

**Environmental
Geotechnical
Specialists**



PHASE 1 ENVIRONMENTAL DESK STUDY

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Contents

		Page
1.	Introduction	1
2.	Review and Summary of Published Data	2
2.1	Historical Land Use	3
2.2	Published Geology and Geological Hazards	3
2.3	Construction Issues	5
2.3.1	Foundation Construction	5
2.3.2	Site Won Materials	5
2.3.3	Disposal of Site Materials	5
2.4	Mining and Natural Cavities	5
2.5	Waste Management and Gas Monitoring	6
2.6	Hydrogeology, Hydrology	7
2.7	Sensitive Land Use	8
2.8	Industrial Land Use and Potential Sources of Contamination	8
3.	Coal Mining Risk Assessment	9
3.1	Geological Desk Study	9
3.2	Coal Risk Assessment	9
3.3	Conclusions and Further Investigation	11
4.	Preliminary Qualitative Risk Assessment	11
4.1	Conceptual Ground Model & Preliminary Qualitative Risk Assessment	12
5.	Intrusive Investigation	16
5.1	Site Investigation Philosophy	16
5.2	Site Specific Investigation	16
5.2.1	Contamination Assessment	17
5.2.2	Geotechnical Assessment	18
5.2.3	Rotary Probing Investigation	19
6.	References	19

Appendices

1.	Groundsure Reports
2.	Historical Maps
3.	Site Plans
4.	Photographs
5.	Coal Authority Report



Report on a Phase One Desk Study and Coal Mining Risk Assessment

Location:	Manor Farm Stainborough Lane, Hood Green, Barnsley, South Yorkshire, S75 3HA		
For:	Fairbank Investments Ltd		
Report No.	C754/20/E/1163	Report date:	May 2020

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

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1. Introduction

The site comprises an area of brownfield land located off Stainborough Lane, Hood Green, Barnsley, S75 3HA. The site is approximately 0.49 hectares in size and its National Grid reference is centred around 431362 402007.

It is understood that the development proposals currently comprise the construction of one new build residential property as well as the conversion of part of the current building to form a second residential property. 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 20th May 2020 and the following observations were made:

General site description/current site use

The site comprises a number of agricultural buildings with associated hardstanding. Part of the agricultural building in the northwest of the site has been converted into a commercial unit which is currently used by a firm undertaking campervan conversions.

Site boundaries/access

Access is off Stainborough Lane at the sites north-east corner. Further access may also be possible across the field to the southwest of the site.

Topography

The site slopes gently downwards towards the southwest.

Surface cover of site

The areas surrounding the agricultural buildings to the north, east and south are covered by various forms of hardstanding. However, the south-western area of the site comprises part of an agricultural field.



Visible evidence of contamination/ contaminative sources

There were no visible signs of contamination present during the time of the walkover.

Presence of vegetation and wildlife

Grass was present on the south-western section of the site and the sites southwest border comprised hedgerows. 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

The site is located within an agricultural and residential area, with agricultural land present to the north, south and west and residential buildings to the east.

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 Fairbank Investments 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.

- | | |
|-----------------------------|--------------|
| ▪ Groundsure Reports | - Appendix 1 |
| ▪ Historical maps | - Appendix 2 |
| ▪ Site Plan | - Appendix 3 |
| ▪ Photographs | - Appendix 4 |
| ▪ Consultants Mining Report | - 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
1850 – 1906	The site is marked as Stainborough Lane Farm. The southern and western sections of the site appear to be part of agricultural fields. The eastern section of the site contains one small building and a larger L-shaped structure, which are anticipated to be agricultural in nature.	Further buildings associated with Stainborough Lane Farm are present to the east of the site. Crowther Wood – 30m NE. Well – 15m NW, 35m NE.
1929 – 1956	A third, large and square, building has now been constructed which occupies the centre of the site.	Crowther Wood is now marked Walker Wood.
1960 – 1977	The small building on site now appears to have been removed.	Residential Properties – 175m SW The surrounding area remains largely unchanged.
1983 – 1993	The buildings on site appear to have been replaced by a larger structure, which covers the majority of the site. Two smaller structures are also present on the northern side of the site. The buildings match the footprint of those currently on site. Two tanks are also present towards the sites southwest corner. It is assumed that they are above ground.	Stainborough Lane Farm is now marked as Manor Farm.
2001 – 2020	The tanks appear to have been removed, however the majority of the site remains unchanged.	The surrounding area remains largely unchanged.

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 previous construction may have resulted in the presence of made ground.
Superficial Geology	N/A	N/A	Not indicated to underlie the site.
Solid Geology	Pennine Lower Coal Measures Formation - Mudstone, Siltstone and Sandstone (SW Section of Site)	-	Interbedded grey mudstone, siltstone and pale grey sandstone, commonly with mudstones containing marine fossils in the lower part, and more numerous and thicker coal seams in the upper part.
	Pennine Lower Coal Measures Formation – Sandstone (NE Section of Site)	-	An unnamed sandstone member within the Pennine Lower Coal Measures formation.

³ See Appendix 2

⁴ Sources: British Geological Survey (NERC) Map Sheets 87; Barnsley; 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]



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.
		Vein Mineral/Iron ore	Localised small scale vein mineral/iron ore mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered.
Linear Features	On Site	Coal Seam	Inferred.
	1m NW	Fault	Normal fault, inferred.
	80m NW	Coal Seam	Inferred.
	147m SW	Fault	Normal fault, inferred.
	147m SW	Coal Seam	Inferred.
	154m NW	Fault	Normal fault, inferred.
	155m SW	Coal Seam	Inferred.
	178m NW	Coal Seam	Inferred.
	183m SW	Fault	Normal fault, inferred.
	198m W	Coal Seam	Inferred.
	211m N	Coal Seam	Observed.
	234m N	Coal Seam	Observed.
	236m W	Coal Seam	Inferred.
Landslip Deposits	No data	No data	No data
BGS BOREHOLE DATA			
Reference ⁶	Location	Strata Description	Depth
None recorded within 250m or a similar geology.			
NATURAL GROUND SUBSIDENCE & HAZARDS ⁷			
Type		Risk Rating	
Potential for collapsible ground stability hazards		Very Low.	
Potential for compressible ground stability		Negligible.	
Potential for ground dissolution stability		Negligible.	
Potential for landslide ground stability		Very Low.	
Potential for running sand ground stability		Negligible.	
Potential for shrinking or swelling clay ground stability		Very Low.	
Radon		The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level. BR211 states that no radon protective measures are required.	

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

⁷ See Groundsure report



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, subject to the findings of any further intrusive coal investigations.. It should be appreciated that an intrusive geotechnical investigation will also be required to validate this opinion. Moreover, it is possible that undifferentiated strata within the Pennine Lower Coal Measures Formation 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 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.

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 Consultant's Coal Mining Report has therefore been obtained that is included in appendix 5 of this report and may be 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 property is in a surface area that could be affected by underground mining in 1 seam of coal between 72m and 75m depth and worked between 1906 and 1976.
2	Probable Unrecorded Shallow Workings	Yes	Probable unrecorded shallow workings may be present.
3	Spine Roadways at Shallow Depth	No	No spine roadway recorded at shallow depth.
4	Mine Entries	No	None recorded within 100 metres of the site boundary.
5	Abandoned mine plans	Yes	Plans of abandoned mine workings below the site are suggested to be available by the coal authority.
6	Outcrops	Yes	One seam, the Middleton Main, is noted to outcrop on the site.
7	Geological Faults	No	No faults, fissures or breaklines recorded.
8	Opencast Mines	No	None recorded within 250 meters of the enquiry boundary.



9	Coal Authority Managed Tips	No	None recorded within 500 metres of the enquiry boundary.
10	Site Investigations	No	None recorded within 50 metres of the enquiry boundary.
11	Remediated Sites	No	None recorded within 50 metres of the enquiry boundary.
12	Coal Mining Subsidence	No	The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994. There is no current Stop Notice delaying the start of remedial works or repairs to the property. The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.
13	Mine Gas	No	None recorded within 500 metres of the enquiry boundary.
14	Mine Water Treatment Schemes	No	None recorded within 500 metres of the enquiry boundary.
15	Future underground mining	No	None recorded.
16	Coal mining licensing	No	None recorded within 200 metres of the enquiry boundary.
17	Court orders	No	None recorded.
18	Section 46 notices	No	No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.
19	Withdrawal of support notices	No	The property is not in an area where a notice to withdraw support has been given. The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support..
20	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

The Groundsure report indicates that localised small scale vein mineral/iron ore 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
Landfills	-	None recorded within 250m	N
Other waste sites	-	None recorded within 250m	N
Environment Agency/Natural Resources Wales licensed waste sites	-	None recorded within 250m	N



Waste Exemptions	On Site	Various using waste exemption – on a farm.	N
MADE GROUND & INFILLED GROUNDWORKINGS			
Description	Location	Comments	Monitoring Requirement
Records of Potentially Infilled Features	195m W	Pond (1951)	N*

*This source lacks immediate proximity to the site and due to the age of any likely infill and the limited extent of the source, it is considered unlikely to be producing harmful levels of gasses such that significant harm would occur.

2.6 Hydrogeology, Hydrology

Table 5: Ground/Controlled Water Sensitivity and Flooding

ENVIRONMENT AGENCY AQUIFER DESIGNATION ⁸				
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 SENSITIVITY ⁹				
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.		
Groundwater Vulnerability	On Site	Bedrock geology – Medium Vulnerability.		
CONTROLLED WATERS ¹⁰				
Description	Location	Details		
River Network Entries	243m NE	Unnamed river/beck.		
Surface Water Features	Within 250m	1 surface water records present within 250m. Unknown type.		
POLLUTION INCIDENTS ¹¹				
Pollutant		Receptor	Location	Date
None recorded within 250m.				

⁸ See Appendix 1

⁹ See Appendix 1

¹⁰ See Appendix 1

¹¹ See Appendix 1



ENVIRONMENT AGENCY FLOOD RISK ¹²		
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	-	Limited potential for groundwater flooding to occur.

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	Existing.
Green Belt	On Site	South and West Yorkshire Greenbelt.
Ancient Woodland	10m – 115m N/NW	Walker Wood.
Countryside Stewardship (Middle Tier)	On site	Existing.

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
Historical construction	On site	Artificial/made ground.
Tanks (Unspecified)	On Site (1983 – 1993)	Unspecified works/factories/features.
CURRENT		
Land Use	Location	Classification
Vamoose Camper Conversions.	On Site	Road vehicle fuelling, service and repair: garages and filling stations.

¹² See Appendix 1

¹³ See Appendix 1

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



3. Coal Mining Risk Assessment

3.1 Geological Desk Study

There are no dip indicators relevant to the site (i.e. within 500m of the site or within the same fault block) on the geological map. However, taking into account the structure of the regional geology and outcrop patterns, it can be anticipated that the solid geology within the local area dips towards the northeast.

On the basis of the information revealed from the Geology of Britain Viewer¹⁵, there are two coal seams that outcrop within the local area. These coal seams have been identified from the relevant BGS maps¹⁶ as the Middleton Main (also referred to as the Thorncliffe Thin, and labelled TN on the BGS Map sheet 87) which is on site and the Silkstone Four Foot seam which is 125m SW. There may also be a thin unnamed coal present between these two seams.

Based on the Middleton Main being at surface and the generalised vertical section (GVS) on the relevant BGS map, these seams are summarised as follows:

Table 8: Summary of Coal Seams Within the Vicinity of the Site.

Seam Name	Seam thickness ^{5*}	Outcrop distance from site ^{5*}	Anticipated depth below site
Middleton Main (MM)	0 – 3.1	On Site	At or near to surface.
Unnamed Coal	Thin	Not shown	Approximately 10m
Silkstone Four Foot (SF)	0 – 1.6	125m W	Approximately 25m

*All distances are given as approximations only. It should be noted that coal seam thicknesses vary over relatively short distances

On the basis of the above, there is a potential that the Middleton Main, an unnamed coal and the Silkstone Four Foot (SF) coal may be present underneath the site, within 30m of the top of rockhead.

The British Geological Survey (NERC) keeps borehole records from across Britain which are available for public viewing through their website⁷. As part of this study, the records in the area around the site have been reviewed in order to assist in establishing the geological conditions. Unfortunately, in this instance, there are no borehole scans available within the vicinity of the site that will assist with this assessment.

3.2 Coal Risk Assessment

The risk to the stability of the proposed development has been evaluated with respect to the above and with reference to the following ratings and definitions:

- Low -** The possibility of instability is unlikely therefore no further action is necessary.
- Moderate -** The possibility of instability is likely and further investigation or remedial action may be required.
- High -** The possibility of instability is highly likely and further investigation or remedial action will be necessary.

**Table 9: Development specific coal mining risk assessment**

Item	Risk of Instability	Coal Seam(s) Considered	Risk Rating
1	Shallow coal seams	Middleton Main (MM)	Moderate
		Unnamed Coal	Moderate
		Silkstone Four Foot (SF)	Low
2	Coal workings at depth	Claywood Ironstone, Silkstone Coal and deeper	Low

On the basis of all of the information provided above, three coal seams are anticipated to be present within 30m of the surface at the site. Whilst these seams may be of limited thickness, the possibility of these seams being worked below the site cannot be ruled out. Historic coal mining activity is evident in the nearby area; it is evident that the Middleton Main coal Seam has been removed via unlicensed opencasting to the east of the development. As such, it is considered that if coal was known to be close to ground level it could have been removed illicitly via shallow mining methods or surface workings with relative ease.

It may be noted that guidance available from both the NHBC and the CIRIA publication, SP32 - *construction over abandoned mine workings*, suggests that competent overburden thickness above a coal seam should be greater than 10 times the thickness of a seam plus seam thickness in order that the collapse of workings would pose a low risk to surface structures.

On this basis, assuming a maximum thickness of the coal seams, the table below suggests the thickness of competent overburden required above each seam to mitigate instability at the surface.

Table 10: Required Thickness of Competent Overburden

Seam Name	Seam thickness	Anticipated depth below site	Required thickness of competent overburden.
Middleton Main (MM)	0 – 3.1	At or near to surface.	34.1m
Unnamed Coal	Thin	Approximately 10m	Unknown
Silkstone Four Foot (SF)	0 – 1.6	Approximately 25m	17.6m

Based on the above information, it is considered that there will be a sufficient thickness of competent overburden above the Silkstone Four Foot (SF) seam in order to prevent the risk of instability posed by the presence of any illicit workings. Therefore, a low risk rating has been placed on this seam.

However, it is considered that there may not be a sufficient thickness of competent overburden above the Middleton Main seam in order to prevent the risk of instability posed by the presence of any illicit workings. Therefore, a moderate risk rating has been placed on this seams, and further investigation is recommended to prove or disprove the presence of illicit mining activity.

Due to the shallow nature of the Middleton Main, there is some possibility that the seam could have been removed my small scale surface workings, such as bell pits. Whilst no evidence of such activity has been highlighted within the historical OS map review, or during the site walkover, the possibility that such features could exist should be taken into consideration.

Furthermore, based on the anticipated depth of the unnamed coal seam depth below ground level, there may not be a sufficient thickness of competent overburden above this seam to prevent the risk



of instability posed by the presence of any illicit workings, if present. Therefore, a moderate risk rating has been assigned to this seam and it is recommended that the true thickness and depth of this seam are investigated.

In regard to deeper mining which could affect the site, the property is in a surface area that could be affected by underground mining in one seam of coal at 72m to 75m depth, and last worked in 1876. Any movement in the ground due to coal mining activity at these depths should have stopped. Therefore, there is considered to be a low risk of instability at the site due to workings at depth.

3.3 Conclusions and Further Investigation

In light of the potential risks of instability at the site from the working of shallow coal, it cannot be recommended that development takes place without further investigation to conclusively determine the presence of such workings. This work should include physical drilling methods to explore the ground conditions.

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. However, in this case, the risk of instability is due to shallow workings, therefore, drilling to these depths may not be necessary and the objective should be to ensure that the shallow seams are un-worked or have sufficient competent cover. It may therefore be possible, in the first instance, to undertake one borehole to 30m below the top of the rockhead, with the remaining boreholes proving the depth and continuity of the coal seam(s). In any event, it is considered that approval should be sought with the Local Authority as to the efficacy of this approach.

It is of note that Rogers Geotechnical Services would be happy to assist in any further intrusive investigation that may be required.

4. Preliminary Qualitative Risk Assessment

A limited 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

4.1 Conceptual Ground Model & Preliminary Qualitative Risk Assessment

It is understood that the development proposals currently comprise the construction of one new build residential property as well as the conversion of part of the current building to form a second residential property. 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 11: 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.	Moderate	There are potential on site sources of contamination that may have caused contamination of the site.
	End User	Yes – end users are likely to come in contact with the soil.	Moderate	Any on site sources of contamination could migrate to neighbouring properties.
	Neighbours	Yes – immediate neighbours are present..	Moderate	Further testing required to reach a firm conclusion.
Inhalation of Dust/Vapours	Operative	Yes – contact with soil likely during works and vapours may accumulate in enclosed spaces.	Moderate	There are potential on site sources of contamination that may have caused contamination of the site.
	End User	Yes – vapours may accumulate in enclosed spaces.	Moderate	Any on site sources of contamination could migrate to neighbouring properties.
	Neighbours	Yes – immediate neighbours are present..	Moderate	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.
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	
	End User	Yes – soft landscaping is likely to be present as part of the new development.	Moderate	There are potential on site sources of contamination that may have caused contamination of the site.
	Neighbours	Yes – immediate neighbours are present..	Moderate	Further testing required to reach a firm conclusion.



