that may have caused contamination of the site. Controlled waters within 250m. Secondary A aquifer underlies the site. Permeability of underlying geology should be assessed. Further testing required to reach a firm conclusion.
Migration via permeable unsaturated strata	Controlled Waters	Yes – possible source off site and Secondary A aquifer beneath the site.	Low	
Run off via drainage/sewers etc	Controlled Waters	Yes – possible source off site.	Low	
Direct contact with contaminated soils	Plants	Yes – some soft landscaping areas are present as part of the proposed development.	Moderate	There are potential off-site sources of contamination that may have caused contamination of the site. Further testing required to reach a firm conclusion.
Uptake via root system			Moderate	
Direct contact with contaminated soils/ Direct contact with contaminated groundwater	Building Materials	Yes – possible source off site and foundation and service installation materials may be affected by the site soil.	Low	There are potential off-site sources of contamination that may have caused contamination of the site. Further testing required to reach a firm conclusion.

Migration of mine gas via permeable strata	Operative	Yes – in an area affected by coal mining activity and where shallow worked seams may be present.	Moderate	Further knowledge required to reach a firm conclusion.
	End User			
Exposure to Radon	Operative	No – not in a radon affected area.	N/A	The publication BR211 states that no protection measures are necessary.
	End User			
Mining Instability	End User	Yes – The Site (including the existing buildings) is underlain by historical shallow underground coal workings associated with the “Low Fenton” seam, and the eastern part of the Site is also underlain by workings associated with the “Parkgate” seam.	Moderate	A Coal Mining Risk Assessment has been carried out recommending an intrusive investigation is carried out to check for the presence of any workings following grant of planning permission, but before commencement of development.
Unexploded Ordnance (UXO) Risk	Operative	Yes – the Zetica ¹⁶ online maps indicate that the site is at low risk from UXO.	Low	Unlikely to be affected by UXO.

Notes:

1. The above data and table is a qualitative assessment of the probable risks identified at this site, based on the information made available to us from the client, third party professional data and walkover survey.
2. Should any additional or new data come to light, the risk assessment should be revisited and any necessary changes made to any recommendations resulting from this study.
3. Where further testing is recommended as part of the risk assessment, this is in order to provide a quantitative assessment of any contamination issues. It should at all times be considered that uncertainties may remain, and therefore any testing regime and ground investigation philosophy should be ready to accommodate any necessary alterations should any data come to light or it become evident that it has not been previously considered.

¹⁶ Pre-desk study assessment [online resource from www.zeticauxo.com].

4. Intrusive Investigation

4.1 Site Investigation Philosophy

The information from the Phase 1 Desk Study shows there are potential sources of contamination on the site and in the surrounding area. In view of the above, any intrusive investigation should be undertaken in accordance with the sampling strategies given in BS10175: 2011 +A2:2017 and CLR4:1994. These two sampling strategies may be classified as:

- Non-Targeted – using a defined sampling pattern (BS10175)
- Targeted – based on prior knowledge and professional judgement (CLR4)

These sampling strategies are considered in more detail below. However, it is emphasised that they can be used individually or in combination depending on the depth of site knowledge.

Non-Targeted Sampling

If no obvious 'hot spots' of contamination have been identified on a site, it would be recommended that a stratified random pattern of sampling points be considered. This work should be undertaken with reference to BS10175: 2011 +A2: 2017 *Investigation of potentially contaminated sites – Code of practice: 7.6*, and BS5930 2015 + A1:2020, *Code of practice for ground investigations*.

Targeted Sampling

If a possible 'hot spot' of contamination has been identified on a site, it is recommended that a herringbone pattern of sampling points be considered in the immediate vicinity. If strong evidence of contamination has then been identified, it is recommended that sampling be highly focused to reflect that evidence and the investigator's experience. This work should be undertaken with reference to CLR4, *Sampling Strategies for Contaminated Land, 1994*.

The density of sampling required is defined in BS10175: 2011: +A2: 2017: 7.7.2.2.3, which indicates that an *exploratory* investigation usually requires a lower density sample spacing than does a *main* investigation. The BS goes on to state that *the actual density should depend upon the confidence and robustness required of decisions that will be based on the information obtained. Thus, the area and depth of interest will be related to the contaminants present, the pathways and the receptors. Typical densities of sampling grids can vary from 25m to 50m centres for exploratory investigations, and 10m to 25m centres for main investigations.*

4.2 Site Specific Investigation

In view of the information provided above it is considered that an investigation of the site should include the following main elements.

4.2.1 Contamination Assessment

It may be appreciated that BS 10175 clause 7.7.2.2.3 suggests that the number of sampling points at the site should be based on a minimum of three testing locations or the size of the site with respect to the appropriate grid spacing, whichever the greater. On the basis of the site area being 0.18 ha, the number of sampling points at the site should be considered with respect to the table below.

Table 9: Summary of Sampling Strategy					
NUMBER OF SAMPLING POINTS					
	Soil	Water	Asbestos	Standpipes	Standpipe Readings
Exploratory Investigation 50m x 50m grid	3	-	3	3	A minimum of 4 readings over 1 month would be required as per risk assessment, however any regime must take into account the guidance detailed below.
Target Areas	Should be assessed during any investigation. A hand dug trial pit could be dug near to the tank in the northwest of the site in order to assess if any contamination has resulted from its presence.				

Chemical testing should be undertaken on the above grid spacing and the following standard testing regime should be undertaken:

- **Metals** – Cd, Cr, Cu, Hg, Ni, Pb, Zn, V.
- **Semi Metals and Non-Metals** – As, Se, Free Cyanide and Phenols.
- **Hydrocarbons** – Polycyclic aromatic hydrocarbons (PAH EPA16), Total petroleum hydrocarbons (TPH CWG).
- **Others** – pH, Organic Content.
- **Asbestos**

Sampling Method

Investigation should include the installation of three gas monitoring standpipes for subsequent monitoring. Furthermore, soils should be obtained for chemical sampling. The sampling strategy should employ the non-targeted strategy given above in the first instance, i.e. at least three sampling points, if it is anticipated that made ground is significant across the site. However, if the made ground at the site is thought to be localised to specific areas, then the targeted strategy should be used.

It should be possible to carry out the above work with a windowless sampling drilling rig, however, it may be more pragmatic to employ hand-held digging tools for a targeted strategy.

Gas Monitoring

The final gas monitoring regime should be undertaken in accordance with Table 4.2 of CIRIA C665: 2007: *Assessing risks posed by hazardous ground gasses to buildings*. In that document guidance for the frequency of monitoring is provided on tables 5.5a and 5.5b *Typical/idealised frequency and period of monitoring* on page 60. For convenience, these tables have been combined and reproduced below.

Table 10: Typical/idealised Frequency and Period of Monitoring.

Sensitivity of development	Generation potential of source				
	Very low	Low	Moderate	High	Very High
Low (commercial)	4/1	6/2	6/3	12/6	12/12
Moderate (flats)	6/2	6/3	9/6	12/12	24/24
High (residential + gardens)	6/3	9/6	12/6	24/12	24/24

Notes:

- a) The first number is the minimum number of readings and the second number is the minimum period in months, for example 4/1 – four sets of readings over 1 month.
- b) At least two sets of readings must be at low and falling atmospheric pressure (but not restricted to periods below 1000mb) known as worst case conditions.
- c) The frequency and period stated are considered to represent typical minimum requirements. Depending on specific circumstances fewer or additional readings may be required (e.g. any such variation subject to site specific justification). The NHBC guidance is also recommending these periods/frequencies of monitoring.
- d) Historical data can be used as part of the data set.
- e) Not all sites will require gas monitoring. However, this would need to be confirmed with demonstrable evidence.
- f) Placing high sensitivity end use on a high hazard site is not normally acceptable unless the source is removed or treated to reduce its gassing potential. Under such circumstances long-term monitoring may not be appropriate or required.
- g) This guidance should be read in conjunction with BS 8576:2013 figure 6 which may justify fewer readings in the first instance, where the generation potential is considered to be very low to low. However, this should be undertaken pragmatically, and further readings obtained according to the above table, where a potentially significant source is identified and initial readings suggest that remedial measures are not necessary.

4.2.2 Geotechnical Assessment

In addition to the above contamination assessment which is likely to be required by planning authorities and insurance providers, the following investigation strategy could be considered:

Sampling Method

It is anticipated that a windowless sampling drilling rig will be able to gain sufficient data in regard to the near surface soils. Moreover, such equipment should be able to undertake Standard Penetration Testing (SPT) and/or Dynamic Probing.

Soakaway Design

Should soakaway data be required for drainage design, trialpits could be excavated and infiltration tests conducted. Alternatively, these tests could be undertaken within boreholes.

Geotechnical Testing

An allowance for geotechnical testing of the soils should be included in any ground investigation.

Rotary Coal Investigation

The Coal Mining Risk Assessment carried out by ARP Geotechnical Ltd referenced ELS/01/JED and Issued 24th April 2020 recommends that an intrusive investigation is carried out to check for the presence of any workings. General practice is to undertake rotary openhole boreholes at three locations across the site to mitigate against the potential for drilling through intact columns associated with pillar and stall workings. Furthermore, it is normal to investigate the ground to 30m below ground level; any workings below this depth are unlikely to result in significant instability.

4.2.3 Reporting

The above data will need to be formulated into a formal assessment that should include the following:

- Geotechnical recommendations, particularly if existing loads are to increase.
- Contamination assessment.
- Contamination remediation strategy.
- Any recommendations for further work, if required and including validation reports where site remediation is necessary.

As soon is as practicable, and prior to the above, this Phase 1 report should be forwarded to the relevant authorities, in order to ensure they have sufficient time to review and discuss any issues.

5. References

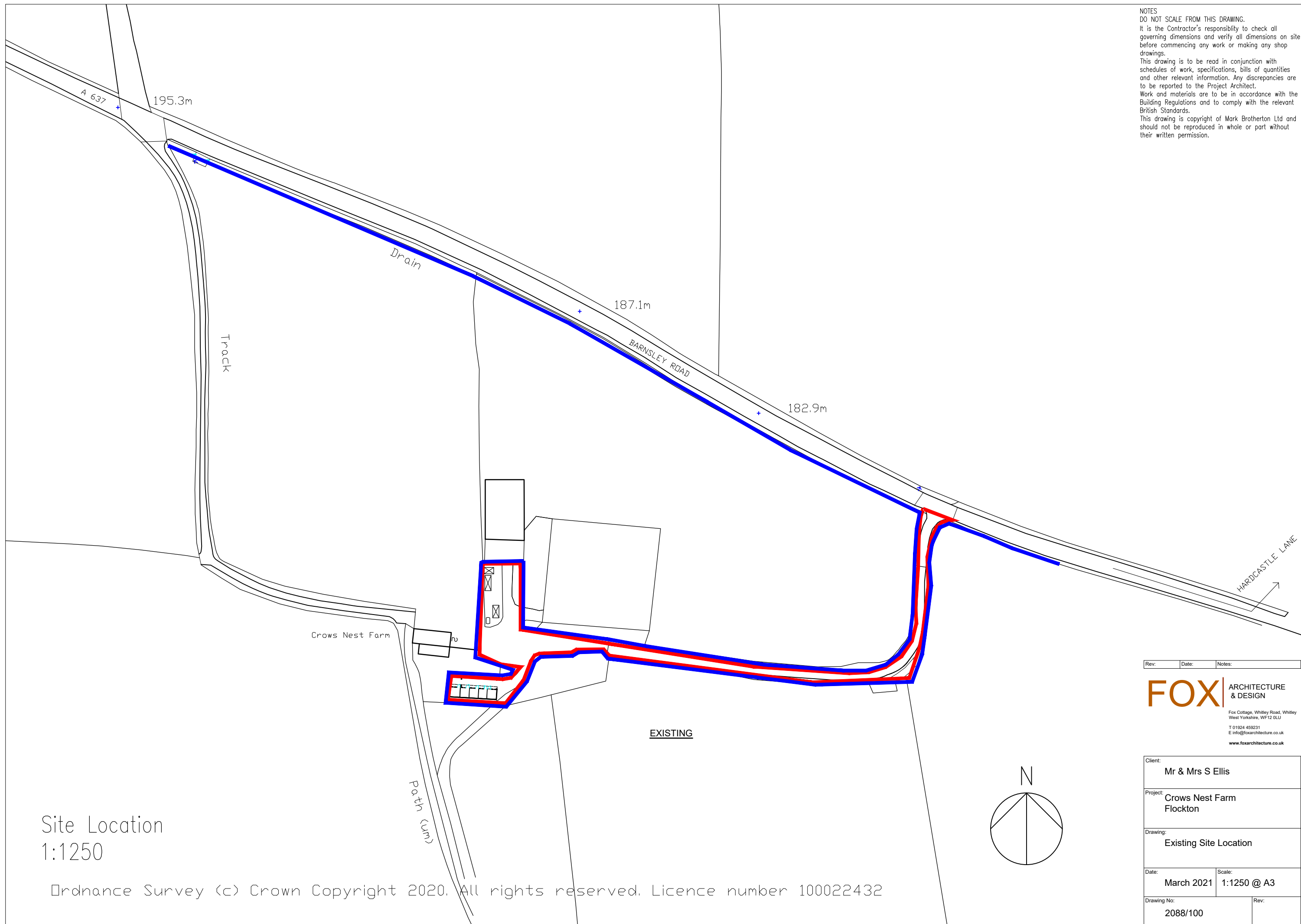
- British Standards Institution (2015), BS5930 2015 + A1:2020: *Code of practice for site investigations*, B.S.I., London.
- British Standards Institution (2007), Amendment No 1 to BS5930: *Code of practice for ground investigations*, B.S.I., London.
- British Standards Institution (2011) +A2:2017, BS 10175: *Investigation of potentially contaminated sites – Code of Practice*, British Standards Institute.
- British Standards Institution (2013), BS 8576 *Guidance on Investigations for Ground Gas – Permanent Gases and Volatile Organic Compounds*.
- Department for Environment, Food and Rural Affairs and the Environment Agency, DEFRA R&D Publications, Environment Agency, Bristol.
- CLR 2, 1994, *Guidance on preliminary site inspection of contaminated land*, Volume 1.
- CLR 4, 1994, *Sampling Strategies for contaminated land*.
- R&D Publication 66: 2008 *Guidance for the Safe Development of Housing on Land Affected by Contamination*.
- CIRIA Report C665 (2007), *Assessing risks posed by ground gasses in buildings*.
- The Environment Agency: *Groundwater source protection*.



Appendix 1

Site Plans

NOTES
 DO NOT SCALE FROM THIS DRAWING.
 It is the Contractor's responsibility to check all governing dimensions and verify all dimensions on site before commencing any work or making any shop drawings.
 This drawing is to be read in conjunction with schedules of work, specifications, bills of quantities and other relevant information. Any discrepancies are to be reported to the Project Architect.
 Work and materials are to be in accordance with the Building Regulations and to comply with the relevant British Standards.
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Site Location
 1:1250

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Rev:	Date:	Notes:

FOX ARCHITECTURE & DESIGN
 Fox Cottage, Whitley Road, Whitley West Yorkshire, WF12 0LU
 T 01924 459231
 E info@foxarchitecture.co.uk
 www.foxarchitecture.co.uk

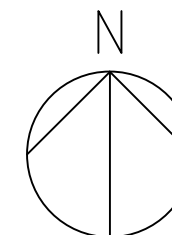
Client: **Mr & Mrs S Ellis**

Project: **Crows Nest Farm Flockton**

Drawing: **Existing Site Location**

Date: **March 2021** Scale: **1:1250 @ A3**

Drawing No: **2088/100** Rev:



Appendix 2

Historical Maps

Site Details:

CROW NEST FARM,
CRAWSHAW LANE, FLOCKTON,
WAKEFIELD, WF4 4BY

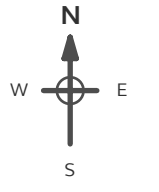
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Map date: 1893

Scale: 1:2,500

Printed at: 1:2,500



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Edition N/A
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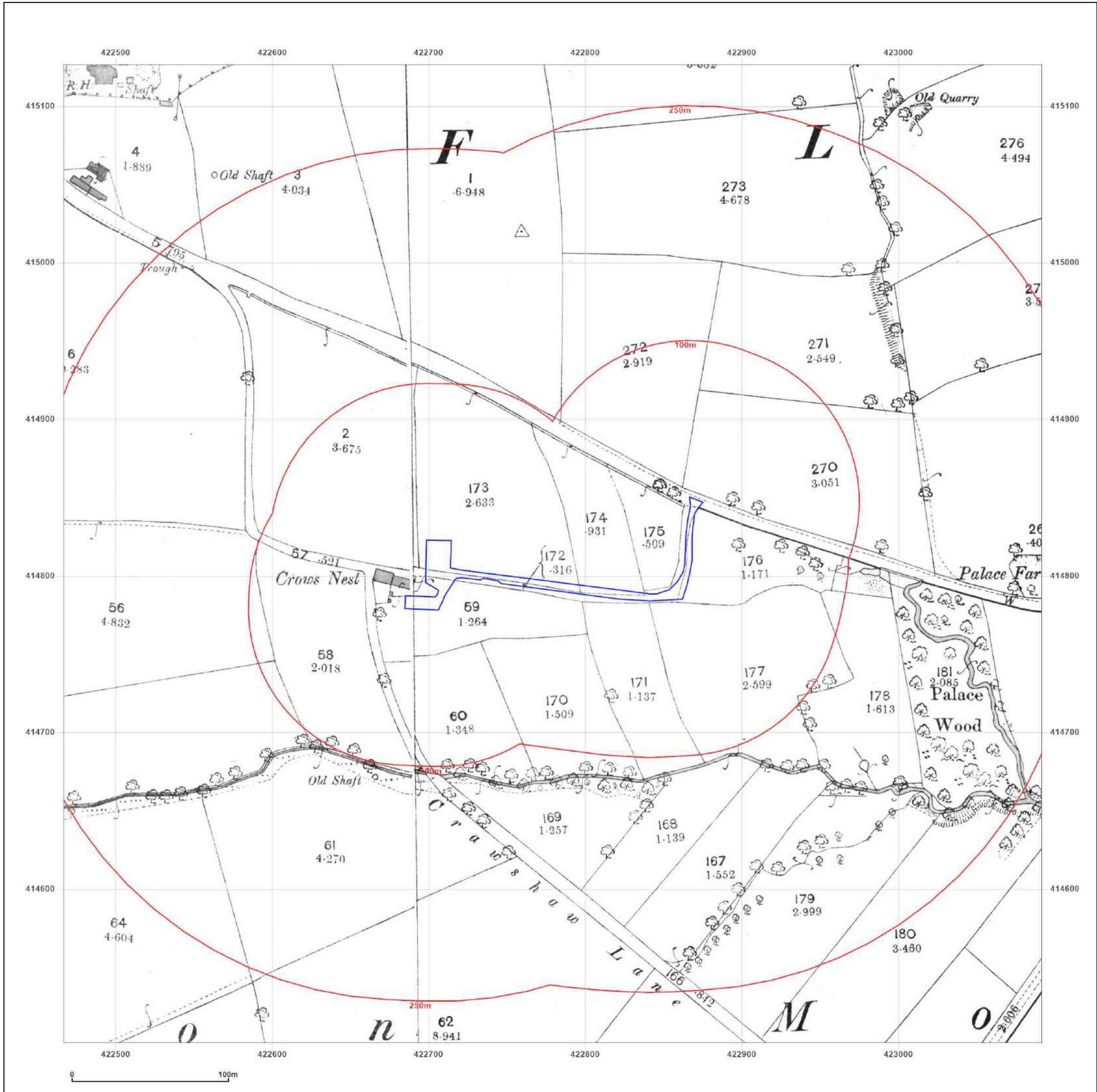


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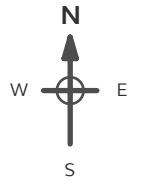
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 WAKEFIELD, WF4 4BY

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Map Name: County Series
Map date: 1906
Scale: 1:2,500
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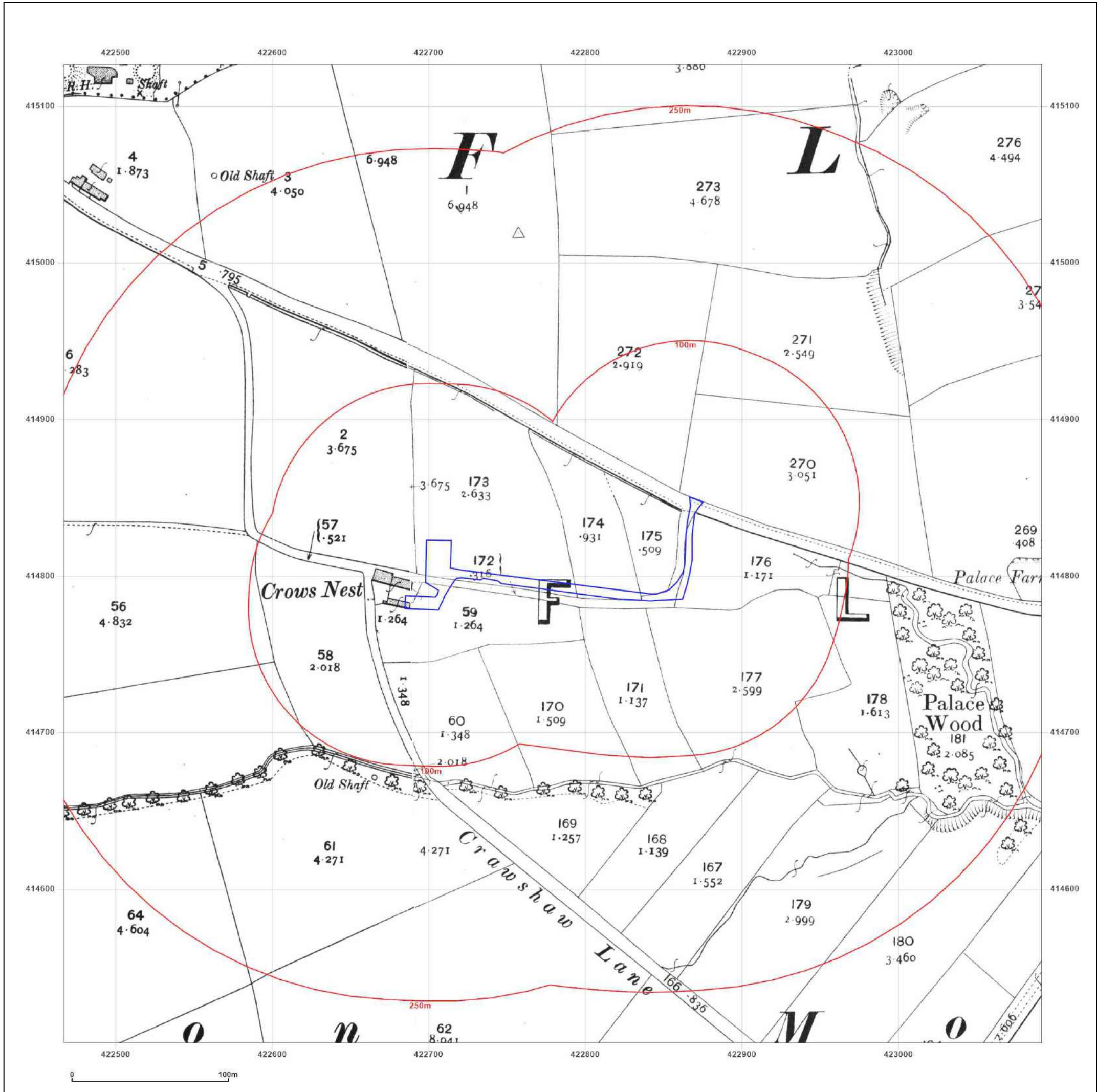
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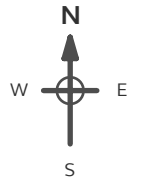
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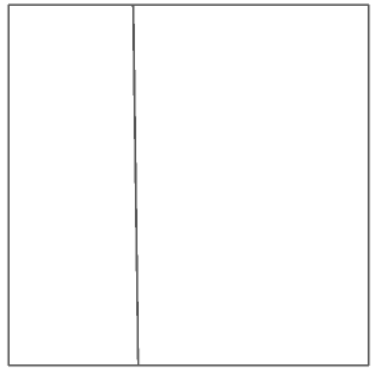


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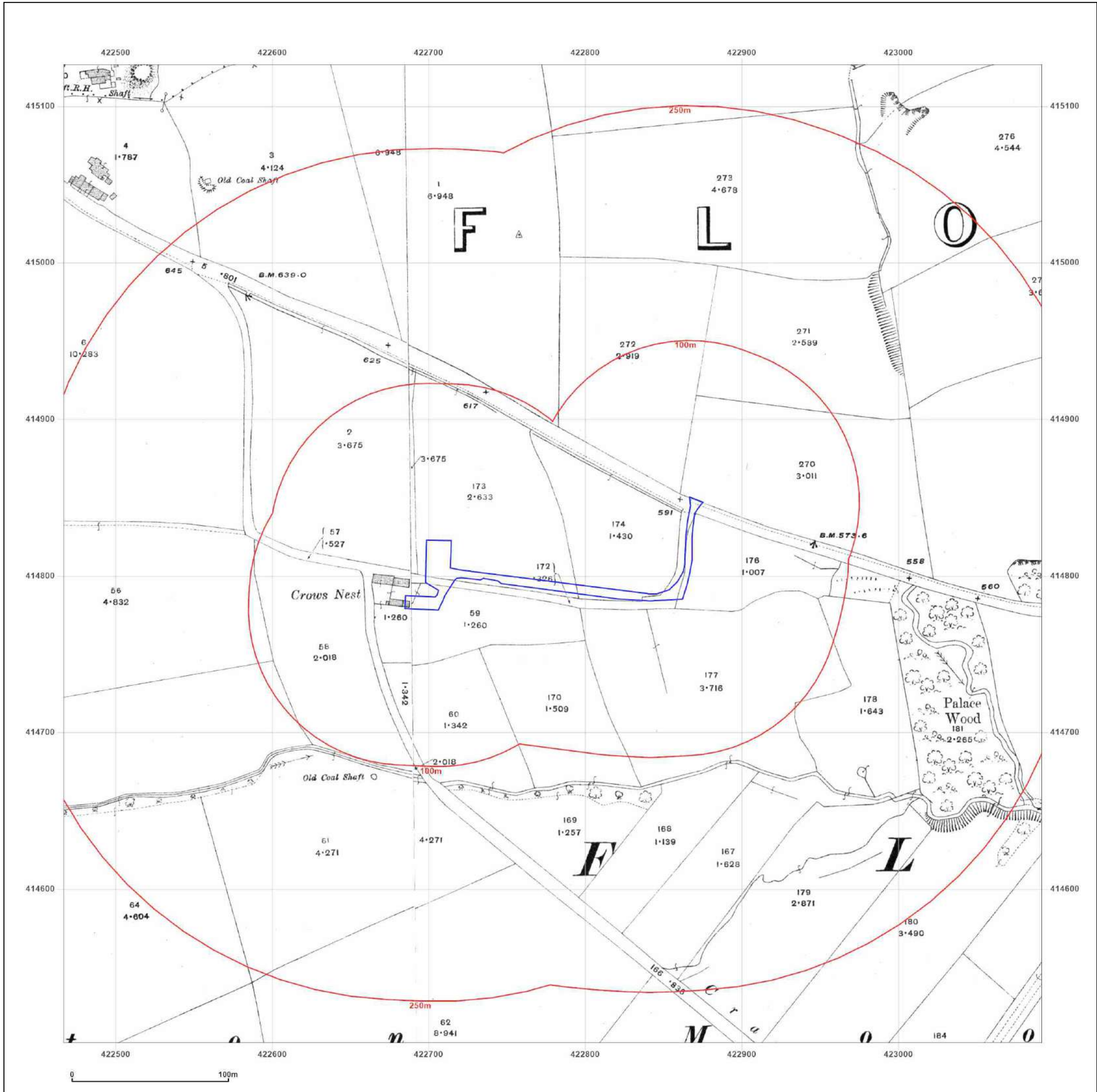


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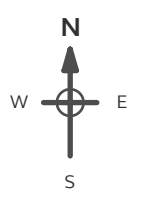
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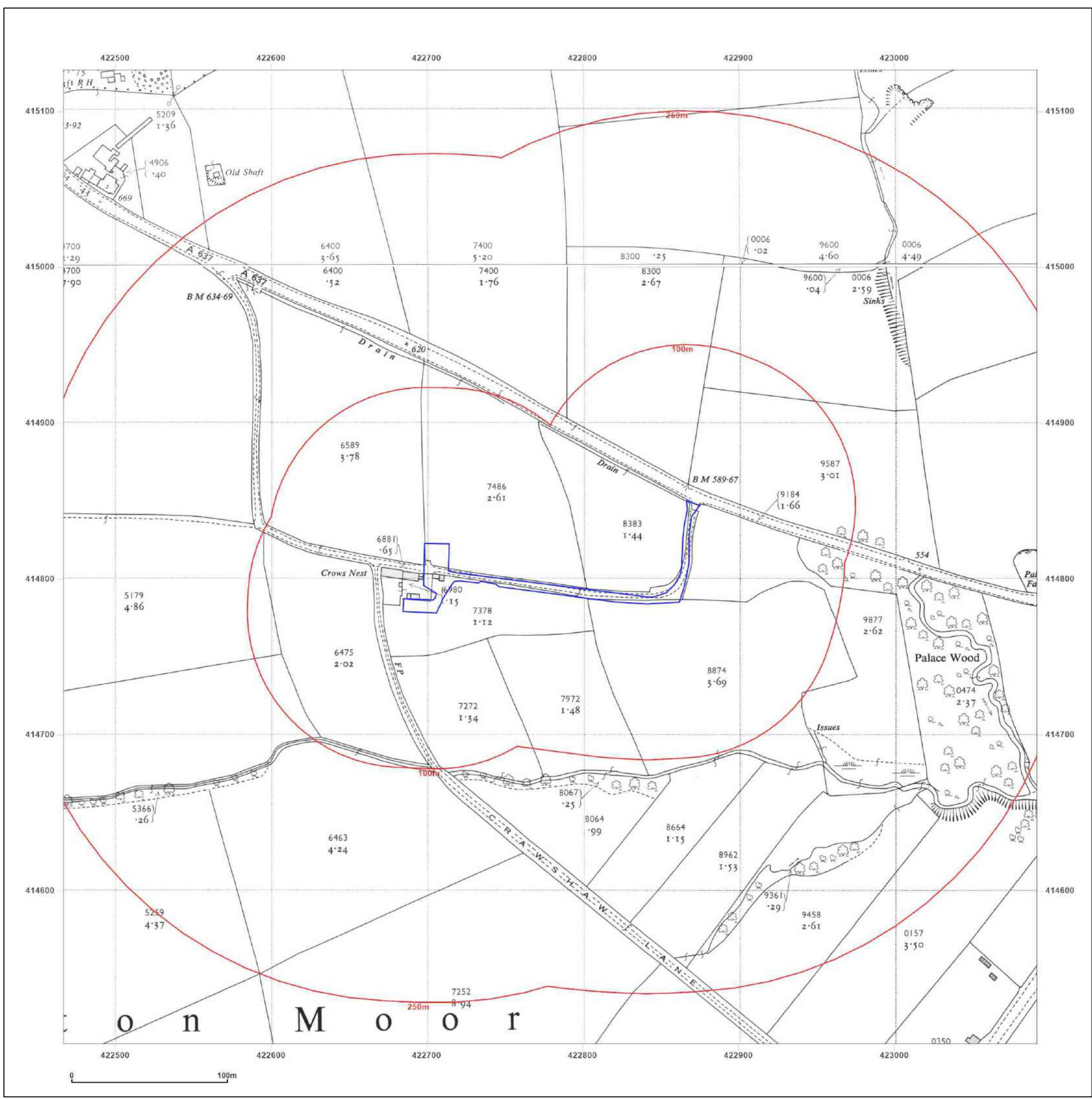
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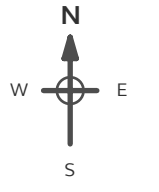
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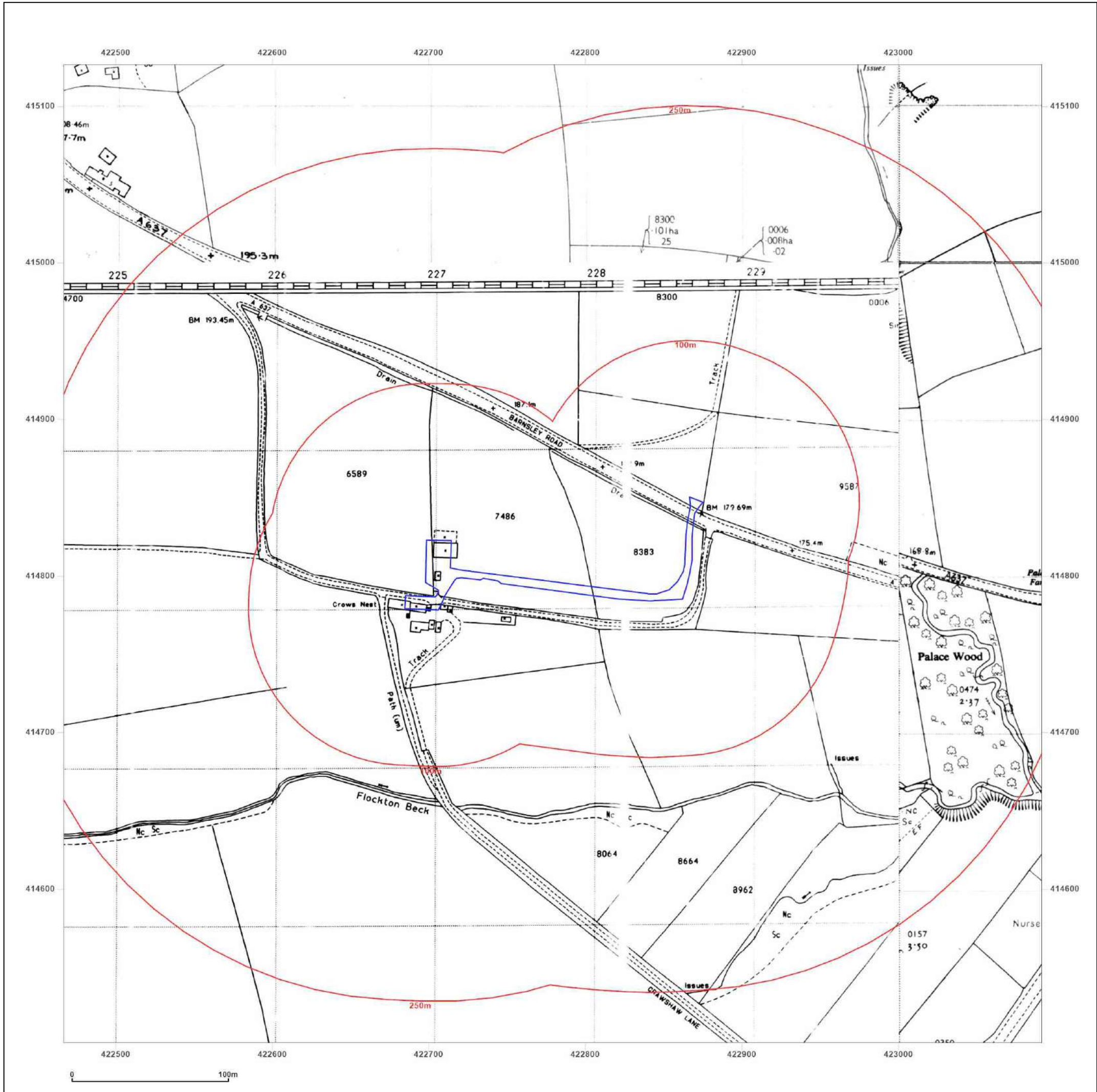