Migration of hazardous gases via permeable strata	Operative	Yes – possible on site source associated with historical construction. However, no landfill or significant infilled ground is present within 250m.	Low-Moderate	However, in light of the potential for shallow worked coal seams, a programme of gas monitoring is suggested to be undertaken should any worked seams or significant thicknesses of made ground be encountered. This could be limited to 4 readings over one month in the first instance
	End User		Low-Moderate	
	Neighbours	Yes – possible source on site due to historical construction.	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 on site and controlled waters within 250m.	Moderate	There are potential on site sources of contamination that may have caused contamination of the site.
Migration via permeable unsaturated strata	Controlled Waters	Yes – possible source on site and Secondary A aquifer beneath the site.	Moderate	Controlled waters within 250m. Secondary A aquifer underlies the site. Permeability of underlying geology should be assessed.
Run off via drainage/sewers etc	Controlled Waters	Yes – possible source on site.	Moderate	Further testing required to reach a firm conclusion.
Direct contact with contaminated soils	Plants	Yes – some soft landscaping areas may be present as part of the proposed development.	Moderate	There are potential on site sources of contamination that may have caused contamination of the site.
Uptake via root system			Moderate	Any on site sources of contamination could migrate to neighbouring properties. Further testing required to reach a firm conclusion.
Direct contact with contaminated soils	Building Materials	Yes – possible source on and off site and foundation and service installation materials may be affected by the site soil.	Moderate	There are potential on site sources of contamination that may have caused contamination of the site.
Direct contact with contaminated groundwater				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	In light of the potential for shallow worked coal seams, a programme of gas monitoring is suggested to be undertaken should any worked seams be encountered. This could be limited to 4 readings over one month in the first instance
	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 – 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

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.



5. Intrusive Investigation

5.1 Site Investigation Philosophy

The information from the Phase 1 Desk Study shows there are potential sources of contamination on the site. 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, *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.*

5.2 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.



5.2.1 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 0.49ha, the number of sampling points at the site should be considered with respect to the table below.

Table 12: 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 should coal workings or significant thickness of made ground be encountered as per risk assessment. However, any regime must take into account the guidance detailed below.
Target Areas	The area close to the historical tanks should be investigated.				

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 13: 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.

5.2.2 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, trial pits 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.

5.2.3 Rotary Probing Investigation

In light of the potential risks of instability at the site from the working of shallow coal, it cannot be recommended that development takes place without further investigation to conclusively determine the presence of such workings. This work should include physical drilling methods to explore the ground conditions, see section 3.3 for details.

5.2.4 Reporting

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

- Geotechnical recommendations.
- Contamination assessment.
- Contamination remediation strategy.
- Rotary Probing report.
- Any recommendations for further work, if required and including validation reports where site remediation is necessary.

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

6. References

- British Standards Institution (2015), BS5930: *Code of practice for site investigations*, B.S.I., London.
- British Standards Institution (2007), Amendment No 1 to BS5930: *Code of practice for site 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

Groundsure Reports

MANOR FARM, STAINBOROUGH LANE, HOOD GREEN, BARNSELY, S75 3HA

Order Details

Date: 21/05/2020
Your ref: C754_20_E_1163_PO-07
Our Ref: GS-6769323
Client: Rogers Geotechnical Services

Site Details

Location: 431362 402007
Area: 0.49 ha
Authority: [Barnsley Metropolitan Borough Council](#)



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Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.13

groundsure.com/insightuserguide

Contact us with any questions at:

info@groundsure.com

08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	<u>Historical industrial land uses</u>	0	0	0	10	-
15	1.2	<u>Historical tanks</u>	1	0	0	0	-
15	1.3	Historical energy features	0	0	0	0	-
16	1.4	Historical petrol stations	0	0	0	0	-
16	1.5	Historical garages	0	0	0	0	-
16	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
17	2.1	<u>Historical industrial land uses</u>	0	0	0	12	-
18	2.2	<u>Historical tanks</u>	2	0	0	0	-
18	2.3	Historical energy features	0	0	0	0	-
19	2.4	Historical petrol stations	0	0	0	0	-
19	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
20	3.1	Active or recent landfill	0	0	0	0	-
20	3.2	Historical landfill (BGS records)	0	0	0	0	-
21	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
21	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
21	3.5	Historical waste sites	0	0	0	0	-
21	3.6	Licensed waste sites	0	0	0	0	-
21	3.7	<u>Waste exemptions</u>	8	0	0	12	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
24	4.1	<u>Recent industrial land uses</u>	2	0	0	-	-
25	4.2	Current or recent petrol stations	0	0	0	0	-
25	4.3	Electricity cables	0	0	0	0	-
25	4.4	Gas pipelines	0	0	0	0	-
25	4.5	Sites determined as Contaminated Land	0	0	0	0	-



25	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
26	4.7	Regulated explosive sites	0	0	0	0	-
26	4.8	Hazardous substance storage/usage	0	0	0	0	-
26	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
26	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
26	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
27	4.12	Radioactive Substance Authorisations	0	0	0	0	-
27	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	0	2	-
27	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
28	4.15	Pollutant release to public sewer	0	0	0	0	-
28	4.16	List 1 Dangerous Substances	0	0	0	0	-
28	4.17	List 2 Dangerous Substances	0	0	0	0	-
28	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
28	4.19	Pollution inventory substances	0	0	0	0	-
29	4.20	Pollution inventory waste transfers	0	0	0	0	-
29	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
30	5.1	Superficial aquifer	None (within 500m)				
31	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
32	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
33	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
33	5.5	Groundwater vulnerability- local information	None (within 0m)				
34	5.6	Groundwater abstractions	0	0	0	0	0
34	5.7	Surface water abstractions	0	0	0	0	0
34	5.8	Potable abstractions	0	0	0	0	0
34	5.9	Source Protection Zones	0	0	0	0	-
35	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
36	6.1	<u>Water Network (OS MasterMap)</u>	0	0	1	-	-



37	6.2	<u>Surface water features</u>	0	0	1	-	-
37	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
37	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
38	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
39	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	None (within 50m)				
39	7.2	Historical Flood Events	0	0	0	-	-
39	7.3	Flood Defences	0	0	0	-	-
39	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
40	7.5	Flood Storage Areas	0	0	0	-	-
41	7.6	Flood Zone 2	None (within 50m)				
41	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
42	8.1	Surface water flooding	Negligible (within 50m)				
Page	Section	Groundwater flooding					
43	9.1	<u>Groundwater flooding</u>	Negligible (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
44	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
45	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
45	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
45	10.4	Special Protection Areas (SPA)	0	0	0	0	0
45	10.5	National Nature Reserves (NNR)	0	0	0	0	0
46	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
46	10.7	<u>Designated Ancient Woodland</u>	0	2	2	2	29
47	10.8	Biosphere Reserves	0	0	0	0	0
48	10.9	Forest Parks	0	0	0	0	0
48	10.10	Marine Conservation Zones	0	0	0	0	0
48	10.11	<u>Green Belt</u>	1	0	0	0	0
48	10.12	Proposed Ramsar sites	0	0	0	0	0



49	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
49	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
49	10.15	Nitrate Sensitive Areas	0	0	0	0	0
49	10.16	<u>Nitrate Vulnerable Zones</u>	1	0	0	0	0
51	10.17	<u>SSSI Impact Risk Zones</u>	2	-	-	-	-
52	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
53	11.1	World Heritage Sites	0	0	0	-	-
53	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
53	11.3	National Parks	0	0	0	-	-
53	11.4	Listed Buildings	0	0	0	-	-
54	11.5	Conservation Areas	0	0	0	-	-
54	11.6	Scheduled Ancient Monuments	0	0	0	-	-
54	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
55	12.1	<u>Agricultural Land Classification</u>	Grade 3 (within 250m)				
56	12.2	Open Access Land	0	0	0	-	-
56	12.3	<u>Tree Felling Licences</u>	0	1	0	-	-
56	12.4	Environmental Stewardship Schemes	0	0	0	-	-
56	12.5	<u>Countryside Stewardship Schemes</u>	1	1	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
58	13.1	<u>Priority Habitat Inventory</u>	0	1	1	-	-
59	13.2	Habitat Networks	0	0	0	-	-
59	13.3	Open Mosaic Habitat	0	0	0	-	-
59	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
60	14.1	<u>10k Availability</u>	Identified (within 500m)				
61	14.2	<u>Artificial and made ground (10k)</u>	0	0	0	10	-
63	14.3	Superficial geology (10k)	0	0	0	0	-



63	14.4	Landslip (10k)	0	0	0	0	-
64	14.5	<u>Bedrock geology (10k)</u>	2	1	13	18	-
66	14.6	<u>Bedrock faults and other linear features (10k)</u>	1	1	11	31	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
69	15.1	<u>50k Availability</u>	Identified (within 500m)				
70	15.2	<u>Artificial and made ground (50k)</u>	0	0	0	6	-
71	15.3	Artificial ground permeability (50k)	0	0	-	-	-
72	15.4	Superficial geology (50k)	0	0	0	0	-
72	15.5	Superficial permeability (50k)	None (within 50m)				
72	15.6	Landslip (50k)	0	0	0	0	-
72	15.7	Landslip permeability (50k)	None (within 50m)				
73	15.8	<u>Bedrock geology (50k)</u>	2	1	13	14	-
75	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
75	15.10	<u>Bedrock faults and other linear features (50k)</u>	1	1	10	21	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
78	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence					
79	17.1	<u>Shrink swell clays</u>	Very low (within 50m)				
80	17.2	<u>Running sands</u>	Negligible (within 50m)				
81	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
82	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
83	17.5	<u>Landslides</u>	Low (within 50m)				
85	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
86	18.1	Natural cavities	0	0	0	0	-
87	18.2	<u>BritPits</u>	0	0	1	21	-
90	18.3	<u>Surface ground workings</u>	0	0	1	-	-
91	18.4	<u>Underground workings</u>	0	0	0	5	8
91	18.5	Historical Mineral Planning Areas	0	0	0	0	-



92	18.6	<u>Non-coal mining</u>	1	0	0	0	1
92	18.7	Mining cavities	0	0	0	0	0
92	18.8	JPB mining areas	None (within 0m)				
93	18.9	<u>Coal mining</u>	Identified (within 0m)				
93	18.10	Brine areas	None (within 0m)				
93	18.11	Gypsum areas	None (within 0m)				
93	18.12	Tin mining	None (within 0m)				
93	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
94	19.1	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
95	20.1	<u>BGS Estimated Background Soil Chemistry</u>	5	0	-	-	-
95	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
96	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
97	21.1	Underground railways (London)	0	0	0	-	-
97	21.2	Underground railways (Non-London)	0	0	0	-	-
97	21.3	Railway tunnels	0	0	0	-	-
97	21.4	Historical railway and tunnel features	0	0	0	-	-
97	21.5	Royal Mail tunnels	0	0	0	-	-
98	21.6	Historical railways	0	0	0	-	-
98	21.7	Railways	0	0	0	-	-
98	21.8	Crossrail 1	0	0	0	0	-
98	21.9	Crossrail 2	0	0	0	0	-
98	21.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 27/06/2018

Site Area: 0.49ha



Recent site history - 2013 aerial photograph



Capture Date: 07/06/2013

Site Area: 0.49ha



Recent site history - 2012 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2020. All Rights Reserved

Capture Date: 28/05/2012

Site Area: 0.49ha



Recent site history - 2009 aerial photograph



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Capture Date: 11/09/2009

Site Area: 0.49ha



Recent site history - 1999 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2020. All Rights Reserved.

Capture Date: 10/07/1999

Site Area: 0.49ha



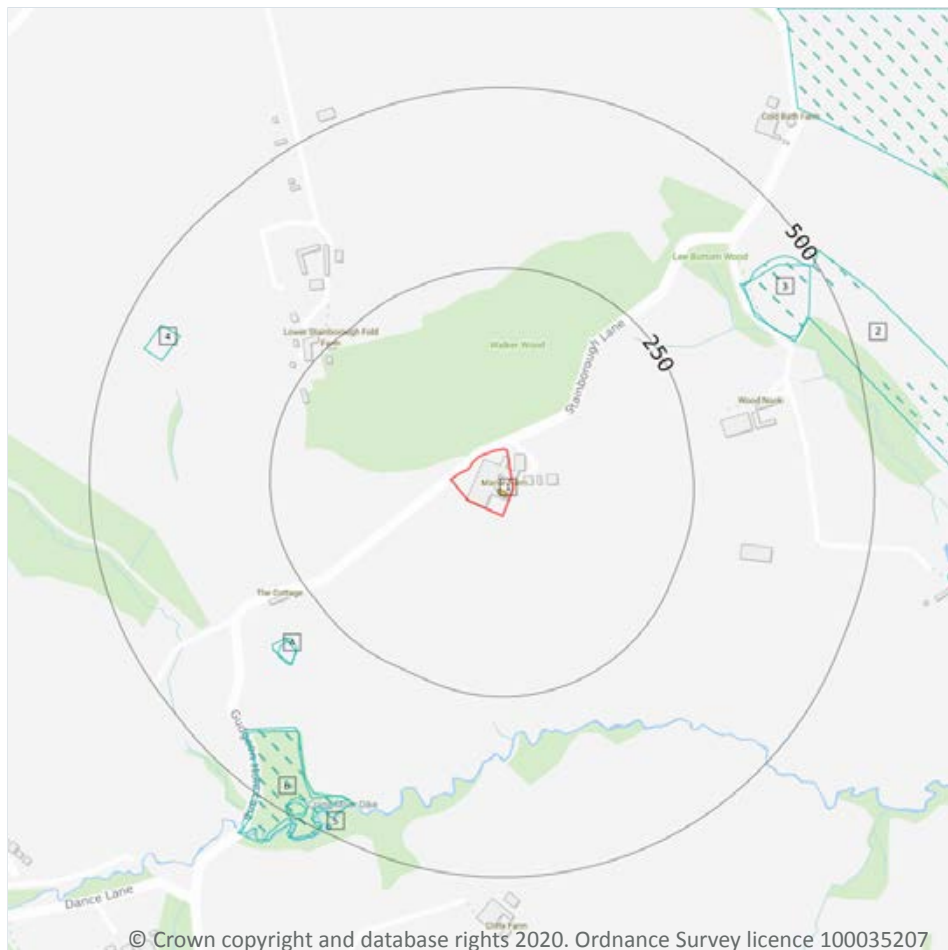
OS MasterMap site plan



Site Area: 0.49ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

10

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	311m SW	Unspecified Quarry	1891	1428039



ID	Location	Land use	Dates present	Group ID
A	313m SW	Unspecified Pit	1903	1451851
2	390m NE	Opencast Coal Mining	1951	1418466
3	392m NE	Old Brick Works	1891 - 1903	1524063
B	394m SW	Colliery	1891 - 1903	1483029
B	397m SW	Colliery	1932	1513903
4	424m NW	Unspecified Works	1965	1438970
B	474m SW	Unspecified Heap	1951	1417615
B	479m SW	Unspecified Level	1932	1440244
5	488m SW	Unspecified Level	1903	1440243

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

1

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'.

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

ID	Location	Land use	Dates present	Group ID
1	On site	Tanks	1983 - 1993	247582

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

0

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'.

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



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

2.1 Historical industrial land uses

Records within 500m

12

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 17**

ID	Location	Land Use	Date	Group ID
B	311m SW	Unspecified Quarry	1891	1428039
B	313m SW	Unspecified Pit	1903	1451851
1	390m NE	Opencast Coal Mining	1951	1418466

ID	Location	Land Use	Date	Group ID
C	392m NE	Old Brick Works	1903	1524063
C	392m NE	Old Brick Works	1891	1524063
D	394m SW	Colliery	1903	1483029
D	394m SW	Colliery	1891	1483029
D	397m SW	Colliery	1932	1513903
2	424m NW	Unspecified Works	1965	1438970
D	474m SW	Unspecified Heap	1951	1417615
D	479m SW	Unspecified Level	1932	1440244
3	488m SW	Unspecified Level	1903	1440243

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

2

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

Features are displayed on the Past land use - un-grouped map on **page 17**

ID	Location	Land Use	Date	Group ID
A	On site	Tanks	1983	247582
A	On site	Tanks	1993	247582

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

0

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'.