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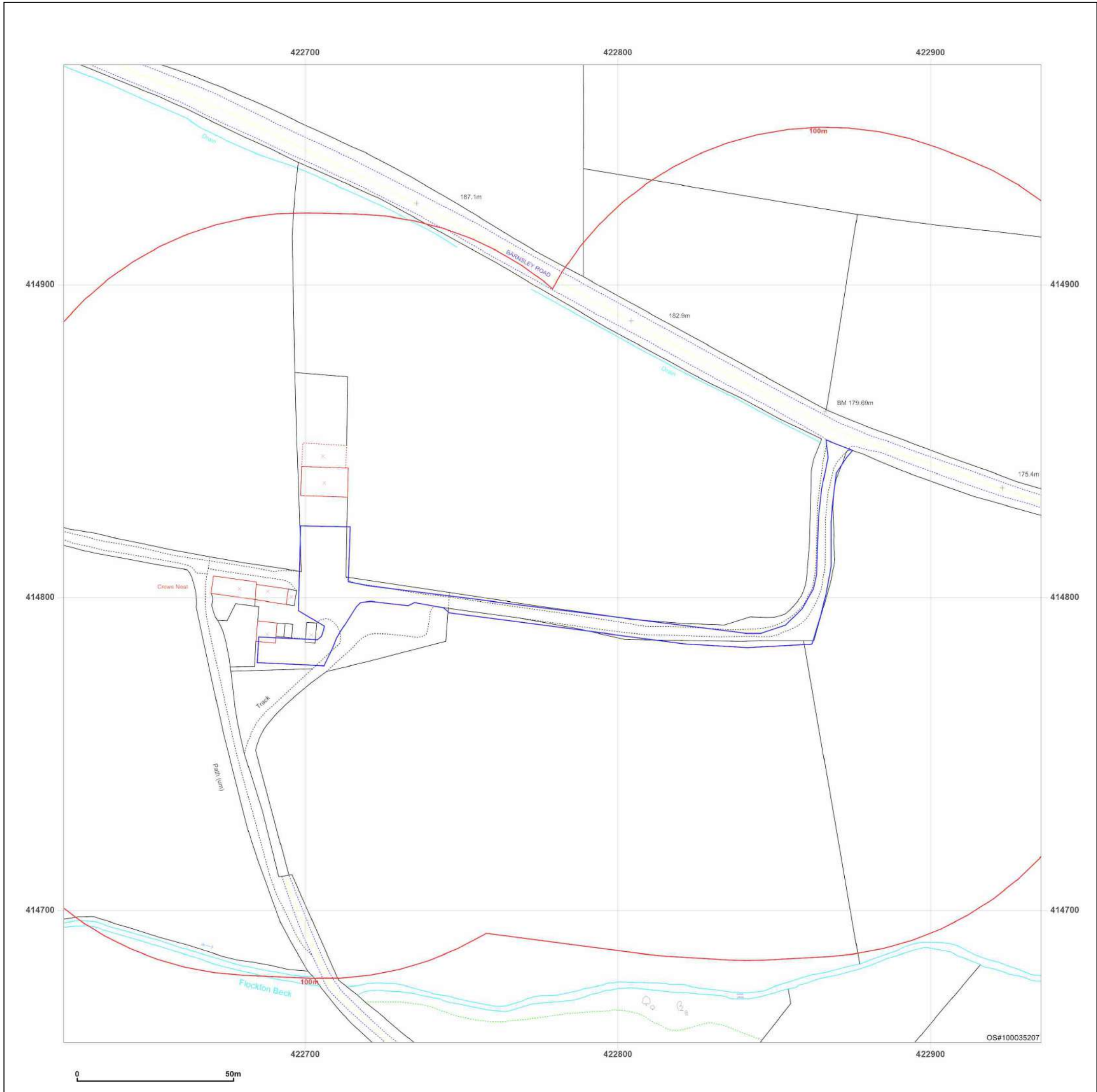
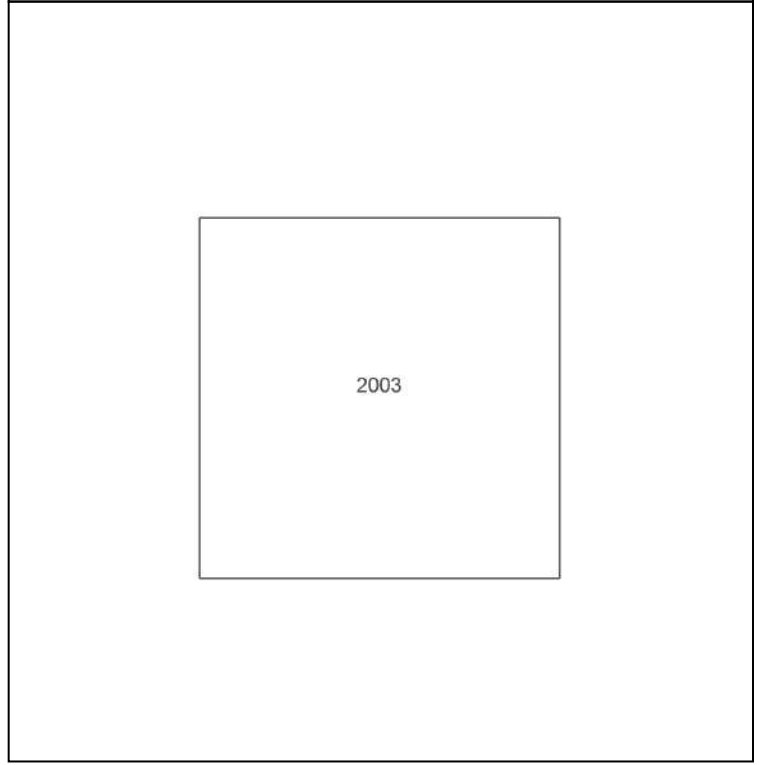
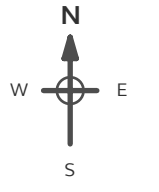
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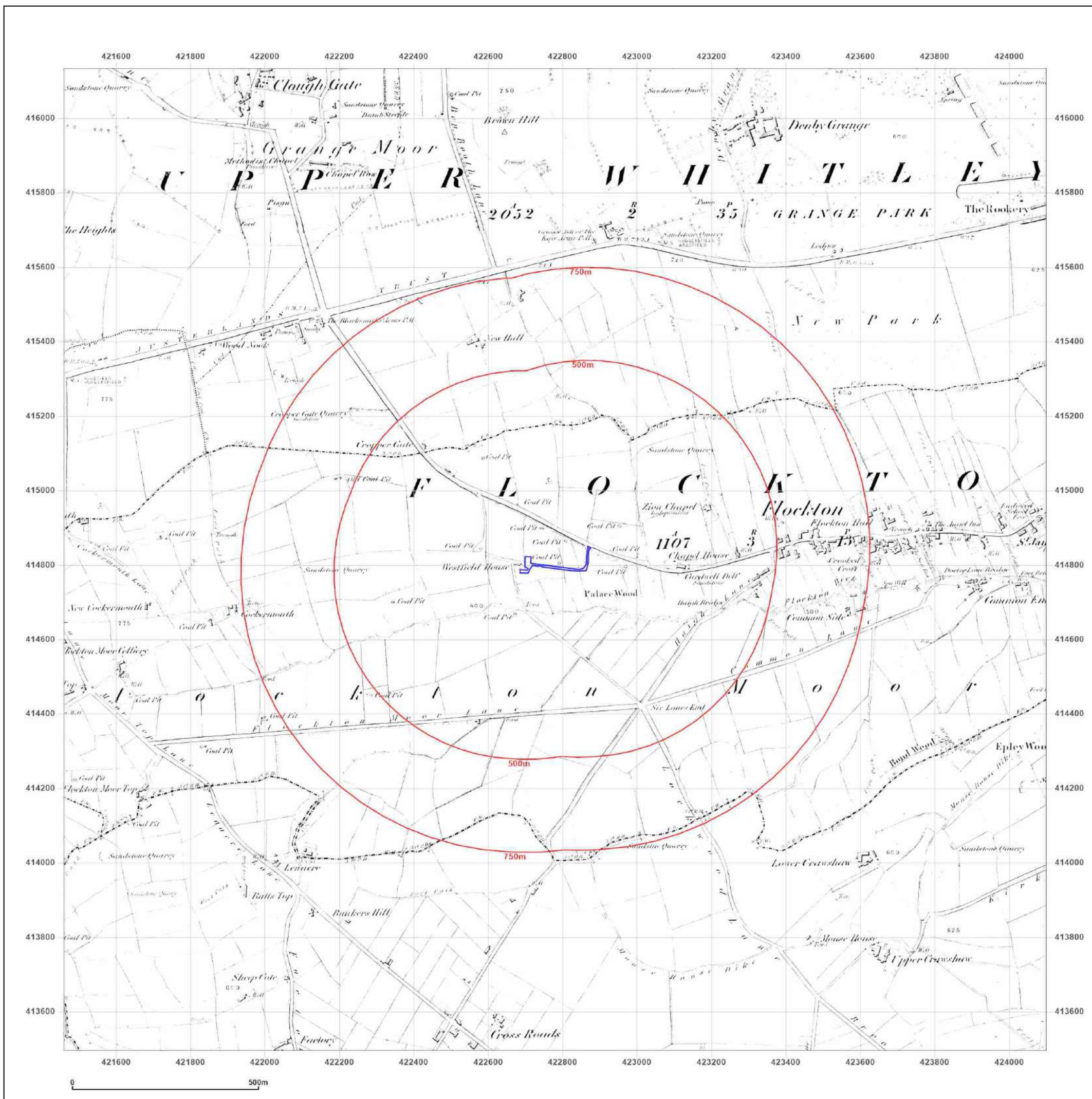


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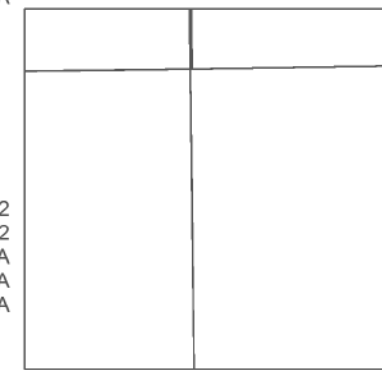
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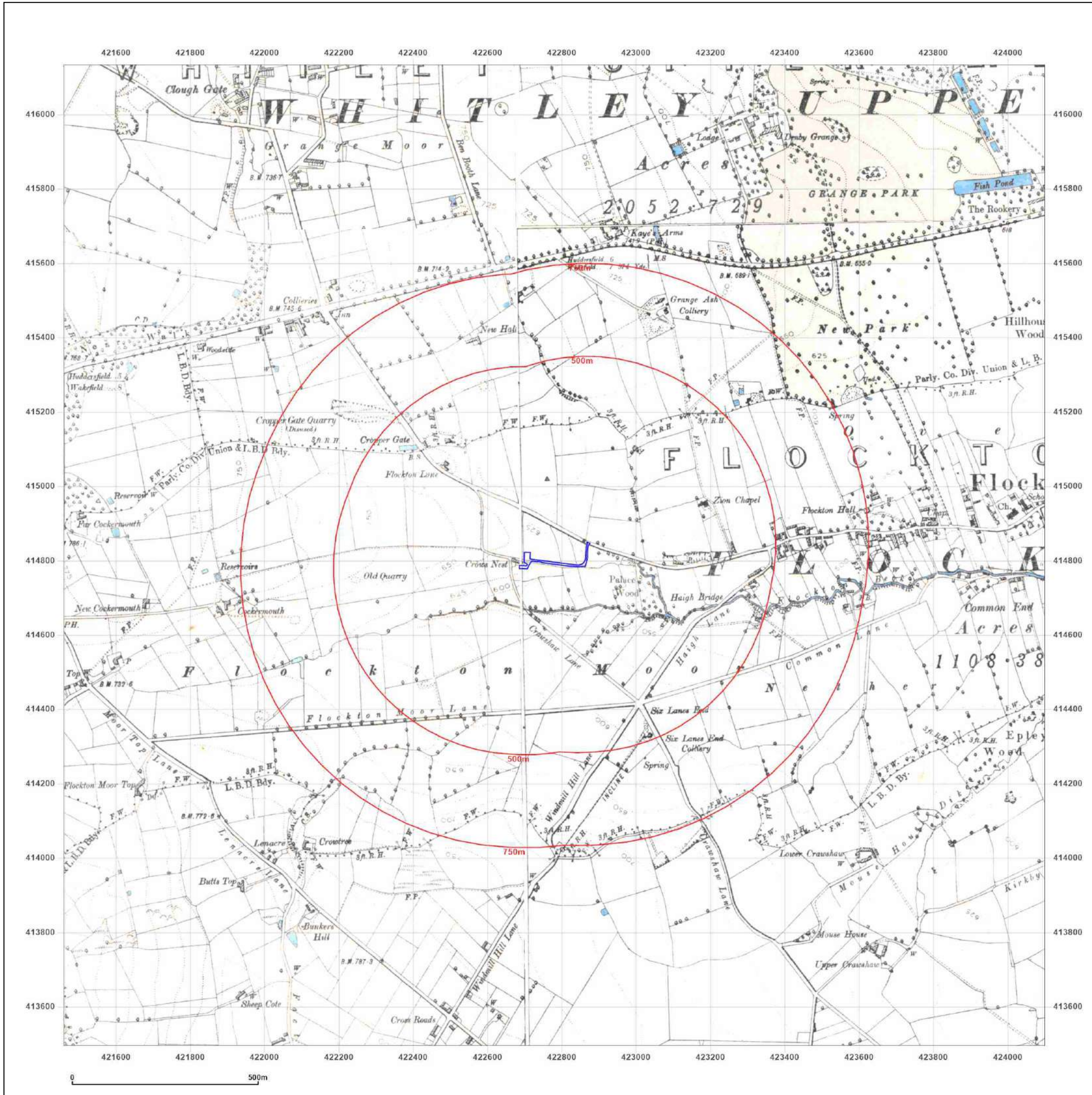


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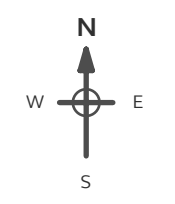
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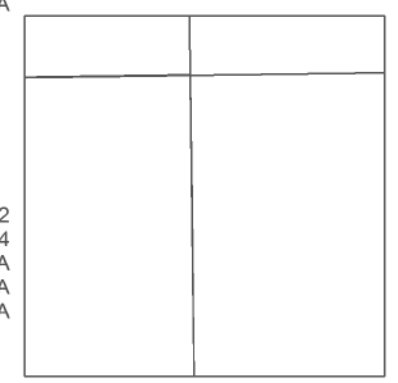
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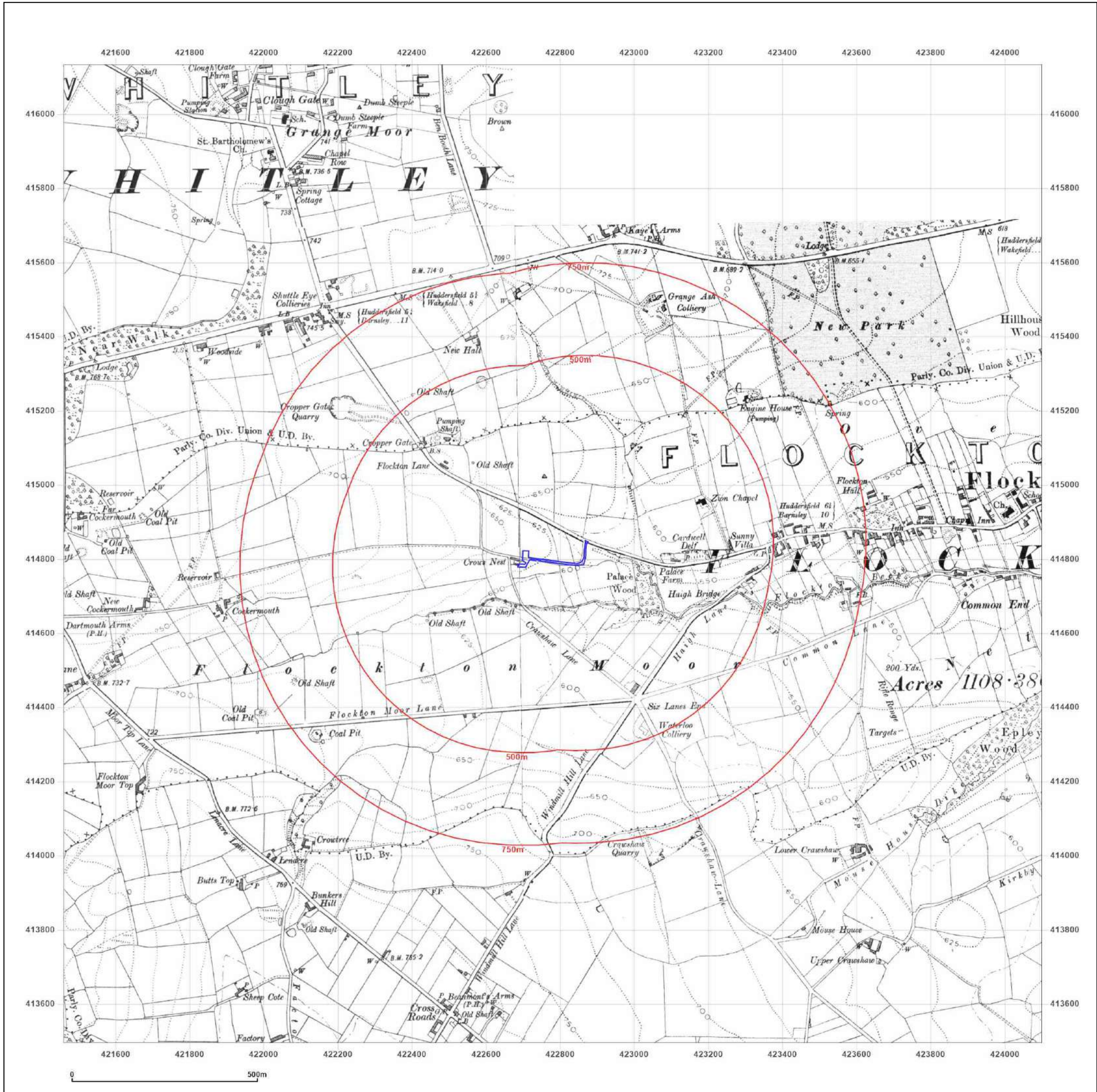


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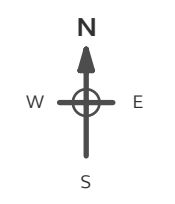
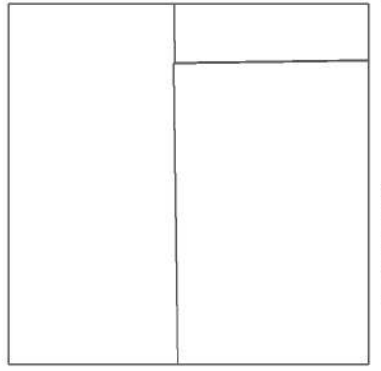
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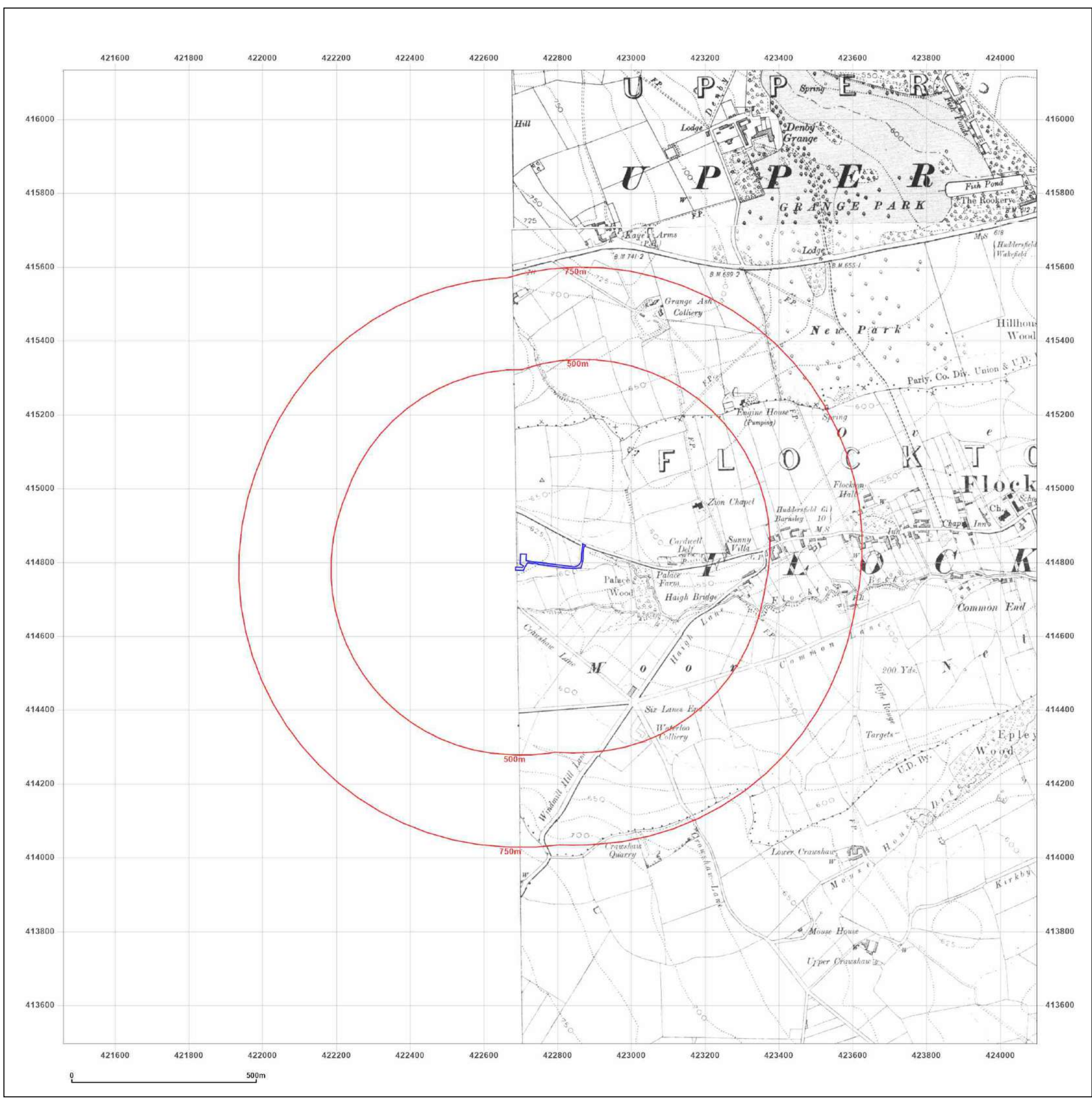


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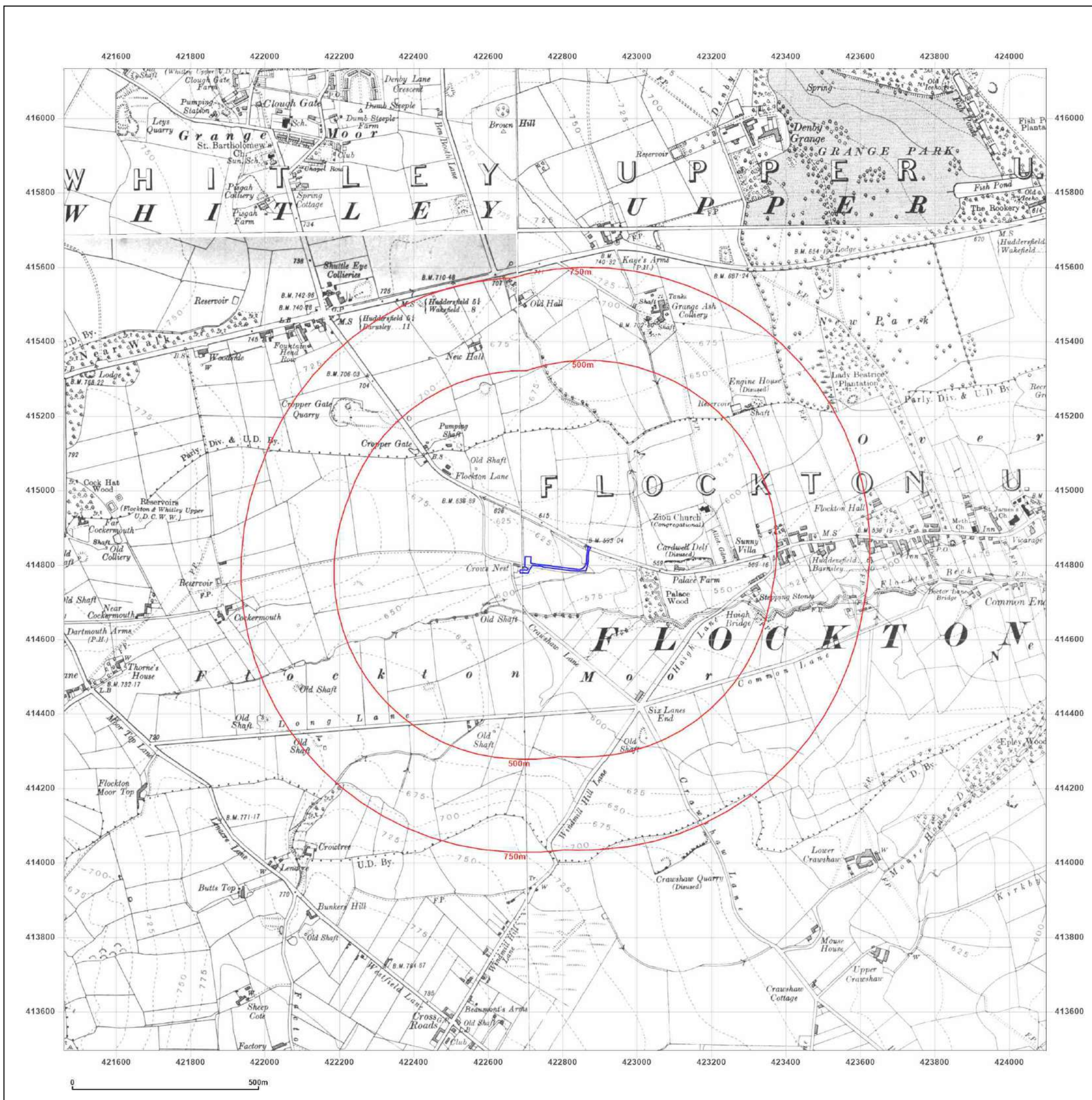


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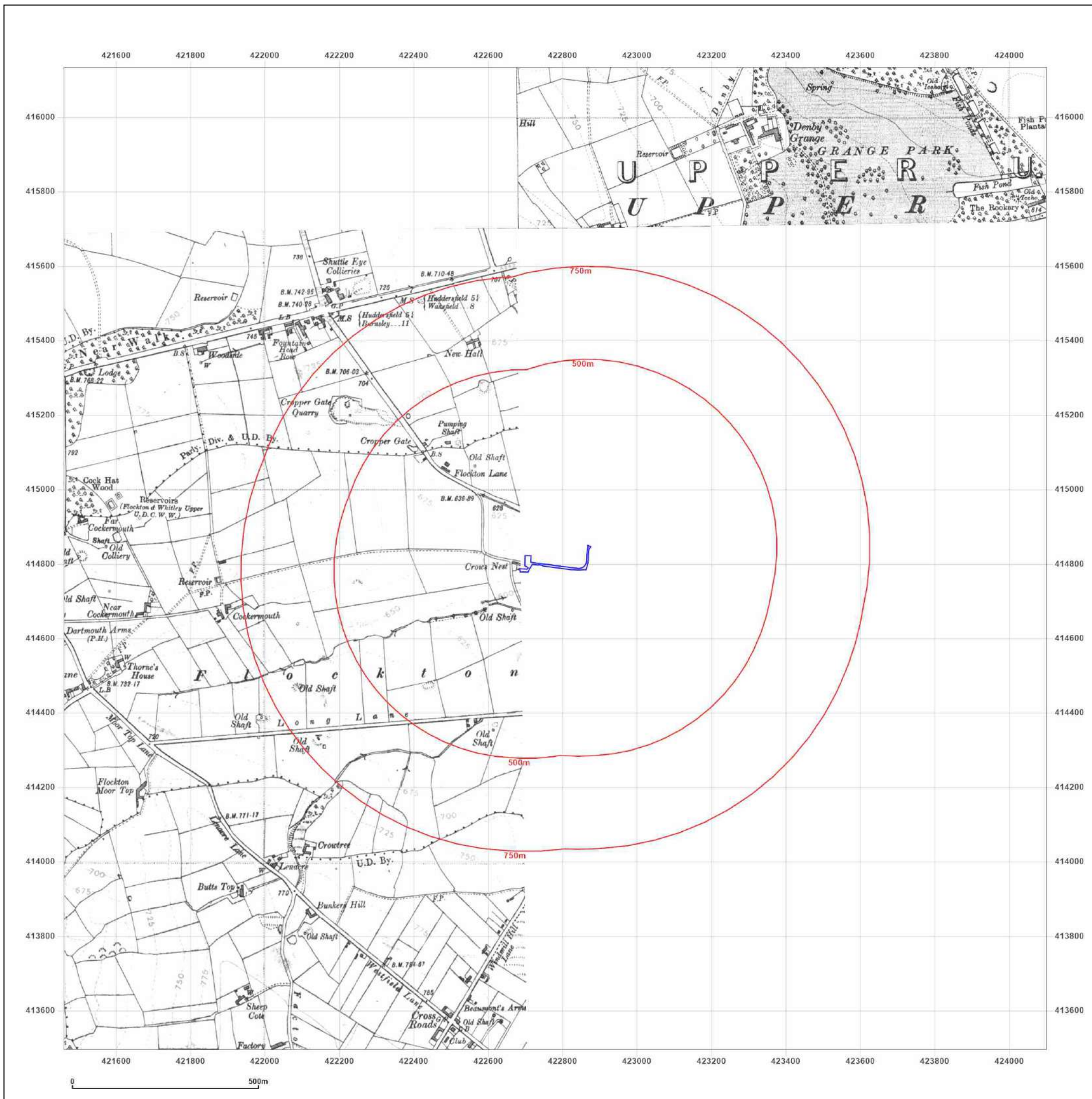


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Site Details:

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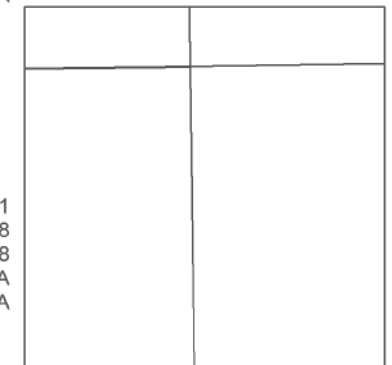
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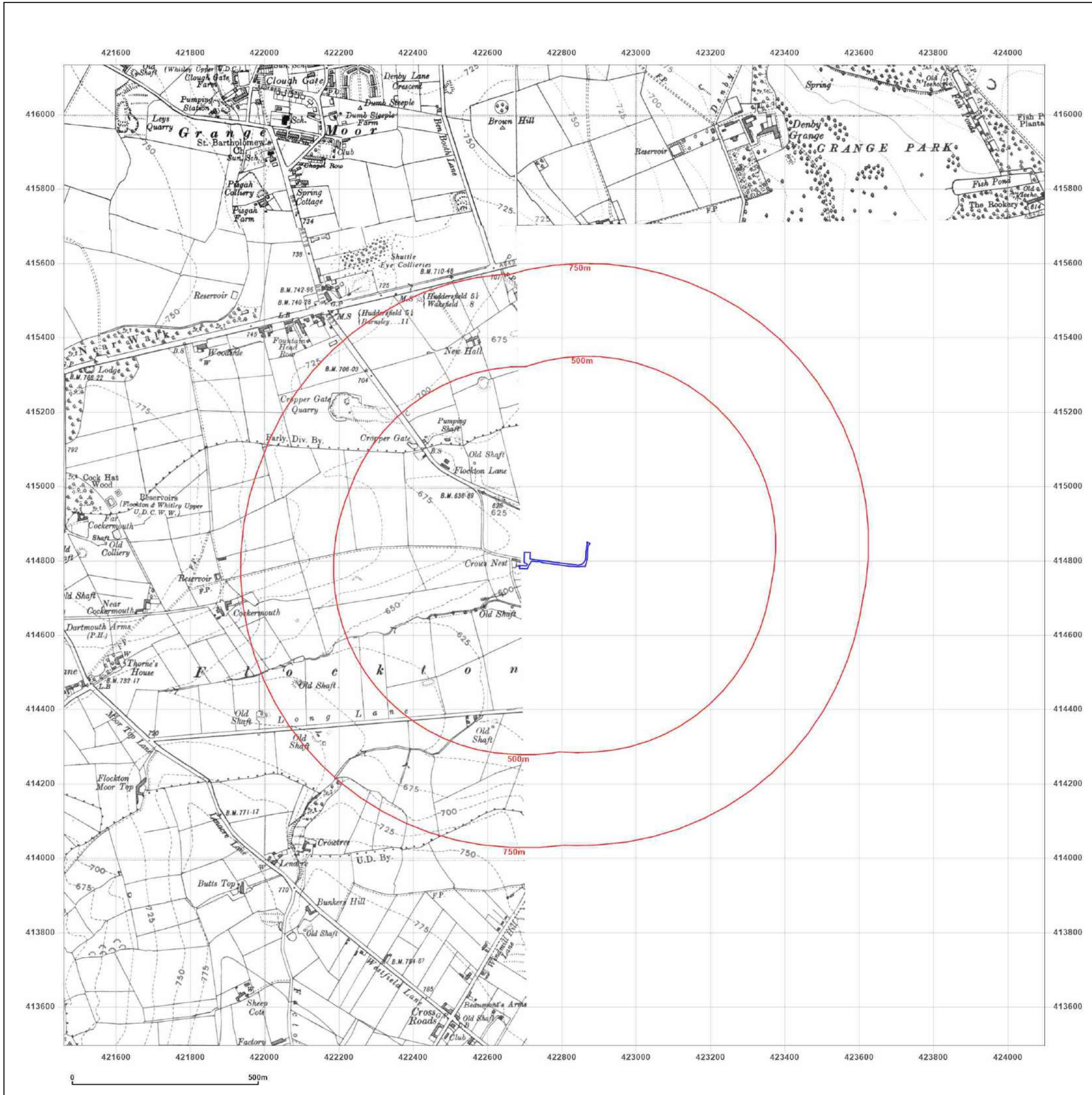


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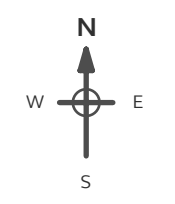
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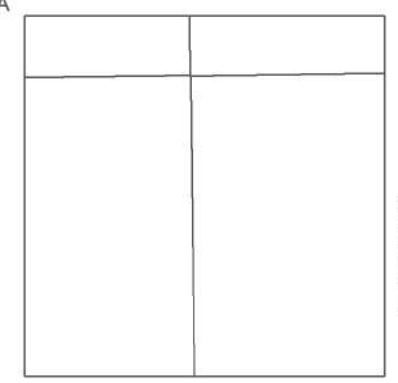
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Surveyed 1851
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

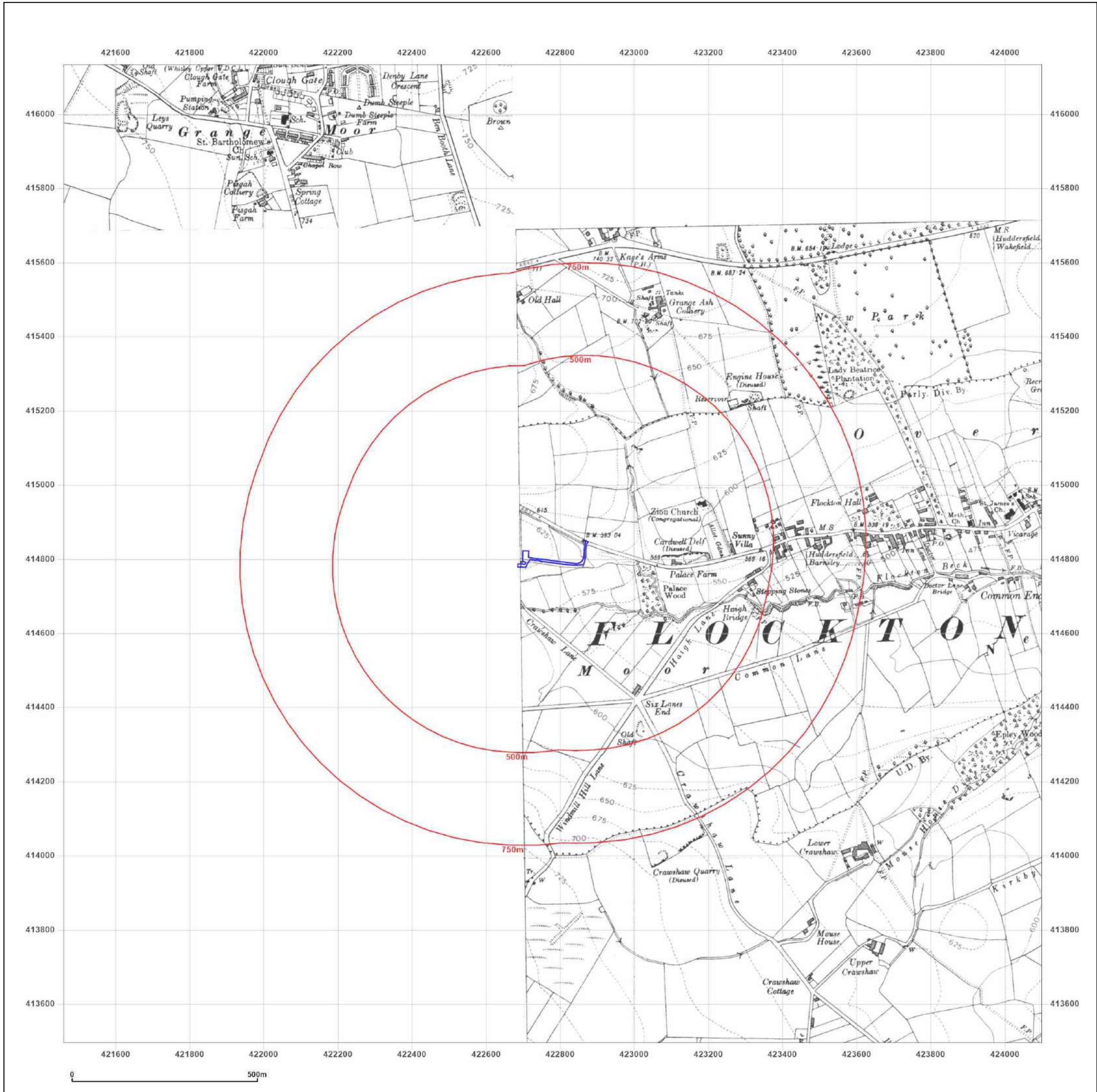


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Site Details:

CROW NEST FARM,
CRAWSHAW LANE, FLOCKTON,
WAKEFIELD, WF4 4BY

Client Ref: C3875_23_E_5883_PO-2777
Report Ref: GS-HAS-AMJ-TFZ-ZCW
Grid Ref: 422779, 414814

Map Name: Provisional

Map date: 1951-1955

Scale: 1:10,560

Printed at: 1:10,560



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

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

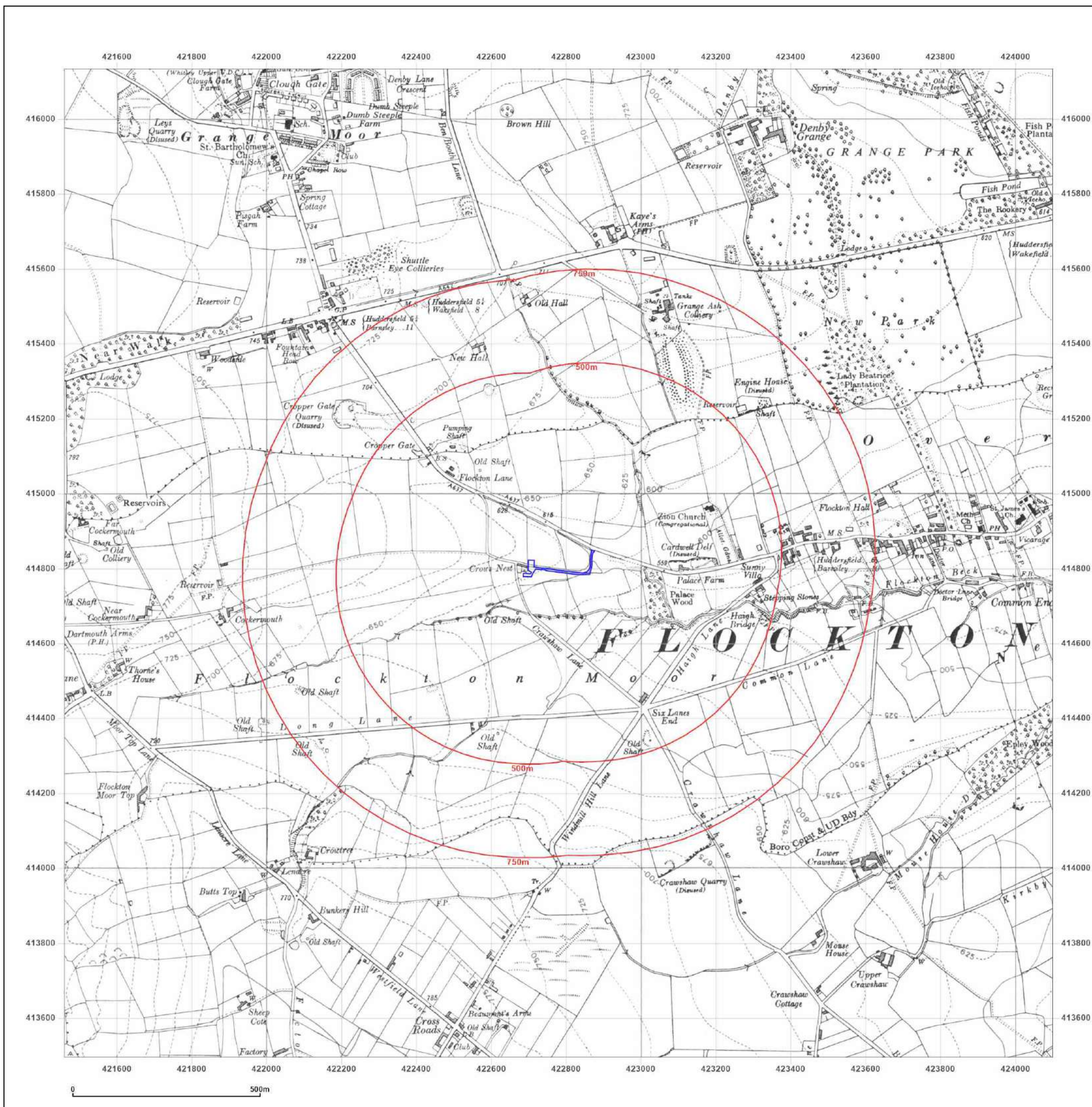


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Site Details:

CROW NEST FARM,
CRAWSHAW LANE, FLOCKTON,
WAKEFIELD, WF4 4BY

Client Ref: C3875_23_E_5883_PO-2777
Report Ref: GS-HAS-AMJ-TFZ-ZCW
Grid Ref: 422779, 414814

Map Name: Provisional

Map date: 1966-1967

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1966
Revised 1966
Edition N/A
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Surveyed 1967
Revised 1967
Edition N/A
Copyright N/A
Levelled N/A

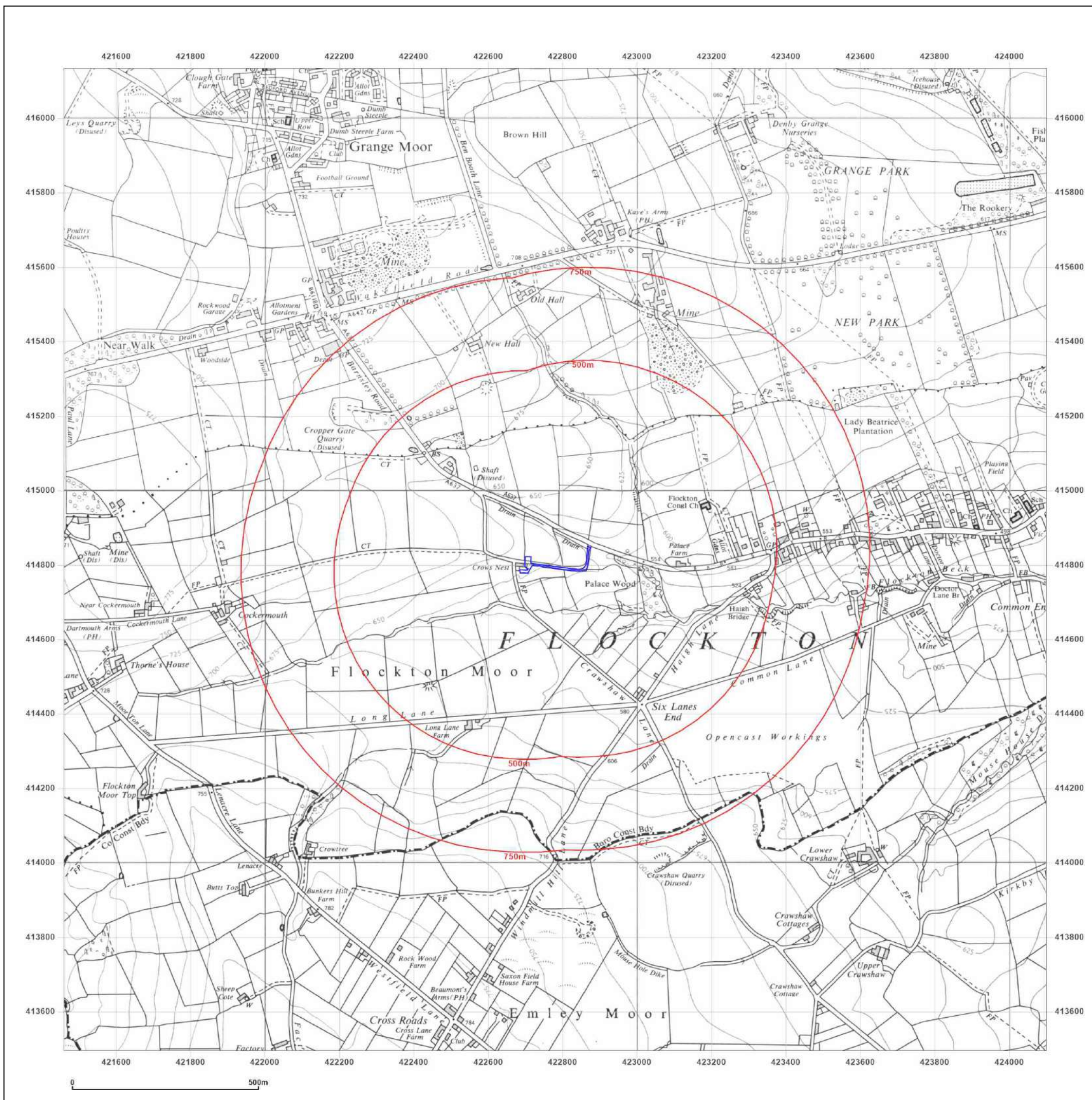


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Site Details:

CROW NEST FARM,
CRAWSHAW LANE, FLOCKTON,
WAKEFIELD, WF4 4BY

Client Ref: C3875_23_E_5883_PO-2777
Report Ref: GS-HAS-AMJ-TFZ-ZCW
Grid Ref: 422779, 414814

Map Name: National Grid

Map date: 1979-1982

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1977
Revised 1982
Edition N/A
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Surveyed 1977
Revised 1979
Edition N/A
Copyright N/A
Levelled N/A

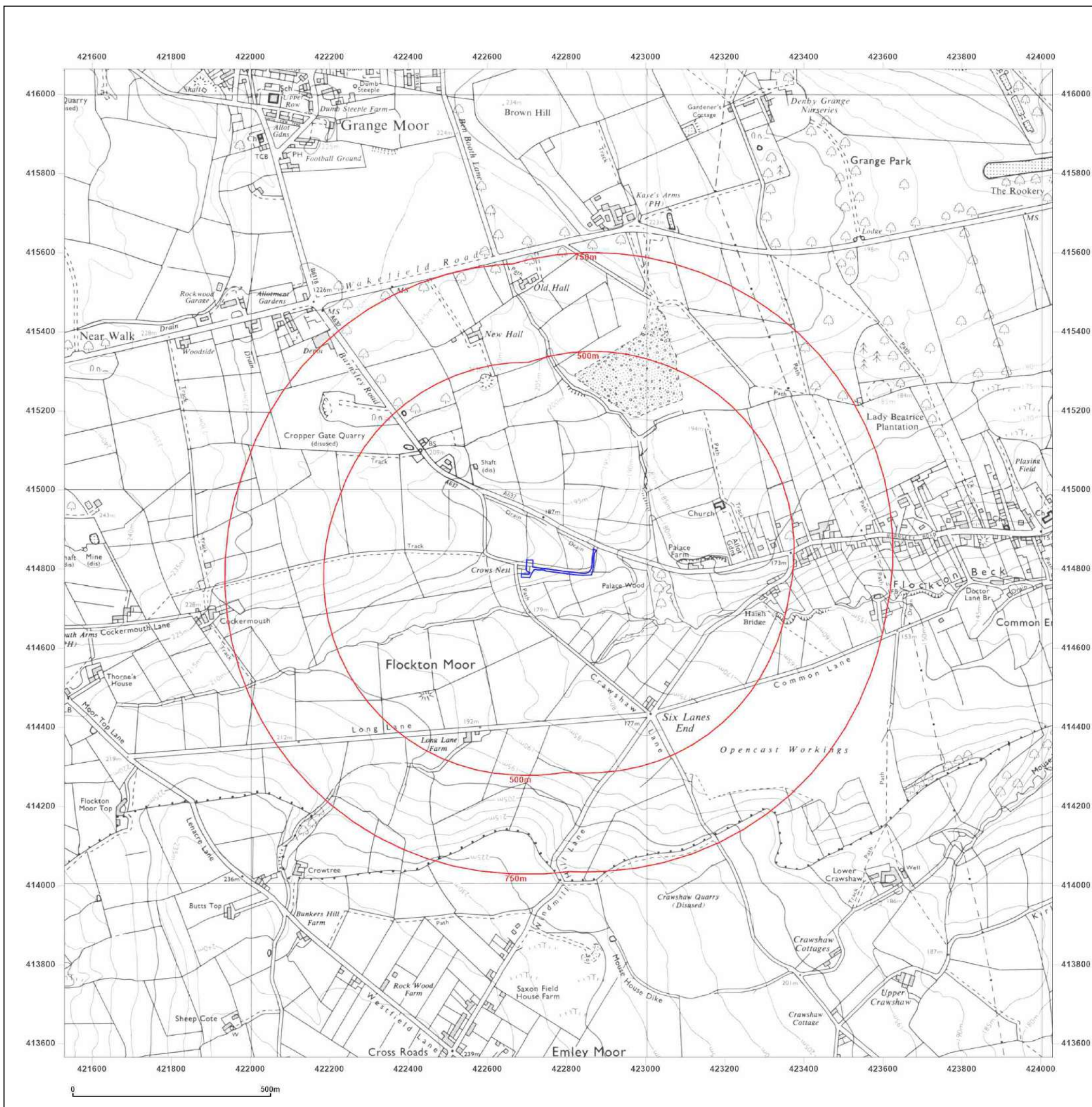


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Site Details:

CROW NEST FARM,
CRAWSHAW LANE, FLOCKTON,
WAKEFIELD, WF4 4BY

Client Ref: C3875_23_E_5883_PO-2777
Report Ref: GS-HAS-AMJ-TFZ-ZCW
Grid Ref: 422779, 414814

Map Name: National Grid

Map date: 1993

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1991
Revised 1993
Edition N/A
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Surveyed 1990
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

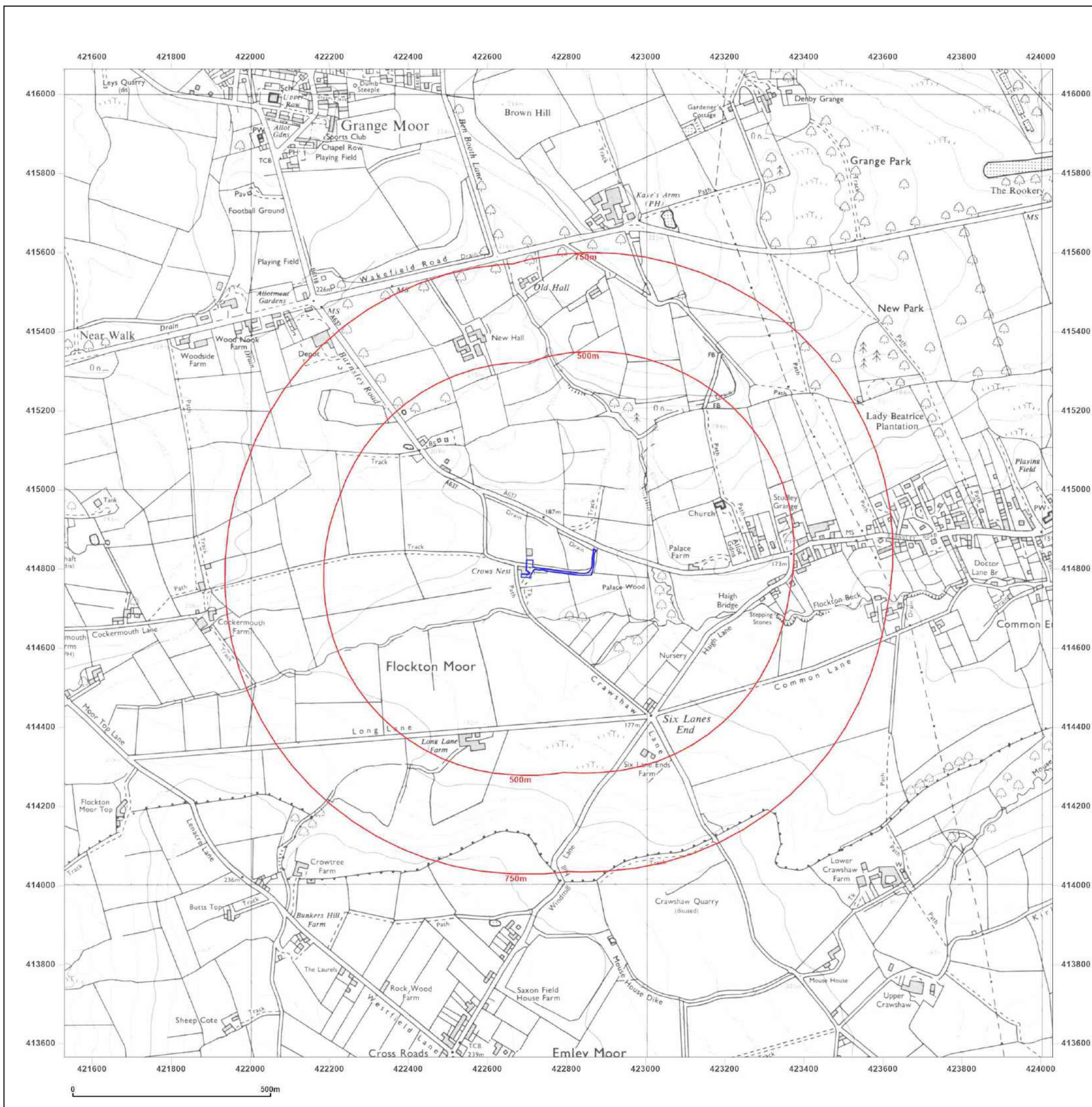


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Production date: 25 October 2023

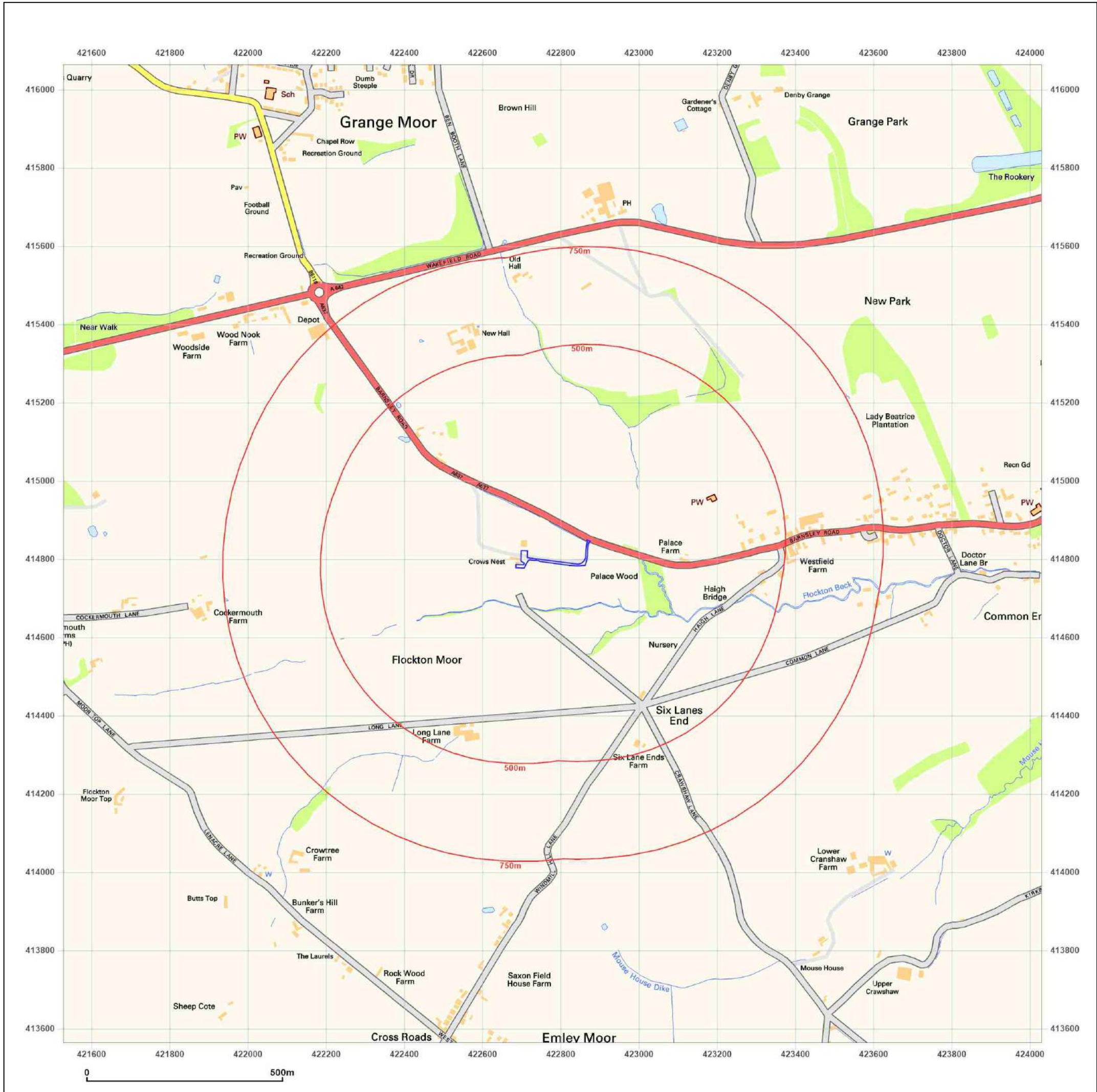
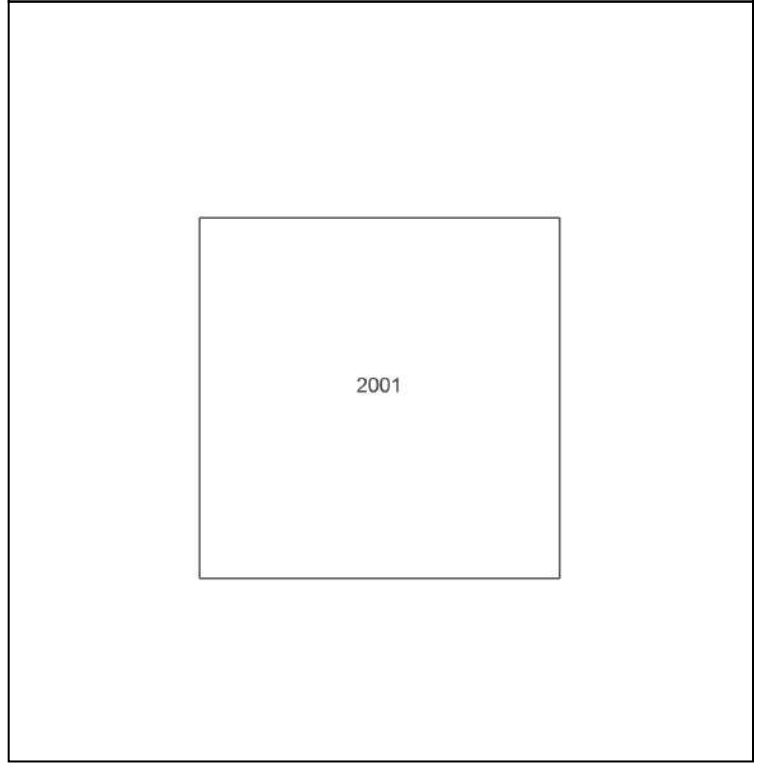
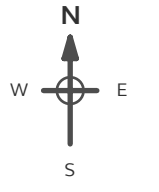
Map legend available at:
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Site Details:
 CROW NEST FARM,
 CRAWSHAW LANE, FLOCKTON,
 WAKEFIELD, WF4 4BY

Client Ref: C3875_23_E_5883_PO-2777
Report Ref: GS-HAS-AMJ-TFZ-ZCW
Grid Ref: 422779, 414814

Map Name: National Grid
Map date: 2001
Scale: 1:10,000
Printed at: 1:10,000



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Site Details:

CROW NEST FARM,
CRAWSHAW LANE, FLOCKTON,
WAKEFIELD, WF4 4BY

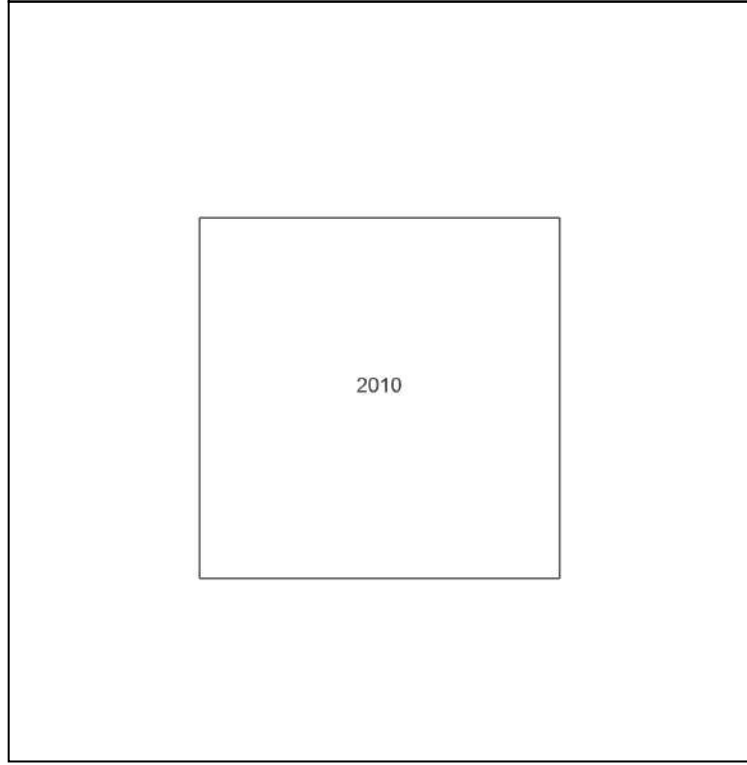
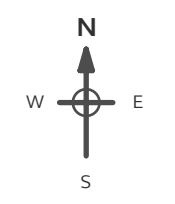
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Report Ref: GS-HAS-AMJ-TFZ-ZCW
Grid Ref: 422779, 414814

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

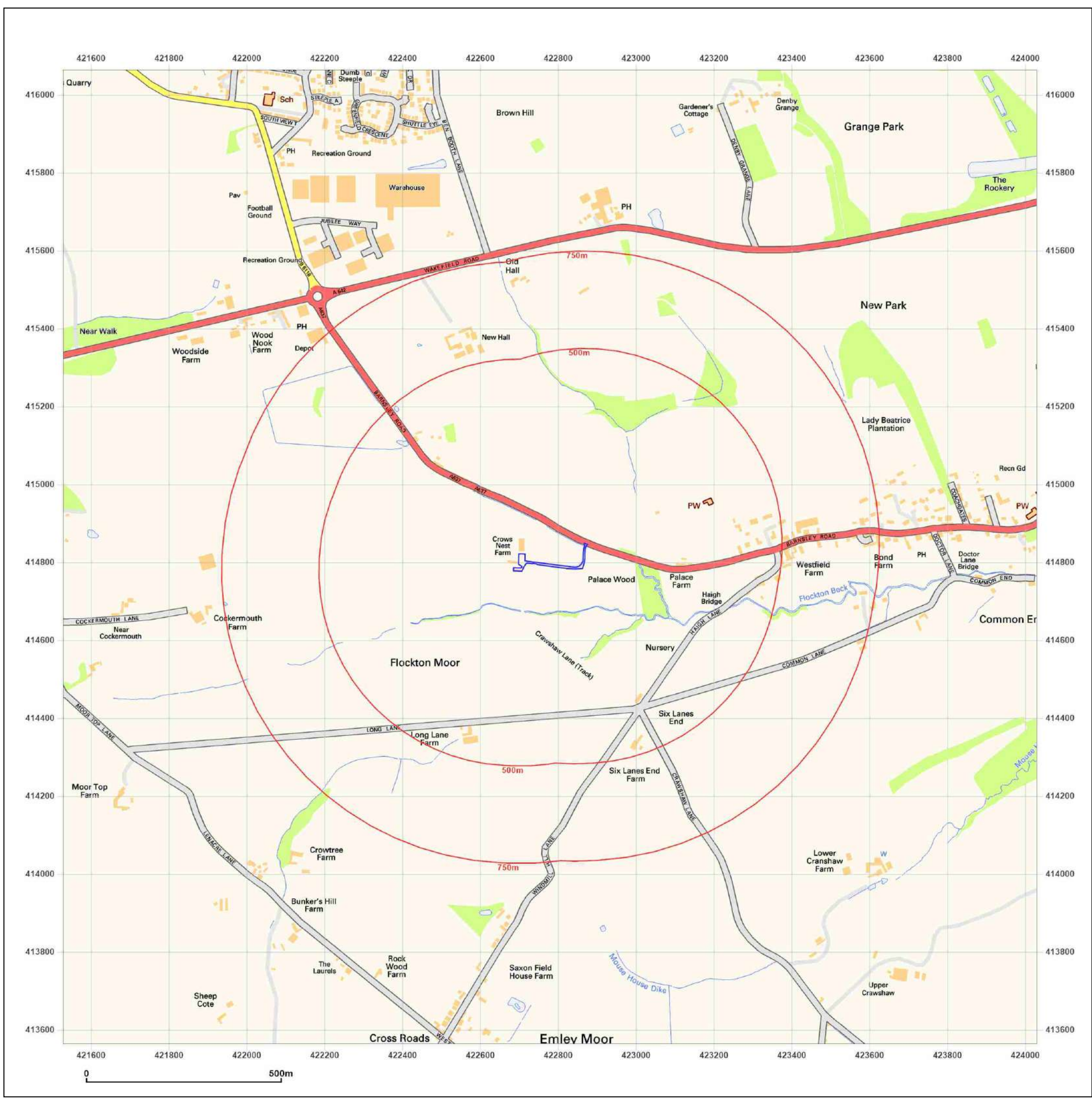


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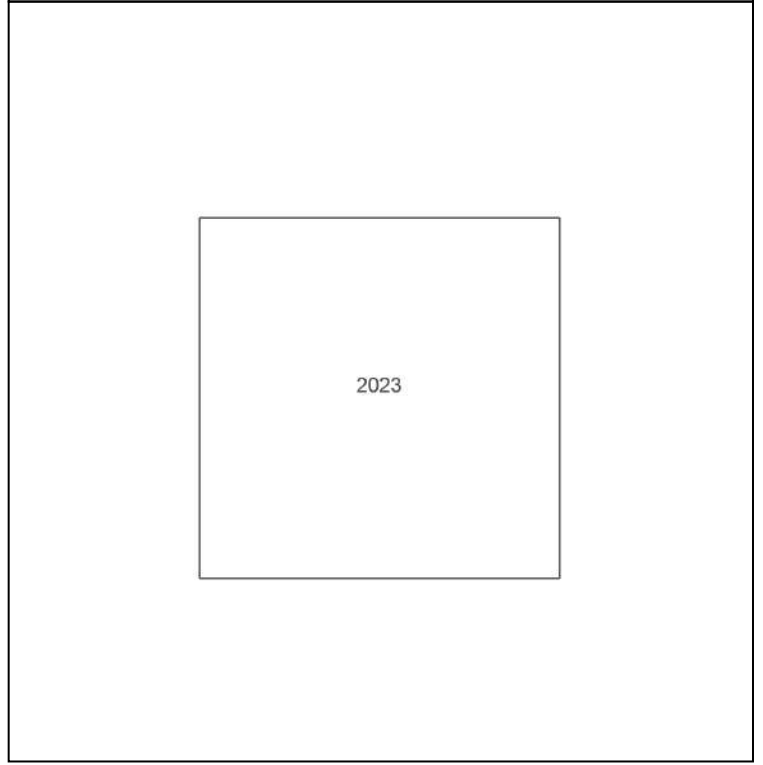
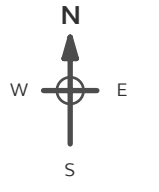
Map legend available at:
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Site Details:
 CROW NEST FARM,
 CRAWSHAW LANE, FLOCKTON,
 WAKEFIELD, WF4 4BY

Client Ref: C3875_23_E_5883_PO-2777
Report Ref: GS-HAS-AMJ-TFZ-ZCW
Grid Ref: 422779, 414814

Map Name: National Grid
Map date: 2023
Scale: 1:10,000
Printed at: 1:10,000



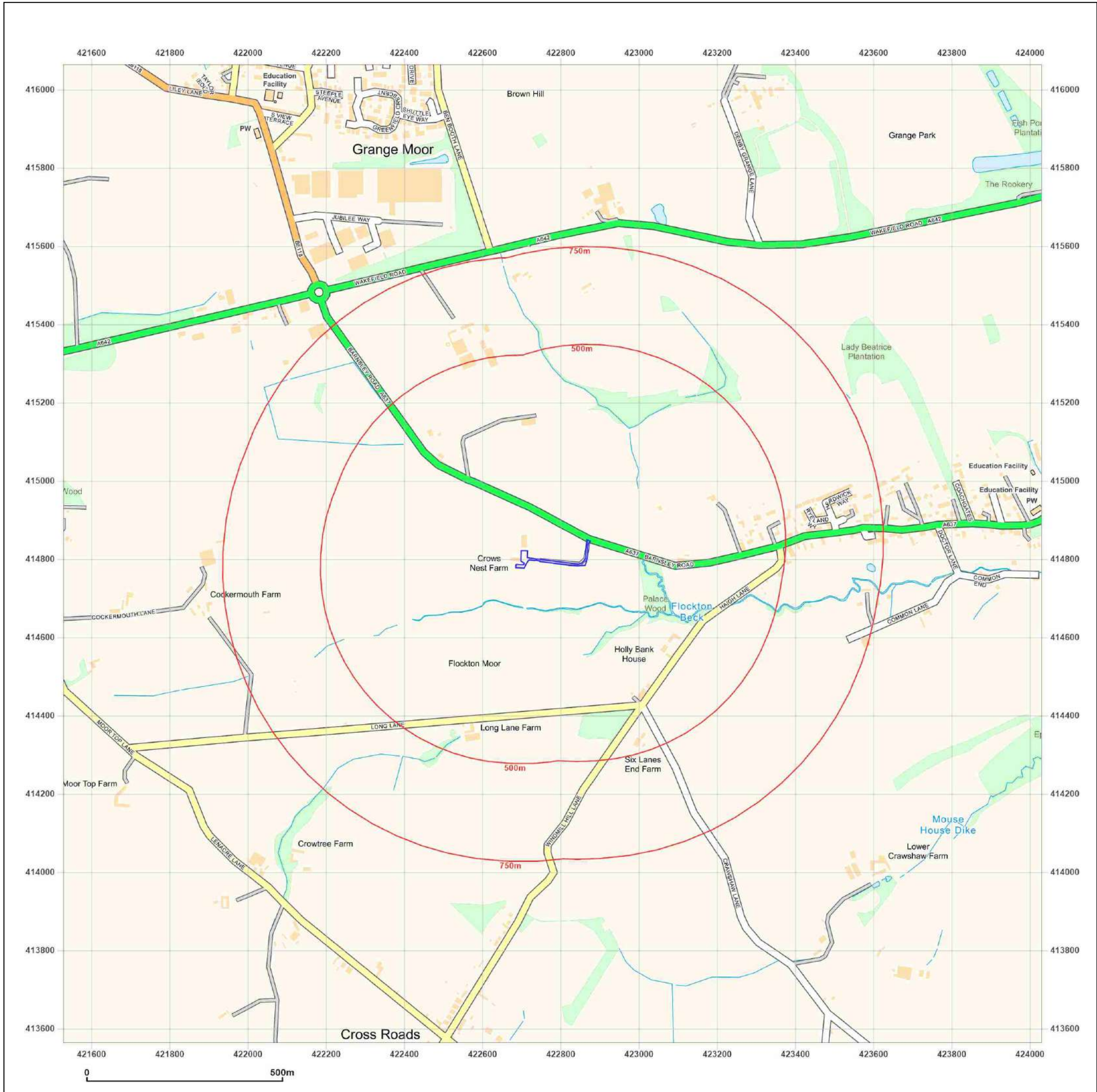
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Production date: 25 October 2023