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

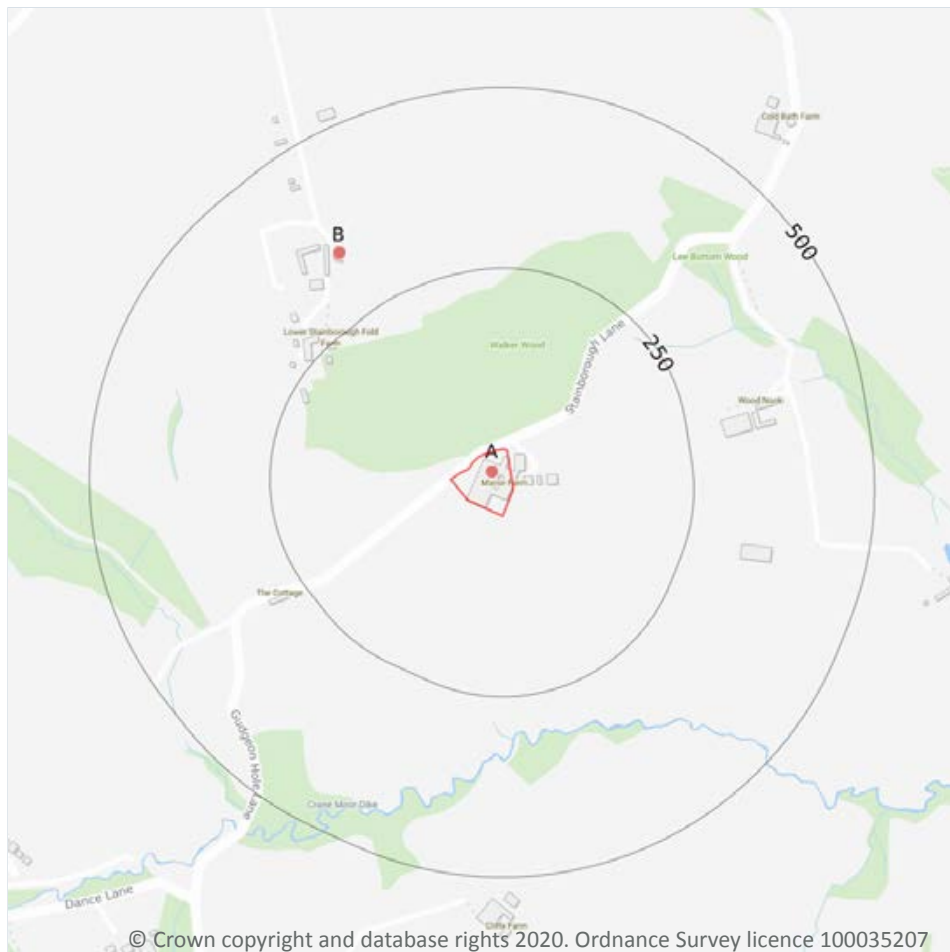
0

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



— Site Outline
Search buffers in metres (m)
● Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m**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**20**

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 20**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	On site	MANOR FARM, STAINBOROUGH LANE, HOOD GREEN, BARNSELY, S75 3HA	WEX072186	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
A	On site	MANOR FARM, STAINBOROUGH LANE, HOOD GREEN, BARNSELY, S75 3HA	WEX072186	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
A	On site	Manor Farm Stainborough Lane BARNSELY South Yorkshire S75 3HA	EPR/VE5381X Y/A002	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
A	On site	Manor Farm Stainborough Lane BARNSELY South Yorkshire S75 3HA	EPR/VE5381X Y/A002	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
A	On site	Manor Farm Stainborough Lane BARNSELY South Yorkshire S75 3HA	EPR/VE5381X Y/A002	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
A	On site	Manor Farm Stainborough Lane BARNSELY South Yorkshire S75 3HA	EPR/VE5381X Y/A002	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	On site	Manor Farm Stainborough Lane BARNSELY South Yorkshire S75 3HA	EPR/VE5381X Y/A002	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
A	On site	Manor Farm Stainborough Lane BARNSELY South Yorkshire S75 3HA	EPR/VE5381X Y/A002	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose
B	340m NW	FOLD COTTAGE, GRENO VIEW, HOOD GREEN, BARNSELY, S75 3HQ	WEX014382	Disposing of waste exemption	On a farm	Burning waste in the open
B	340m NW	FOLD COTTAGE, GRENO VIEW, HOOD GREEN, BARNSELY, S75 3HQ	WEX014382	Treating waste exemption	On a farm	Preparatory treatments (baling, sorting, shredding etc)
B	340m NW	FOLD COTTAGE, GRENO VIEW, HOOD GREEN, BARNSELY, S75 3HQ	WEX014382	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	340m NW	FOLD COTTAGE, GRENO VIEW, HOOD GREEN, BARNSELY, S75 3HQ	WEX014382	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit



ID	Location	Site	Reference	Category	Sub-Category	Description
B	340m NW	FOLD COTTAGE, GRENO VIEW, HOOD GREEN, BARNLEY, S75 3HQ	WEX014382	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
B	340m NW	FOLD COTTAGE, GRENO VIEW, HOOD GREEN, BARNLEY, S75 3HQ	WEX014382	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
B	342m NW	Stainborough Fold Farm Greno View BARNLEY South Yorkshire S75 3HQ	EPR/DH0872M M/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
B	342m NW	Stainborough Fold Farm Greno View BARNLEY South Yorkshire S75 3HQ	EPR/DH0872M M/A001	Treating waste exemption	Agricultural Waste Only	Preparatory treatments (baling, sorting, shredding etc)
B	342m NW	Stainborough Fold Farm Greno View BARNLEY South Yorkshire S75 3HQ	EPR/DH0872M M/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	342m NW	Stainborough Fold Farm Greno View BARNLEY South Yorkshire S75 3HQ	EPR/DH0872M M/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
B	342m NW	Stainborough Fold Farm Greno View BARNLEY South Yorkshire S75 3HQ	EPR/DH0872M M/A001	Using waste exemption	Agricultural Waste Only	Spreading of plant matter to confer benefit
B	342m NW	Stainborough Fold Farm Greno View BARNLEY South Yorkshire S75 3HQ	EPR/DH0872M M/A001	Using waste exemption	Agricultural Waste Only	Burning of waste as a fuel in a small appliance

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
- Licensed Discharges to controlled waters

4.1 Recent industrial land uses

Records within 250m

2

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 24**

ID	Location	Company	Address	Activity	Category
A	On site	Vamoose Camper Conversions	Manor Farm, Stainborough Lane, Hood Green, Barnsley, South Yorkshire, S75 3HA	Vehicle Repair, Testing and Servicing	Repair and Servicing
A	On site	Meadow Meats	Manor Farm, Stainborough Lane, Hood Green, Barnsley, South Yorkshire, S75 3HA	Fish, Meat and Poultry Products	Foodstuffs

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

2

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

Features are displayed on the Current industrial land use map on **page 24**

ID	Location	Address	Details	
B	312m NW	STAINBOROUGH FOLD FARM, OFF GRENO VIEW, STAINBOROUGH, BARNSELY, SOUTH YORKSHIRE, S73 3HQ	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: WRA8931 Permit Version: 1 Receiving Water: GROUNDWATER VIA SOAKAWAY	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 28/03/2006 Effective Date: 28/03/2006 Revocation Date: 25/07/2012
B	312m NW	STAINBOROUGH FOLD FARM, OFF GRENO VIEW, STAINBOROUGH, BARNSELY, SOUTH YORKSHIRE, S73 3HQ	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: WRA8931 Permit Version: 2 Receiving Water: GROUNDWATER VIA SOAKAWAY	Status: VARIED UNDER EPR 2010 Issue date: 26/07/2012 Effective Date: 26/07/2012 Revocation Date: -

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

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

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



4.15 Pollutant release to public sewer

Records within 500m**0**

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m**0**

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

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

4.17 List 2 Dangerous Substances

Records within 500m**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**0**

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

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

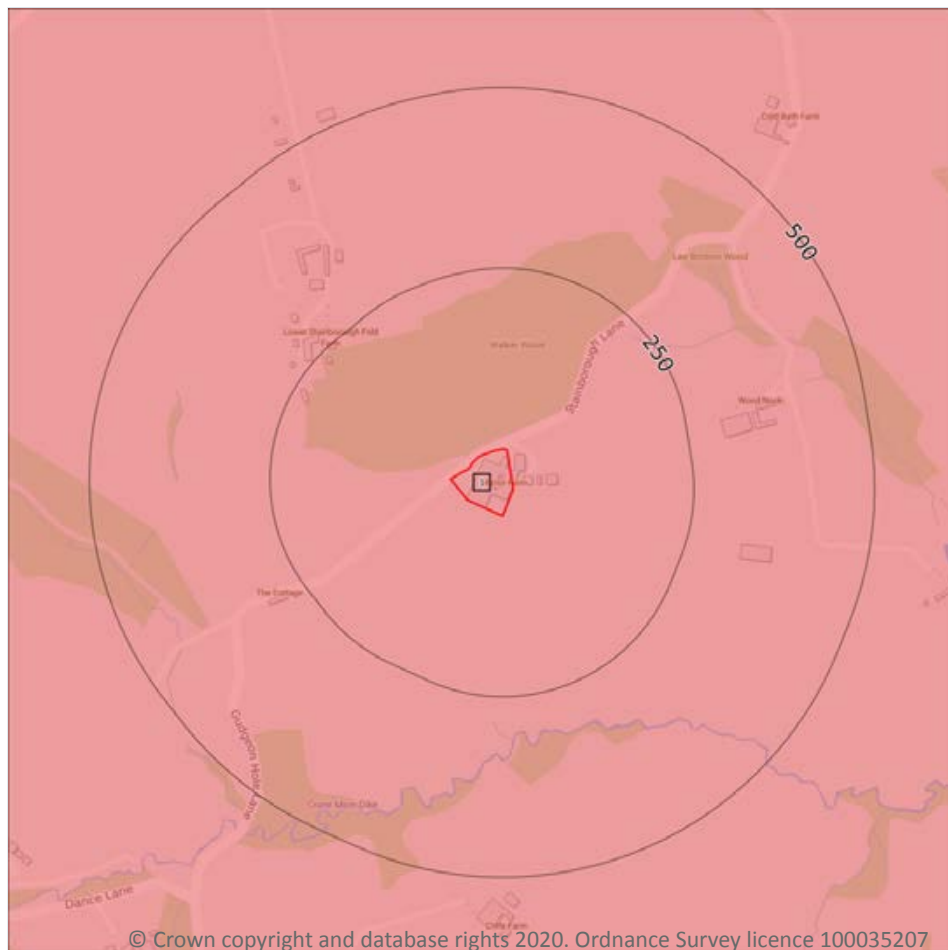
0

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



- Site Outline
- Search buffers in metres (m)
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive

5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

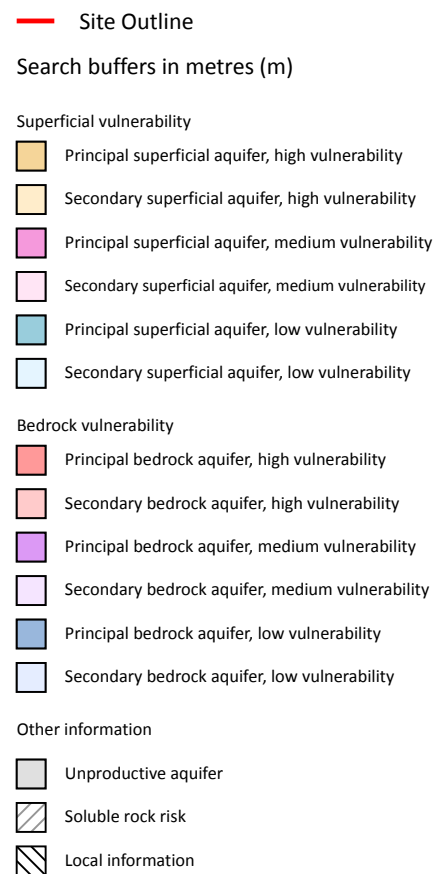
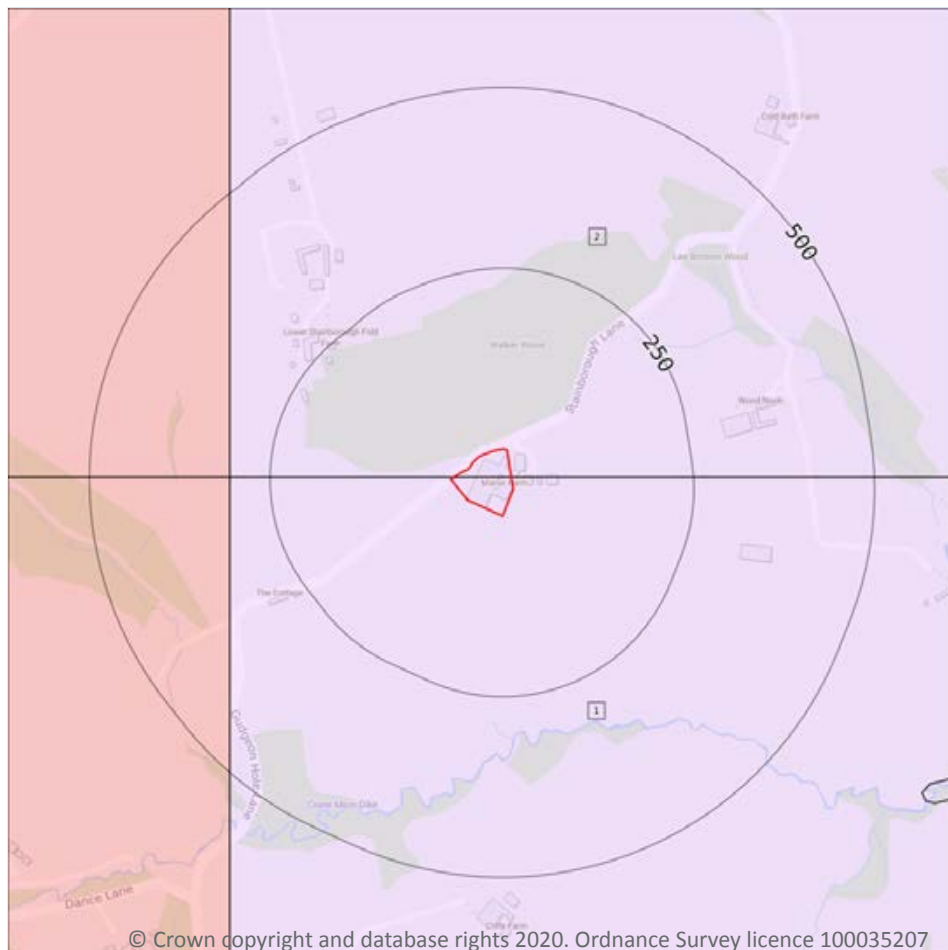
Features are displayed on the Bedrock aquifer map on **page 31**

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

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

2

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 32**

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
2	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

0

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.

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

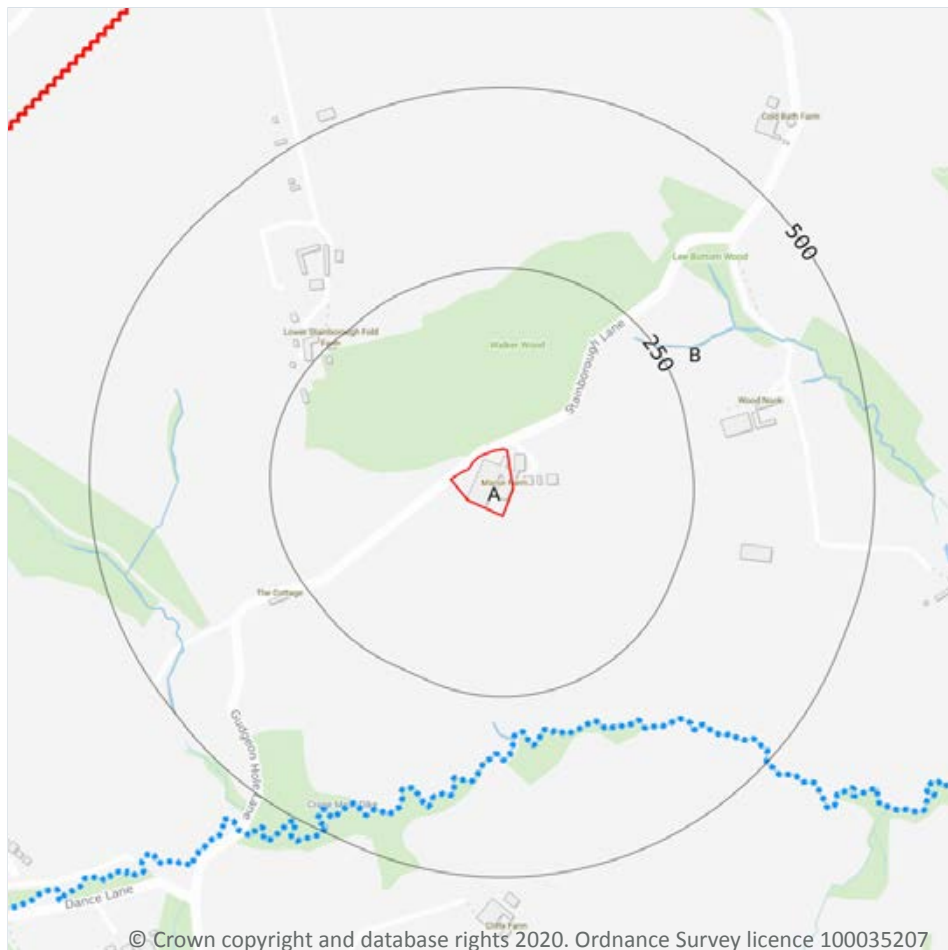
0

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



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

1

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 36**

ID	Location	Type of water feature	Ground level	Permanence	Name
B	234m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.