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Appendix 3

Groundsure Reports

CROW NEST FARM, CRAWSHAW LANE, FLOCKTON, WAKEFIELD, WF4 4BY

Order Details

Date: 25/10/2023
Your ref: C3875_23_E_5883_PO-2777
Our Ref: GS-1BJ-ONO-PVN-S9S

Site Details

Location: 422708 414807
Area: 0.18 ha
Authority: [Kirklees Council](#) ↗



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Summary of findings

[p. 2 >](#)

Aerial image

[p. 9 >](#)

OS MasterMap site plan

[p.13 >](#)

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Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
14 >	1.1 >	Historical industrial land uses >	0	0	6	57	-
17	1.2	Historical tanks	0	0	0	0	-
17 >	1.3 >	Historical energy features >	0	0	0	1	-
18	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	Historical garages	0	0	0	0	-
18	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
19 >	2.1 >	Historical industrial land uses >	0	0	10	73	-
23	2.2	Historical tanks	0	0	0	0	-
23 >	2.3 >	Historical energy features >	0	0	0	2	-
23	2.4	Historical petrol stations	0	0	0	0	-
23	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
24	3.1	Active or recent landfill	0	0	0	0	-
24	3.2	Historical landfill (BGS records)	0	0	0	0	-
25	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
25	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
25	3.5	Historical waste sites	0	0	0	0	-
25	3.6	Licensed waste sites	0	0	0	0	-
25 >	3.7 >	Waste exemptions >	0	0	3	2	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
27 >	4.1 >	Recent industrial land uses >	0	1	0	-	-
28	4.2	Current or recent petrol stations	0	0	0	0	-
28	4.3	Electricity cables	0	0	0	0	-
28	4.4	Gas pipelines	0	0	0	0	-
28	4.5	Sites determined as Contaminated Land	0	0	0	0	-



28	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-	
29	4.7	Regulated explosive sites	0	0	0	0	-	
29	4.8	Hazardous substance storage/usage	0	0	0	0	-	
29	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-	
29	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-	
29	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-	
30	4.12	Radioactive Substance Authorisations	0	0	0	0	-	
30	4.13	Licensed Discharges to controlled waters	0	0	0	0	-	
30	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-	
30	4.15	Pollutant release to public sewer	0	0	0	0	-	
30	4.16	List 1 Dangerous Substances	0	0	0	0	-	
31	4.17	List 2 Dangerous Substances	0	0	0	0	-	
31 >	4.18 >	<u>Pollution Incidents (EA/NRW) ></u>	0	0	0	1	-	
31	4.19	Pollution inventory substances	0	0	0	0	-	
31	4.20	Pollution inventory waste transfers	0	0	0	0	-	
32	4.21	Pollution inventory radioactive waste	0	0	0	0	-	
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m	
33	5.1	Superficial aquifer	None (within 500m)					
34 >	5.2 >	<u>Bedrock aquifer ></u>	Identified (within 500m)					
36 >	5.3 >	<u>Groundwater vulnerability ></u>	Identified (within 50m)					
37	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)					
37	5.5	Groundwater vulnerability- local information	None (within 0m)					
38	5.6	Groundwater abstractions	0	0	0	0	0	
39 >	5.7 >	<u>Surface water abstractions ></u>	0	0	0	0	1	
39	5.8	Potable abstractions	0	0	0	0	0	
39	5.9	Source Protection Zones	0	0	0	0	-	
39	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-	
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m	
41 >	6.1 >	<u>Water Network (OS MasterMap) ></u>	0	1	9	-	-	



42 >	6.2 >	Surface water features >	0	1	5	-	-
43 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
43 >	6.4 >	WFD Surface water bodies >	0	0	1	-	-
43 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
45	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
45	7.2	Historical Flood Events	0	0	0	-	-
45	7.3	Flood Defences	0	0	0	-	-
46	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
46	7.5	Flood Storage Areas	0	0	0	-	-
47	7.6	Flood Zone 2	None (within 50m)				
47	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
48 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
50 >	9.1 >	Groundwater flooding >	Negligible (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
51	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
52	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
52	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
52	10.4	Special Protection Areas (SPA)	0	0	0	0	0
52	10.5	National Nature Reserves (NNR)	0	0	0	0	0
53	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
53 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	3
53	10.8	Biosphere Reserves	0	0	0	0	0
54	10.9	Forest Parks	0	0	0	0	0
54	10.10	Marine Conservation Zones	0	0	0	0	0
54 >	10.11 >	Green Belt >	1	0	0	0	0
54	10.12	Proposed Ramsar sites	0	0	0	0	0



55	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
55	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
55	10.15	Nitrate Sensitive Areas	0	0	0	0	0
55 >	10.16 >	<u>Nitrate Vulnerable Zones ></u>	1	0	0	0	2
57 >	10.17 >	<u>SSSI Impact Risk Zones ></u>	1	-	-	-	-
58	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
59	11.1	World Heritage Sites	0	0	0	-	-
59	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
59	11.3	National Parks	0	0	0	-	-
59	11.4	Listed Buildings	0	0	0	-	-
60	11.5	Conservation Areas	0	0	0	-	-
60	11.6	Scheduled Ancient Monuments	0	0	0	-	-
60	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	<u>Agricultural designations ></u>	On site	0-50m	50-250m	250-500m	500-2000m
61 >	12.1 >	<u>Agricultural Land Classification ></u>	Grade 3 (within 250m)				
62	12.2	Open Access Land	0	0	0	-	-
62	12.3	Tree Felling Licences	0	0	0	-	-
62	12.4	Environmental Stewardship Schemes	0	0	0	-	-
62	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	<u>Habitat designations ></u>	On site	0-50m	50-250m	250-500m	500-2000m
63 >	13.1 >	<u>Priority Habitat Inventory ></u>	0	0	4	-	-
64	13.2	Habitat Networks	0	0	0	-	-
64	13.3	Open Mosaic Habitat	0	0	0	-	-
64	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	<u>Geology 1:10,000 scale ></u>	On site	0-50m	50-250m	250-500m	500-2000m
65 >	14.1 >	<u>10k Availability ></u>	Identified (within 500m)				
66 >	14.2 >	<u>Artificial and made ground (10k) ></u>	0	2	1	4	-
68 >	14.3 >	<u>Superficial geology (10k) ></u>	0	0	0	1	-



69	14.4	Landslip (10k)	0	0	0	0	-
70 >	14.5 >	Bedrock geology (10k) >	2	0	3	1	-
71 >	14.6 >	Bedrock faults and other linear features (10k) >	0	2	0	3	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
72 >	15.1 >	50k Availability >	Identified (within 500m)				
73 >	15.2 >	Artificial and made ground (50k) >	0	1	0	2	-
74 >	15.3 >	Artificial ground permeability (50k) >	0	1	-	-	-
75	15.4	Superficial geology (50k)	0	0	0	0	-
75	15.5	Superficial permeability (50k)	None (within 50m)				
75	15.6	Landslip (50k)	0	0	0	0	-
75	15.7	Landslip permeability (50k)	None (within 50m)				
76 >	15.8 >	Bedrock geology (50k) >	2	0	4	3	-
77 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
77 >	15.10 >	Bedrock faults and other linear features (50k) >	0	2	3	2	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
79 >	16.1 >	BGS Boreholes >	0	0	1	-	-
Page	Section	Natural ground subsidence >					
80 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
81 >	17.2 >	Running sands >	Very low (within 50m)				
83 >	17.3 >	Compressible deposits >	Moderate (within 50m)				
85 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
86 >	17.5 >	Landslides >	Low (within 50m)				
88 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
90 >	18.1 >	BritPits >	0	1	8	7	-
94 >	18.2 >	Surface ground workings >	0	0	5	-	-
94 >	18.3 >	Underground workings >	0	0	5	16	26
96	18.4	Underground mining extents	0	0	0	0	-
97	18.5	Historical Mineral Planning Areas	0	0	0	0	-

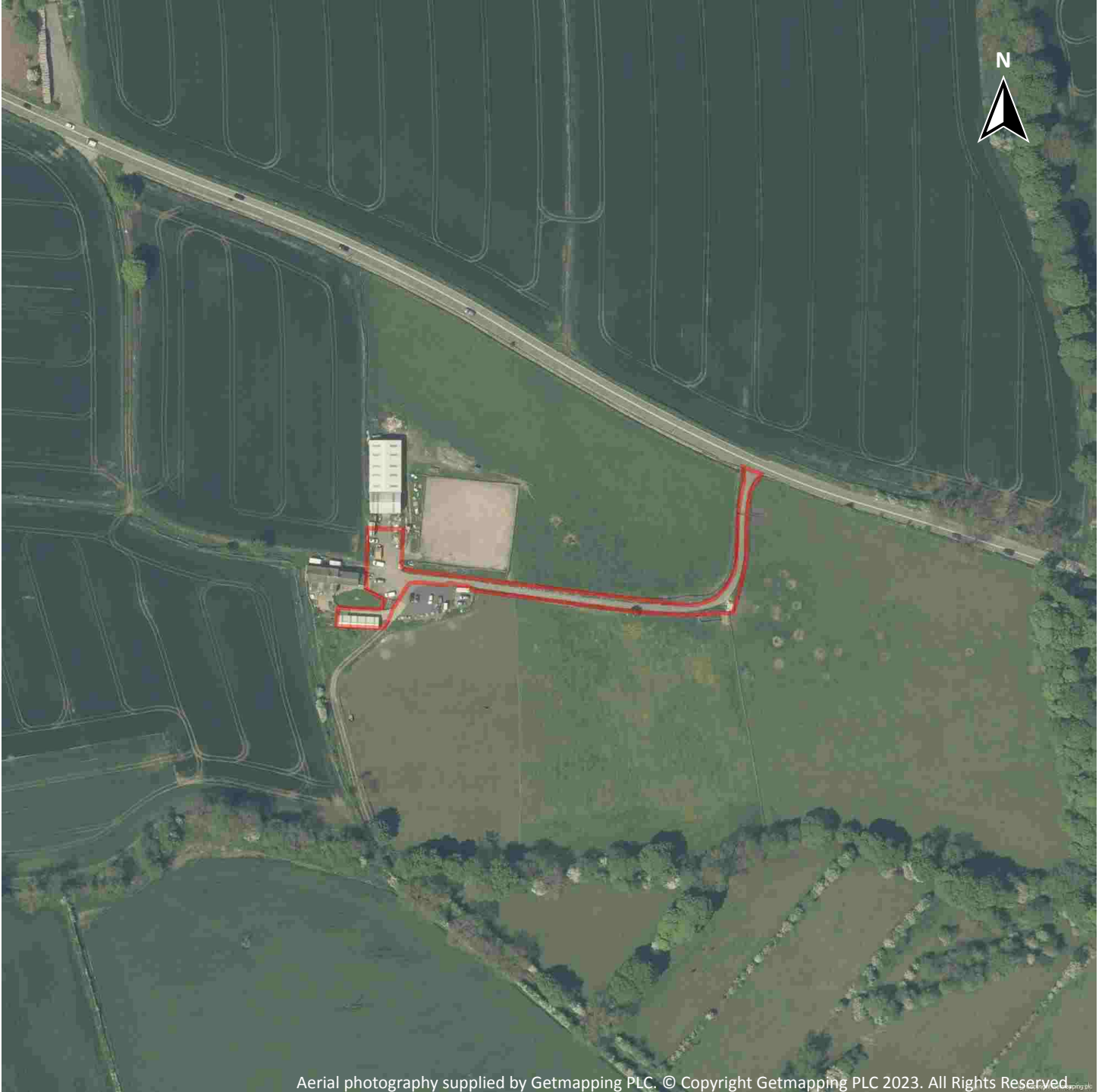


97	18.6	Non-coal mining	0	0	0	0	0
97	18.7	JPB mining areas	None (within 0m)				
97	18.8	The Coal Authority non-coal mining	0	0	0	0	-
98	18.9	Researched mining	0	0	0	0	-
98	18.10	Mining record office plans	0	0	0	0	-
98	18.11	BGS mine plans	0	0	0	0	-
98 >	18.12 >	Coal mining >	Identified (within 0m)				
99	18.13	Brine areas	None (within 0m)				
99	18.14	Gypsum areas	None (within 0m)				
99	18.15	Tin mining	None (within 0m)				
99	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
100	19.1	Natural cavities	0	0	0	0	-
100	19.2	Mining cavities	0	0	0	0	0
100	19.3	Reported recent incidents	0	0	0	0	-
100	19.4	Historical incidents	0	0	0	0	-
101	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
102 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
104 >	21.1 >	BGS Estimated Background Soil Chemistry >	2	0	-	-	-
104	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
104	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
105	22.1	Underground railways (London)	0	0	0	-	-
105	22.2	Underground railways (Non-London)	0	0	0	-	-
105	22.3	Railway tunnels	0	0	0	-	-
105	22.4	Historical railway and tunnel features	0	0	0	-	-
105	22.5	Royal Mail tunnels	0	0	0	-	-

106	22.6	Historical railways	0	0	0	-	-
106	22.7	Railways	0	0	0	-	-
106	22.8	Crossrail 1	0	0	0	0	-
106	22.9	Crossrail 2	0	0	0	0	-
106	22.10	HS2	0	0	0	0	-



Recent aerial photograph



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Capture Date: 30/05/2021

Site Area: 0.18ha



Recent site history - 2018 aerial photograph



Capture Date: 01/07/2018

Site Area: 0.18ha



Recent site history - 2012 aerial photograph

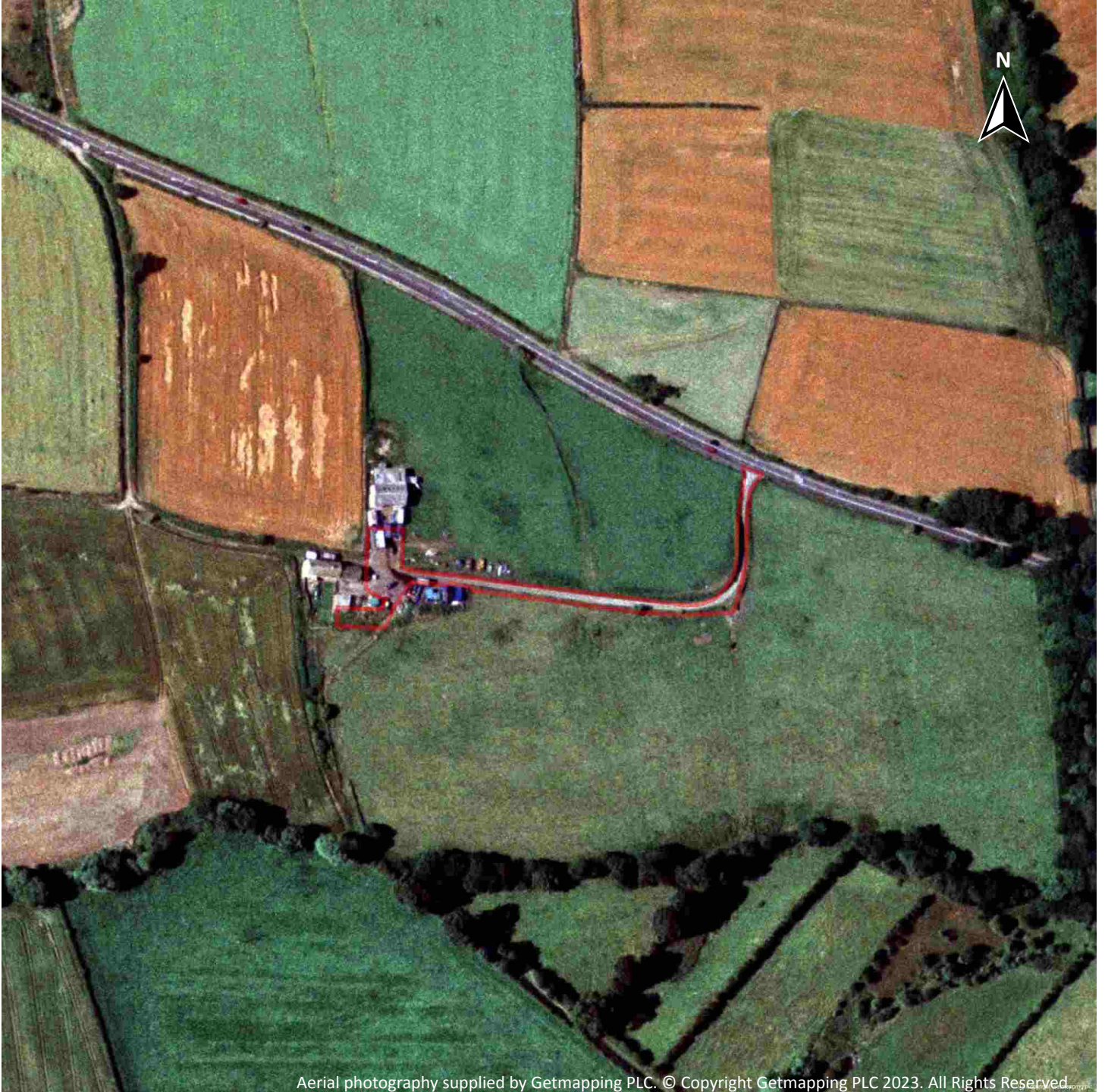


Capture Date: 26/03/2012

Site Area: 0.18ha



Recent site history - 1999 aerial photograph



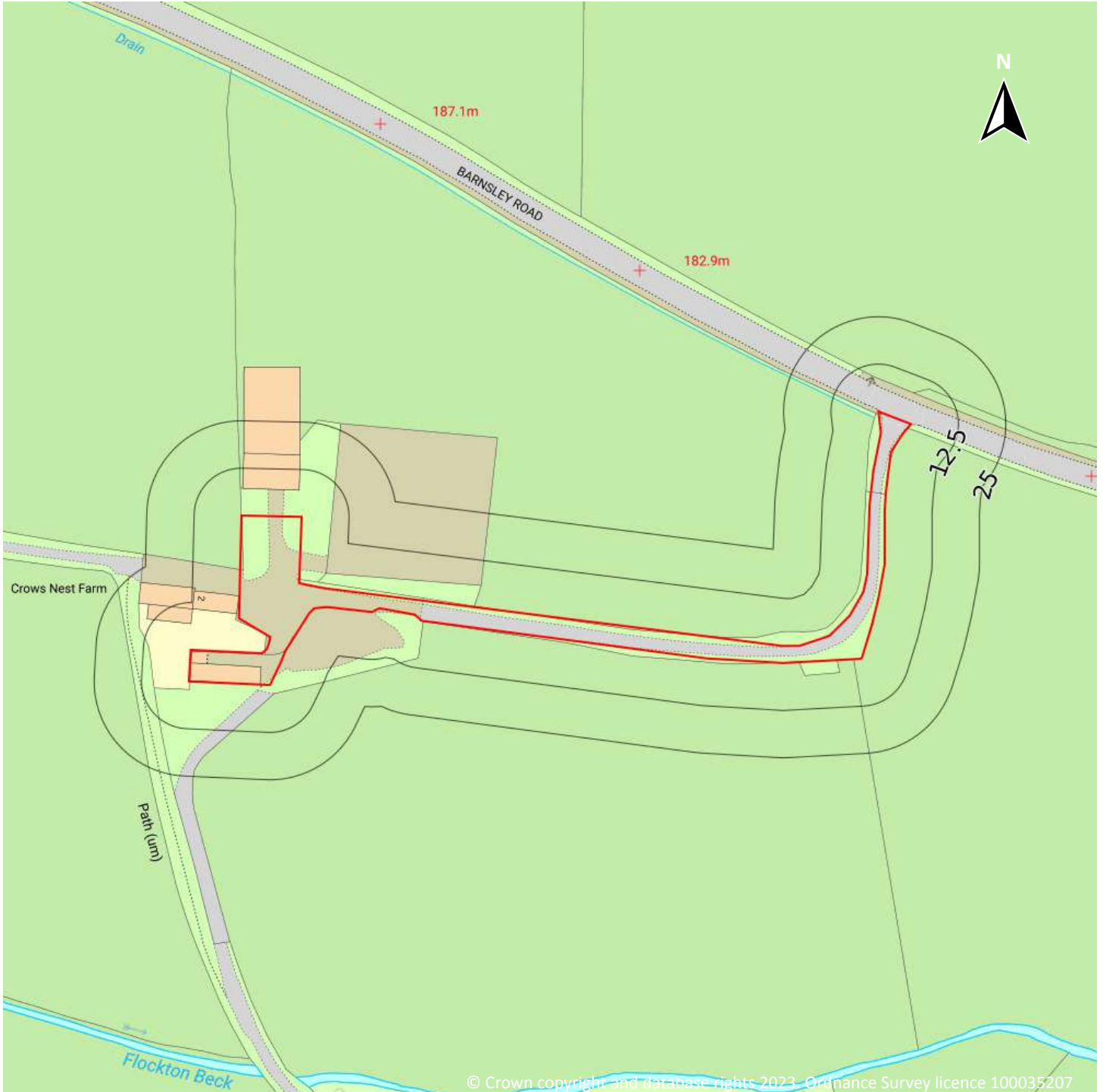
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2023. All Rights Reserved.

Capture Date: 10/07/1999

Site Area: 0.18ha



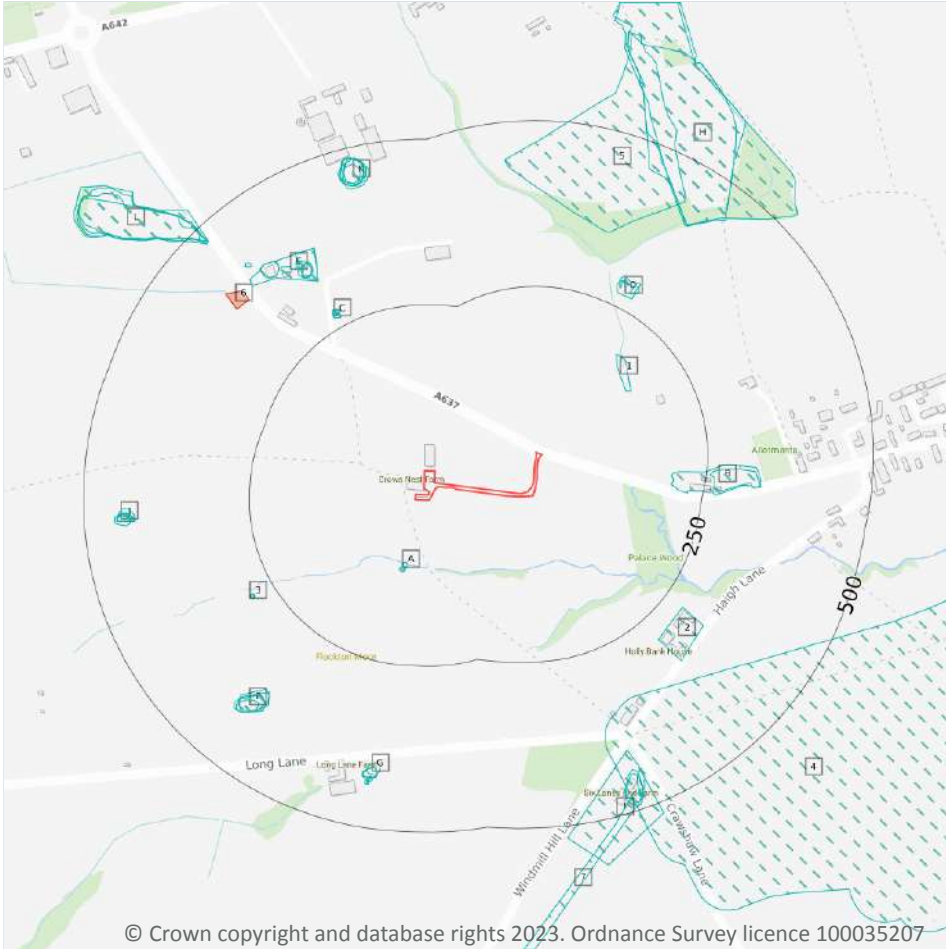
OS MasterMap site plan



Site Area: 0.18ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m **63**

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 14](#) >

ID	Location	Land use	Dates present	Group ID
A	95m SW	Unspecified Old Shaft	1951	1418286

ID	Location	Land use	Dates present	Group ID
A	102m SW	Unspecified Old Shaft	1948	1489705
A	102m SW	Unspecified Old Shaft	1938	1460846
A	102m SW	Unspecified Old Shaft	1904	1538839
1	159m NE	Unspecified Ground Workings	1967 - 1993	1524241
B	199m E	Disused Delf	1948 - 1951	1529305
B	255m E	Unspecified Quarry	1891	1428008
C	263m NW	Unspecified Disused Shaft	1966 - 1982	1533226
C	269m NW	Unspecified Old Shaft	1938	1464595
C	269m NW	Unspecified Old Shaft	1904	1556176
C	269m NW	Unspecified Old Shaft	1951	1524848
D	270m NE	Unspecified Quarry	1948	1428009
C	270m NW	Unspecified Old Shaft	1948	1529344
D	277m NE	Unspecified Ground Workings	1951	1412247
2	281m SE	Nursery	1993	1439918
3	282m SW	Unspecified Old Shaft	1904	1418282
E	327m NW	Pumping Shaft	1951	1498108
E	330m NW	Refuse Heap	1966	1477779
4	339m SE	Opencast Workings	1967 - 1979	1466389
E	340m NW	Refuse Heap	1951	1485593
E	340m NW	Refuse Heap	1938 - 1948	1548665
E	342m NW	Refuse Heap	1904	1551682
5	350m NE	Refuse Heap	1982	1507558
E	359m NW	Pumping Shaft	1904	1531186
E	360m NW	Pumping Shaft	1938	1463348
F	363m SW	Refuse Heap	1948 - 1951	1556947
F	364m SW	Unspecified Heap	1967 - 1979	1555954
E	369m NW	Refuse Heap	1904	1436651
F	376m SW	Refuse Heap	1938	1514044



ID	Location	Land use	Dates present	Group ID
F	376m SW	Refuse Heap	1904	1542454
F	387m SW	Refuse Heap	1892	1501025
G	401m S	Refuse Heap	1951	1517246
E	404m NW	Pumping Shaft	1948	1552967
H	408m NE	Unspecified Mine	1966	1455568
G	408m S	Refuse Heap	1938	1529683
H	408m NE	Colliery	1951	1527948
H	408m NE	Refuse Heap	1951 - 1966	1546052
I	409m SE	Colliery	1891	1411909
G	409m S	Refuse Heap	1948	1483887
G	422m S	Unspecified Old Shaft	1951	1418285
J	423m W	Unspecified Pit	1904	1465787
J	423m W	Unspecified Pit	1938	1551333
J	423m W	Unspecified Pit	1951	1512224
J	424m W	Unspecified Pit	1948	1517666
G	428m S	Unspecified Old Shaft	1938	1507740
J	429m W	Unspecified Old Quarry	1892	1440804
G	430m S	Unspecified Old Shaft	1948	1509374
K	438m N	Sand Pit	1951	1411138
I	439m SE	Unspecified Heap	1951	1415171
K	442m N	Refuse Heap	1904	1474666
K	442m N	Refuse Heap	1938	1546815
K	442m N	Refuse Heap	1948	1511878
I	443m SE	Refuse Heap	1891	1436630
K	444m N	Unspecified Heap	1966 - 1982	1553920
I	445m SE	Unspecified Ground Workings	1948	1412245
K	446m N	Refuse Heap	1892	1513439
I	471m SE	Unspecified Old Shaft	1951	1418287



ID	Location	Land use	Dates present	Group ID
7	472m SE	Railway Sidings	1891	1409306
L	474m NW	Unspecified Quarry	1904	1522049
L	474m NW	Unspecified Disused Quarry	1951 - 1966	1493380
I	476m SE	Unspecified Shaft	1948	1425292
L	477m NW	Unspecified Quarry	1938 - 1948	1533859
L	478m NW	Unspecified Disused Quarry	1892	1507284

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

1

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

Features are displayed on the Past land use map on [page 14 >](#)

ID	Location	Land use	Dates present	Group ID
6	369m NW	Electricity Substation	1990	135974

This data is sourced from Ordnance Survey / Groundsure.



1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

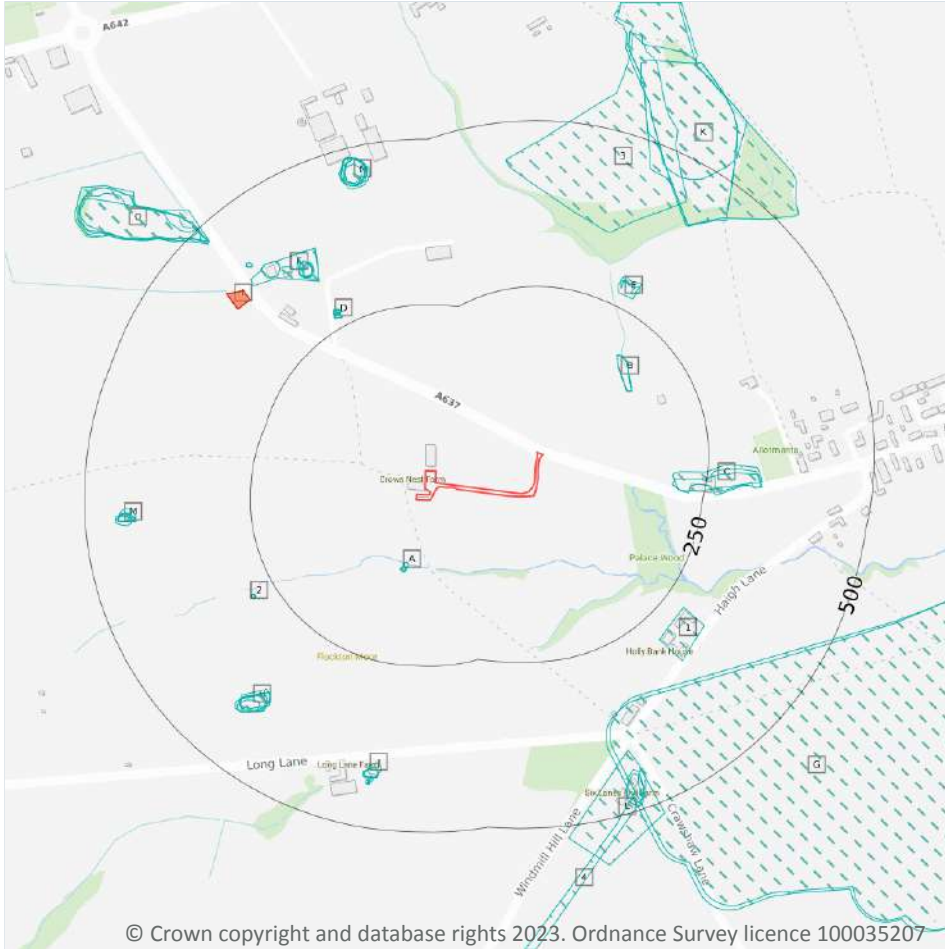
0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.



2 Past land use - un-grouped



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2.1 Historical industrial land uses

Records within 500m

83

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 19](#) >

ID	Location	Land Use	Date	Group ID
A	95m SW	Unspecified Old Shaft	1951	1418286
A	102m SW	Unspecified Old Shaft	1948	1489705
A	102m SW	Unspecified Old Shaft	1948	1489705

ID	Location	Land Use	Date	Group ID
A	102m SW	Unspecified Old Shaft	1938	1460846
A	102m SW	Unspecified Old Shaft	1904	1538839
B	159m NE	Unspecified Ground Workings	1993	1524241
B	159m NE	Unspecified Ground Workings	1979	1524241
B	159m NE	Unspecified Ground Workings	1967	1524241
C	199m E	Disused Delf	1951	1529305
C	201m E	Disused Delf	1948	1529305
C	255m E	Unspecified Quarry	1891	1428008
D	263m NW	Unspecified Disused Shaft	1982	1533226
D	263m NW	Unspecified Disused Shaft	1966	1533226
D	269m NW	Unspecified Old Shaft	1938	1464595
D	269m NW	Unspecified Old Shaft	1904	1556176
D	269m NW	Unspecified Old Shaft	1951	1524848
E	270m NE	Unspecified Quarry	1948	1428009
D	270m NW	Unspecified Old Shaft	1948	1529344
D	270m NW	Unspecified Old Shaft	1948	1529344
E	277m NE	Unspecified Ground Workings	1951	1412247
1	281m SE	Nursery	1993	1439918
2	282m SW	Unspecified Old Shaft	1904	1418282
F	327m NW	Pumping Shaft	1951	1498108
F	330m NW	Refuse Heap	1966	1477779
G	339m SE	Opencast Workings	1979	1466389
F	340m NW	Refuse Heap	1951	1485593
F	340m NW	Refuse Heap	1948	1548665
F	340m NW	Refuse Heap	1948	1548665
F	342m NW	Refuse Heap	1904	1551682
F	342m NW	Refuse Heap	1938	1548665
G	343m SE	Opencast Workings	1967	1466389



ID	Location	Land Use	Date	Group ID
3	350m NE	Refuse Heap	1982	1507558
F	359m NW	Pumping Shaft	1904	1531186
F	360m NW	Pumping Shaft	1938	1463348
H	363m SW	Refuse Heap	1951	1556947
H	364m SW	Unspecified Heap	1979	1555954
H	364m SW	Unspecified Heap	1967	1555954
F	369m NW	Refuse Heap	1904	1436651
H	372m SW	Refuse Heap	1948	1556947
H	372m SW	Refuse Heap	1948	1556947
H	376m SW	Refuse Heap	1938	1514044
H	376m SW	Refuse Heap	1904	1542454
H	387m SW	Refuse Heap	1892	1501025
J	401m S	Refuse Heap	1951	1517246
F	404m NW	Pumping Shaft	1948	1552967
F	404m NW	Pumping Shaft	1948	1552967
K	408m NE	Unspecified Mine	1966	1455568
J	408m S	Refuse Heap	1938	1529683
K	408m NE	Colliery	1951	1527948
K	408m NE	Refuse Heap	1951	1546052
L	409m SE	Colliery	1891	1411909
J	409m S	Refuse Heap	1948	1483887
J	409m S	Refuse Heap	1948	1483887
J	422m S	Unspecified Old Shaft	1951	1418285
M	423m W	Unspecified Pit	1938	1551333
M	423m W	Unspecified Pit	1904	1465787
M	423m W	Unspecified Pit	1951	1512224
M	424m W	Unspecified Pit	1948	1517666
M	424m W	Unspecified Pit	1948	1517666



ID	Location	Land Use	Date	Group ID
J	428m S	Unspecified Old Shaft	1938	1507740
M	429m W	Unspecified Old Quarry	1892	1440804
J	430m S	Unspecified Old Shaft	1948	1509374
J	430m S	Unspecified Old Shaft	1948	1509374
N	438m N	Sand Pit	1951	1411138
L	439m SE	Unspecified Heap	1951	1415171
N	442m N	Refuse Heap	1938	1546815
N	442m N	Refuse Heap	1904	1474666
N	442m N	Refuse Heap	1948	1511878
N	442m N	Refuse Heap	1948	1511878
L	443m SE	Refuse Heap	1891	1436630
N	444m N	Unspecified Heap	1982	1553920
N	444m N	Unspecified Heap	1966	1553920
L	445m SE	Unspecified Ground Workings	1948	1412245
N	446m N	Refuse Heap	1892	1513439
K	467m NE	Refuse Heap	1966	1546052
L	471m SE	Unspecified Old Shaft	1951	1418287
4	472m SE	Railway Sidings	1891	1409306
O	474m NW	Unspecified Quarry	1904	1522049
O	474m NW	Unspecified Disused Quarry	1951	1493380
L	476m SE	Unspecified Shaft	1948	1425292
O	477m NW	Unspecified Quarry	1938	1533859
O	478m NW	Unspecified Disused Quarry	1892	1507284
O	497m NW	Unspecified Quarry	1948	1533859

This data is sourced from Ordnance Survey / Groundsure.



2.2 Historical tanks

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

2

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

Features are displayed on the Past land use - un-grouped map on [page 19 >](#)

ID	Location	Land Use	Date	Group ID
I	369m NW	Electricity Substation	1990	135974
I	369m NW	Electricity Substation	1990	135974

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

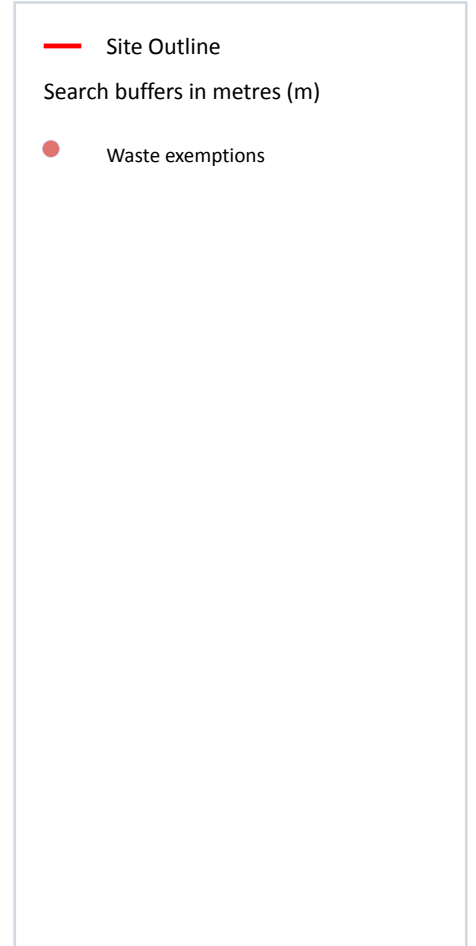
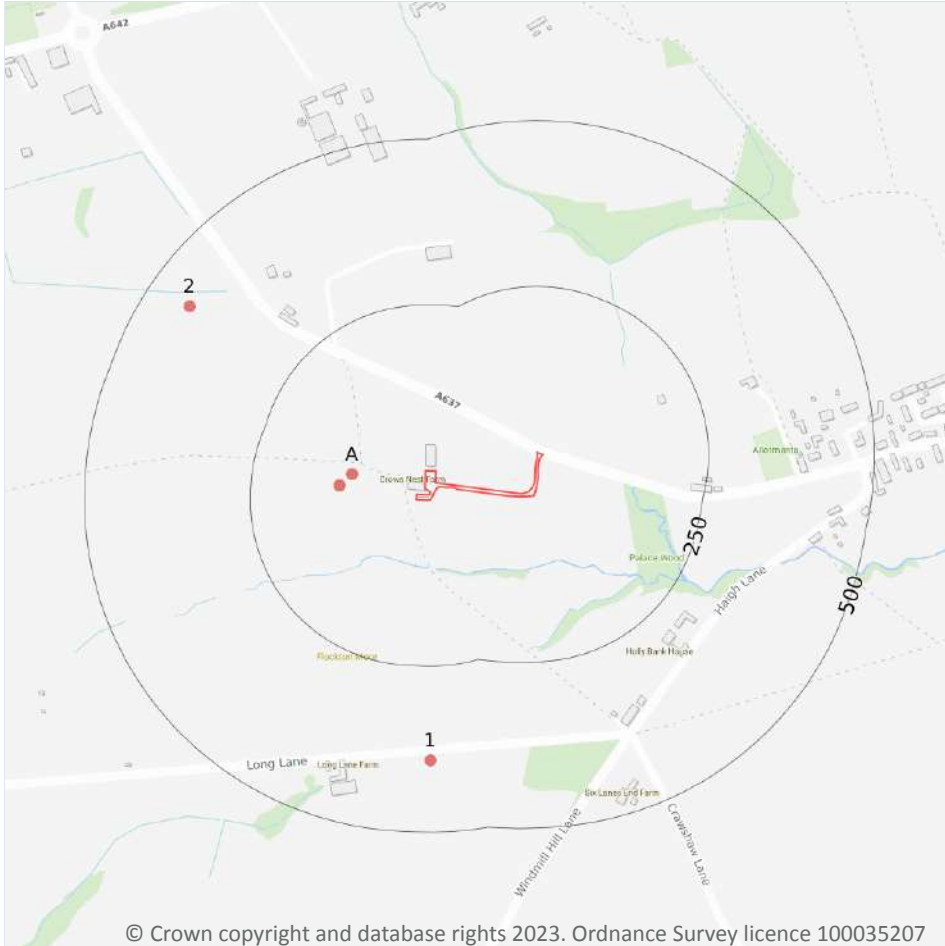
0

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

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m**0**

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m**0**

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

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

3.5 Historical waste sites

Records within 500m**0**

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

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

3.6 Licensed waste sites

Records within 500m**0**

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

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

3.7 Waste exemptions

Records within 500m**5**

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on [page 24 >](#)

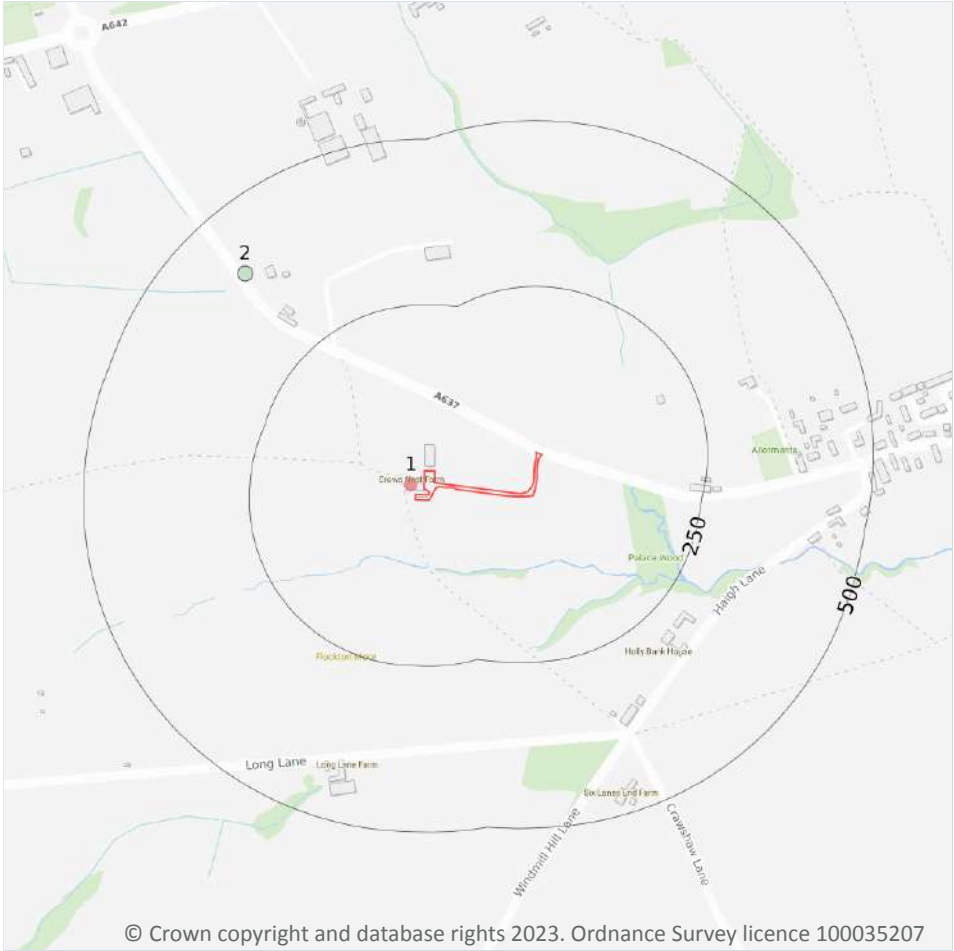
ID	Location	Site	Reference	Category	Sub-Category	Description
A	102m W	Flockton Hall Farm 49 Barnsley Road Wakefield WF4 4DW	EPR/NF0804U E/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge



ID	Location	Site	Reference	Category	Sub-Category	Description
A	118m W	Flockton Hall Farm 49 Barnsley Road Wakefield WF4 4DW	EPR/UH0970R P/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
A	118m W	Flockton Hall Farm 49 Barnsley Road Wakefield WF4 4DW	EPR/LF0231ZL /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
1	392m S	LANGLEY HOLME FARM, BARNSELY ROAD, FLOCKTON, WAKEFIELD, WF4 4AT	WEX069594	Storing waste exemption	On a farm	Storage of sludge
2	434m NW	Flockton Hall Farm 49 Barnsley Road Wakefield WF4 4DW	EPR/LF0631ZF /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge

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

4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m **1**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 27](#) >

ID	Location	Company	Address	Activity	Category
1	16m W	Stan Ellis Waste Paper	Crow Nest Farm, Crawshaw Lane, Flockton, Wakefield, West Yorkshire, WF4 4BY	Recycling, Reclamation and Disposal	Recycling Services

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0
---------------------	---

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0
---------------------	---

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0
---------------------	---

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0
---------------------	---

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0
---------------------	---

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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

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

Records within 500m

0

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from Local Authority records.



4.12 Radioactive Substance Authorisations

Records within 500m

0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

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

4.13 Licensed Discharges to controlled waters

Records within 500m

0

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

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

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

4.15 Pollutant release to public sewer

Records within 500m

0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m

0

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

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



4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

1

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

Features are displayed on the Current industrial land use map on [page 27 >](#)

ID	Location	Details	
2	401m NW	Incident Date: 21/04/2002 Incident Identification: 73447 Pollutant: Contaminated Water Pollutant Description: Firefighting Run-Off	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)

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

4.19 Pollution inventory substances

Records within 500m

0

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

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

4.20 Pollution inventory waste transfers

Records within 500m

0

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

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



4.21 Pollution inventory radioactive waste

Records within 500m

0

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

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

5 Hydrogeology - Superficial aquifer

5.1 Superficial aquifer

Records within 500m

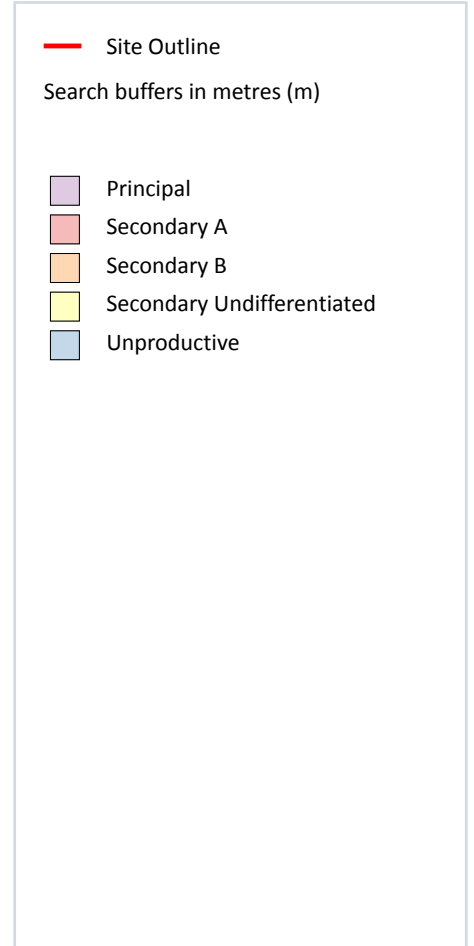
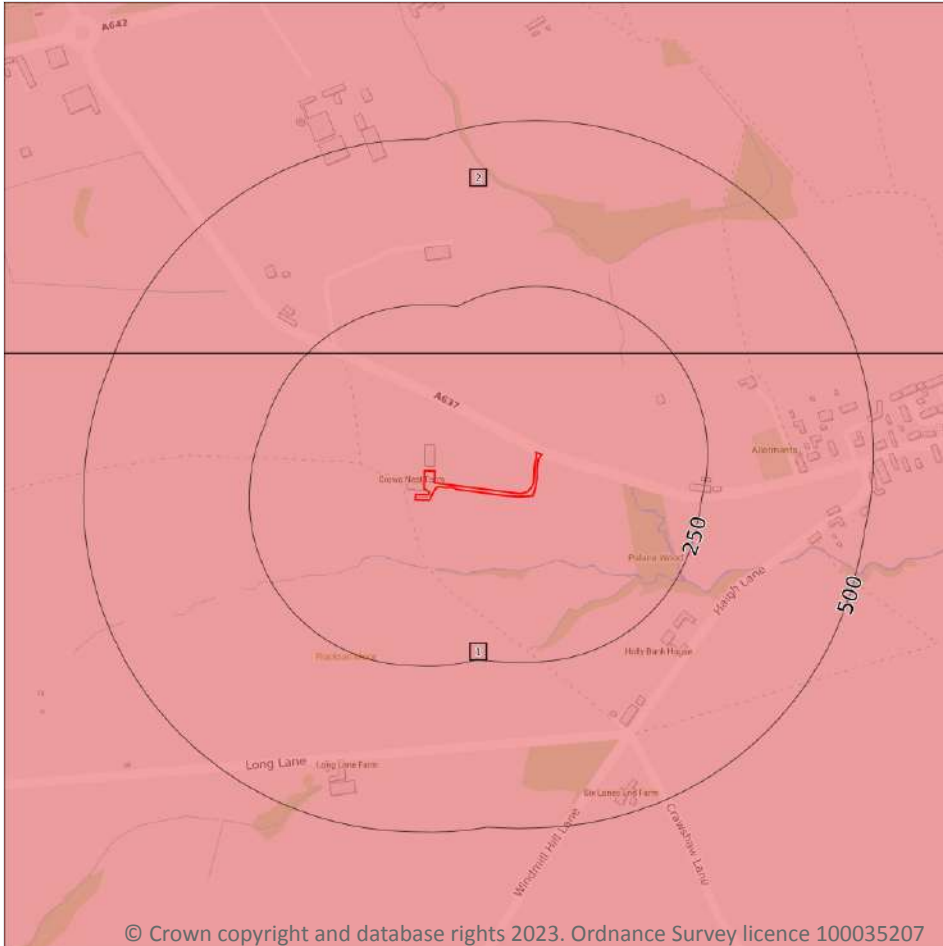
0

Aquifer status of groundwater held within superficial geology.

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



Bedrock aquifer



5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

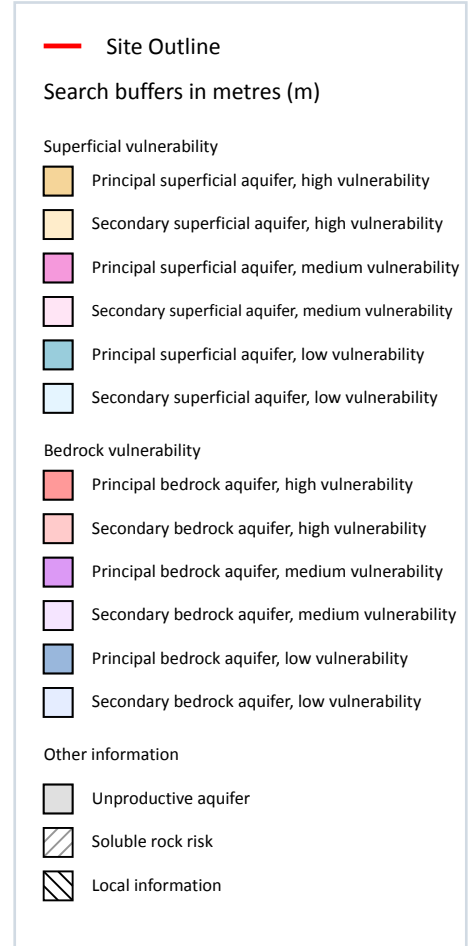
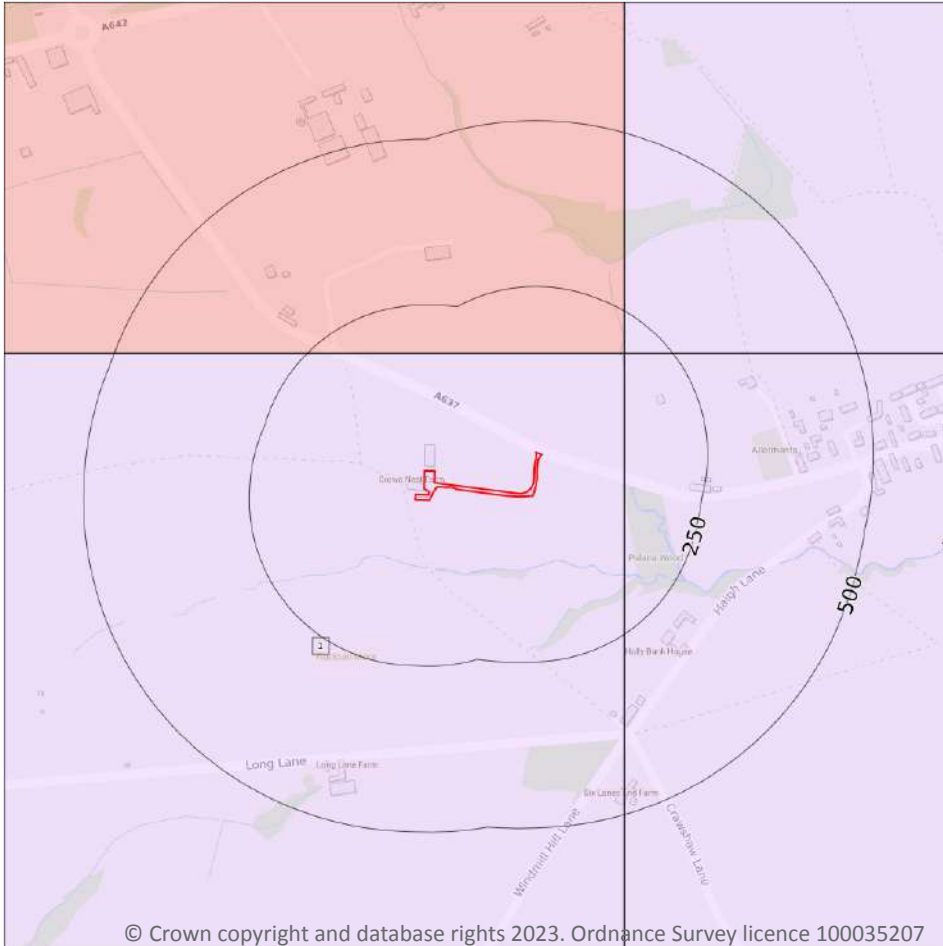
Features are displayed on the Bedrock aquifer map on [page 34](#) >

ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	150m NE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

1

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on [page 36](#) >

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

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

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

5.5 Groundwater vulnerability- local information

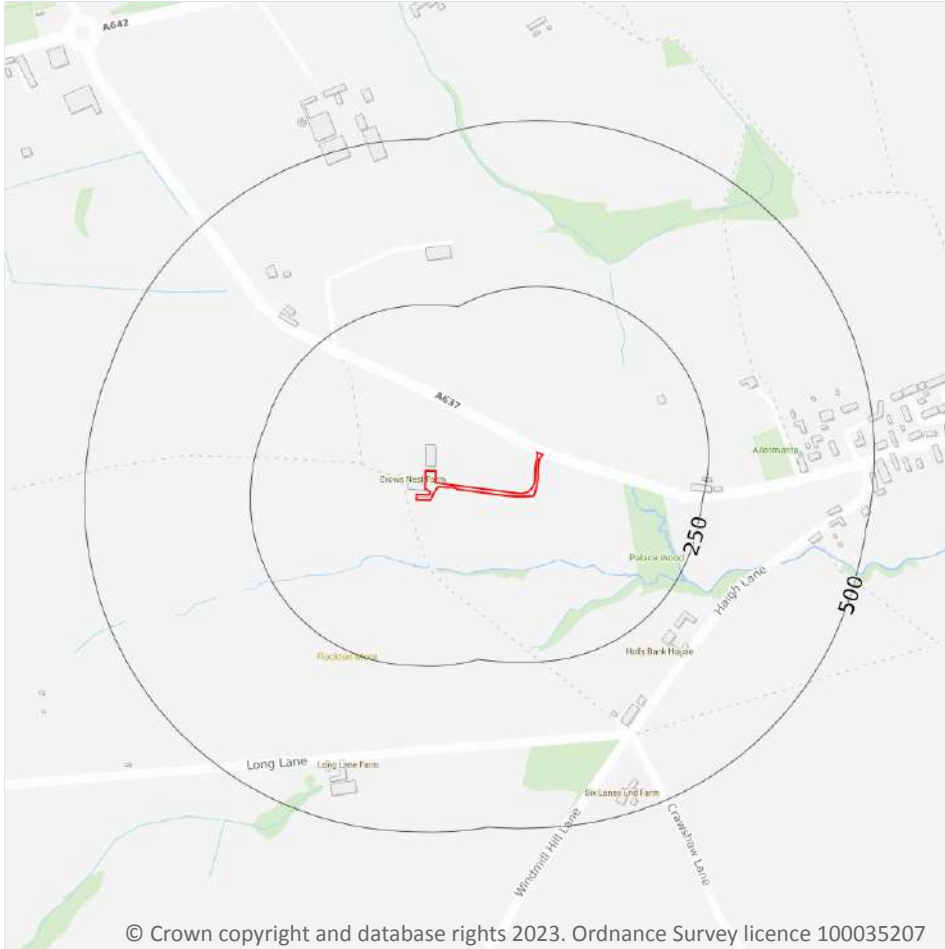
Records on site

0

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

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

Abstractions and Source Protection Zones



5.6 Groundwater abstractions

Records within 2000m

0

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

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

5.7 Surface water abstractions

Records within 2000m

1

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 38 >](#)

ID	Location	Details	
-	1259m SE	Status: Historical Licence No: 2/27/08/024 Details: General Farming & Domestic Direct Source: SURFACE WATER Point: MOUSE HOUSE DYKE Data Type: Point Name: H LODGE & SONS Easting: 423500 Northing: 413700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

0

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

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

5.9 Source Protection Zones

Records within 500m

0

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

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m

0

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



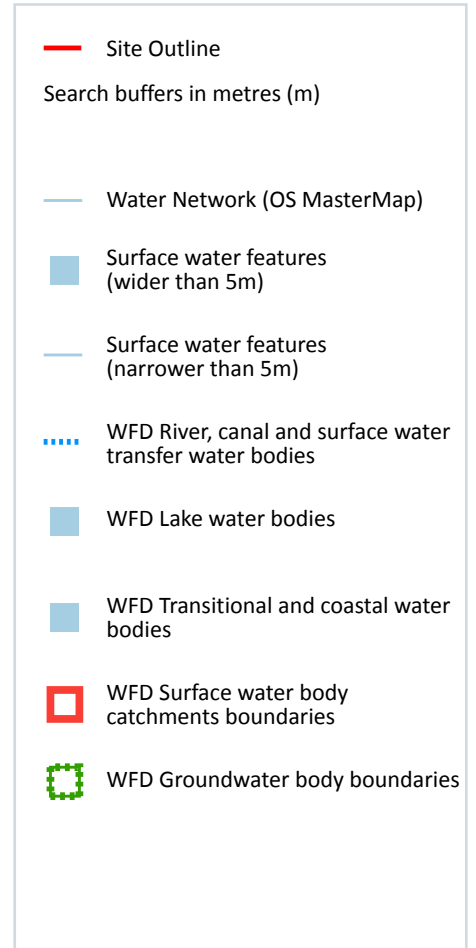
This data is sourced from the Environment Agency and Natural Resources Wales.



6 Hydrology



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6.1 Water Network (OS MasterMap)

Records within 250m

10

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

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

ID	Location	Type of water feature	Ground level	Permanence	Name
B	1m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
3	96m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Flockton Beck
5	135m E	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
6	143m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	178m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	181m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	191m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	196m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
7	198m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Flockton Beck
8	229m S	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

6

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

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

This data is sourced from the Ordnance Survey.



6.3 WFD Surface water body catchments

Records on site

1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

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

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River	Bentley Brook from Source to River Dearne	GB104027063310	Dearne	Don and Rother

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

6.4 WFD Surface water bodies

Records identified

1

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

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

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
1	92m SW	River	Bentley Brook from Source to River Dearne	GB104027063310 ↗	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

Records on site

1

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



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

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Don & Rother Millstone grit & Coal Measures	GB40402G992300 ↗	Poor	Poor	Good	2019

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

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m

0

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

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

7.2 Historical Flood Events

Records within 250m

0

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

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

7.3 Flood Defences

Records within 250m

0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

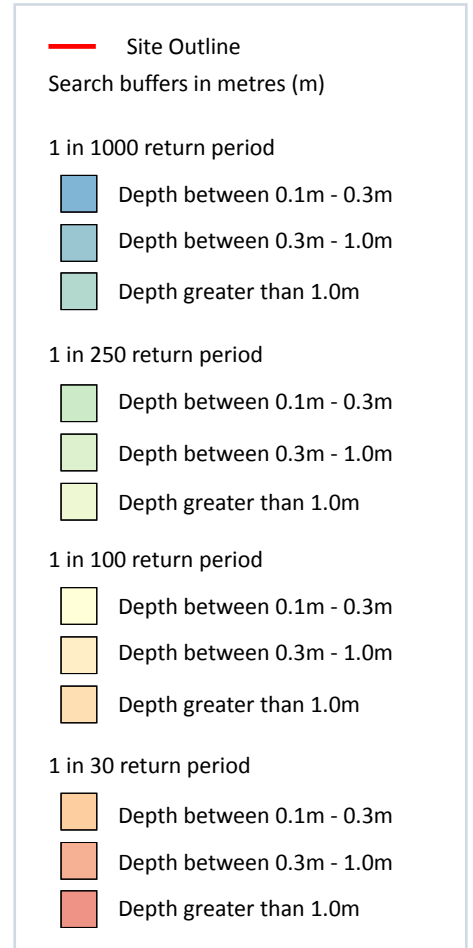
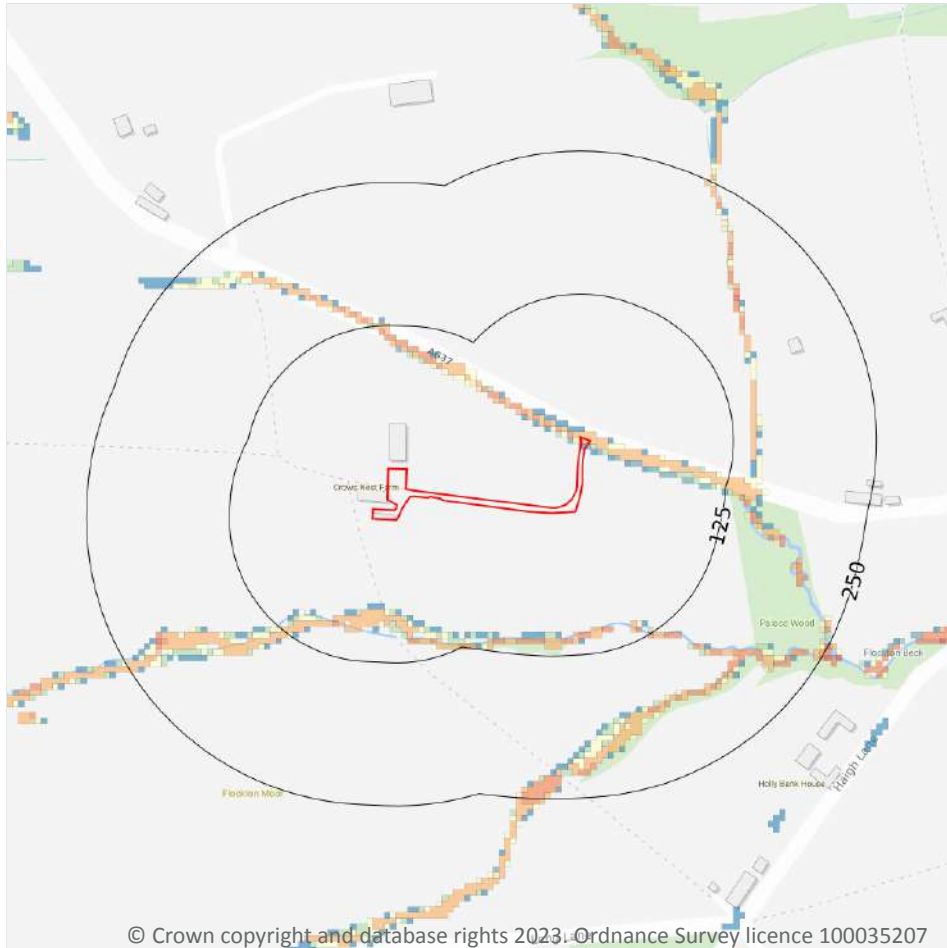
0

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

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.1m - 0.3m

Highest risk within 50m

1 in 30 year, 0.3m - 1.0m

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on [page 48 >](#)

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

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

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.1m and 0.3m
1 in 100 year	Between 0.1m and 0.3m
1 in 30 year	Between 0.1m and 0.3m

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Negligible

Highest risk within 50m

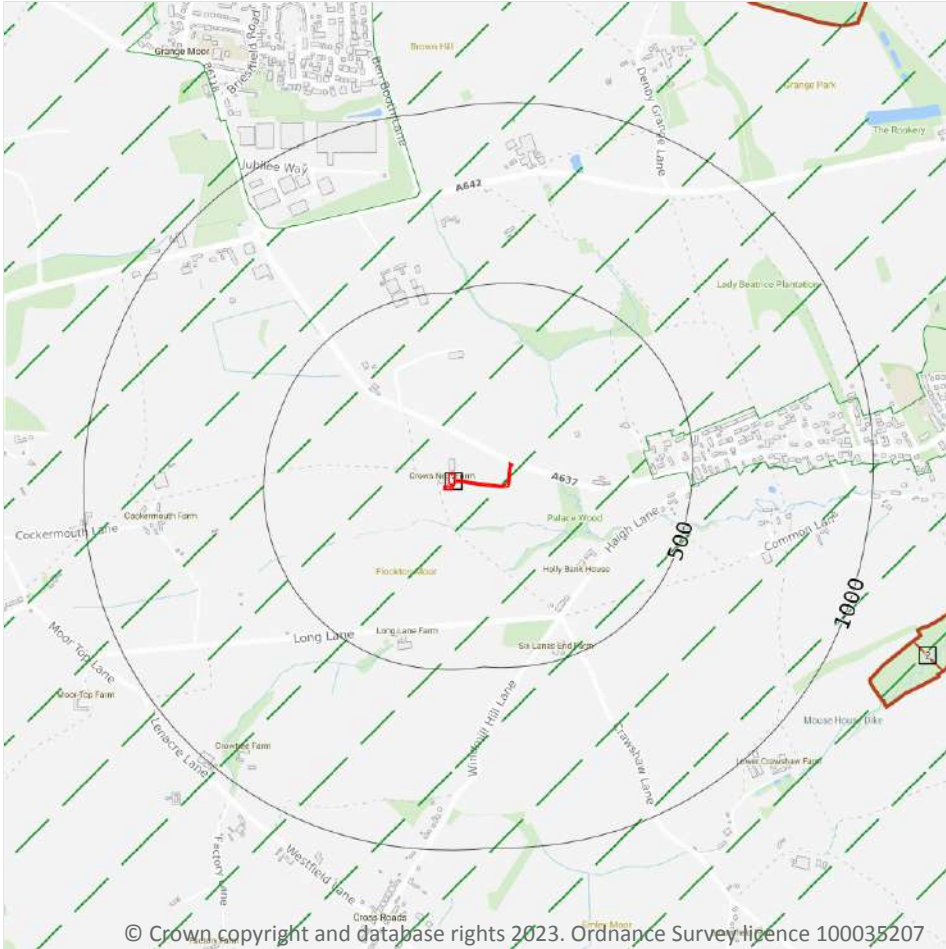
Negligible

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

Features are displayed on the Groundwater flooding map on [page 50 >](#)

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

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

10.4 Special Protection Areas (SPA)

Records within 2000m

0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

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

10.5 National Nature Reserves (NNR)

Records within 2000m

0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

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



10.6 Local Nature Reserves (LNR)

Records within 2000m

0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

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

10.7 Designated Ancient Woodland

Records within 2000m

3

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on [page 51 >](#)

ID	Location	Name	Woodland Type
2	1137m SE	Epley Wood	Ancient Replanted Woodland
-	1349m E	Unknown	Ancient & Semi-Natural Woodland
4	1441m NE	Grange, Hepper And Denby Woods	Ancient Replanted Woodland

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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



10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

1

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

Features are displayed on the Environmental designations map on [page 51 >](#)

ID	Location	Name	Local Authority name
1	On site	South and West Yorkshire	Kirklees

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

10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

3

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

Location	Name	Type	NVZ ID	Status
On site	River Dearne NVZ	Surface Water	278	Existing

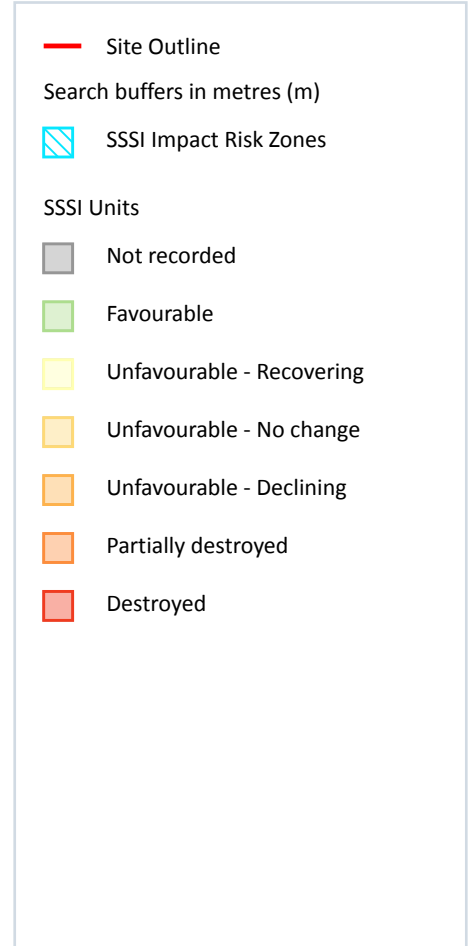
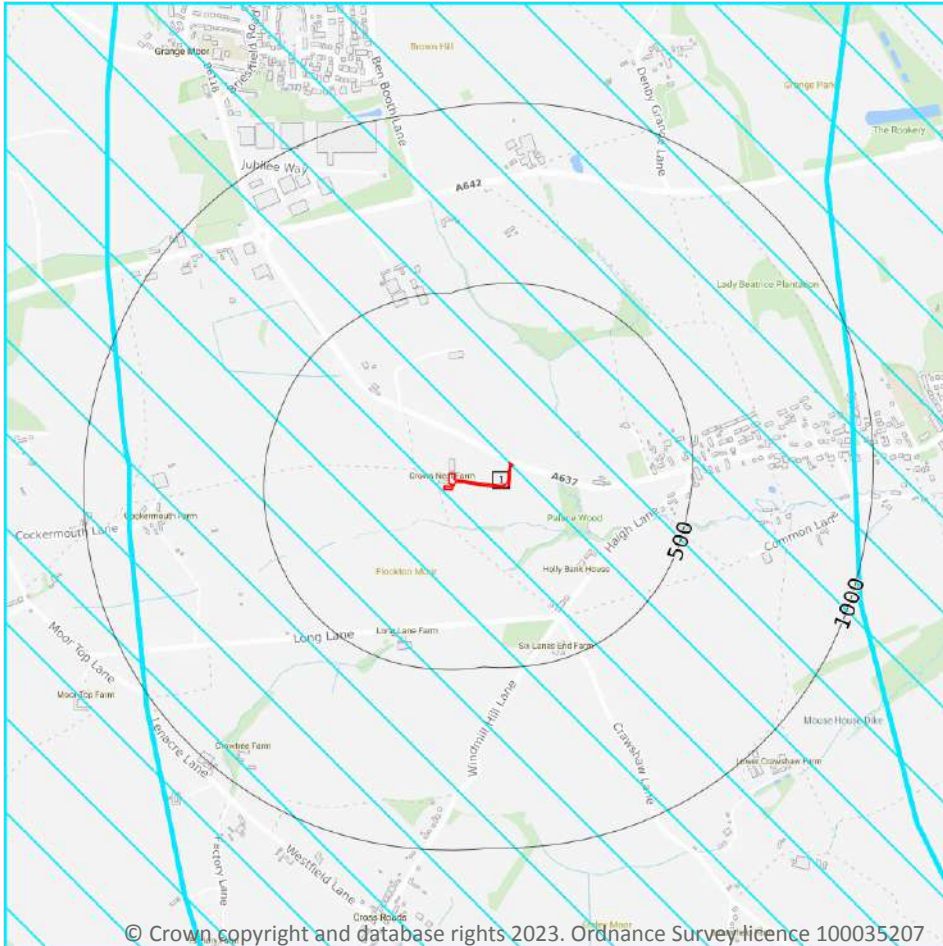


Location	Name	Type	NVZ ID	Status
1167m N	River Dearne NVZ	Surface Water	278	Existing
1217m E	River Dearne NVZ	Surface Water	278	Existing

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



SSSI Impact Zones and Units



10.17 SSSI Impact Risk Zones

Records on site

1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on [page 57](#) >

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

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0
-----------------------------	----------

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

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

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

0

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



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

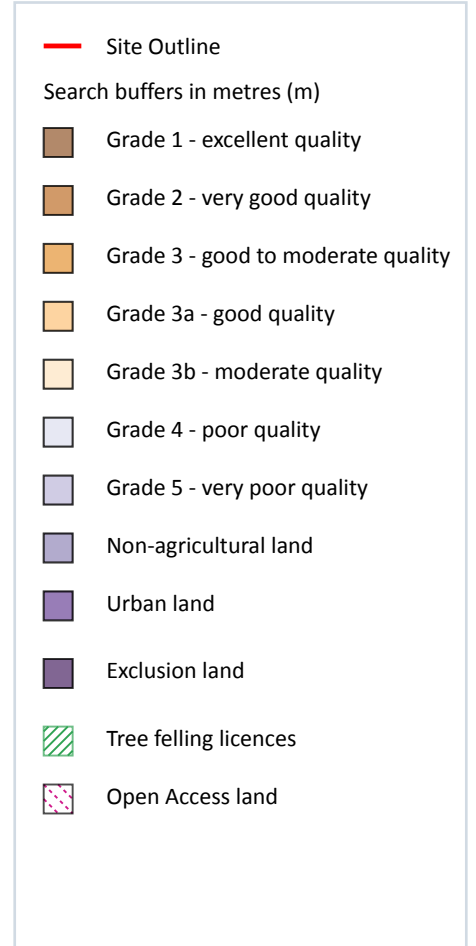
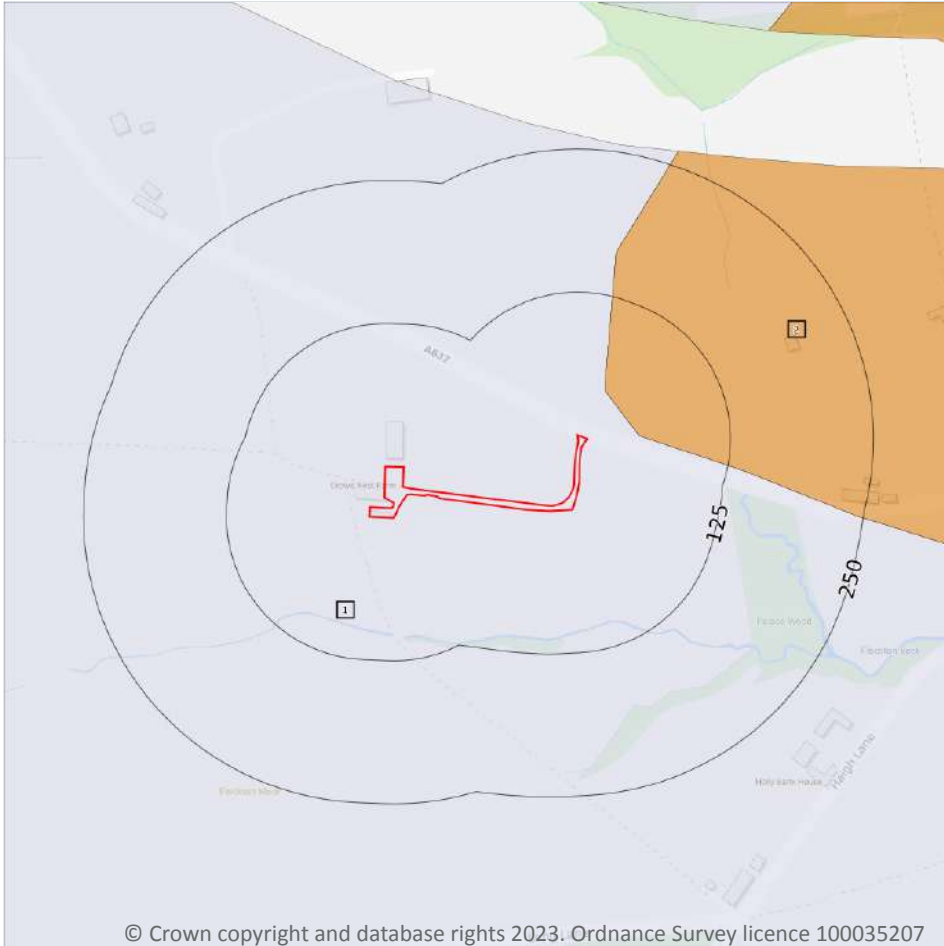
0

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

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



12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m

2

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

Features are displayed on the Agricultural designations map on [page 61](#) >

ID	Location	Classification	Description
1	On site	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

ID	Location	Classification	Description
2	38m NE	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

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

12.3 Tree Felling Licences

Records within 250m

0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.