6.2 Surface water features

Records within 250m

1

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 36**

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 36**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River WB catchment	Rockley Dike from Source to River Dove	GB104027057480	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 36**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
2	300m S	River	Rockley Dike from Source to River Dove	GB104027057480	Moderate	Good	Moderate	2016

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 36**

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	2015

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 Sea (RoFRaS)

Records within 50m

0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; 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).

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

Negligible

Highest risk within 50m

Negligible

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.

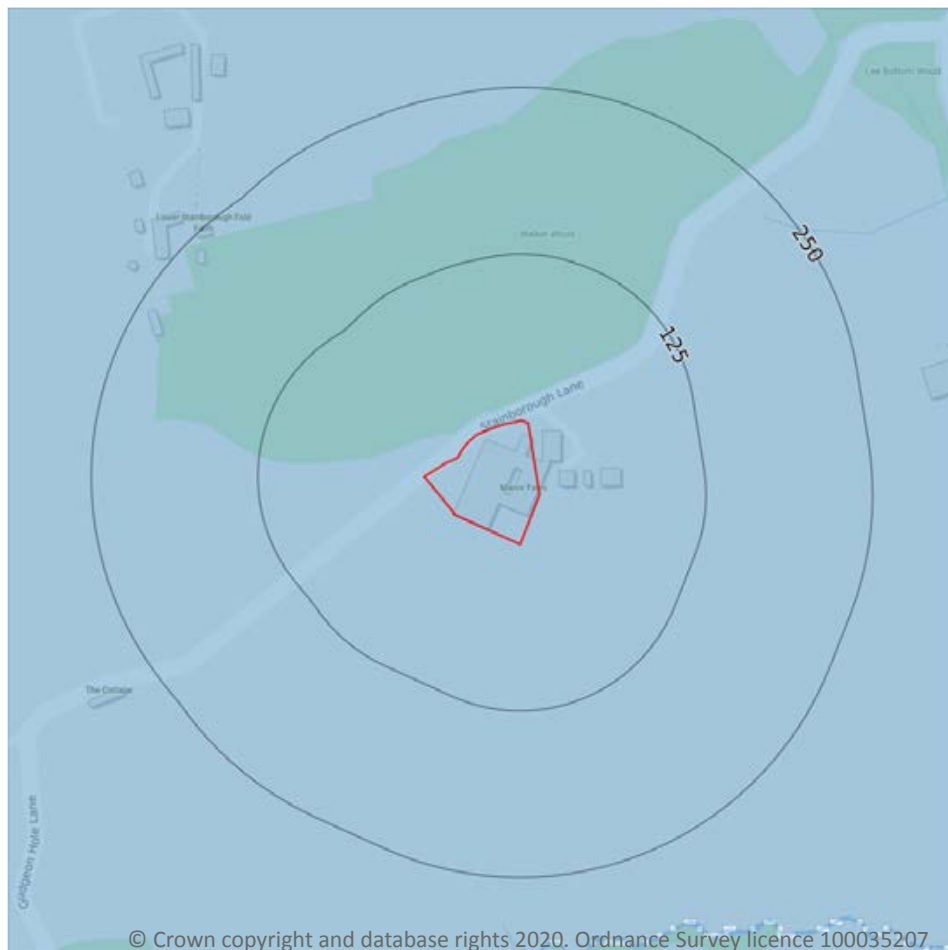
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site. The table below shows the maximum flood depths for a range of return periods for the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

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

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



— Site Outline
Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

Highest risk on site

Negligible

Highest risk within 50m

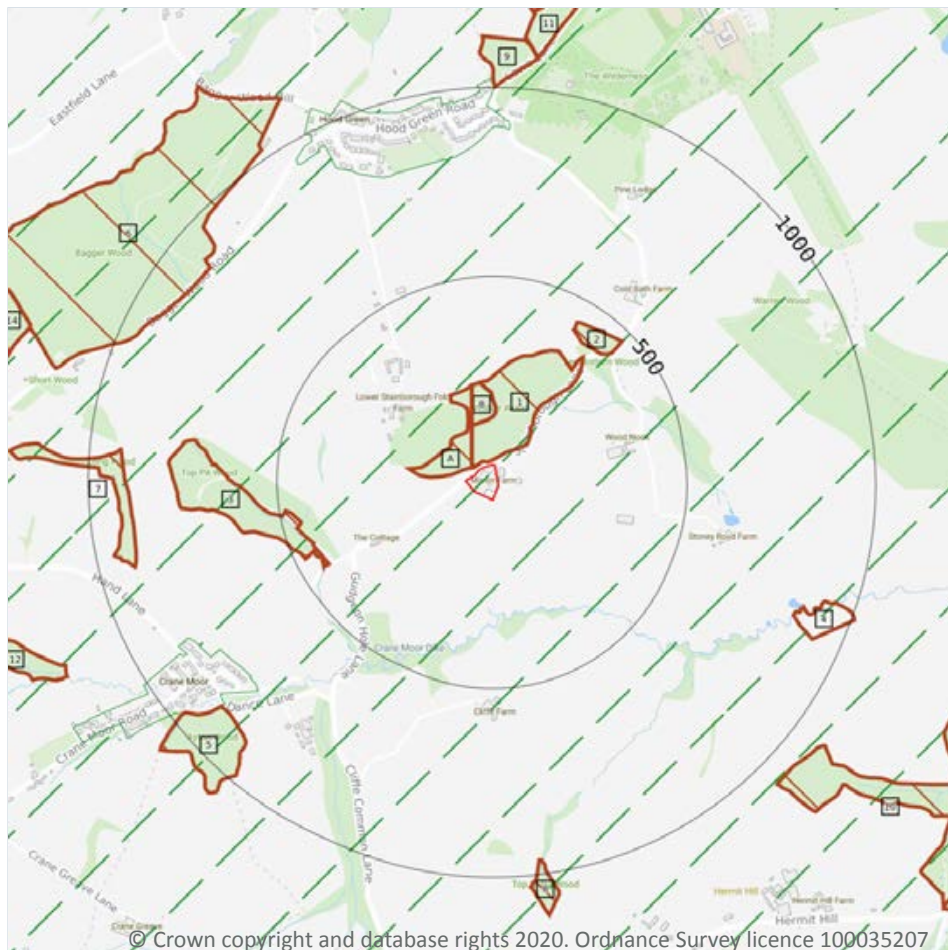
Negligible

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

Features are displayed on the Groundwater flooding map on **page 43**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Designated Ancient Woodland
- Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m**0**

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

10.7 Designated Ancient Woodland

Records within 2000m

35

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 44**

ID	Location	Name	Woodland Type
1	10m N	WALKER WOOD	Ancient Replanted Woodland
A	18m NW	WALKER WOOD	Ancient Replanted Woodland
B	115m N	WALKER WOOD	Ancient & Semi-Natural Woodland
B	115m N	WALKER WOOD	Ancient & Semi-Natural Woodland
2	399m NE	WALKER WOOD	Ancient & Semi-Natural Woodland
3	424m SW	SPRING WOOD	Ancient Replanted Woodland
4	853m E	Unknown	Ancient & Semi-Natural Woodland
5	875m SW	AYTON WOOD	Ancient Replanted Woodland
6	881m NW	BAGGER WOOD	Ancient Replanted Woodland
7	888m W	Unknown	Ancient Replanted Woodland
8	962m S	Unknown	Ancient & Semi-Natural Woodland
9	1002m N	LOWE WOOD	Ancient Replanted Woodland
10	1064m SE	Unknown	Ancient Replanted Woodland
11	1086m N	LOWE WOOD	Ancient & Semi-Natural Woodland
12	1168m SW	Unknown	Ancient & Semi-Natural Woodland
13	1205m N	LOWE WOOD	Ancient Replanted Woodland



ID	Location	Name	Woodland Type
14	1224m W	BAGGER WOOD	Ancient & Semi-Natural Woodland
-	1238m N	LOWE WOOD	Ancient & Semi-Natural Woodland
-	1274m E	Unknown	Ancient Replanted Woodland
-	1332m W	Unknown	Ancient Replanted Woodland
18	1334m E	Unknown	Ancient & Semi-Natural Woodland
-	1355m E	BROOM ROYD WOOD	Ancient & Semi-Natural Woodland
-	1381m W	LOWER LEE WOOD	Ancient Replanted Woodland
-	1394m E	BROOM ROYD WOOD	Ancient Replanted Woodland
22	1475m SE	Unknown	Ancient & Semi-Natural Woodland
-	1482m N	LOWE WOOD	Ancient & Semi-Natural Woodland
-	1487m NE	IVAS WOOD	Ancient & Semi-Natural Woodland
-	1531m W	Unknown	Ancient & Semi-Natural Woodland
26	1589m SE	Unknown	Ancient Replanted Woodland
-	1760m NW	TOM ROYD WOOD	Ancient & Semi-Natural Woodland
-	1777m NW	TOM ROYD WOOD	Ancient Replanted Woodland
-	1790m W	UPPER LEE WOOD	Ancient Replanted Woodland
-	1796m SE	HIGH WOOD	Ancient & Semi-Natural Woodland
-	1797m E	Unknown	Ancient & Semi-Natural Woodland
-	1929m S	HIGH WOOD	Ancient & Semi-Natural 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 44**

ID	Location	Name	Local Authority name
A	On site	South and West Yorkshire	Barnsley

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

1

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.

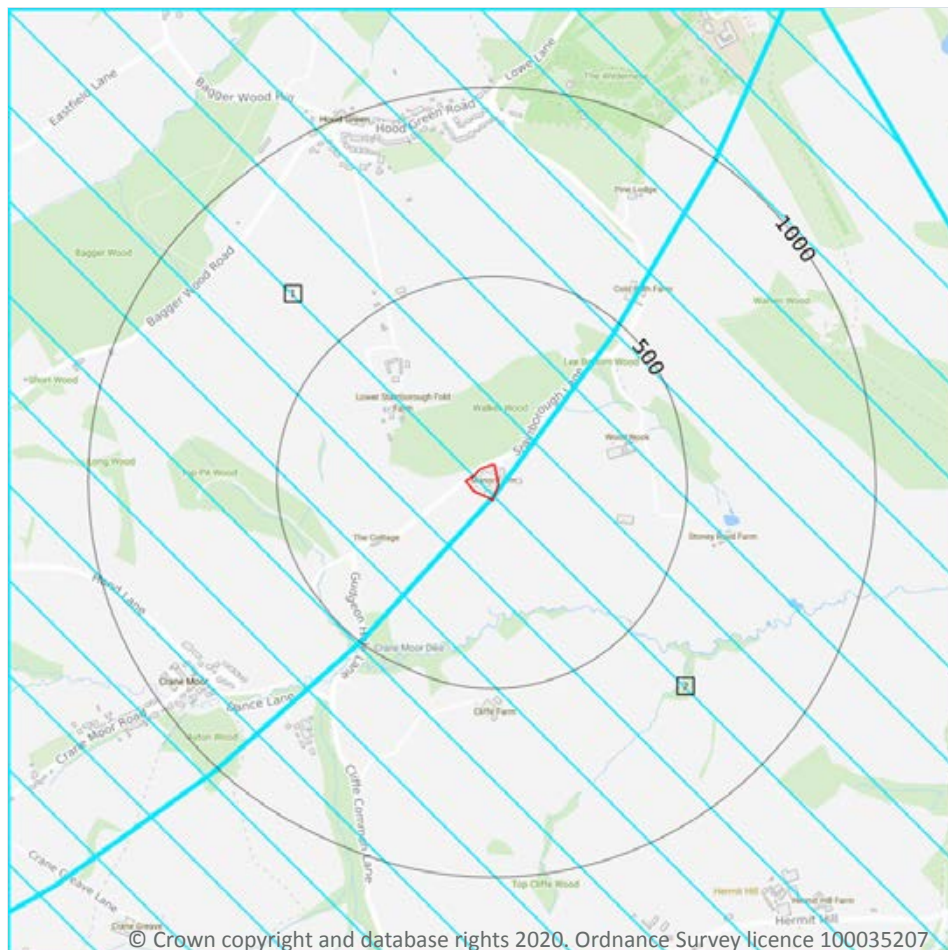
Location	Name	Type	NVZ ID	Status
On site	River Dearne NVZ	Surface Water	S278	Existing



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



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

2

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 51**

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Oil & gas exploration/extraction. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t. Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
2	On site	Infrastructure - Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Oil & gas exploration/extraction. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons > 4000m². Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0
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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 English Heritage, 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 English Heritage, 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 English Heritage, Cadw and Historic Environment Scotland.

11.7 Registered Parks and Gardens

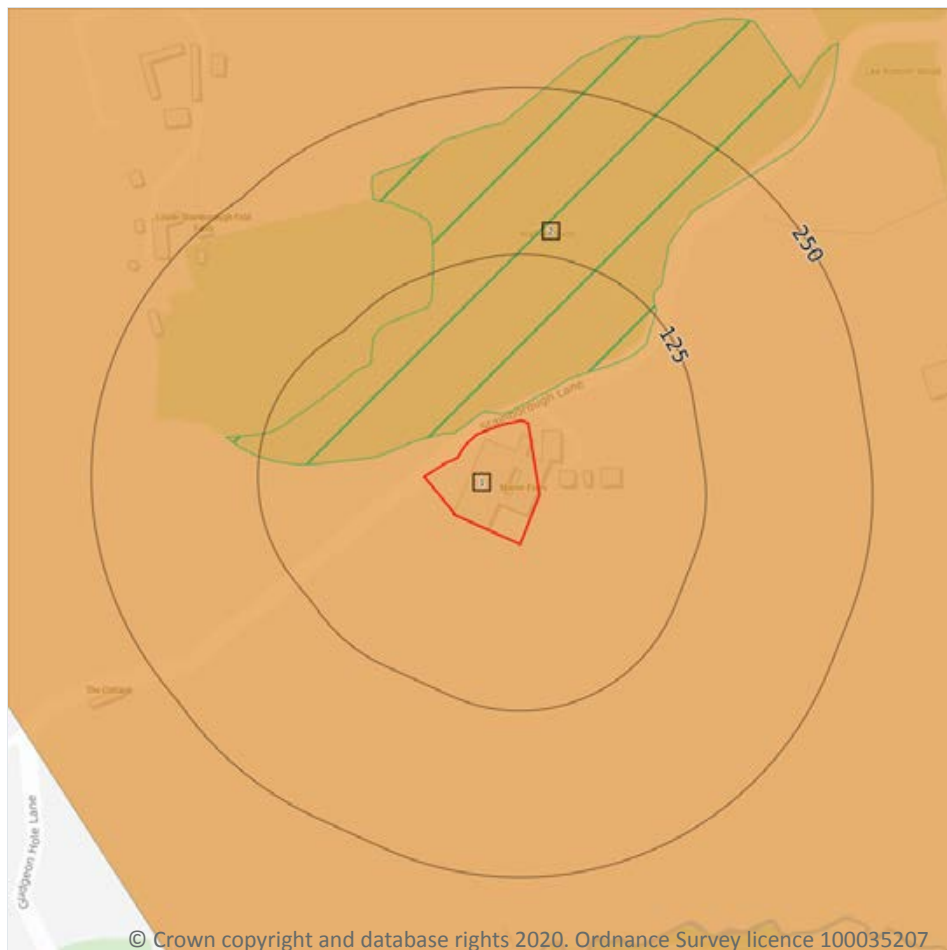
Records within 250m

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 English Heritage, Cadw and Historic Environment Scotland.

12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

1

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 55**

ID	Location	Classification	Description
1	On site	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

1

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.

Features are displayed on the Agricultural designations map on **page 55**

ID	Location	Description	Reference	Application date
2	8m N	Selective Fell/Thin (Unconditional)	012/85/08-09	20/11/2008

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.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

2

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.

Location	Reference	Scheme	Start Date	End Date
On site	646629	Countryside Stewardship (Middle Tier)	01/01/2019	31/12/2023

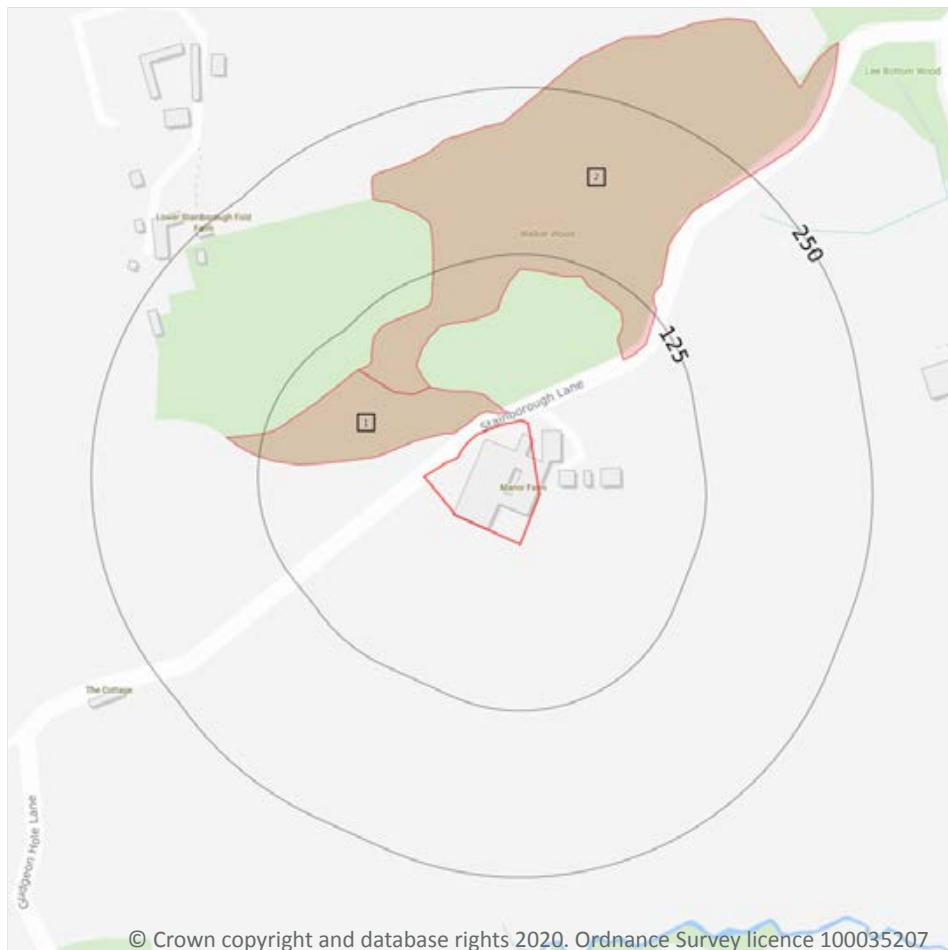


Location	Reference	Scheme	Start Date	End Date
9m W	646629	Countryside Stewardship (Middle Tier)	01/01/2019	31/12/2023

This data is sourced from Natural England.



13 Habitat designations



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

13.1 Priority Habitat Inventory

Records within 250m

2

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 58**

ID	Location	Main Habitat	Other habitats
1	8m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	50m NW	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

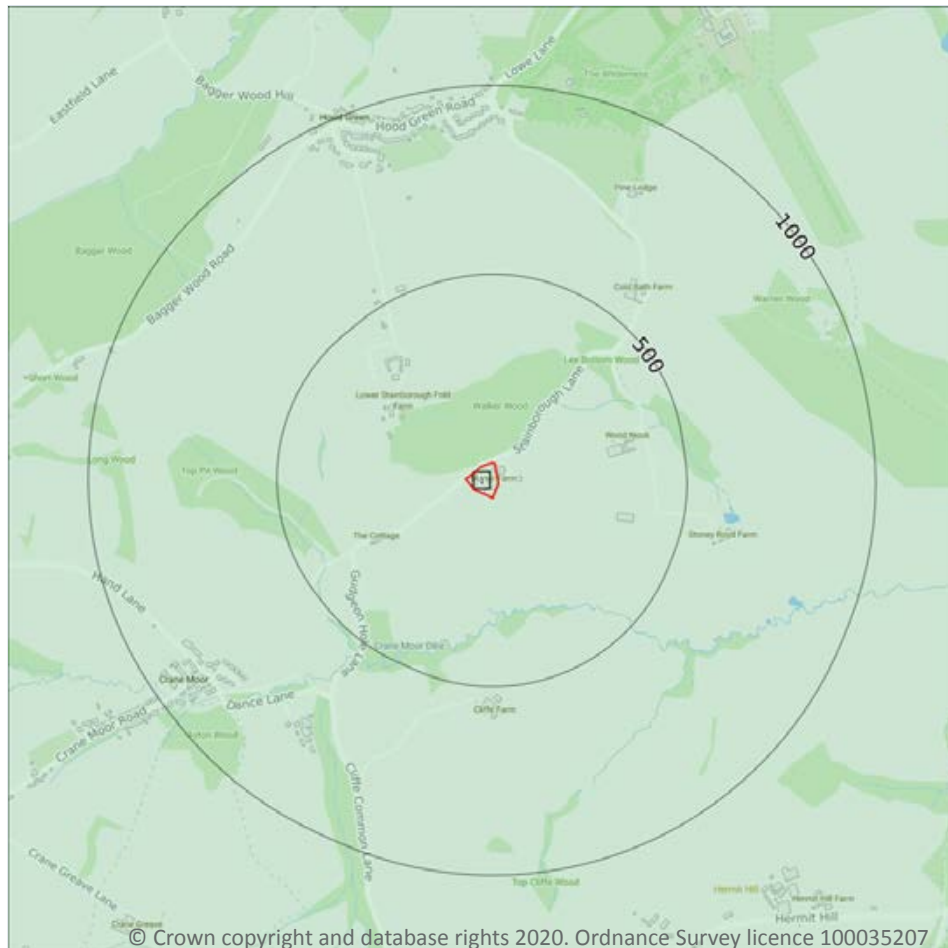
0

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

1

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.

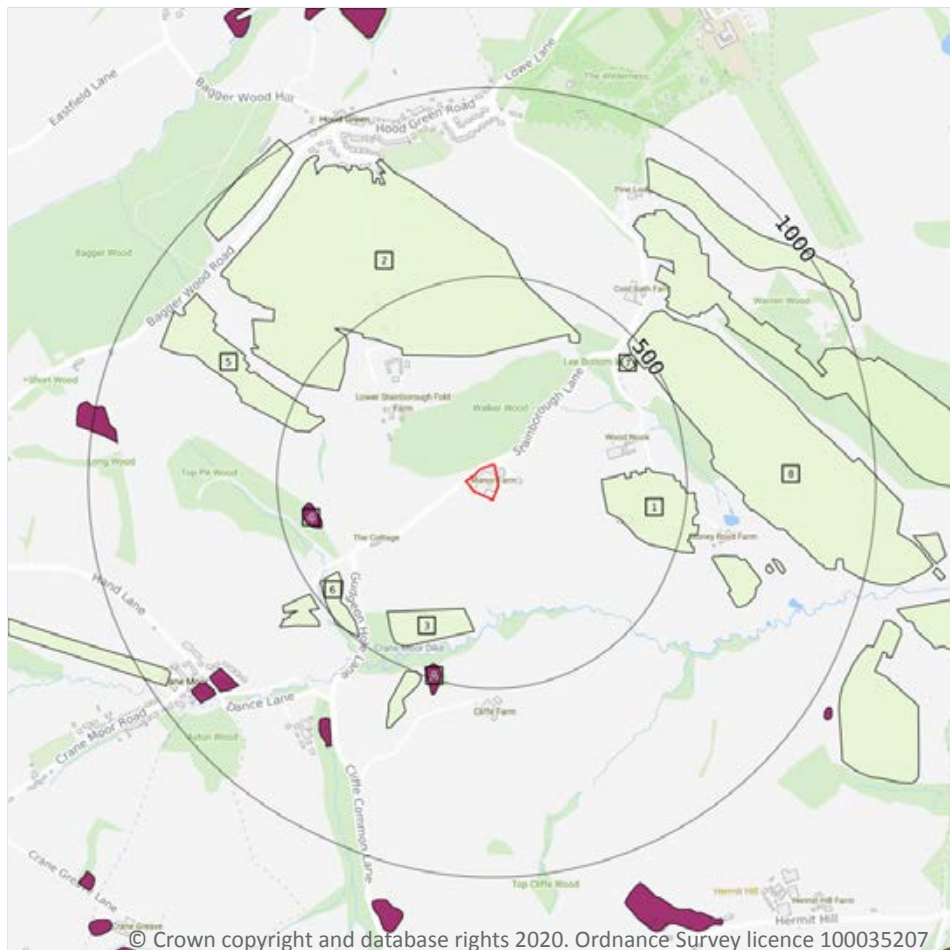
Features are displayed on the Geology 1:10,000 scale - Availability map on **page 60**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SE30SW

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

10

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 61**

ID	Location	LEX Code	Description	Rock description
1	275m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
2	292m N	WMGR-ARTDP	Infilled Ground	Artificial Deposit
3	298m S	WMGR-ARTDP	Infilled Ground	Artificial Deposit
4	396m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit



ID	Location	LEX Code	Description	Rock description
5	407m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
6	414m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
7	429m NE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
A	461m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
8	467m NE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
A	496m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m

0

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.

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

34

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 64**

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	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
5	1m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age



ID	Location	LEX Code	Description	Rock age
7	80m NW	PKR-SDST	Parkgate Rock - Sandstone	Langsettian Sub-age
8	88m SW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
9	118m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
11	147m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
13	149m SW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
14	151m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
16	154m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
18	178m NW	PKR-SDST	Parkgate Rock - Sandstone	Langsettian Sub-age
20	183m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
23	211m N	PKR-SDST	Parkgate Rock - Sandstone	Langsettian Sub-age
25	218m S	SR-SDST	Silkstone Rock - Sandstone	Langsettian Sub-age
28	236m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
29	241m S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
31	264m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
33	266m S	SR-SDST	Silkstone Rock - Sandstone	Langsettian Sub-age
35	289m S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
37	292m N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
41	300m NE	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
44	319m NE	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
45	338m S	SR-SDST	Silkstone Rock - Sandstone	Langsettian Sub-age
46	373m SE	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
55	412m SW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age



ID	Location	LEX Code	Description	Rock age
56	420m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
57	429m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
60	450m SW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
64	468m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
66	469m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
67	472m NE	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
68	477m SW	SR-SDST	Silkstone Rock - Sandstone	Langsettian Sub-age
77	496m W	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
78	497m 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

44

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 64**

ID	Location	Category	Description
3	On site	ROCK	Coal seam, inferred
4	1m NW	FAULT	Normal fault, inferred
6	80m NW	ROCK	Coal seam, inferred
10	147m SW	FAULT	Normal fault, inferred
12	147m SW	ROCK	Coal seam, inferred
15	154m NW	FAULT	Normal fault, inferred
17	155m SW	ROCK	Coal seam, inferred
19	178m NW	ROCK	Coal seam, inferred



ID	Location	Category	Description
21	183m SW	FAULT	Normal fault, inferred
22	198m W	ROCK	Coal seam, inferred
24	211m N	ROCK	Coal seam, observed
26	234m N	ROCK	Coal seam, observed
27	236m W	ROCK	Coal seam, inferred
30	256m E	ROCK	Coal seam, observed
32	264m W	FAULT	Normal fault, inferred
34	275m E	ROCK	Coal seam, observed
36	292m N	ROCK	Coal seam, observed
38	297m S	ROCK	Ironstone bed, inferred
39	298m S	ROCK	Coal seam, observed
40	298m NE	ROCK	Coal seam, inferred
42	308m W	ROCK	Coal seam, inferred
43	315m S	ROCK	Ironstone bed, inferred
47	375m NW	FAULT	Normal fault, inferred
48	385m N	FAULT	Normal fault, observed
49	385m NE	ROCK	Coal seam, inferred
50	394m SW	ROCK	Coal seam, inferred
51	399m NW	FAULT	Normal fault, inferred
52	400m NW	ROCK	Coal seam, observed
53	403m SW	ROCK	Ironstone bed, inferred
54	407m NW	ROCK	Coal seam, observed
58	429m NE	ROCK	Coal seam, observed
59	434m S	ROCK	Coal seam, inferred
61	463m NE	FAULT	Normal fault, inferred
62	467m NE	ROCK	Coal seam, observed
63	468m NE	FAULT	Normal fault, inferred
65	469m SW	ROCK	Ironstone bed, inferred

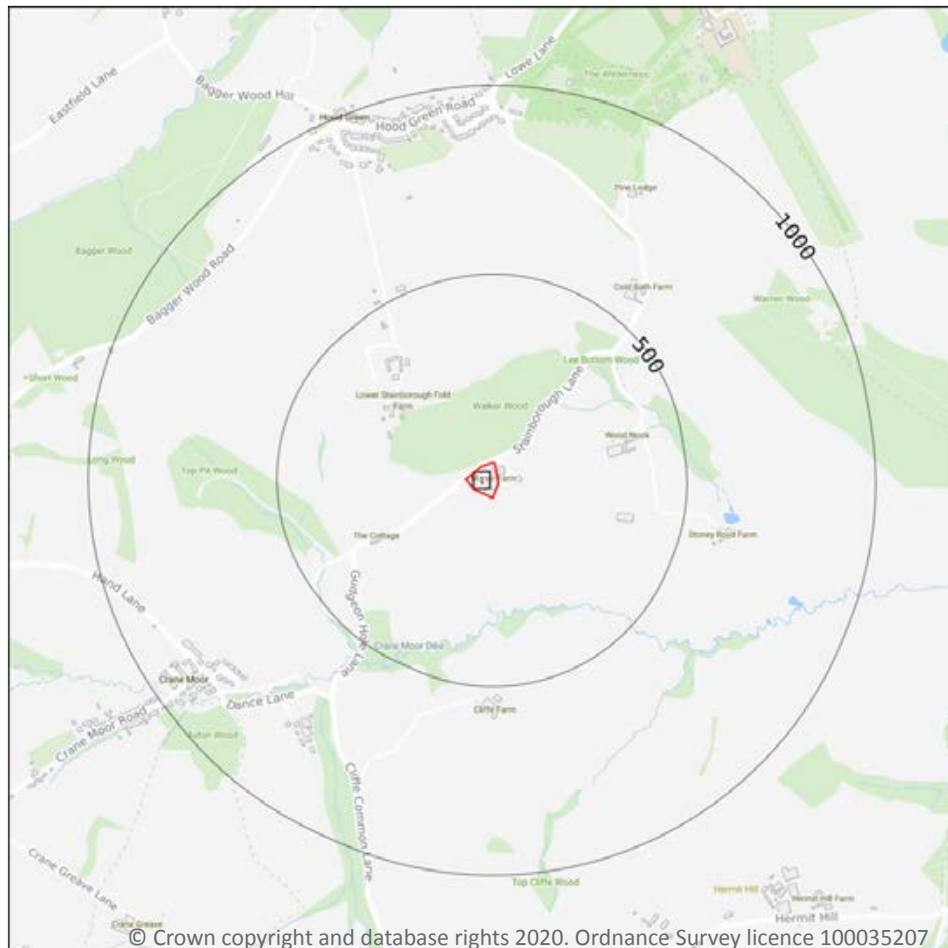


ID	Location	Category	Description
69	480m NE	ROCK	Coal seam, observed
70	480m NE	FAULT	Normal fault, inferred
71	485m NE	ROCK	Coal seam, observed
72	487m SW	ROCK	Coal seam, observed
73	487m NE	FAULT	Normal fault, inferred
74	495m NE	ROCK	Coal seam, observed
75	496m NE	ROCK	Coal seam, observed
76	496m SW	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 69**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	Full	EW087_barnsley_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

6

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 70**

ID	Location	LEX Code	Description	Rock description
1	274m E	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
2	293m N	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
3	296m S	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
4	399m NW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT



ID	Location	LEX Code	Description	Rock description
5	412m SW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
6	463m NE	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

15.3 Artificial ground 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 artificial 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 - 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

30

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 73**

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
3	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
4	1m NW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
6	84m SW	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
7	89m NW	PKR-SDST	PARKGATE ROCK - SANDSTONE	WESTPHALIAN
9	120m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
10	147m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
12	147m SW	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
14	151m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
17	154m NW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
19	180m NW	PKR-SDST	PARKGATE ROCK - SANDSTONE	WESTPHALIAN
21	183m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
24	211m N	PKR-SDST	PARKGATE ROCK - SANDSTONE	WESTPHALIAN
25	218m S	SR-SDST	SILKSTONE ROCK - SANDSTONE	WESTPHALIAN
26	221m W	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
28	239m S	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
29	263m W	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
30	263m S	SR-SDST	SILKSTONE ROCK - SANDSTONE	WESTPHALIAN
35	293m N	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
39	302m E	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
42	335m S	SR-SDST	SILKSTONE ROCK - SANDSTONE	WESTPHALIAN
45	399m SW	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN



ID	Location	LEX Code	Description	Rock age
49	420m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
52	429m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
54	452m SW	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
57	469m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
59	475m NE	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
60	477m SW	SR-SDST	SILKSTONE ROCK - SANDSTONE	WESTPHALIAN
61	485m W	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
62	486m SW	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
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A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	33
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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 73**



ID	Location	Category	Description
2	On site	ROCK	Coal seam, inferred
5	1m NW	FAULT	Fault, inferred
8	89m NW	ROCK	Coal seam, inferred
11	147m SW	ROCK	Coal seam, inferred
13	147m SW	FAULT	Fault, inferred, displacement unknown
15	154m SW	ROCK	Coal seam, inferred
16	154m NW	FAULT	Fault, inferred
18	180m NW	ROCK	Coal seam, inferred
20	183m SW	FAULT	Fault, inferred
22	201m W	ROCK	Coal seam, inferred
23	211m N	ROCK	Coal seam, inferred
27	221m W	ROCK	Coal seam, inferred
31	263m W	FAULT	Fault, inferred
32	274m E	ROCK	Coal seam, inferred
33	277m E	ROCK	Coal seam, inferred
34	293m N	ROCK	Coal seam, inferred
36	296m S	ROCK	Coal seam, inferred
37	297m S	ROCK	Ironstone bed, inferred
38	301m W	ROCK	Coal seam, inferred
40	306m E	ROCK	Coal seam, inferred
41	315m S	ROCK	Ironstone bed, inferred
43	363m SE	ROCK	Coal seam, inferred
44	392m SW	ROCK	Coal seam, inferred
46	399m SW	ROCK	Coal seam, inferred
47	399m NW	FAULT	Fault, inferred
48	412m SW	ROCK	Coal seam, inferred
50	427m S	ROCK	Coal seam, inferred
51	428m NE	ROCK	Coal seam, inferred



ID	Location	Category	Description
53	430m SW	ROCK	Coal seam, inferred
55	463m NE	FAULT	Fault, inferred
56	463m NE	ROCK	Coal seam, observed
58	469m NE	FAULT	Fault, inferred
63	488m NE	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.