13 Habitat designations



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- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m

4

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on [page 63](#) >

ID	Location	Main Habitat	Other habitats
1	127m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	138m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	144m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	196m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

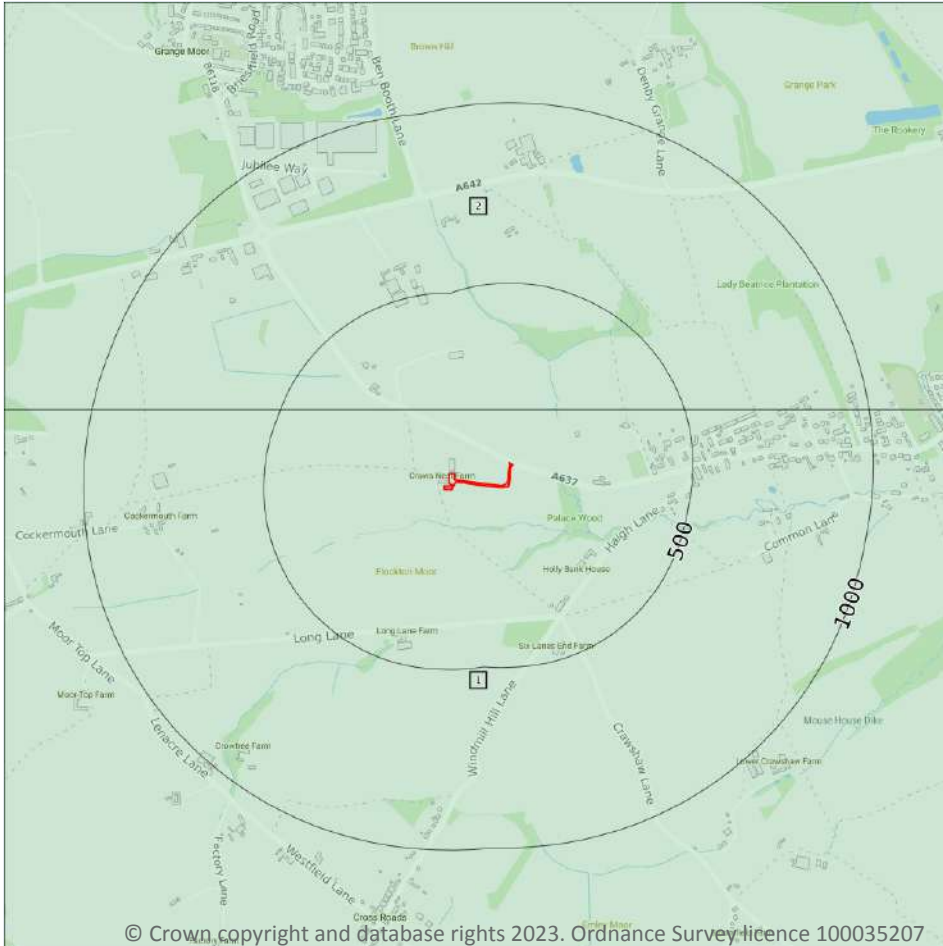
0

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

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
 Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

2

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

Features are displayed on the Geology 1:10,000 scale - Availability map on [page 65](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SE21SW
2	150m NE	Full	Full	Full	Full	SE21NW

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground



— Site Outline
Search buffers in metres (m)

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

14.2 Artificial and made ground (10k)

Records within 500m

7

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

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on [page 66](#) >

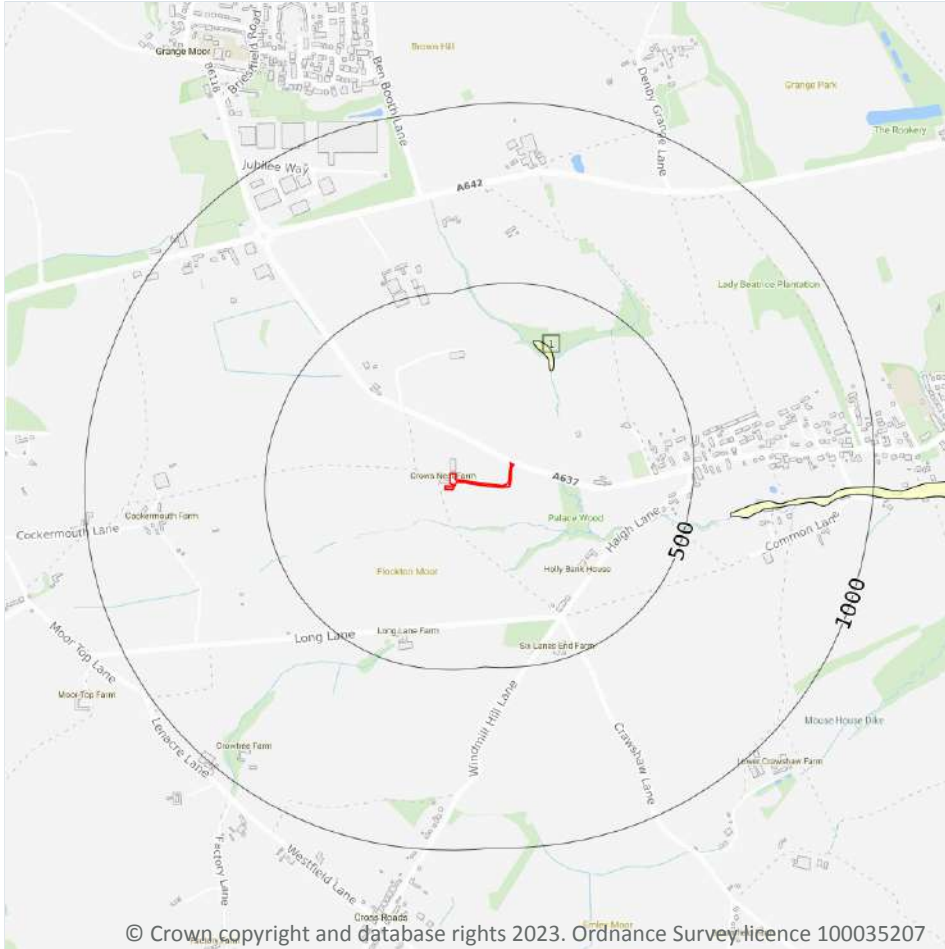
ID	Location	LEX Code	Description	Rock description
A	29m SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
A	44m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
1	201m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
2	345m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit


ID	Location	LEX Code	Description	Rock description
3	356m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	433m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
5	440m SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



- Site Outline
- Search buffers in metres (m)
-  Landslip (10k)
- Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m

1

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on [page 68](#) >

ID	Location	LEX Code	Description	Rock description
1	279m NE	ALV-XCSV	Alluvium - Clay, Sand And Gravel	Clay, Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

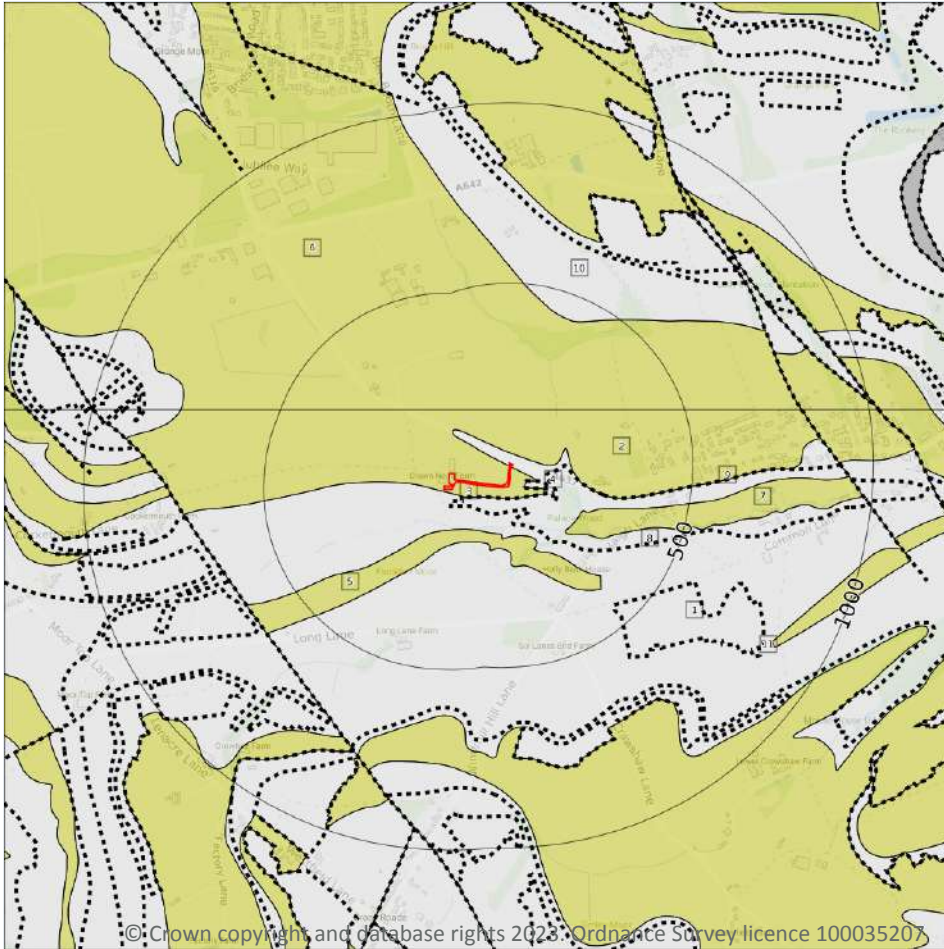
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



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

14.5 Bedrock geology (10k)

Records within 500m

6

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 70](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
2	On site	BRSR-SDST	Birstall Rock - Sandstone	Langsettian Sub-age
5	111m SW	BRSR-SDST	Birstall Rock - Sandstone	Langsettian Sub-age

ID	Location	LEX Code	Description	Rock age
6	150m NE	BRSR-SDST	Birstall Rock - Sandstone	Langsettian Sub-age
7	200m SE	BRSR-SDST	Birstall Rock - Sandstone	Langsettian Sub-age
10	430m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

5

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

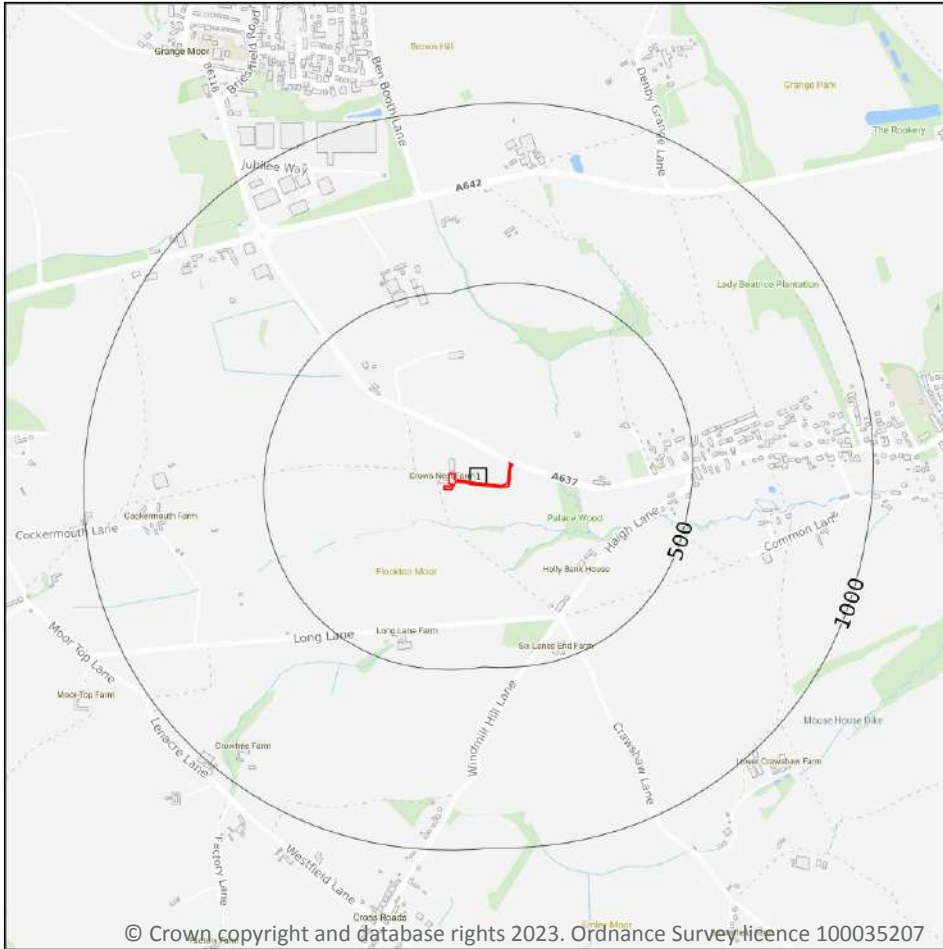
Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 70](#) >

ID	Location	Category	Description
3	29m SE	ROCK	Coal seam, observed
4	44m E	ROCK	Coal seam, observed
8	259m SE	ROCK	Coal seam, inferred
9	262m E	ROCK	Coal seam, inferred
11	440m SE	ROCK	Coal seam, observed

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



- Site Outline
- Search buffers in metres (m)
- Geological map tile

15.1 50k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 72](#) >

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

This data is sourced from the British Geological Survey.

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



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

15.2 Artificial and made ground (50k)

Records within 500m

3

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on [page 73](#) >

ID	Location	LEX Code	Description	Rock description
1	13m E	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
2	344m NE	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
3	447m SE	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.



15.3 Artificial ground permeability (50k)

Records within 50m

1

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

Location	Flow type	Maximum permeability	Minimum permeability
13m E	Mixed	Very High	Low

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial

15.4 Superficial geology (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

0

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

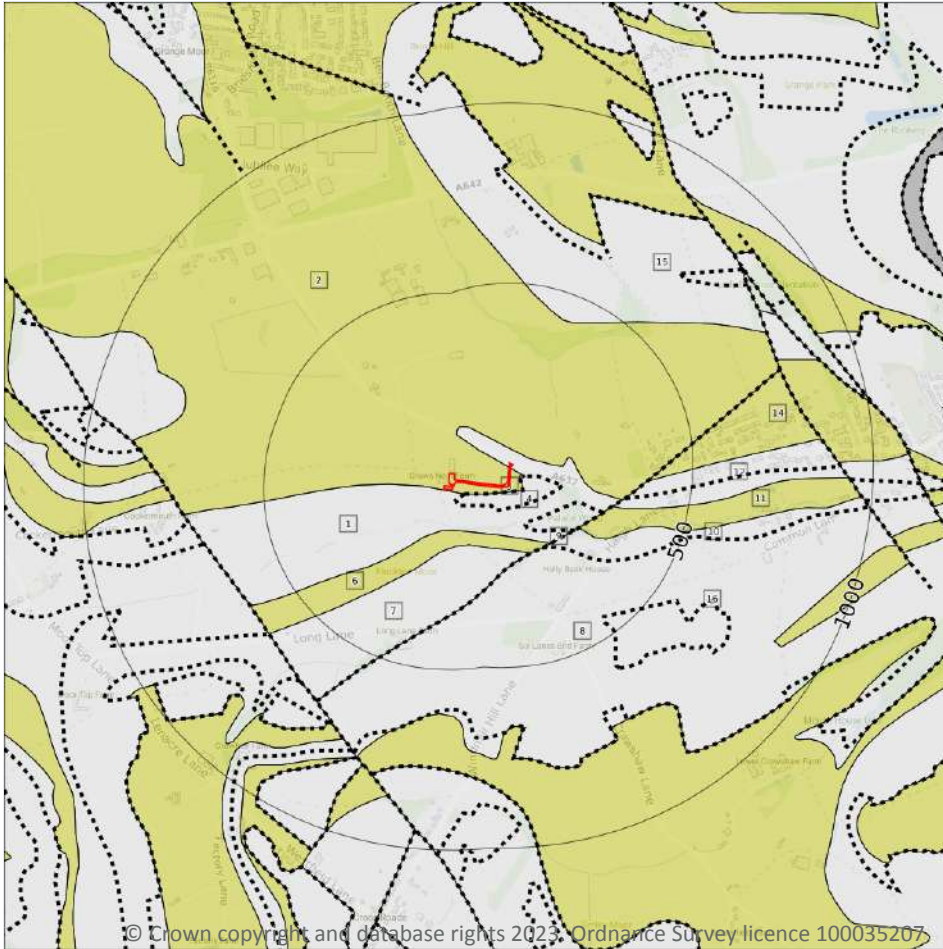
Records within 50m

0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



- Site Outline
- Search buffers in metres (m)
- Bedrock faults and other linear features (50k)
- Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m

9

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 76](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	On site	BRSR-SDST	BIRSTALL ROCK - SANDSTONE	WESTPHALIAN
6	114m SW	BRSR-SDST	BIRSTALL ROCK - SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
7	158m S	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
8	193m SE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
11	227m SE	BRSR-SDST	BIRSTALL ROCK - SANDSTONE	WESTPHALIAN
12	293m E	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
14	376m E	BRSR-SDST	BIRSTALL ROCK - SANDSTONE	WESTPHALIAN
15	424m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m

2

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

7

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 76 >](#)

ID	Location	Category	Description
3	13m E	ROCK	Coal seam, inferred
4	30m SW	ROCK	Coal seam, inferred

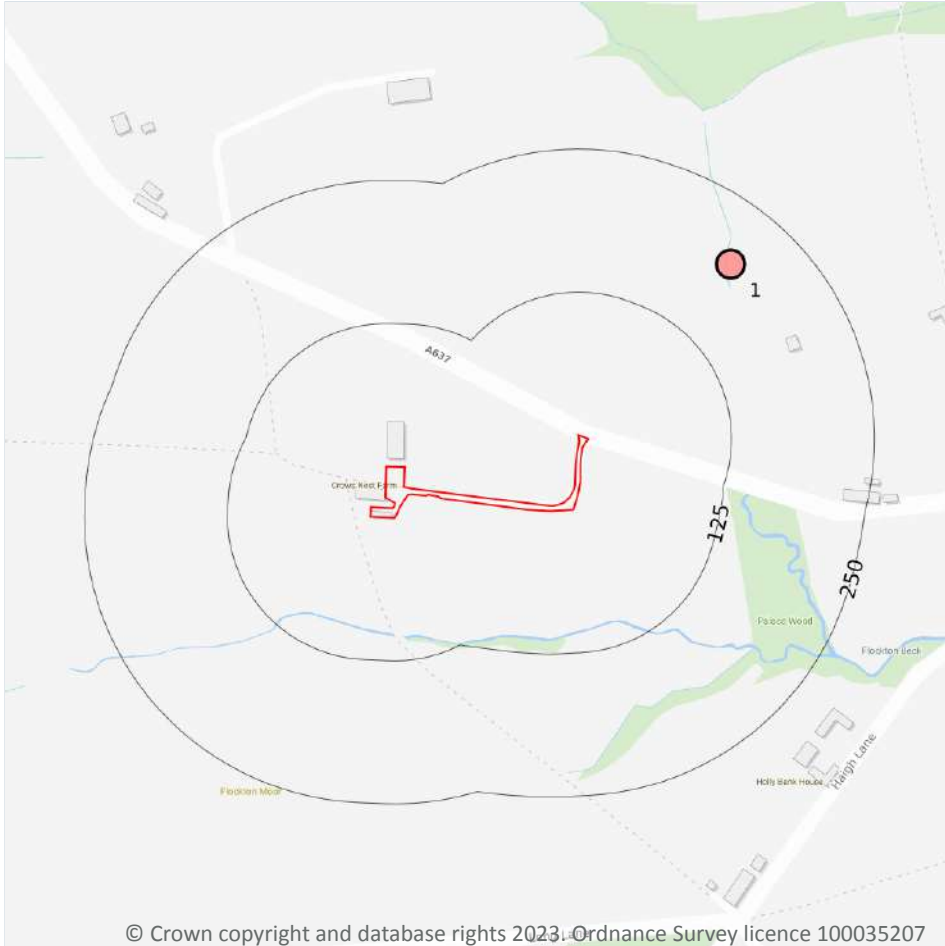


ID	Location	Category	Description
5	110m SE	ROCK	Coal seam, inferred
9	193m SE	FAULT	Fault, inferred
10	194m SE	ROCK	Coal seam, inferred
13	324m E	ROCK	Coal seam, inferred
16	447m SE	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.



16 Boreholes



— Site Outline
Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m

1

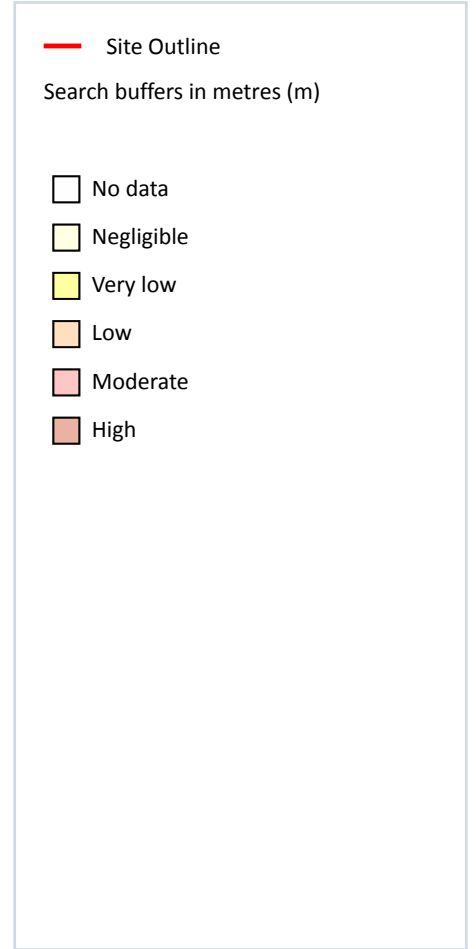
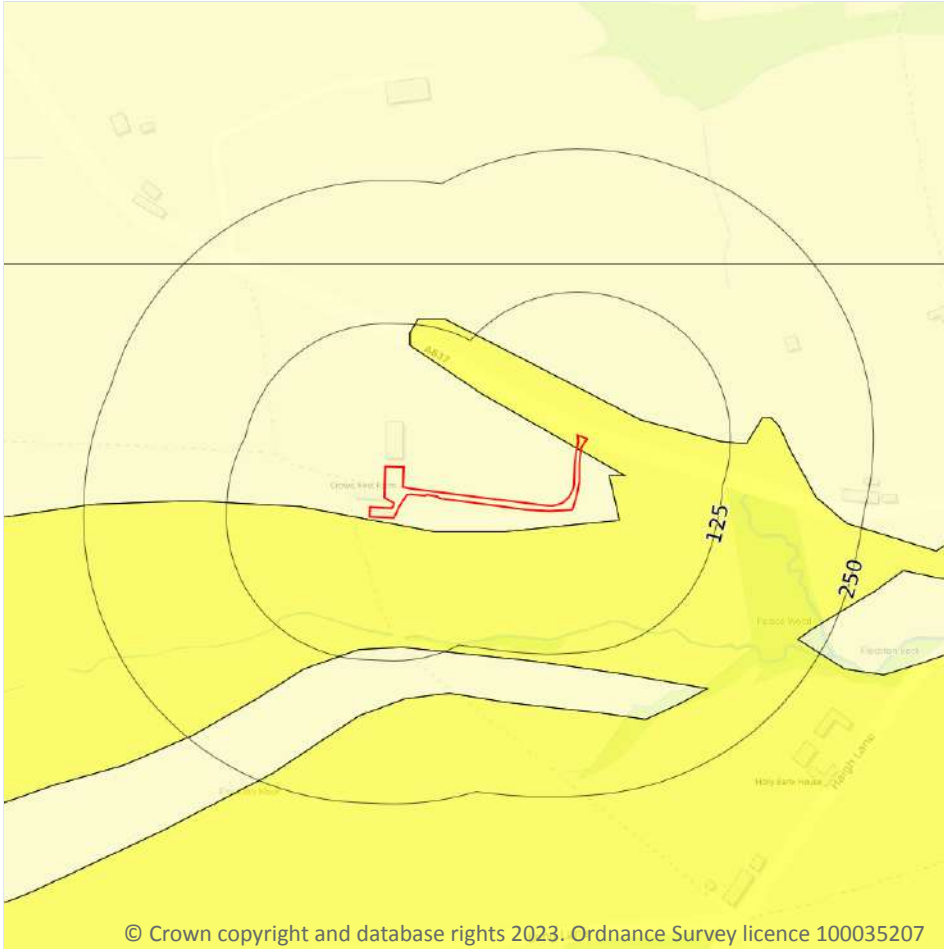
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several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

Features are displayed on the Boreholes map on [page 79](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	197m NE	422999 415000	SHUTTLE EYE COLLIERY	278.58	N	605276 ↗

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

2

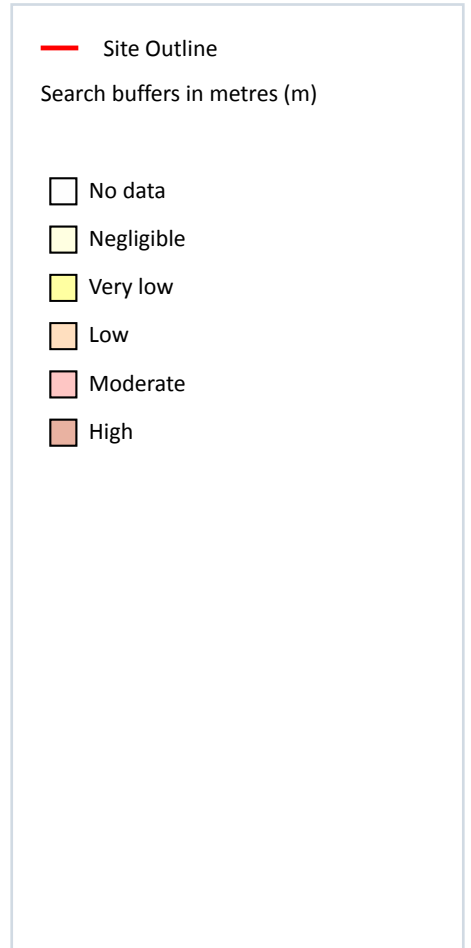
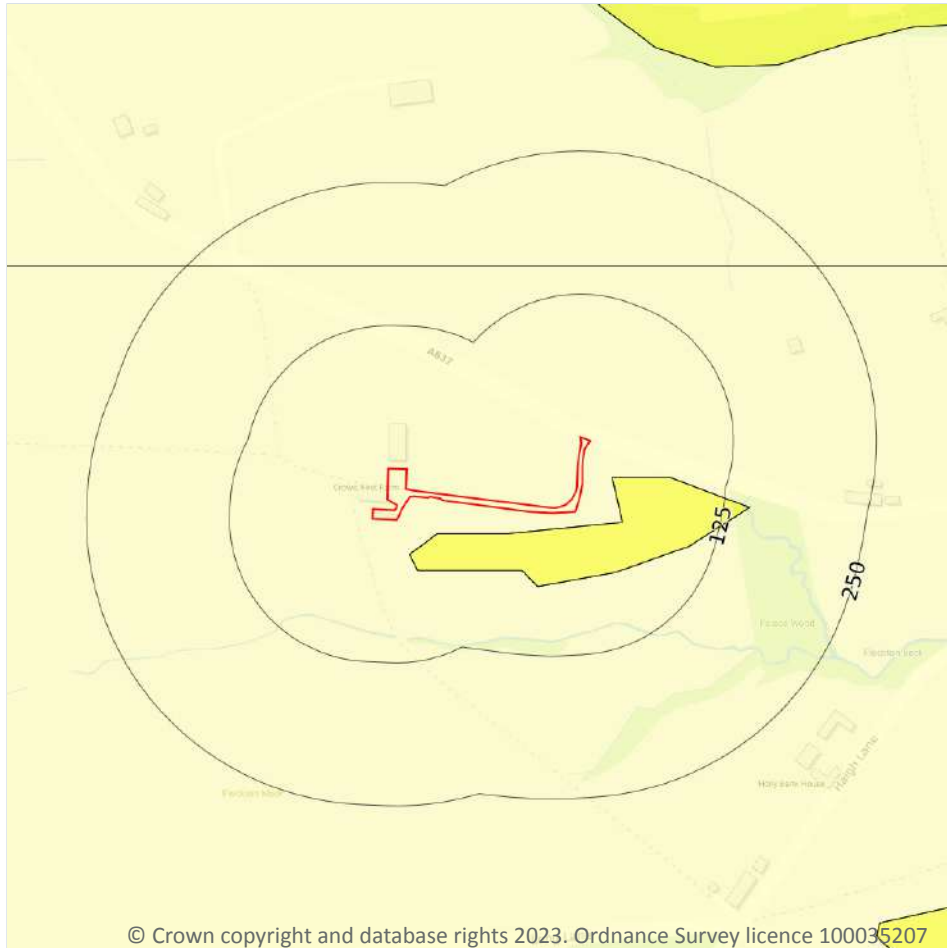
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 80 >](#)

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



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17.2 Running sands

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Running sands map on [page 81](#) >

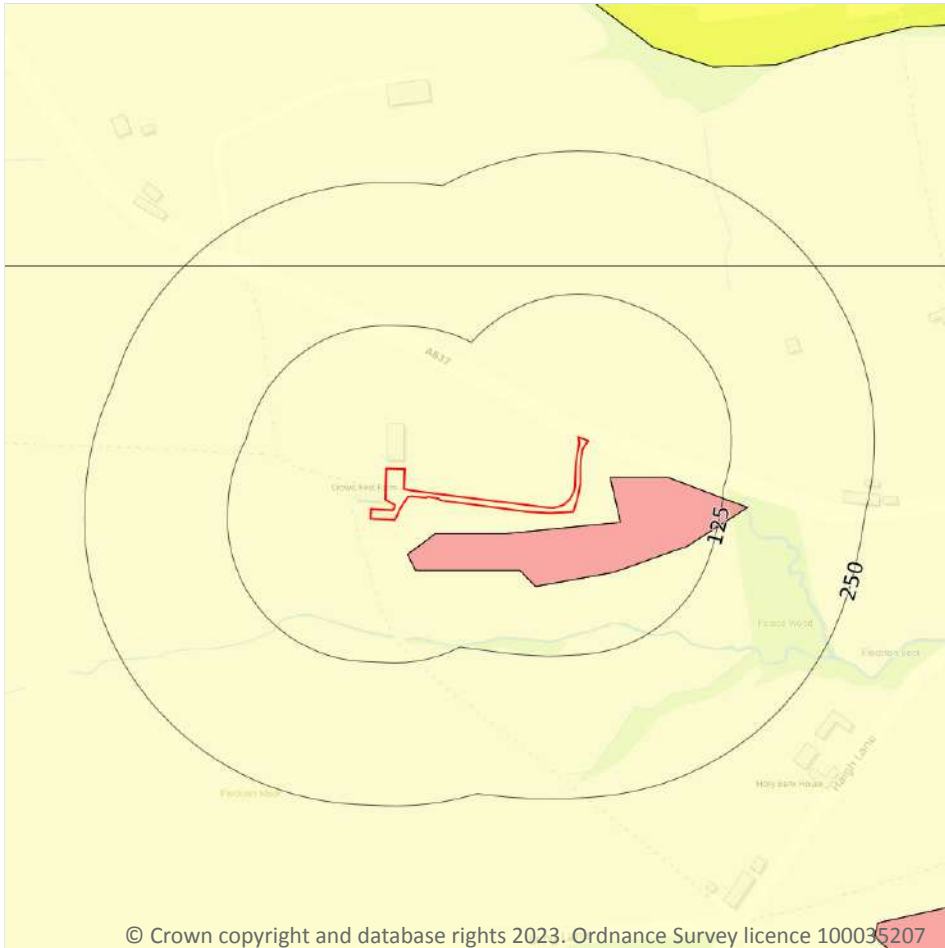
Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