16 Boreholes

16.1 BGS Boreholes

Records within 250m

0

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.

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.1 Shrink swell clays

Records within 50m

2

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

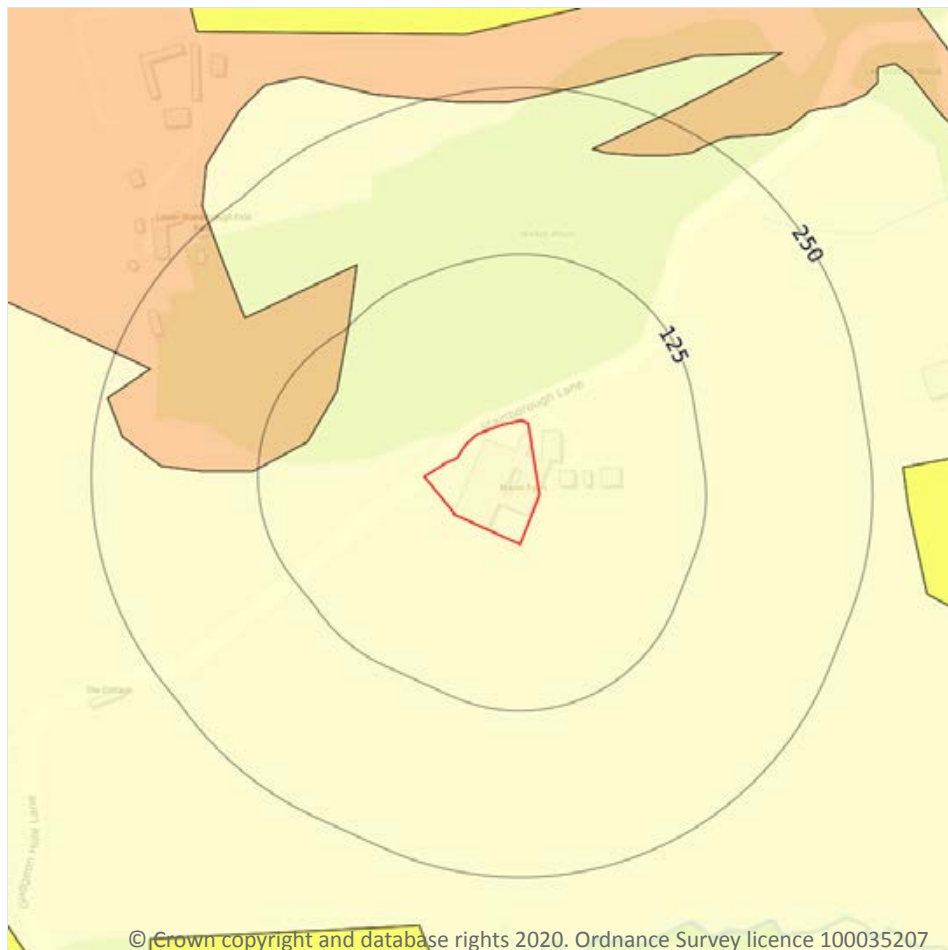
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 79**

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



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.2 Running sands

Records within 50m

1

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 80**

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.

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

1

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.

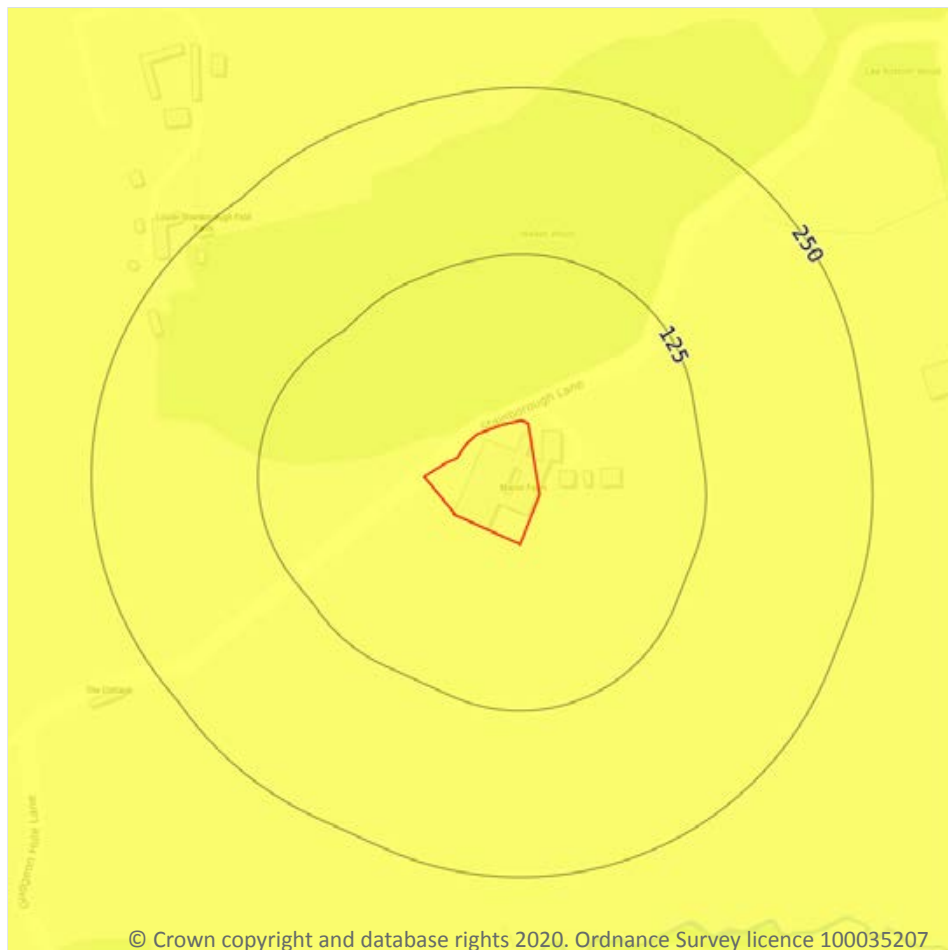
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 81**

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☒ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.4 Collapsible deposits

Records within 50m

1

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

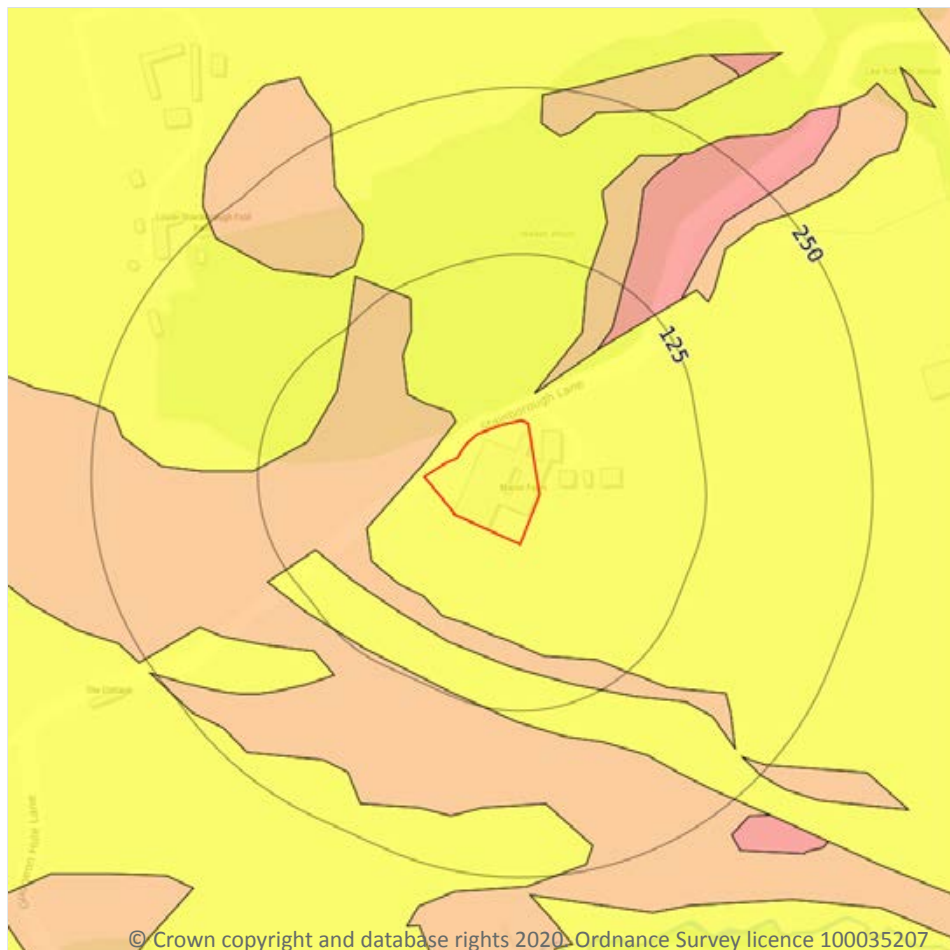
Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 82**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

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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 83**

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

Location	Hazard rating	Details
7m NW	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
23m N	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

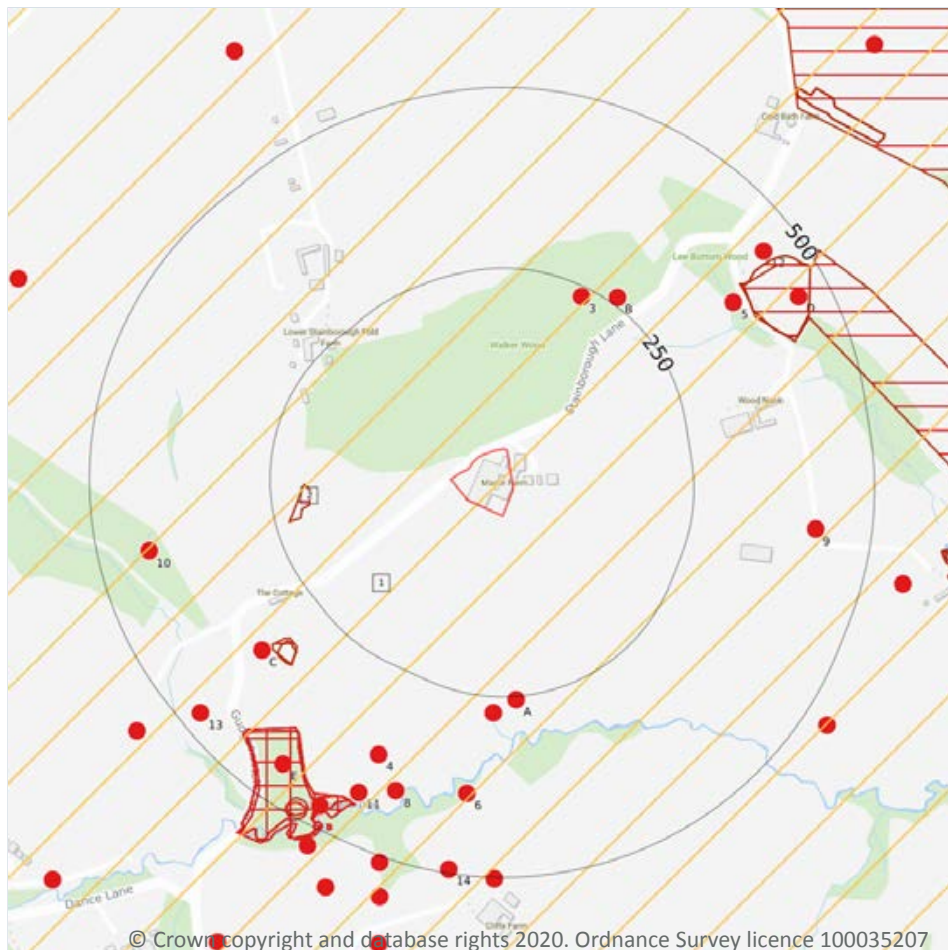
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 85**

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

This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- Non Coal Mining
- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m

0

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

This data is sourced from Peter Brett Associates (PBA).

18.2 BritPits

Records within 500m

22

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 86**

ID	Location	Details	Description
3	236m NE	Name: Walker Wood Coal Workings Address: Stainborough, Dodworth, BARNSELY, South Yorkshire Commodity: Coal, Surface Mined Status: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Type: Ceased 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	254m S	Name: Silkstone Main Colliery Pits Address: Crane Moor, Thurgoland, BARNSELY, South Yorkshire Commodity: Coal, Deep Status: 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)	Type: Ceased 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
B	261m NE	Name: Walker Wood Quarry Address: Stainborough, Dodworth, BARNSELY, South Yorkshire Commodity: Sandstone Status: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Type: Ceased 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	270m S	Name: Silkstone Main Colliery Pits Address: Crane Moor, Thurgoland, BARNSELY, South Yorkshire Commodity: Coal, Deep Status: 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)	Type: Ceased 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	272m S	Name: Silkstone Main Colliery Pits Address: Crane Moor, Thurgoland, PENISTONE, South Yorkshire Commodity: Coal, Deep Status: 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)	Type: Ceased 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
B	293m NE	Name: Walker Wood Bell Pits Address: Stainborough, Dodworth, BARNSELEY, South Yorkshire Commodity: Coal, Deep Status: 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)	Type: Ceased 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	351m SW	Name: Clough Wood Address: Crane Moor, Thurgoland, PENISTONE, South Yorkshire Commodity: Sandstone Status: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Type: Ceased 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	371m SW	Name: Crane Moor II OCCS Address: Crane Moor, Thurgoland, BARNSELEY, South Yorkshire Commodity: Coal, Surface Mined Status: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Type: Ceased 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	374m NE	Name: Stainborough Brick Field Address: Stainborough, Dodworth, BARNSELEY, South Yorkshire Commodity: Clay & Shale Status: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Type: Ceased Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
6	386m S	Name: Cliffe Bridge Colliery Pit Address: Crane Moor, Thurgoland, BARNSELEY, South Yorkshire Commodity: Coal, Deep Status: 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)	Type: Ceased 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	407m S	Name: Vernon Silkstone Colliery Address: Crane Moor, Thurgoland, BARNSELEY, South Yorkshire Commodity: Coal, Deep Status: 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)	Type: Ceased 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
9	421m E	Name: Cold Bath OCCS Address: Crane Moor, Thurgoland, BARNSELEY, South Yorkshire Commodity: Coal, Surface Mined Status: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Type: Ceased 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	429m W	Name: Top Pit Address: Crane Moor, Thurgoland, PENISTONE, South Yorkshire Commodity: Coal, Deep Status: 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)	Type: Ceased 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
11	430m SW	Name: Silkstone Main Colliery Day Hole Address: Crane Moor, Thurgoland, PENISTONE, South Yorkshire Commodity: Coal, Deep Status: 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)	Type: Ceased 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	445m SW	Name: Gudgeon Hole Lane Bell Pits Address: Crane Moor, Thurgoland, BARNSELEY, South Yorkshire Commodity: Coal, Deep Status: 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)	Type: Ceased 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
12	449m NE	Name: Cold Bath OCCS Address: Stainborough, Dodworth, BARNSELEY, South Yorkshire Commodity: Coal, Surface Mined Status: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Type: Ceased Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
D	456m NE	Name: Stainborough Brick Works Address: Stainborough, Thurgoland, BARNSELEY, South Yorkshire Commodity: Clay & Shale Status: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Type: Ceased 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
E	468m SW	Name: Vernon Silkstone Colliery Address: Crane Moor, Thurgoland, BARNSELEY, South Yorkshire Commodity: Coal, Deep Status: 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)	Type: Ceased 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
13	471m SW	Name: Crane Moor II OCCS Address: Crane Moor, Thurgoland, BARNSELEY, South Yorkshire Commodity: Coal, Surface Mined Status: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Type: Ceased 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	472m SW	Name: Gudgeon Hole Lane Coal Workings Address: Crane Moor, Thurgoland, BARNSELEY, South Yorkshire Commodity: Coal, Surface Mined Status: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Type: Ceased 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	473m SW	Name: Vernon Silkstone Colliery Address: Thurgoland, PENISTONE, South Yorkshire Commodity: Coal, Deep Status: 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)	Type: Ceased 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
14	493m S	Name: Cliffe House Bell Pits Address: Crane Moor, Thurgoland, BARNSELEY, South Yorkshire Commodity: Ironstone Status: 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)	Type: Ceased Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

1

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 86**



ID	Location	Land Use	Year of mapping	Mapping scale
2	195m W	Pond	1951	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

13

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, ground workings and natural cavities map on **page 86**

ID	Location	Land Use	Year of mapping	Mapping scale
E	394m SW	Colliery	1903	1:10560
E	394m SW	Colliery	1891	1:10560
E	397m SW	Colliery	1932	1:10560
E	479m SW	Unspecified Level	1932	1:10560
E	488m SW	Unspecified Level	1903	1:10560
-	660m S	Air Shaft	1951	1:10560
-	662m S	Air Shaft	1977	1:10000
-	667m S	Air Shaft	1932	1:10560
-	667m S	Air Shaft	1903	1:10560
-	784m SW	Air Shaft	1977	1:10000
-	977m W	Unspecified Shaft	1932	1:10560
-	977m W	Unspecified Shaft	1903	1:10560
-	978m W	Unspecified Shaft	1951	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

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



This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

2

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 86**

ID	Location	Name	Commodity	Class	Likelihood
1	On site	Sheffield Area	Vein Mineral/Iron ore	B	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
-	836m NE	Not available	Iron Ore (Bedded)	B	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

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m

0

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

This data is sourced from Peter Brett Associates (PBA).

18.8 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site	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.

18.10 Brine areas

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

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

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

18.11 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

18.13 Clay mining

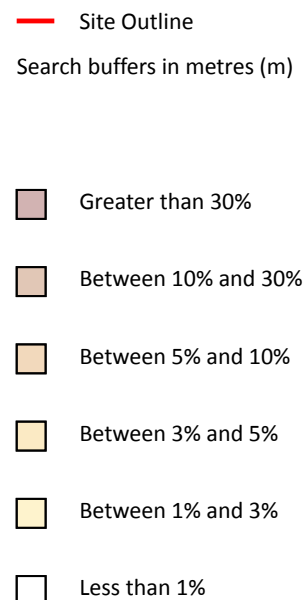
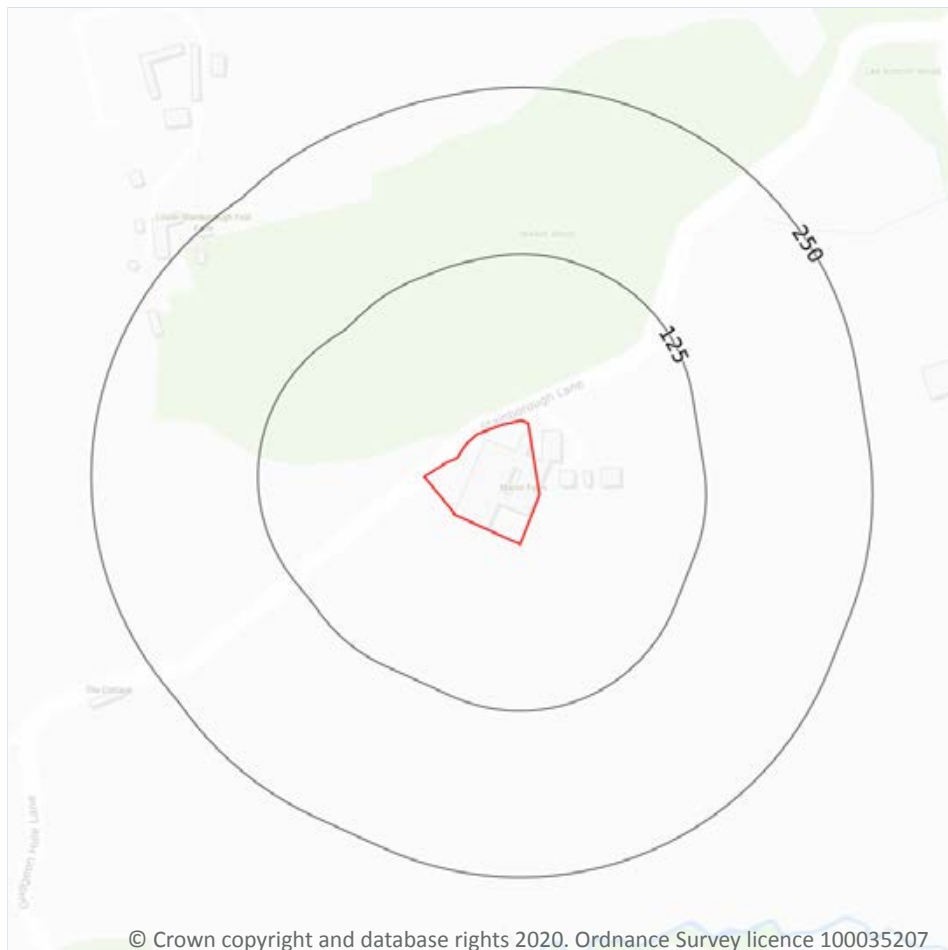
Records on site	0
-----------------	---

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

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



19 Radon



19.1 Radon

Records on site

1

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

Features are displayed on the Radon map on **page 94**

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

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



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

5

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	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



20.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m

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.

21.5 Royal Mail tunnels

Records within 250m

0

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



This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

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

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

This data is sourced from OpenStreetMap.

21.7 Railways

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

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

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

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

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

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

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

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

This data is sourced from HS2 Ltd.



Data providers

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

Terms and conditions

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Appendix 2

Historical Maps

Site Details:

MANOR FARM,
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GREEN, BARNLEY, S75 3HA

Client Ref: C754_20_E_1163_PO-07
Report Ref: GS-6769322
Grid Ref: 431349, 401993

Map Name: County Series

Map date: 1891

Scale: 1:2,500

Printed at: 1:2,500



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

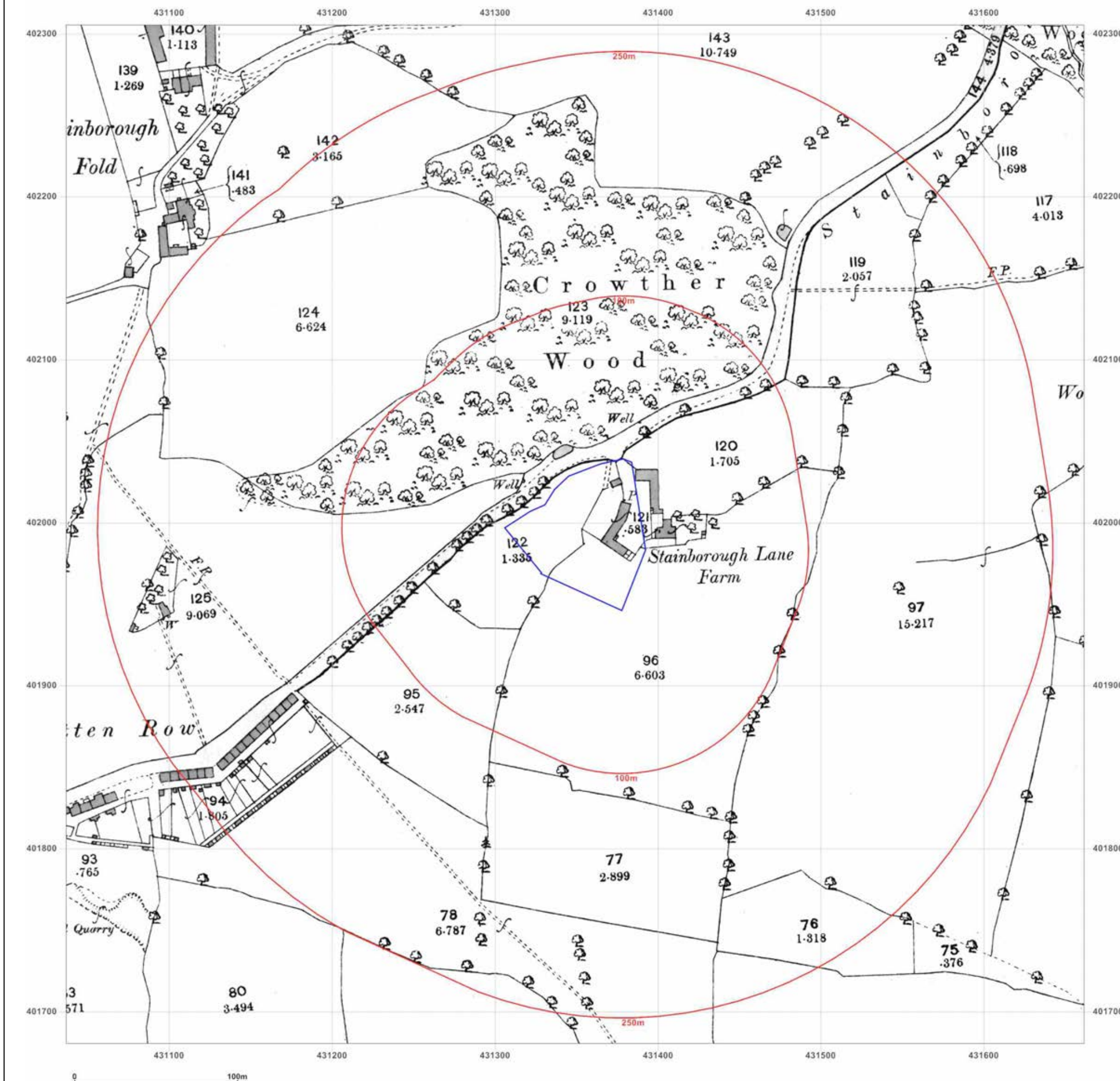


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Client Ref: C754_20_E_1163_PO-07
Report Ref: GS-6769322
Grid Ref: 431349, 401993

Map Name: County Series

Map date: 1906

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Printed at: 1:2,500



Surveyed 1906
Revised 1906
Edition N/A
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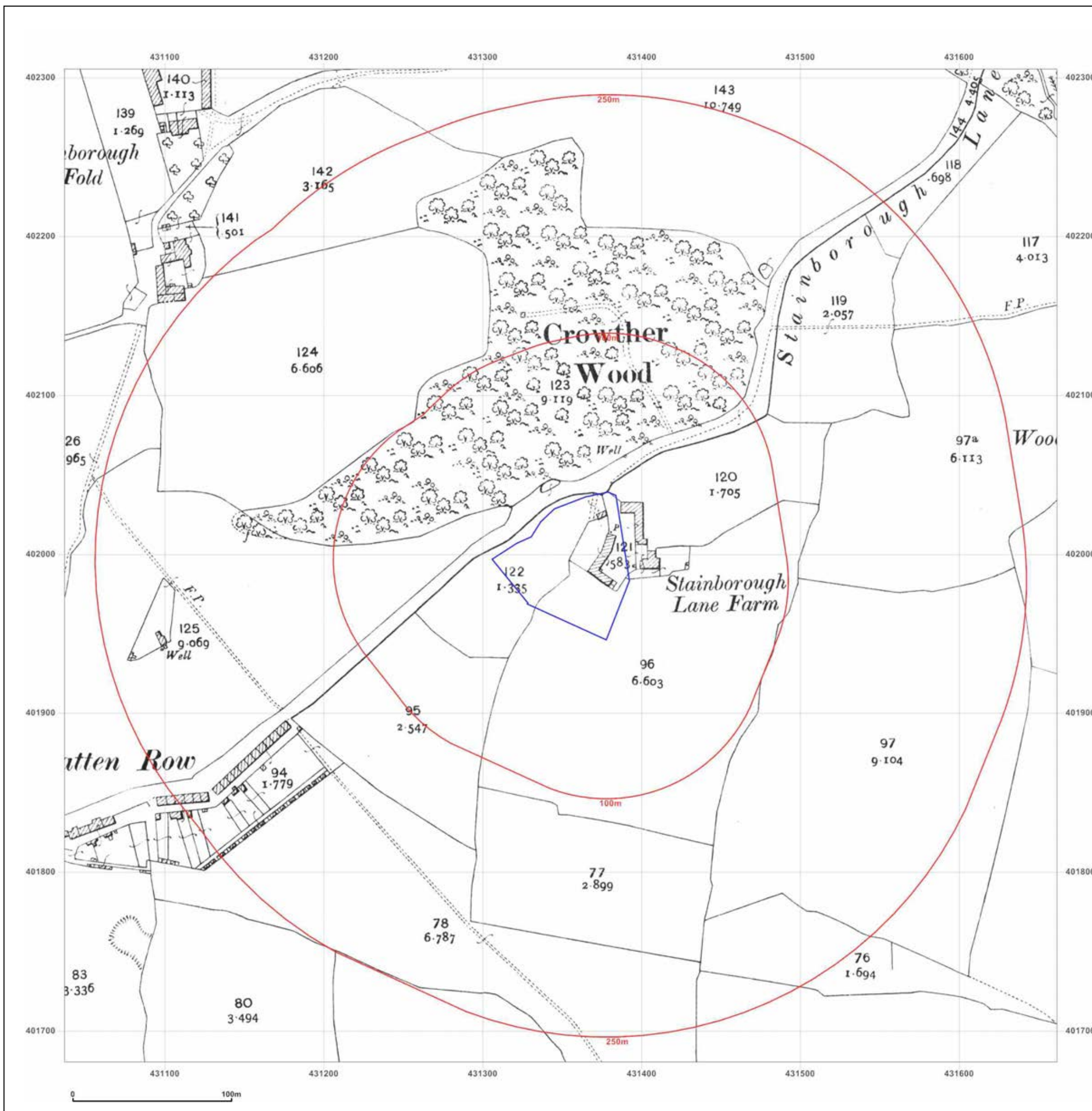


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Client Ref: C754_20_E_1163_PO-07
Report Ref: GS-6769322
Grid Ref: 431349, 401993

Map Name: County Series

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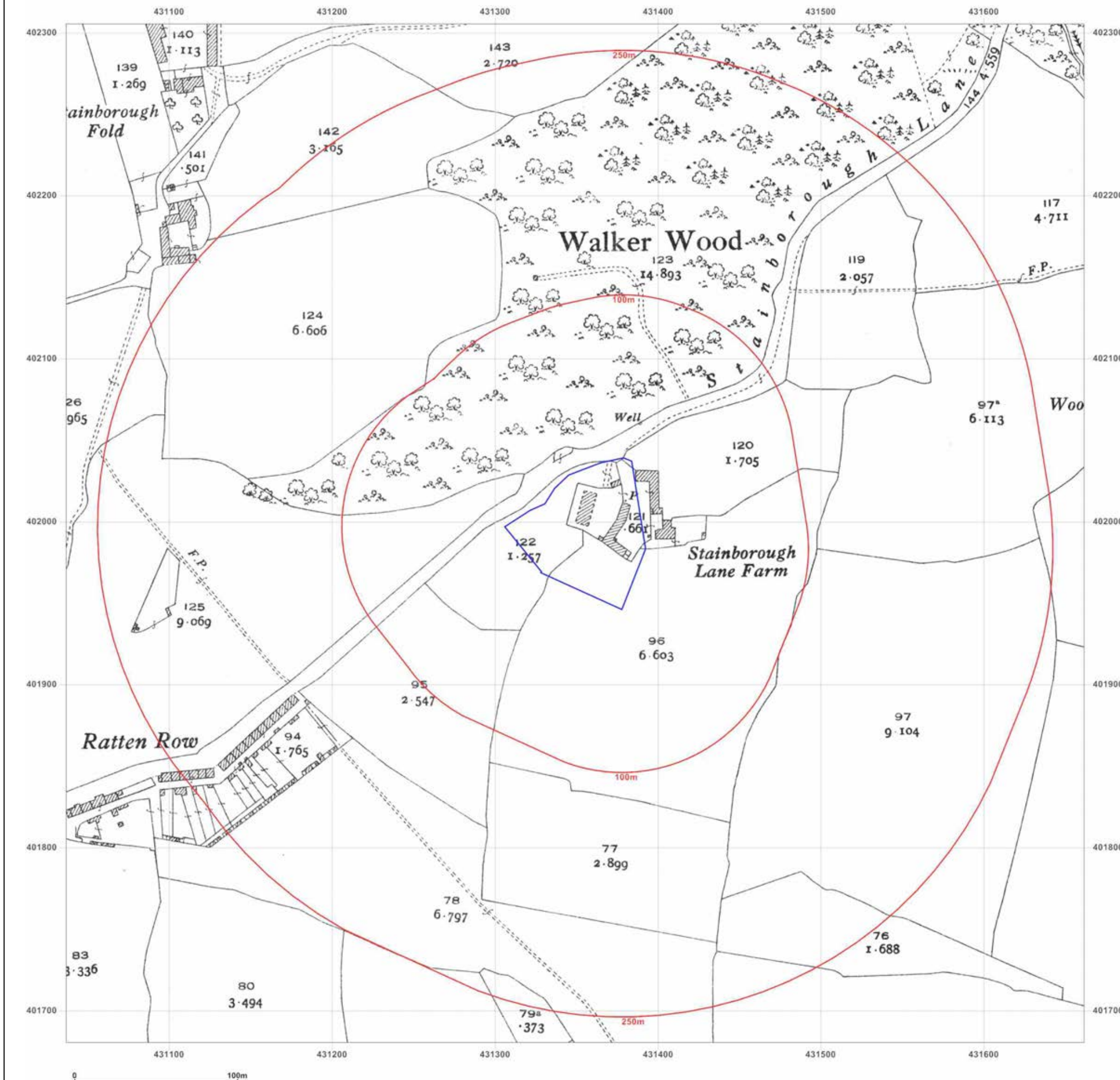