Location	Hazard rating	Details
13m E	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



— Site Outline
Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m

2

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

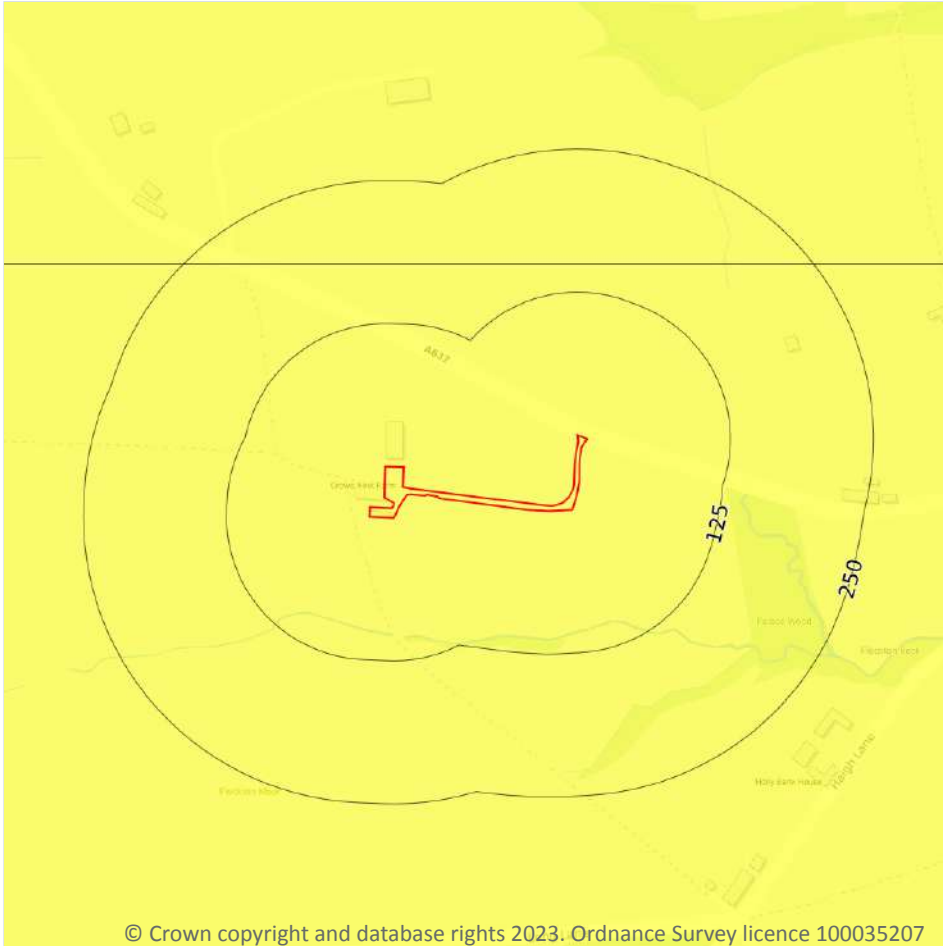
Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 83](#) >

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
13m E	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

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

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17.4 Collapsible deposits

Records within 50m

1

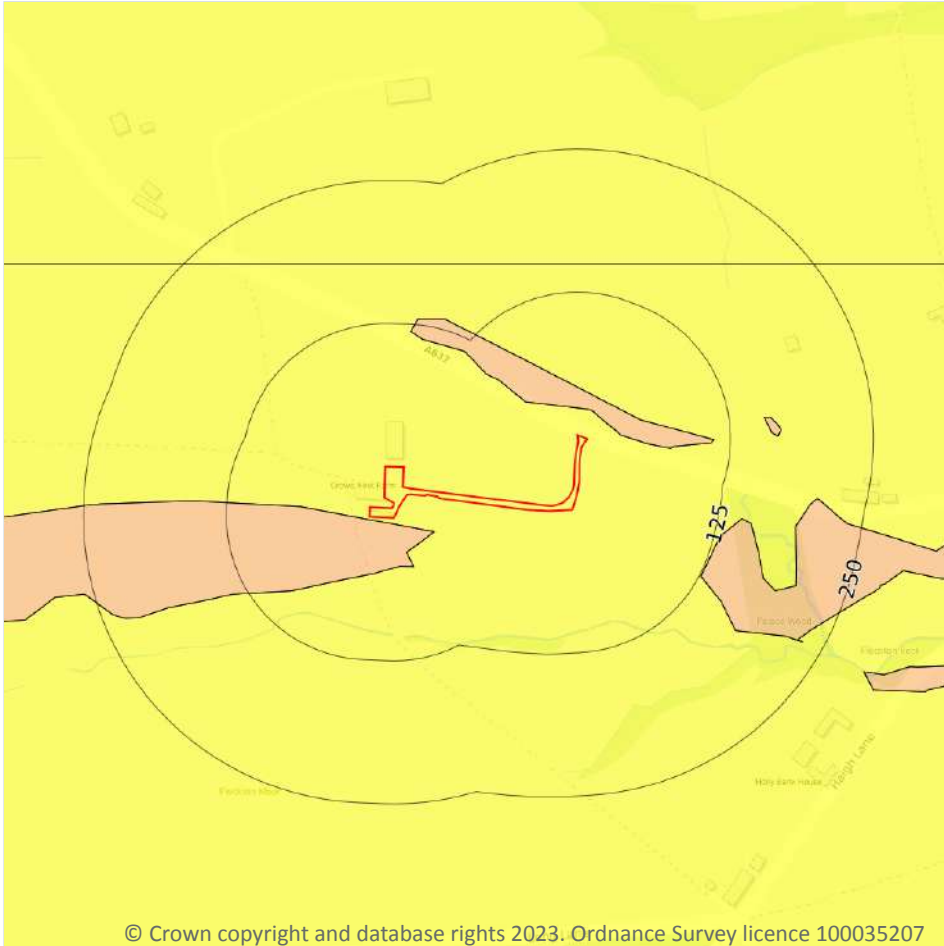
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 85 >](#)

Location	Hazard rating	Details
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



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17.5 Landslides

Records within 50m

3

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on [page 86](#) >

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

Location	Hazard rating	Details
3m W	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
22m NE	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

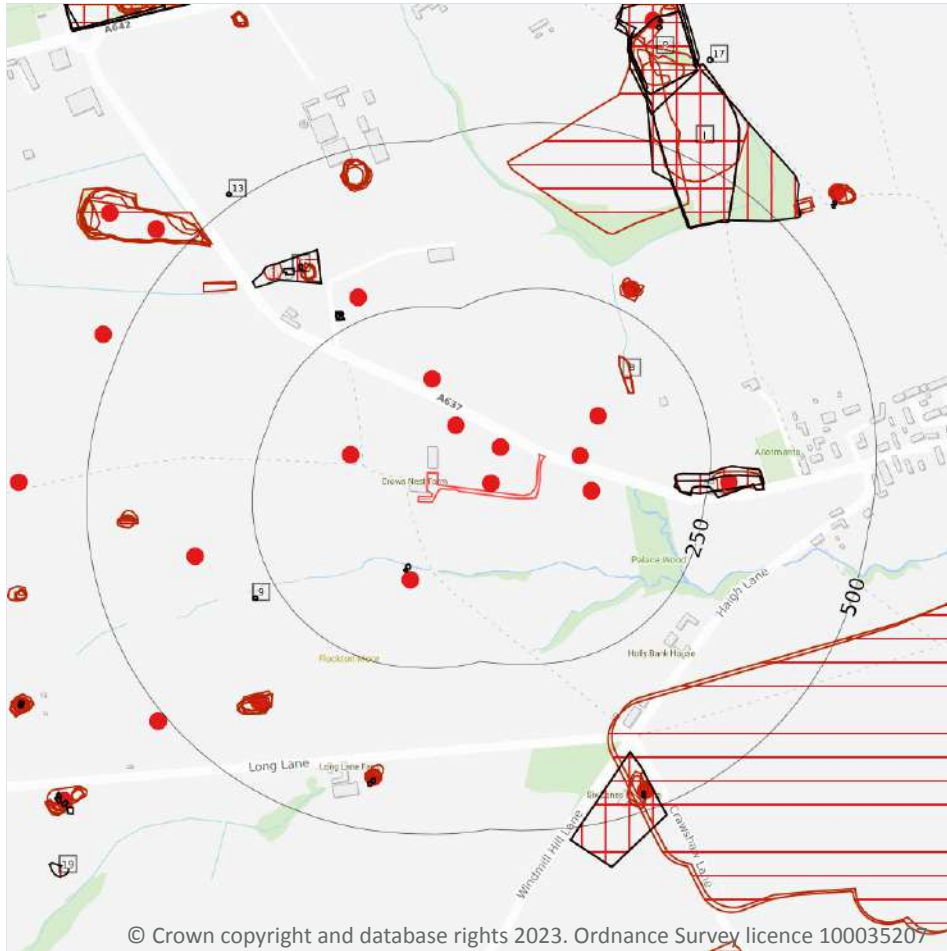
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 88](#)

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

This data is sourced from the British Geological Survey.



18 Mining and ground workings



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

18.1 BritPits

Records within 500m

16

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

Features are displayed on the Mining and ground workings map on [page 90](#) >

ID	Location	Details	Description
1	12m E	Name: Westfield House Pits Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
2	53m E	Name: Chapel House Pits Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
3	59m NE	Name: Chapel House Pits Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
4	77m N	Name: Westfield House Pits Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
5	79m E	Name: Palace Wood Pit Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority



ID	Location	Details	Description
6	101m NE	Name: Westfield House Pits Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
A	118m SW	Name: Flocton Moor Pits Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
7	119m W	Name: Westfield House Pits Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
8	142m N	Name: Cropper Gate Pits Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	280m E	Name: Cardwell Delf Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority



ID	Location	Details	Description
D	283m NW	Name: Cropper Gate Pits Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
E	284m NE	Name: Zion Quarry Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
10	345m W	Name: Westfield House Pits Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
H	384m SW	Name: Flockton Moor Coal Pits Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
I	420m S	Name: Flockton Moor Coal Pits Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority



ID	Location	Details	Description
K	471m SE	Name: Six Lanes End Colliery Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	5
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Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on [page 90 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
B	159m NE	Unspecified Ground Workings	1993	1:10000
B	159m NE	Unspecified Ground Workings	1979	1:10000
B	159m NE	Unspecified Ground Workings	1967	1:10560
C	199m E	Disused Delf	1951	1:10560
C	201m E	Disused Delf	1948	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	47
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Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining and ground workings map on [page 90 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
A	95m SW	Unspecified Old Shaft	1951	1:10560
A	102m SW	Unspecified Old Shaft	1938	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
A	102m SW	Unspecified Old Shaft	1904	1:10560
C	199m E	Disused Delf	1951	1:10560
C	201m E	Disused Delf	1930	1:10560
D	263m NW	Unspecified Disused Shaft	1982	1:10000
D	263m NW	Unspecified Disused Shaft	1966	1:10560
D	269m NW	Unspecified Old Shaft	1938	1:10560
D	269m NW	Unspecified Old Shaft	1904	1:10560
D	269m NW	Unspecified Old Shaft	1951	1:10560
9	282m SW	Unspecified Old Shaft	1904	1:10560
F	327m NW	Pumping Shaft	1951	1:10560
F	359m NW	Pumping Shaft	1904	1:10560
F	360m NW	Pumping Shaft	1938	1:10560
J	408m NE	Unspecified Mine	1966	1:10560
J	408m NE	Colliery	1951	1:10560
K	409m SE	Colliery	1891	1:10560
I	422m S	Unspecified Old Shaft	1951	1:10560
I	428m S	Unspecified Old Shaft	1938	1:10560
K	471m SE	Unspecified Old Shaft	1951	1:10560
K	476m SE	Unspecified Shaft	1930	1:10560
13	512m NW	Unspecified Old Shaft	1904	1:10560
P	540m NE	Colliery	1930	1:10560
P	569m NE	Colliery	1891	1:10560
O	574m NE	Unspecified Shaft	1930	1:10560
O	578m NE	Unspecified Shaft	1951	1:10560
17	644m NE	Unspecified Shaft	1930	1:10560
P	665m N	Unspecified Shaft	1930	1:10560
R	667m SW	Unspecified Old Shaft	1951	1:10560
R	670m SW	Unspecified Old Shaft	1938	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
R	670m SW	Unspecified Old Shaft	1904	1:10560
P	676m N	Unspecified Shaft	1951	1:10560
S	695m SW	Unspecified Old Shaft	1951	1:10560
S	695m SW	Coal Pit	1904	1:10560
S	697m SW	Unspecified Old Shaft	1951	1:10560
S	701m SW	Unspecified Old Shaft	1938	1:10560
19	764m SW	Coal Pit	1904	1:10560
20	770m N	Unspecified Mine	1966	1:10560
-	791m SW	Unspecified Old Shaft	1951	1:10560
-	795m SW	Unspecified Old Shaft	1938	1:10560
-	796m SW	Old Coal Pit	1904	1:10560
W	803m NW	Collieries	1904	1:10560
W	803m NW	Collieries	1892	1:10560
W	808m NW	Collieries	1938	1:10560
-	855m E	Unspecified Mine	1967	1:10560
-	997m W	Old Coal Pit	1904	1:10560
-	998m W	Old Colliery	1938	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m	0
----------------------------	----------

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

0

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.



18.9 Researched mining

Records within 500m

0

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

0

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m

0

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.12 Coal mining

Records on site

1

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

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

This data is sourced from the Coal Authority.

18.13 Brine areas

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

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

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

18.14 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

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

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

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

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.



This data is sourced from Groundsure.

19.5 National karst database

Records within 500m

0

This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

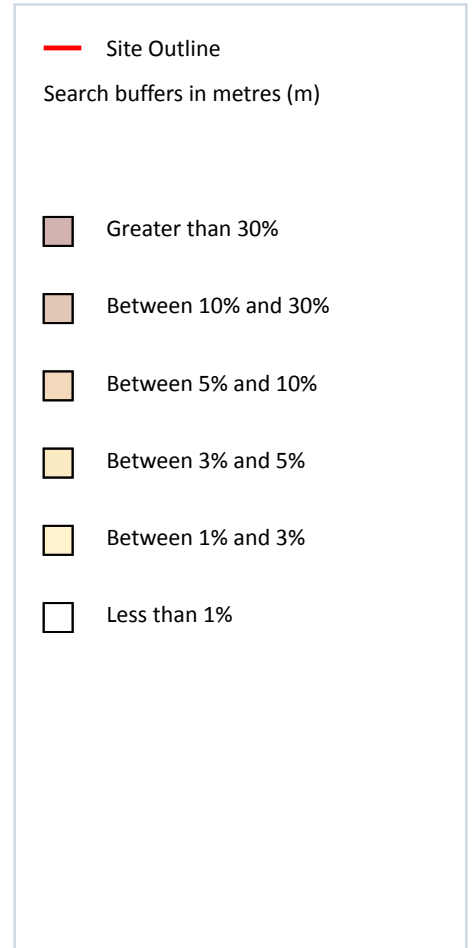
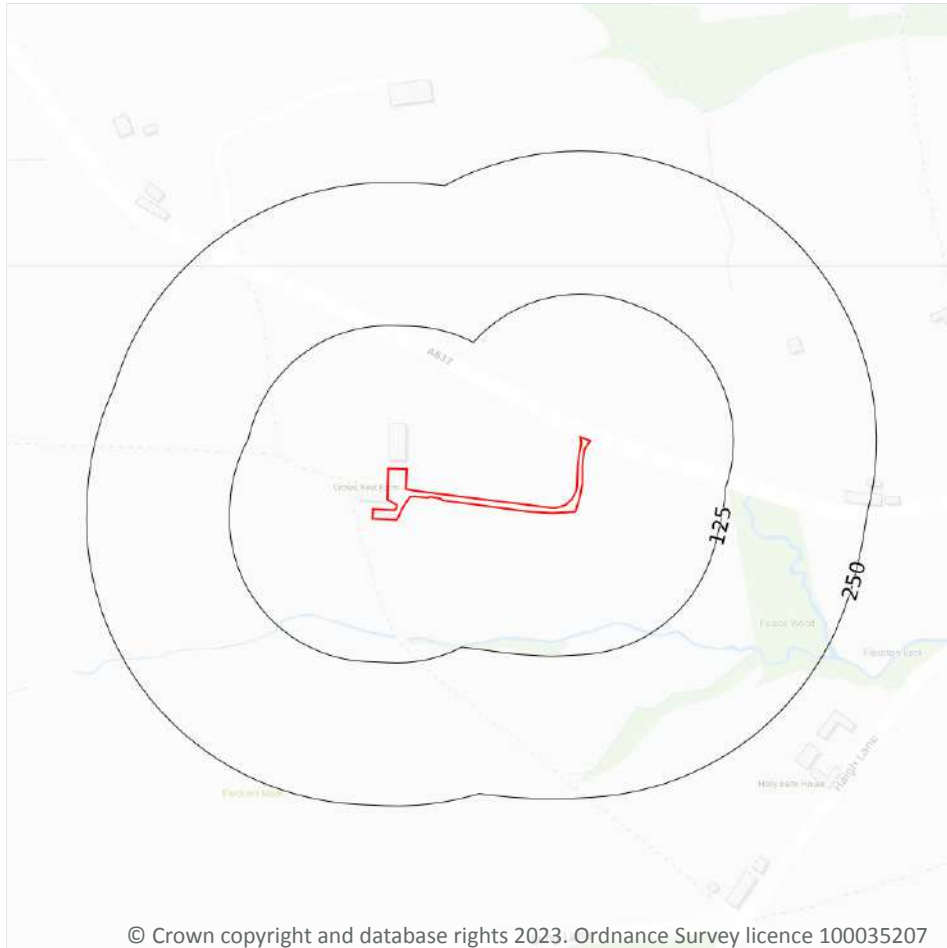
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.



20 Radon



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20.1 Radon

Records on site

1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on [page 102 >](#)

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

This data is sourced from the British Geological Survey and UK Health Security Agency.



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

2

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

22.1 Underground railways (London)

Records within 250m 0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m 0

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m 0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m 0

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

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m 0

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



This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m	0
---------------------	---

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

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m	0
---------------------	---

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m	0
---------------------	---

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m	0
---------------------	---

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m	0
---------------------	---

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

This data is sourced from HS2 Ltd.



Data providers

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

Terms and conditions

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



Appendix 4

Photographs



Photo 1: View of Southwest of the site, showing the stables and retaining wall.



Photo 2: View north from the middle of the site showing the northern yard.



Photo 3: View east from middle of the site showing access road.



Photo 4: Vehicles and tank in northern yard.



Rogers Geotechnical Services Ltd

Offices 1 & 2, Barncliffe Business Park,
Near Bank, Shelley,
Huddersfield,

Job No:

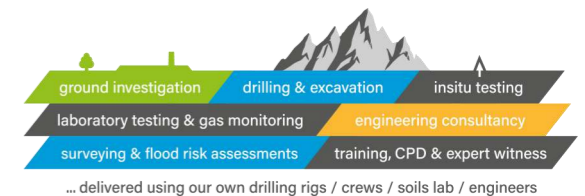
C3875/23/E/5883

Site:

Crow Nest Farm
Crawshaw Lane
Flockton, Huddersfield
West Yorkshire
WF4 4BY

Client:

Mr & Mrs Ellis



... delivered using our own drilling rigs / crews / soils lab / engineers

Appendix 5

Coal Mining Risk Assessment



Mr & Mrs Ellis
Crows Nest Farm
Crawshaw Lane
Flockton
Wakefield WF4 4BY

BY E-MAIL

Our Ref: ELS/01/JED

24th April 2020

Dear Mr & Mrs Ellis

Crows Nest Farm, Crawshaw Lane, Flockton
Coal Mining Stability Risk Assessment

In accordance with our commission, we are pleased to provide an assessment of the stability of the site with regard to coal mining. Details are provided below. The site is located adjacent to Crows Nest Farm, in Flockton, Wakefield. The site sits at an approximate elevation of 192m AOD in the west and 178m AOD in the east and currently comprises an access road and farm buildings.

Geology

The 1:10,000 scale Geological Map (Sheet SE21SW – Emley Moor, Solid and Drift), and the latest British Geological Survey (BGS) electronic data at 1:50,000 scale, which is public sector information licensed under the Open Government License v2.0, have been used to assess the geology of the local area. An oblique view geological map overlay for the site is attached.

The geological map shows no drift deposits to be present across the site. The bedrock geology is shown to comprise solid strata of sandstone of the Birstall Rock across the majority of the site, with undifferentiated mudstone, sandstone and siltstone of the Pennine Lower Coal Measures present in the southern corner of the site. The main development area slopes slightly, but is roughly at an elevation of 188m AOD. The geological map also shows historical opencast coal mine workings to be present approximately 30m to the southeast of the site.

The Second Brown Metal Coal (SBMC) is conjectured to “outcrop” approximately 30m to the south of the site at an elevation of between 183m AOD and 180m AOD, although this is within an area of opencast workings and is likely to represent the presence of the seam in the high walls. The Generalised Vertical Section (GVS) indicates the Third Brown Metal Coal (TBMC) seam to be present approximately 10m below the Second Brown Metal coal seam, although, there are no outcrops of the TBMC in the area. The strata are indicated to have a dip of 2.5° to the northeast. The SBMC seam is indicated to be between 0.4m and 0.7m thick and the TBMC seam is indicated to be between 0.5m and 0.6m thick. Working with the geological map and the conjectured dip, it is estimated that the SBMC is located approximately 6m below the site. Based on the GVS, any workings within the TBMC would be deep enough to not have any adverse effects on the site. The next coal seam in the sequence is approximately 18m below that of the TBMC, and is also sufficiently deep to mitigate any adverse effects on the site. Further details on the seams and likely



depths are given on the table below.

Seam	Approximate Depth Below Site	Thickness	Coal Seam Within Influencing Distance of Site
Second Brown Metal Coal	6.0m	0.4m to 0.7m	YES
Third Brown Metal Coal	16.0m (based on GVS)	0.5m to 0.6m	NO
Middleton Little Coal	34.0m (based on GVS)	0.3m to 0.7m	NO

Coal Authority and Coal Mining Report

A CON29M Coal Mining Report by Terrafirma was obtained by ARP Geotechnical Ltd, a copy of which is attached to this letter.

The site is within a surface area that could be affected by historical, probable shallow underground workings (<30m depth).

The site is recorded to be situated within 20m of a known coal seam outcrop. This coal is suspected to have been historically worked at depths of less than 30m beneath the surface, within the vicinity of the site.

The site is not situated within an area which could be affected by currently active or future underground coal mining. However reserves of coal exist in the local area which could be worked in the future, although ARP considers future underground workings to be highly unlikely given the effective abandonment of the UK coalfields.

There is one recorded mine entry on or within 20m of the site. The Coal Authority data lists this entry as a mine shaft, reference number 422414-017 (Square Pit). It is shown on the plan to be approximately 10.3m to the north of the proposed access track into the site. The shaft is conjectured to be 2.5m wide and 11m deep. There is no recorded treatment of this shaft in The Coal Authority records.

The site is not situated within any past Licence Area for the opencast extraction of coal. The site is not situated within an unlicensed opencast coal mining area. The site is not affected by any present or future proposed opencast coal mining.

Assessment of Coal Mining Instability – Conclusions

It is generally accepted rule of thumb that unless there is at least 10 times the seam thickness of rock cover above any workings, they have the potential to adversely affect ground stability on the site. It is anticipated that the coal seam is likely to be approximately 6m beneath the site, depending on the steeply dipping topography across the site.

On this basis, any working within the SBMC seam beneath the site, which is up to 0.7m thick, pose a risk to ground stability on the site. The workings may be present as bell pits or pillar and stall workings. There is a slight risk of unrecorded mine entries on the site.

In light of the above, it is recommended that an intrusive investigation is carried out to check for the presence of any workings following grant of planning permission, but before commencement



of development. The planning permission will usually include a condition relating to the investigation and possible future treatment of mine workings. The potential for mine entries (which, if present, may be in the form of shafts or bell pits) can be addressed by inspection of the ground surface at the site clearance stage, and the attendance of a geotechnical engineer to inspect any suspect features found during development works.

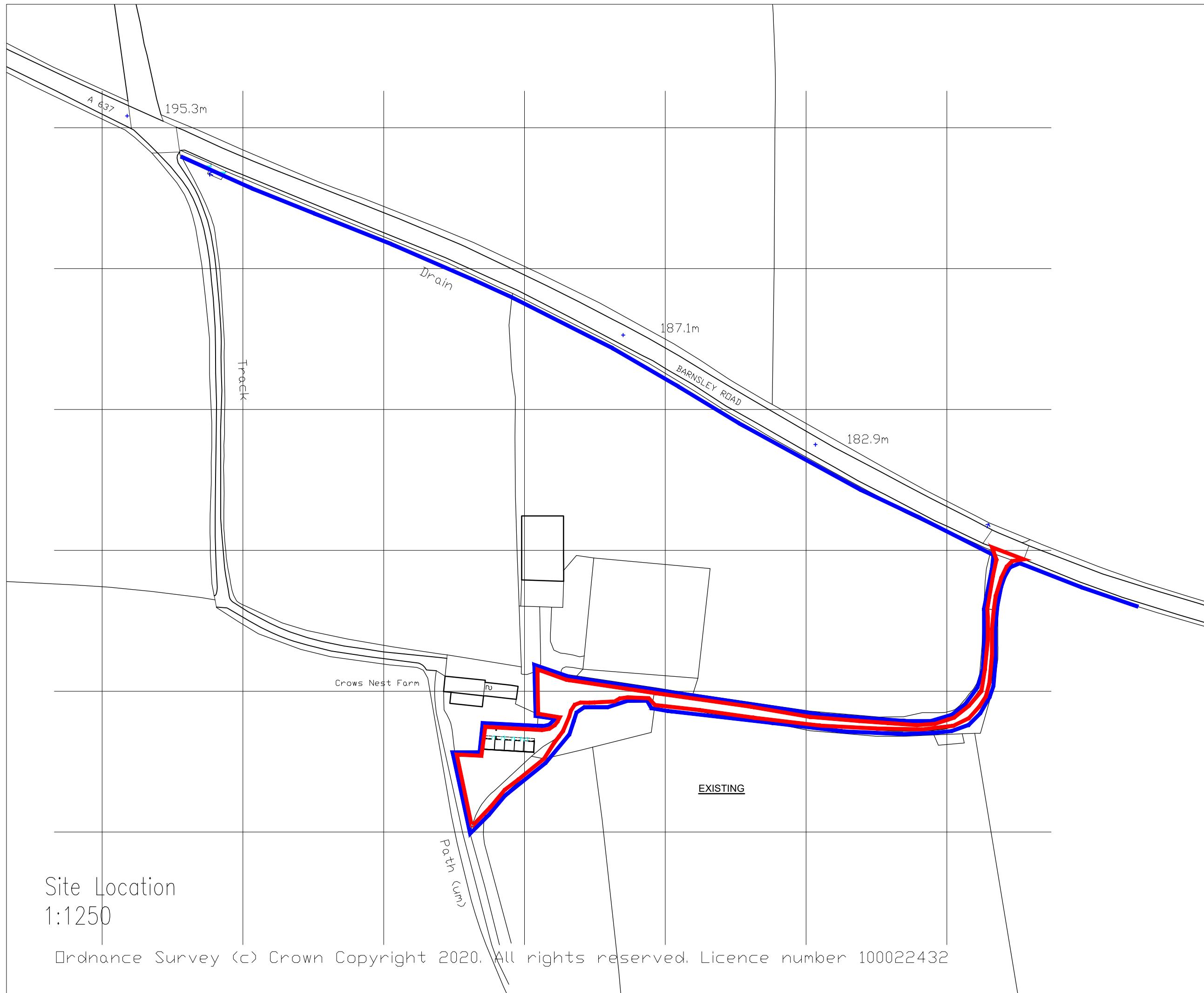
The presence of mine workings is not a significant obstacle to development, and there are economical engineering solutions available. ARP provided advice on and designs such treatment solutions on a regular basis.

We trust the above information is sufficient for your purposes, but if you have any queries, please do not hesitate to contact us, at your convenience.

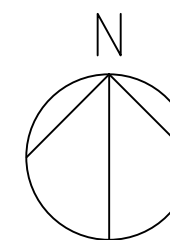
Yours sincerely
for ARP GEOTECHNICAL LTD

J Davey

Encs



NOTES
 DO NOT SCALE FROM THIS DRAWING.
 It is the Contractor's responsibility to check all governing dimensions and verify all dimensions on site before commencing any work or making any shop drawings.
 This drawing is to be read in conjunction with schedules of work, specifications, bills of quantities and other relevant information. Any discrepancies are to be reported to the Project Architect.
 Work and materials are to be in accordance with the Building Regulations and to comply with the relevant British Standards.
 This drawing is copyright of Mark Brotherton Ltd and should not be reproduced in whole or part without their written permission.



Rev:	Date:	Notes:
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FOX ARCHITECTURE & DESIGN
 Fox Cottage, Whitley Road, Whitley West Yorkshire, WF12 0LU
 T 01924 459231
 E info@foxarchitecture.co.uk
 www.foxarchitecture.co.uk

Client: Mr & Mrs S Ellis

Project: Crows Nest Farm Flockton

Drawing: Existing Site Location

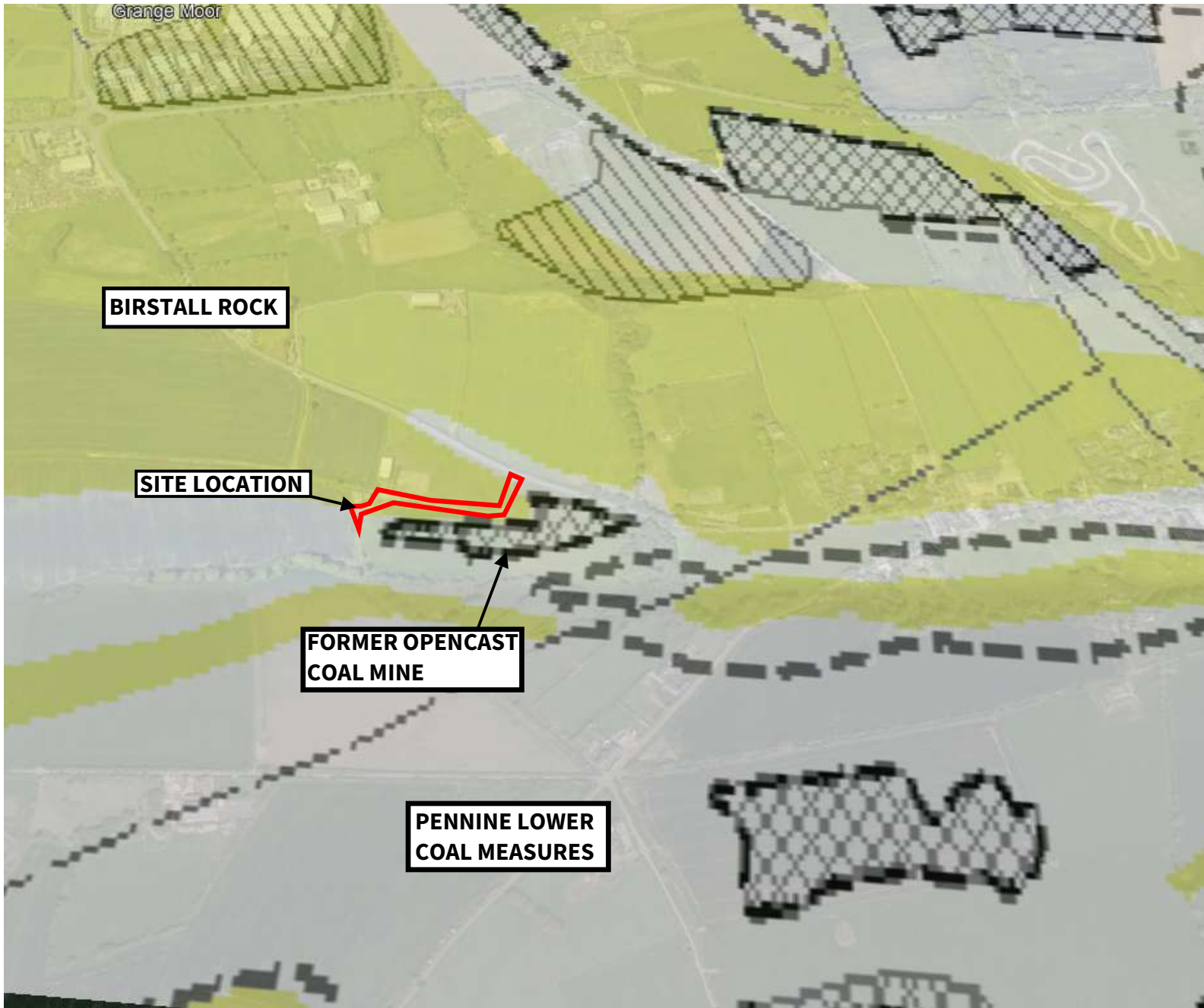
Date: Mar 2020	Scale: 1:1250 @ A3
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Drawing No: 1940/SK100	Rev:
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Site Location
 1:1250

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EXISTING



0m 190m

Approximate Scale



ARP GEOTECHNICAL LTD
CHARTERED CONSULTING ENGINEERS

Northwest House, 5-6 Northwest Business Park, Searby Hill, Leeds LS6 2QH
 Telephone: 0113 245 8498 Fax: 0113 244 3864 E-Mail: leeds@arpassociates.co.uk

Project
**CROWS NEST FARM
 FLOCKTON**

Client
MR & MRS ELLIS

Title
GEOLOGY OBLIQUE VIEW

Date
MARCH 2020

Drawn DMB	Scale AS SHOWN
---------------------	--------------------------

Job No.
ELS/01



KNOWN SHALLOW UNDERGROUND COAL WORKINGS

RECORDED MINE ENTRIES

SITE LOCATION

PROBABLE SHALLOW UNDERGROUND COAL WORKINGS



0m 200m

Approximate Scale

ARP
 ARP GEOTECHNICAL LTD
 CHARTERED CONSULTING ENGINEERS
Northwest House, 5-6 Northwest Business Park, Searby Hill, Leeds LS6 2QH
 Telephone: 0113 245 8498 Fax: 0113 244 3864 E-Mail: leeds@arpassociates.co.uk

Project
CROWS NEST FARM FLOCKTON

Client
MR & MRS ELLIS

Title
OVERVIEW OF HISTORICAL COAL MINING

Date
MARCH 2020

Drawn DMB	Scale AS SHOWN
---------------------	--------------------------

Job No.
ELS/01

Overall Result:

FURTHER ACTION (Incl. Mine Entry Interpretive Report)

Expert Opinion:

Within the scope of this assessment, the Site is considered to be susceptible to coal mining-related ground instability. Coal mining hazards have been identified that may restrict the completion of the transaction or impact the value or security of the Site for normal lending purposes. Prior to purchase, further actions are required to appropriately quantify the hazards identified.

Will coal mining activity impact the value of the property?

POTENTIAL IMPACT ON VALUE (see pg 2)



Are there adverse mining features that should be brought to the lender's attention?

NO NEED TO NOTIFY LENDER



Are there mining hazards that should be brought to the purchaser's attention?

HAZARDS IDENTIFIED (see pg 2)



It is important to be fully informed of all coal mining risks associated with a property before completing your purchase. **Please read the next steps on page 2 carefully.**

Within Coal Authority Mining Reporting Area Yes

CON29M Questions		Assessment
1. Past underground coal mining	YES	FURTHER ACTION
2. Present underground coal mining	NO	PASSED
3. Future underground coal mining	NO	PASSED
4. Shafts and adits (mine entries) <small>(Incl. Mine Entry Interpretive Report)</small>	YES	SEE MEIR
5. Coal mining geology	NO	PASSED
6. Past opencast coal mining	YES	ADVISORY
7. Present opencast coal mining	NO	PASSED
8. Future opencast coal mining	NO	PASSED
9. Subsidence Claims <small>(Incl. Subsidence Claims Buffer Report)</small>	NO	PASSED
10. Mine gas emissions	NO	PASSED
11. Emergency Call Out incidents	NO	PASSED
12. Withdrawal of support	YES	PASSED
13. Working facilities orders	NO	PASSED
14. Payments to owners of former	NO	PASSED

Report Address:

Crows Nest Farm, Barnsley Road,
Flockton, West Yorkshire,
WF44DN

Report Details:

TF Reference:
TFC2020323135317-WF44DN

Client Reference: ELS/01

Date: 27/03/2020

User Key:

Lender Further Action

Conveyancer Further Action

Purchaser Advisory

Passed - No Further Action

These colour signatures are used throughout the report. For the full key, please see the back of the report.

Official Coal Authority Licensed Data: V1_166_20200224_F | Updated 05-03-2020

Please see below Terrafirma's expert opinion and next steps with regards to the property. These may be copied into your Report on Title. No physical site inspection has been carried out. This official CON29M report highlights only the information which we have determined should be drawn to your attention however, other risks may be present. Relevant prudent enquiries for the purchaser are highlighted within the Next Steps.

● ● Report Conclusions:

Within the scope of this assessment, the Site is considered to be susceptible to mining-related ground instability. Prior to purchase, further actions are required to appropriately quantify the hazards identified.

Given the shallow depth of coal mining beneath the Site and the proximity to the coal seam recorded to have been mined directly beneath the Site, any movement within the worked coal seams beneath the Site, may trigger the upward migration of voids and consequently cause ground instability at surface.

A mine entry is recorded within 20 metres of the Site. See Mine Entry Interpretive Report for detailed findings and an expert interpretation of the risk of instability.

● ● Next Steps:

Please see the Mine Entry Interpretive Report for Next Steps.

● If you are planning on altering or developing the Site:

The Site is located within a "High Development Risk Zone", as defined by the Coal Authority. Due to the presence of recorded and/or unrecorded coal mining activity, any future development of the Site may trigger ground collapse and/or subsidence.

It should be noted that prior to site works or future development, your local planning authority may require you to commission a full Coal Mining Risk Assessment (CMRA) or Site Investigation by a qualified mining geologist/engineer.

In the event, you require further professional support, please contact Terrafirma directly to discuss the appropriate further steps.

Contact the report author by calling the Terrafirma team on: 0330 900 7500

This official CON29M Non-Residential Coal Mining Report is a site-specific interpretation of coal mining activity. These enquiries are The Law Society CON29M Coal Mining search enquiries and are used with permission of the Law Society. The Law Society CON29M Coal Mining search enquiries are protected by copyright owned by The Law Society of 113 Chancery Lane, London WC2A 1PL. Terrafirma's Terms and Conditions are applicable at the time the report was produced.





Mine Entry Interpretive Report

This report has been prepared using data licensed to Terrafirma by the Coal Authority at the time produced.

● Mine Entry Information

If you live in a mining area, there is a small risk that your home may be affected by ground movement associated with mine entries.

To identify if your property is within an area of possible ground movement, Terrafirma expertly model the actual or plotted position of the mine entry, its known or assumed diameter, the local geological conditions (including depth to rockhead, rock and soil properties and hydrogeological factors), historical land use and key attributes of the mine entry such as its age and depth. Using official Coal Authority and British Geological Survey data, Terrafirma have calculated a Zone of Influence (ZOI) for each individual mine entry to provide an accurate representation of the risk to your property. More information on how Terrafirma model the risk from mine entries can be found at the back of this report.

In the unlikely event of your property being damaged by coal mining subsidence, you can, under the provisions of the Coal Mining Subsidence Act 1991, make a claim against the mine owner. The mine owner will treat the mine entry and arrange for repairs to the property to be carried out to reasonable satisfaction of the property owner. The mine owner may also be liable to pay compensation for damage to moveable property such as furniture.

Please note – The Coal Mining Subsidence Act 1991 does not cover damage caused by extraction of minerals other than coal. It is recommended that an expert opinion that considers the risk of ground movement associated with non-coal mining and other ground perils is obtained prior to property purchase. For more information, visit: www.understandtheground.co.uk.

Expert Opinion:



The mine entry ZOI is unlikely to extend beneath the building footprint.



The mine entry ZOI may extend beneath the property boundary.



The mine entry is unlikely to pose a significant risk of ground instability. Historical shallow underground coal workings may pose a risk of ground instability.

Any insurance given with previous mining reports is applicable to this Mine Entry Interpretive Report.



For any mining or ground related issues
please contact the experts at Terrafirma

Call us on: 0330 900 7500

Email our team: info@terrafirmasearch.co.uk

The following mine entry has been identified within 20 metres of the Site and is shown on the Mining Hazard Map:

Mine Entry Reference: 422414-017	
Entry type	Shaft
Mineral extracted	Coal
Source of entry	1st Ed. Geological. Ab plans BE41 BE56 M1071
Mine entry name	Square Pit
Depth of shaft (m)	11
Diameter of shaft (m)	2.5
Is the entry treated?	No
Treatment date	Unknown
● Who owns the entry?*	CA
Distance (m)	10.3

*If result is not 'Coal Authority (CA)', further enquiries should be made with the Mine Entry Owner to identify subsidence liability.

●● Risk of Instability:

A mine entry, which is not recorded to have been treated, is recorded 10.3 metres north of the Site. The 'Zone of Influence' of the mine entry has been calculated based on the depth and composition of superficial deposits, and the mine entry diameter. According to the calculation, the mine entry 'Zone of Influence' would not extend within the Site boundary. Therefore, considering these parameters, in the statistically unlikely event it collapses or becomes unstable in future, this mine entry should not pose a risk to the ground stability of the Site.

The mine entry is recorded from a historical source and its precise location has therefore not been confirmed. A potential error radius of 8 metres has therefore been applied to its location. Taking this potential deviation into account, part of the Site grounds/gardens (the roadway nearest the mine entry) could be within the influence of the mine entry if it is located further south of its documented position, however, this would not extend beneath the footprint of the existing building (location of buildings/structures within Site boundary based on current OS mapping).

The Site (including the existing buildings) is underlain by historical shallow underground coal workings associated with the "Low Fenton" seam, and the eastern part of the Site is also underlain by workings associated with the "Parkgate" seam. The coal seams are recorded to be approximately 0.53 metres and 0.48 metres thick respectively. Workings within the "Low Fenton" seam beneath the existing building are calculated to occur at a depth of approximately 7-8 metres beneath the surface. Within the remainder of the Site, workings within the "Low Fenton" and "Parkgate" seams are calculated to occur at depths of between 5 - 12 metres beneath the Site. As a general principle, where the ratio of competent cover rock thickness to worked seam thickness is less than 10:1 the surface is considered more likely to be susceptible to ground movement. This is because movement within the workings can more easily propagate to the surface. As the exact thickness of workings beneath the Site is unknown, it is assumed to equate to the seam thickness.

With this consideration, the ratio of competent rock cover to the worked thickness beneath the existing building is considered to be sufficient to hinder the upward migration of voids. Therefore, there is a reduced likelihood that these workings would cause subsidence issues for the existing building if they became unstable in future. However, within the eastern part of the Site (the roadway section) the ratio



of competent rock cover to the combined worked thickness may not be sufficient to hinder the upward migration of voids. Therefore, if movement within these workings occurs in future, this could result in ground stability issues at the surface.

In addition, unrecorded shallow coal mine workings are suspected to occur beneath/in the immediate vicinity of the Site. If unrecorded workings are present at shallow depths beneath the Site, movement within the workings could cause ground instability at the surface.

Historical unlicensed opencast mining is documented to have occurred beneath the Site. This is where coal has been historically mined by opencast extraction methods; where irregularly back-filled pits and/or surface workings exist, there is the potential for future settlement and/or ground movement.

● ● Next Steps:

Terraforma recommend that an appropriate commercial RICS Structural and/or Building Survey is acquired for any properties/ structures present on the Site in question to assess, amongst other important considerations, their structural condition. This report will highlight any subsidence-related defects, which may relate to ground instability, while also noting any serious or dangerous issues that may require attention. This survey will also include advice on any defects, repairs or maintenance decisions.

It would be considered prudent to commission a qualified mining geologist/engineer to undertake a walkover survey of the Site grounds. The survey should aim to identify and assess any signs of subsidence in/around the documented location of the identified mining feature(s) and within the property.

If there is any change in the site use (e.g. public access or development), it is recommended that the appropriate precautions are taken. This may involve erecting safety fencing around the mine entries or conducting a full mining investigation if development is to be undertaken within the areas marked as 'Further Investigation Zone' or 'Affected Areas'.

It should be noted that prior to site works or future development, your local planning authority may require you to commission a full Coal Mining Risk Assessment (CMRA) or Site Investigation by a qualified mining geologist/engineer.

If subsidence features exist or if features that are affecting/could affect the ground stability of the Site are identified during a walkover survey, further investigation (such as geophysical or intrusive investigation) and subsequent remediation may be required.

● In the event of future subsidence:

In the unlikely event of your property being damaged by coal mining subsidence, you can, under the provisions of the Coal Mining Subsidence Act 1991, make a claim against the mine owner. The mine owner will treat the mine entry and arrange for repairs to the property to be carried out to reasonable satisfaction of the property owner. The mine owner may also be liable to pay compensation for damage to moveable property such as furniture.



Mining Hazard Map



Site Address: Crows Nest Farm, Barnsley Road, Flockton, West Yorkshire, WF44DN






Hazard Map Key

Coal Authority Data



Mine Entries

-  Adit
-  Shaft

Subsidence Claims

-  01 – Awaiting Decision
-  02 – Rejected
-  03 – Admitted
-  05 - Settled
-  06 - Withdrawn

Hazard Zones

-  Further Investigation Zone
-  Affected Areas

-  Site Boundary
-  20m 50m Scales

Mapping sourced from the Ordnance Survey © Crown copyright [and database rights] OS100058210



For any mining or ground related issues please contact the experts at TerraFirma


Call us on: 0330 900 7500

Email our team: info@terrafirmasearch.co.uk

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Detailed findings of coal mining activity:

1. Past underground coal mining

FURTHER ACTION 

Q. *Is the property within the zone of likely physical influence on the surface of past underground coal workings?*

A.

The Site is recorded to be within the surface area of historic, shallow coal mine workings.

The Site is recorded to be situated within 20 metres of a known coal seam outcrop. This coal is suspected to have been historically worked at depth of less than 30 metres beneath the surface, within the vicinity of the Site. Please see the report conclusions for further information.

2. Present underground coal mining

PASSED 

Q. *Is the property within the zone of likely physical influence on the surface of present underground coal workings?*

A.

The Site is not situated within an area which could be affected by currently active underground coal mining.

3. Future underground coal mining

PASSED 

Q. (a) *Is the property within any geographical area for which the Coal Authority is determining whether to grant a licence to remove coal by underground methods?*
 (b) *Is the property within any geographical area for which a licence to remove coal by underground methods has been granted?*
 (c) *Is the property within the zone of likely physical influence on the surface of planned future underground coal workings?*
 (d) *Has any notice of proposals relating to underground coal mining operations been given under section 46 of the Coal Mining Subsidence Act 1991?*

A.

The Site is not situated within an area which could be affected by any future underground coal mining. However, reserves of coal exist in the local area which could be worked at some time in the future.

The Site is not situated within the influence of a Section 46 Notice.

4. Shafts and adits (mine entries)

SEE MEIR




Q. Are there any shafts and adits or other entries to underground coal mine workings within the property or within 20 metres of the boundary of the property?

A.

1 mine entry(ies) have been identified within 20 metres of the site.

Reference	Type	Depth	Treated	Treatment Date	Diameter	Distance
422414-017	Shaft	11m	FALSE	None	2.5m	10.29m

5. Coal mining geology

PASSED 

Q. Is there any record of any fault or other line of weakness due to coal mining at the surface within the boundary of the property that has made the property unstable?

A.

There are no recorded faults, fissures or breaklines beneath or within the vicinity of the Site.

6. Past opencast coal mining

ADVISORY 

Q. Is the property situated within the geographical boundary of an opencast site from which coal has been removed in the past by opencast methods?

A.

The Site is not situated within any past licence areas for the opencast extraction of coal.

The Site is situated within an unlicensed opencast coal mining area.

7. Present opencast coal mining


PASSED 

Q. Is the property within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods?

A.

The Site is not situated within an area which could be affected by currently active opencast coal mining.

8. Future opencast coal mining

PASSED 


Q. (a) Is the property within 800 metres of the boundary of an opencast site for which the Coal Authority are determining whether to grant a licence to remove coal by opencast methods?
(b) Is the property within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted?

A.

There are no plans by the Coal Authority to grant a licence to extract coal using opencast methods within 800 metres surrounding the Site.



9. Coal mining subsidence claims

PASSED 

Q. (a) Has any damage notice or claim for alleged coal mining subsidence damage to the property been given, made or pursued since 1st January 1994?
(b) Does any current "Stop Notice" delaying the start of remedial works or repairs affect the property?
(c) Has any request been made under section 33 of the 1991 Act to execute preventive works before coal is worked?

A.

There is no record of any coal mining-related damage notices or subsidence claims for the Site or for any Site within 50 metres of the Site.

There is no record of a request that has been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

10. Mine gas emissions


PASSED 

Q. Does the Coal Authority have record of any mine gas emission within the boundary of the property being reported that subsequently required action by the Authority to mitigate the effects of the mine gas emission?

A.

There are no records of any Mine Gas hazards within the influence of the Site and there is no record of any Mine Gas emissions requiring action.

11. Emergency surface hazard call out incidents

PASSED 

Q. Have the Coal Authority carried out any work on or within the boundaries of the property following a report of an alleged hazard related to coal mining under the Authority's Emergency Surface Hazard Call Out procedures?

A.

The Site is not situated within the influence of a coal mining-related hazard.

12. Withdrawal of support

PASSED 

Q. (a) Does the land lie within a geographical area in respect of which a notice of entitlement to withdraw support has been published?
(b) Does the land lie within a geographical area in respect of which a revocation notice has been given under section 41 of the Coal Industry Act 1994?


A.

The property is in an area where notices to withdraw support were given in 1946.

The property is in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.



13. Working facilities orders

PASSED 

Q. *Is the property within a geographical area subject to an order in respect of the working of coal under the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof?*

A.

The property is not in an area for which any orders have been made under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14. Payments to owners of former copyhold land

PASSED 

Q. *Has any relevant notice, which may affect the property, been given?*

A.

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



Key and Colour Information

The below key provides further guidance on the colours used throughout this report.

Lender Further Action	Terrafirma has identified mining hazards within the vicinity of the Site, including features (e.g., mine shafts/ adits) that could affect the future value of the Site. A lender may want to be alerted to this adverse entry, due to requirements of UK Finance (formerly the Council of Mortgage Lenders), before deciding on whether to proceed with the transaction. The conveyancer is advised to follow the terms of the UK Finance Mortgage Lenders' Handbook and any additional instructions from the prospective lender in its consideration and determination of whether to refer any part of this report to the lender.
Conveyancer Further Action	Terrafirma has concluded that further expert analysis of the Site is required. Terrafirma does not believe that the transaction should continue until further actions have been undertaken to quantify the risk of subsidence or collapse to the Site. Terrafirma recommends that the conveyancer liaises with all necessary parties regarding the report's findings.
Purchaser Advisory	The purchaser's attention is drawn to the prudent advice outlined in the report, which Terrafirma recommends is read carefully. The report results should not hinder the transaction and Terrafirma's Terms & Conditions are valid for the Site.
Passed No Further Action	Terrafirma has not identified any mining features that influence the ongoing use or value of the Site. Terrafirma does not believe that any further actions are required for this transaction and Terrafirma's Terms & Conditions are valid for the Site.

Additional Remarks

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Future Development

In scenarios where mining activity has been identified, a prudent developer would seek appropriate technical advice before any works are undertaken.

In these areas, 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.



Notice of Statutory Cover

In the unlikely event of any future damage, the terms of the Coal Mining Subsidence Act 1991 (as amended by the Coal Industry Act 1994) apply*, and the Coal Authority / Licensee has a duty to take remedial action in respect of subsidence caused by the withdrawal of support from land and/or property in connection with lawful coal-mining operations. Typically, these actions will not need to involve either your insurance company or mortgage lender and therefore the end user(s) should not incur any costs or liability. *Note: this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

In addition to the above, it should also be noted that the Coal Authority offer a Public Safety and Subsidence Department that provides a 24-hour 7 day a week call out service (Tel: 01623 646 333) to take remedial action in respect of hazards associated with the movement or collapse of any coal mineshaft or entrances to coal mines and from other coal mining related surface hazards. Further information can be found on their website: www.groundstability.com.

Report Limitations

This CON29M Coal Mining Report has been carried out with reference to all available official Coal Authority licensed data, an extensive collection of abandoned mine plans, maps and records. From this material, we have endeavoured to provide as accurate a report as possible. Any and all analysis and interpretation of licensed Coal Authority data in this report is made by Terrafirma.

Information provided by Terrafirma in this report is compiled in response to The Law Society CON29M Coal Mining search enquiries and ScotForm 2006 coal mining search in Scotland. The scope of the assessment is concerned only with the interpretation of past, present and future extraction of coal minerals. This report does not consider the impact from non-coal mining hazards and/or natural ground stability hazards, such as subsidence, landslip or coastal erosion. For an expert opinion on all mining and ground hazards and in order to meet the requirements of Law Society Guidance Notes (2018) and best practice guidance in the 25th Edition Conveyancing Handbook (2018), you may choose to obtain a Terrafirma Ground Report by contacting a member of the team.

This report is a 'remote' investigation and reviews only information provided by the client and from the databases of publicly available information that have been chosen to enable a desk based environmental assessment of the Site. The report does not include a Site Investigation, nor does Terrafirma make specific information requests of the regulatory authorities for any relevant information they may hold.

This report is concerned solely with the Site searched and should not be used in connection with adjacent properties as only relevant known mining features have been mentioned and any known features that could potentially have a direct influence upon the target Site. Other features which may be present in the general area may have been omitted for clarity.

The report is based upon the Site boundaries as shown on the supplied location plan. This report is confidential to the client, the client's legal advisor and the client's Mortgage lender, as defined in the Terrafirma & TerraSearch® terms & conditions, and as such may be used by them for conveyancing or related purposes. We have no liability toward any person or organisation not party to commissioning this report. This report or any part of it is not permitted to be reproduced, copied, altered or in any other way distributed by any other person or organisation.



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This search has been produced by **TERRAFIRMA IDC LTD** – Address: 2440 The Quadrant, Aztec West Business Park, Almondsbury, Bristol, BS32 4AQ; Email: info@terrafirmasearch.co.uk; Telephone: 0330 900 7500, which is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered search firms maintain compliance with the Code.

This report meets the principles and requirements of the Property Codes Compliance Board Compliance Note CN02J in respect of Coal Mining Searches.

The Search Code

- provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom
- sets out minimum standards which firms compiling and selling search reports have to meet
- promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.



The Code's core principles (Firms which subscribe to the Search Code will):

- display the Search Code logo prominently on their search reports
- act with integrity and carry out work with due skill, care and diligence
- at all times maintain adequate and appropriate insurance to protect consumers
- conduct business in an honest, fair and professional manner
- handle complaints speedily and fairly
- ensure that products and services comply with industry registration rules and standards and relevant laws
- monitor their compliance with the Code

CONTACT TERRAFIRMA IF YOU WOULD LIKE A COPY OF THE SEARCH CODE

Complaints

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award up to £5,000 to you if the Ombudsman finds that you have suffered actual financial loss and/or aggravation, distress or inconvenience as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs Contact Details:

The Property Ombudsman scheme, Milford House, 43-55 Milford Street, Salisbury, Wiltshire SP1 2BP, Tel: 01722 333306, Fax: 01722 332296, Email: admin@tpos.co.uk, Web site: www.tpos.co.uk.

You can get more information about the PCCB from www.propertycodes.org.uk or from our website at www.terrafirmasearch.co.uk.

Complaints Procedure

If you want to make a complaint directly to Terrafirma, we will:

- Acknowledge it within 5 working days of receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

Complaints should be sent to: **Senior Executive, Terrafirma** - Address: 2440 The Quadrant, Aztec West Business Park, Almondsbury, Bristol, BS32 4AQ; Email: info@terrafirmasearch.co.uk; Telephone: 0330 900 7500.

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOs): Tel: 01722 333306, E-mail: admin@tpos.co.uk. We will co-operate fully with the Ombudsman during an investigation and comply with his final decision.

WE TRUST THIS REPORT PROVIDES THE INFORMATION YOU REQUIRE. PLEASE CONTACT US IF YOU HAVE ANY QUERIES OR IF WE CAN BE OF ANY FURTHER ASSISTANCE.





Terrafirma Coal & Brine Report Indemnity Certificate of Insurance

Schedule

Policy Number: GESI 0030930CV

Insurer	Great Lakes Insurance SE, UK Branch Great Lakes Insurance SE is a German insurance company with its headquarters at Königinstraße 107, 80802 Munich. Registered with the commercial register of the local court of Munich under number: HRB 230378. UK Branch office: Plantation Place, 30 Fenchurch Street, London, EC3M 3AJ. Great Lakes Insurance SE UK Branch is authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht and subject to limited regulation by the Financial Conduct Authority and Prudential Regulation Authority. Details about the extent of our regulation by the Financial Conduct Authority and Prudential Regulation Authority are available from us on request.
Insured/You/Your	The person who buys the Terrafirma Report from the Search Provider and or any of the following: <ol style="list-style-type: none">1. The person who asked for the Terrafirma Report in connection with the purchase of the Property (and their mortgagee)2. The person who purchased the Property (and their mortgagee) if the person selling the Property has asked for a Terrafirma Report for the benefit of the Purchaser as part of a seller's pack or if the Property has been purchased by way of auction3. The owner of the Property (and their mortgagee) if they are re-mortgaging the Property or the owner of the Property who has chosen to obtain a Terrafirma Report.4. Their estate and beneficiaries, to whom the benefit of the Certificate of Insurance will pass in the event of their death during the Period of Insurance.
Property	The residential or commercial property for which a Terrafirma Report is provided by the Insured for the benefit of the Insured at the Effective Date
Limit of Indemnity	£100,000.00 in the aggregate in respect of any one Property
Effective Date	Date of production of the attached Terrafirma Report.
Period of Insurance	From the Inception Date until terminated under the provisions of this Certificate of Insurance. Cover for each individual Property will be from the Effective Date until the Purchaser of the Terrafirma Report either (a) no longer has an interest in the Property or until the date of a Subsequent Terrafirma Coal & Brine Report is obtained by the Purchaser after the Effective Date, whichever is the sooner.
Insured Use	The continued use of the Property as a commercial property not exceeding 25 hectares as constructed at Inception Date.


R P Partington
Director


Signed by CLS Property Insight Limited on behalf and with the authority of the Insurer

Definitions

Where a word is defined below or in the Schedule, it will have the same meaning whenever it appears in this Policy

Administrator/We/Us	CLS Property Insight Limited, 17 Kings Hill Avenue, West Malling, Kent, ME19 4UA. CLS Property Insight Limited can be contacted by email at: info@clspropertyinsight.co.uk or by telephone on 01732 753 910.
Effective Date	The date the Terrafirma Report is provided to the Insured by the Search Provider being the date that cover will commence for each individual Property.
Market Value	The value of the Insured's interest in the title to the Property as determined by a surveyor appointed by agreement between the Insurer and the Insured, but subject to General Condition 11.
Search Provider	Terrafirma IDC Ltd

Cover

Subject to the terms and conditions of this Policy and provided the Property has been declared to the Insurer and the Premium inclusive of Insurance Premium Tax has been paid to the Administrator by the Search Provider, the Insurer will indemnify the Insured during the Period of Insurance in respect of Loss arising from any claim by a Purchaser under the provisions of the Coal and Brine Search Insurance Conditions of the Terrafirma Coal & Brine Report resulting from data having been incorporated into such Terrafirma Coal & Brine Report.

Loss

1. The loss in Market Value of the Property directly attributable to any changes in the information revealed in a subsequent Terrafirma Coal & Brine Report obtained by the Insured which was not revealed in the Terrafirma Coal & Brine Report provided to the Purchaser which was carried out on the Effective Date, such loss in Market Value to be calculated at the date of the subsequent Terrafirma Coal & Brine Report; and
2. All other costs and expenses which have been agreed in advance by the Insurer.

Exclusions

The Insurer will not be liable to indemnify the Policyholder and/or the Purchaser for:

1. Loss which is or would otherwise be recoverable under a buildings insurance policy;
2. Loss arising wholly or partly because of the wilful act or neglect of the Policyholder and/or the Purchaser;
3. Loss if at the date of a claim the Purchaser is not the legal or beneficial owner of the Property;
4. Loss in relation to loss of a transaction for the sale or for the purchase of the Property and any costs incurred by the Purchaser in relation to the loss of such transaction;
5. Loss in respect of structural or other physical damage caused to the Property by subsidence or flooding after the Effective Date;
6. Loss in relation to the contents of any brine data whatsoever contained within the standalone Terrafirma CON29M report.
7. Loss as a result of any change in information in response to sections 3 – Future underground coal mining and 8 – Future opencast coal mining of the Terrafirma Coal & Brine Report carried out at the Effective Date.
8. Loss in respect of the information in any subsequent Terrafirma Coal & Brine Report after the Effective Date if this information also appears on the Terrafirma Coal & Brine Report issued to the Purchaser on that date.

9. Loss in relation to any change to the CON29M (2018) Search form and/or the Terrafirma Coal & Brine Report made after the Effective Date which affects Insurer's responsibility under this Policy, if Insurers would not have been responsible for the Loss before such change.
10. Loss in relation to any change in the interpretation of information upon which the Terrafirma Coal & Brine Report was produced provided such information remains unchanged.

Claims Conditions

1. It is a condition precedent of the Insurer's liability under this Policy that the Policyholder and/or the Purchaser will give written notice to the Administrator at the address shown under "Making a Claim", below, as soon as reasonably practicable, of any circumstances likely to give rise to a claim for which the Insurer may be liable under this Policy and provide the Administrator with such information and documentation as may reasonably be requested.
2. The Insurer will be entitled to decide how to defend or settle a claim.
3. The Insurer will be entitled to participate fully in any defence, negotiation or settlement of a claim or circumstance and in any such event the Policyholder and/or the Purchaser will (to the extent reasonably practicable in the circumstances, but without limitation):
 - (i) not incur any cost or expense without first consulting with and receiving written consent from the Insurer;
 - (ii) not make any admission of liability, offer, settlement, promise, payment or discharge without first consulting with and receiving written consent from the Insurer;
 - (iii) give the Insurer access to and provide the Insurer with copies of all correspondence and documentation available to the Insured in relation to the claim or circumstance and afford the Insurer sufficient time in which to review and comment on such documentation;
 - (iv) inform the Insurer of any proposed meeting with any third party in relation to a claim or circumstance and allow the Insurer to attend such meeting and, if the Insurer so requests, provide a detailed written account of the subject and outcome of any such meeting or discussion at which the Insurer was not present;
 - (v) conduct all negotiations and proceedings in respect of any claim or circumstance with advisers of which the Insurer has approved in writing and take such action as the Insurer may reasonably require to contest, avoid, resist, compromise or otherwise defend any claim or circumstance;
 - (vi) provide the Insurer with such other information and assistance in connection with any claim or circumstance as the Insurer may reasonably request.
4. The Insurer will be entitled to all rights and defences it may have in respect of a claim by a Purchaser against any successor to that Purchaser.
5. If at the time of any claim made under this Certificate of Insurance there is any other insurance in place whether effected by the Insured or by any other person under which the Insured may be entitled to make a claim the Insurer will be liable to pay or contribute in respect of a claim under this Certificate of Insurance only rateably with such other insurance.
6. If the Insured makes any claim knowing it to be false or fraudulent as regards amount or otherwise, this Certificate of Insurance will become voidable and all claims under it may be forfeited.

General Conditions

1. The due observance and fulfilment of these General Conditions and all other terms of this Policy, so far as they relate to anything to be done or complied with by the Policyholder and/or the Purchaser, are conditions precedent to any liability of the Insurer under this Policy.
2. The Insurer and Administrator agree that each will, where required to take any action or provide its consent or compliance, do so reasonably and without undue delay.
3. The Insured will only use the Property for the Insured Use.
4. The Insured will not, without the written consent of the Insurer, communicate on any matter regarding this Policy with any party without the Insurer's prior written consent.
5. This Certificate of Insurance will be governed by and construed in accordance with the law of England and Wales and is subject to the jurisdiction of the courts of England and Wales.
6. The total liability of the Insurer in respect of all claims made under this Certificate of Insurance will not exceed, in the aggregate, the Limit of Indemnity in respect of the Property.
7. This Certificate of Insurance will not be in force unless it has been signed by a person who has been authorised to do so by the Insurer.
8. The Insured will take reasonable steps to mitigate Loss provided that the cost of such steps taken at the request of or with the written consent of the Insurer after notification of a claim or circumstance likely to give rise to a claim to the Insurer will be borne by the Insurer.
9. The Insurer may, at its discretion and at its own cost, with the prior consent of the Insured, take any action which it considers necessary to prevent or minimise Loss whether or not it is liable under this Policy (including but not limited to pursuing or defending any action at law or otherwise or making an application to a court, the Upper Tribunal (Lands Chamber) or other body of competent jurisdiction in the name of and on behalf of the Purchaser in relation to any Loss and by doing so the Insurer will not be taken to have conceded any liability or waived any provision of this Policy.
10. If the Insurer agrees or is obliged to make any payment to or on behalf of a Purchaser because of any loss relating to an insured Property, the Insurer will immediately be subrogated to any rights which that Purchaser may have in relation to any loss.
11. If any dispute arises as to Market Value or an amount to be paid under this Policy (the Insurer having otherwise accepted liability) such dispute will be referred to an arbitrator to be appointed by agreement between the Insurer and Insured or, failing agreement, by the President at that time of the Royal Institution of Chartered Surveyors. Where referral to arbitration is made under this Condition, the making of an award will be a condition precedent to any right of action against the Insurer. The costs of any arbitration will be shared equally by the Insurer and Insured.
12. For the purposes of this Certificate of Insurance, the Administrator is authorised to provide any consent required under the terms of this Certificate of Insurance on behalf of the Insurer.

Cancellation Rights

This Policy may be cancelled by contacting the Cancellations Department at cancellations@clspropertyinsight.co.uk within 14 days of the Inception Date. Provided no claim has been made or is pending any premium paid will be refunded in full. No refund of premium will be available if the policy is cancelled after 14 days from the Inception Date.

If the premium is not paid to Us within 14 days, We have the right to cancel the policy from the Inception Date. Notice will be sent to the Insured in the post.

If this Policy is cancelled, this may breach a condition of a loan secured over the Property or other terms for the sale of the Property.

Making a Claim

As soon as any circumstances likely to lead to a claim under the policy become known to You, please write with details to the Claims Manager at claims@clspropertyinsight.co.uk quoting the policy number. Please be aware of the Claims Conditions and General Conditions of the policy.

Complaints Procedure

We aim to provide an excellent service. If You have any cause for complaint You should, in the first instance, contact the Administrator by email complaints@clspropertyinsight.co.uk, by telephone at 0203 409 9510 or by post to CLS Property Insight Limited, 17 Kings Hill Avenue, West Malling, Kent, ME19 4UA. Please quote the details of the Policy (surname and initials, policy number and property address). If the matter is not resolved to Your satisfaction, please write to:

The Complaints Manager, ERGO UK Specialty Limited for Great Lakes Insurance SE, UK Branch, by email complaints@ergo-commercial.co.uk, by telephone 020 3003 7130 or by post to ERGO UK Specialty Limited for Great Lakes Insurance SE, Munich Re Group Offices, Plantation Place, 30 Fenchurch Street, London, EC3M 3AJ.

If You are still dissatisfied then You may have a right to refer Your complaint to:

The Financial Ombudsman Service

Exchange Tower

London E14 9SR

0800 023 4 567 Calls to this number are now free on mobile phones and landlines

0300 123 9 123 Calls to this number cost no more than calls to 01 and 02 numbers

Email at: complaint.info@financial-ombudsman.org.uk.

Financial Services Compensation Scheme (FSCS)

ERGO Versicherung AG, UK Branch is covered by the Financial Services Compensation Scheme (FSCS) You may be entitled to compensation from the scheme in the unlikely event that it cannot meet its obligations if You are an individual, an unincorporated association or a small business. The FSCS will meet up to 90% of Your claim without any upper limit. Further details can be obtained from www.fscs.org.uk or You may contact the FSCS on 020 7741 4100 for further details.

Data Privacy Notice

The privacy and security of Your personal information is very important to CLS Property Insight Limited ('CLS'). The details provided here are a summary of how We process – that is collect, use, share, transfer and store – Your information.

For our full Data Privacy Notice please visit Our website <https://cls.co.uk/Content/PDFs/Website/Privacy%20Statement.pdf> or contact our Compliance Manager at: 17 Kings Hill Avenue, Kings Hill, West Malling, ME19 4UA or by email: Compliance@clspropertyinsight.co.uk or by telephone: 01732 753 910.

Your insurance brokers or other intermediaries (if applicable) may have their own reasons for processing Your personal data. Please contact them directly should You require further information about their uses of Your data.

Collection of data

CLS may collect a range of personal and business information supplied by You or third parties on Your behalf. This information may include the following: basic personal details such as Your name, address, telephone number, gender, marital status, and additional information about Your insurance requirements, such as details of Your business.

We will always attempt to explain clearly when and why We need this information and the purposes for which We will use it and where necessary We will obtain Your explicit consent to use personal data.

CLS may also collect data about You, Your business or the insured property from a number of different sources, including but not limited to the electoral roll, third party databases available to the insurance industry, other insurance firms, loss adjusters and/or other parties involved in the process of administering a claim, as well as publicly available sources.

Personal data about others

We may collect data about other individuals, such as Employees, family, or members of Your household. If You give Us information about another person, it is Your responsibility to ensure and confirm that You have told that person why and how CLS uses personal data and that You have that person's permission to provide that data to Us and for Us to process it.

Our uses of data

CLS uses the data We collect to operate our business and provide the products We offer. The information We collect may be used for (amongst other purposes) the following: to assess Your application for a quote or product; to evaluate the risk You present; to verify Your identity; to administer Your Policy and deliver our services; to conduct statistical analysis for pricing purposes; to administer claims; and to investigate and resolve complaints.

Should the need arise, CLS may also use data for the following purposes: to collate Your Policy or claims history; to undertake credit referencing or credit scoring and to assist with financial crime and fraud detection.

Sharing Your data

If You request a quote, or purchase a product, Your personal information may be shared with and processed by a number of third parties which include but are not limited to regulatory, dispute resolution or law enforcement bodies; other insurance organisations including reinsurers; fraud prevention and credit reference agencies (who may keep a record of the search); or other relevant third parties within our administrative structure.

Your data may be disclosed when We believe in good faith that the disclosure is required by law; necessary to protect the safety of our employees or the public; required to comply with a judicial proceeding, court order or legal process; or for the prevention or detection of crime (including fraud).

Transfer and Storage of Your Data Overseas

Personal details may be transferred to countries outside the EEA. They will at all times be held securely and handled with the utmost care in accordance with all applicable principles of English law. Personal details will not be transferred outside the EEA unless the transfer is to a country which is considered to have equivalent standards with regard to data protection, or We have taken reasonable steps to ensure that suitable data protection standards are in place.

Data Retention

CLS will only keep data for as long as it is necessary to continue providing our products and services to You and/or to fulfil our legal and regulatory obligations in line with our data retention policy.

Data Subject Rights

You have a number of rights in relation to the information We hold about You. These rights include but are not limited to the right to a copy of Your personal information We hold; to object to the use of Your personal information; to withdraw any permission You have previously provided; and to complain to the Information Commissioner's Office at any time if You are not satisfied with our use of Your information. For a more complete list of Your rights please refer to the full Data Privacy Notice.

Please note that there are times when We will not be able to delete Your information. This may be as a result of a requirement to fulfil our legal and regulatory obligations, or where there is a minimum statutory period of time for which We have to keep Your information. If We are unable to fulfil a request We will always let You know our reasons.

Changes to this Data Privacy Notice

We may amend this Data Privacy Notice from time to time for example, to keep it up to date or to comply with legal requirements. Should any significant changes be made to the ways in which CLS processes data from those described at the time of collection, We will post a notice on our website.