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Client Ref: C754_20_E_1163_PO-07
Report Ref: GS-6769322
Grid Ref: 431349, 401993

Map Name: National Grid

Map date: 1960

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Edition N/A
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Levelled 1960

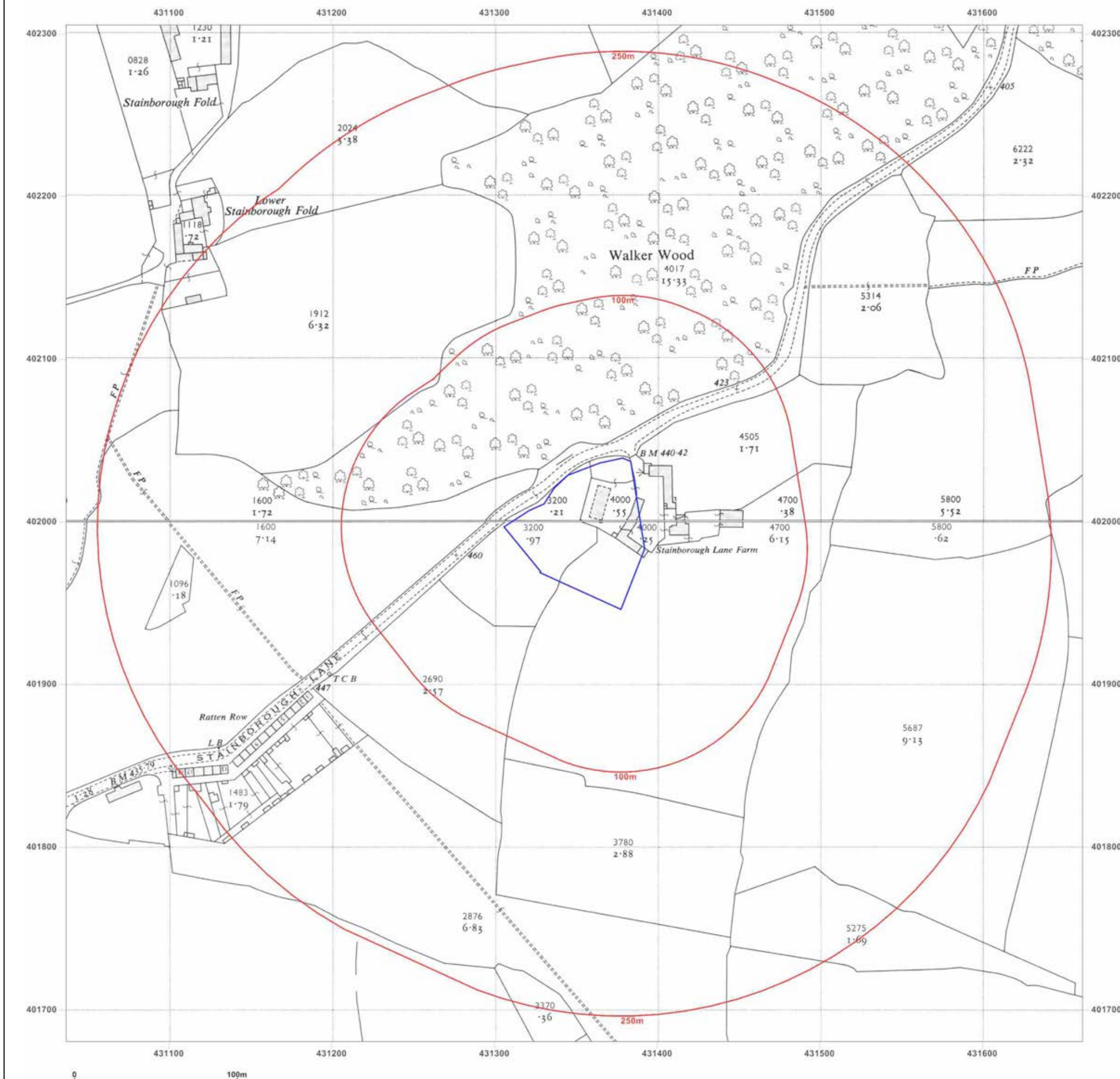


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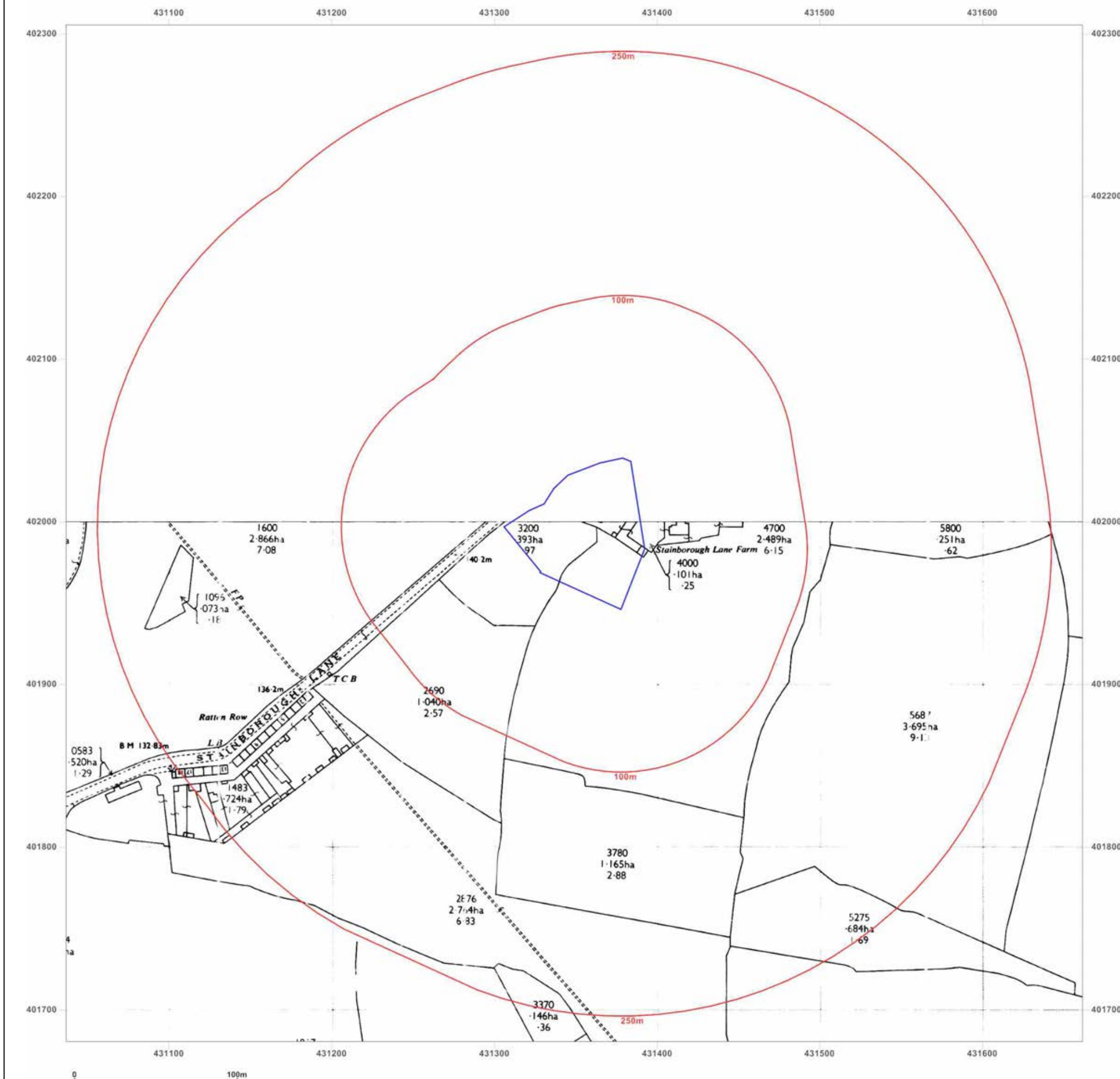


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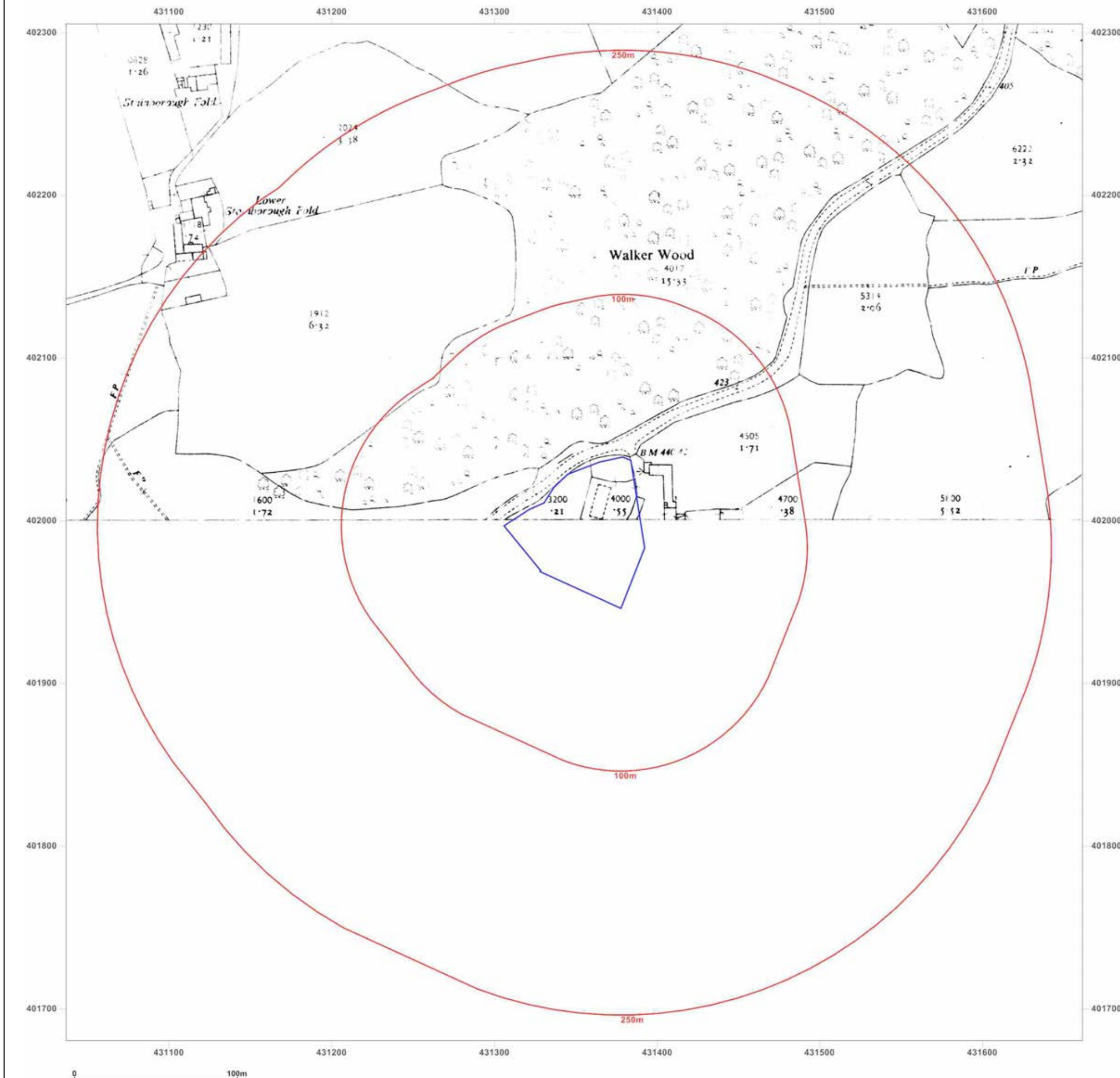


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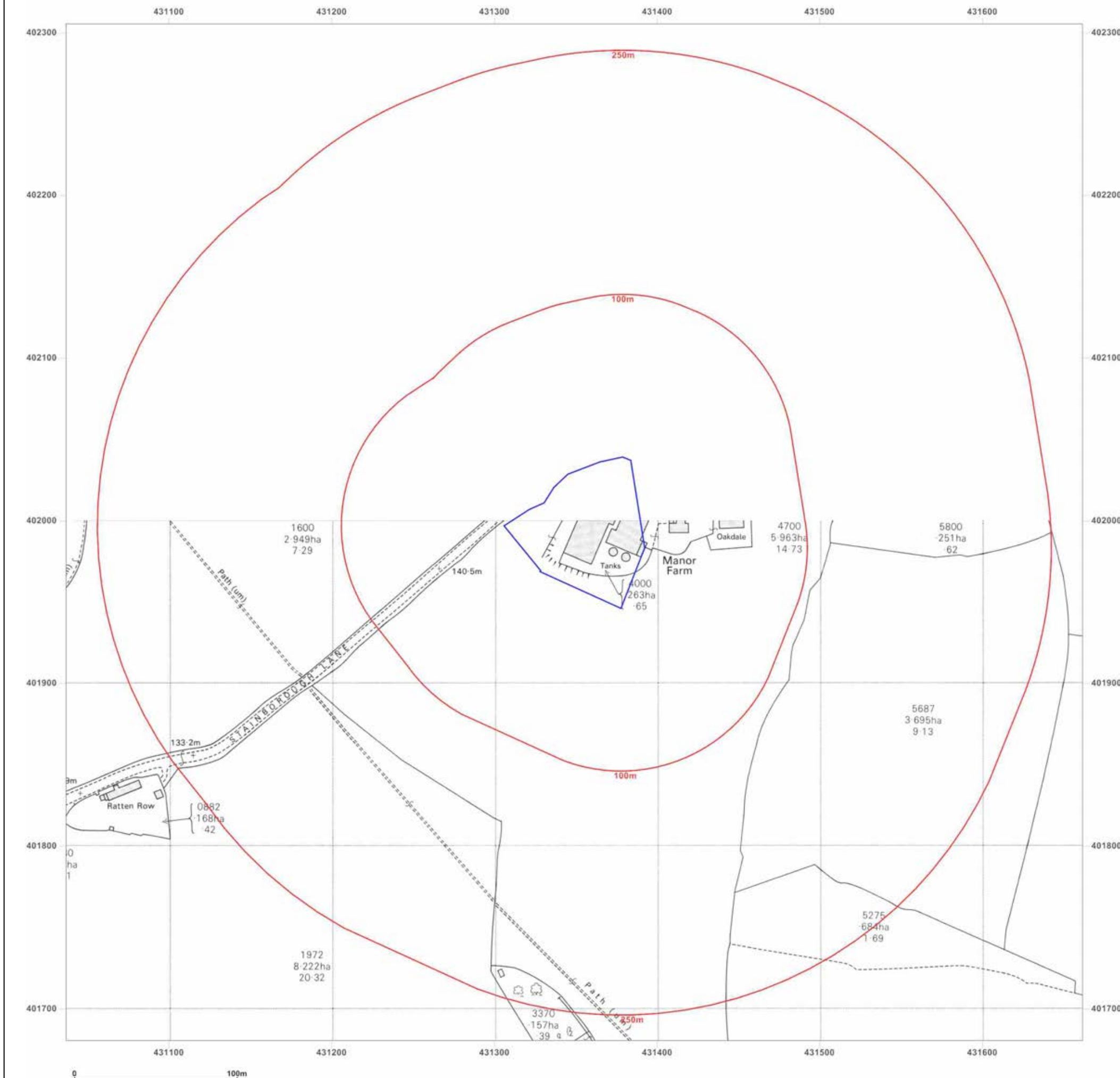


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Grid Ref: 431349, 401993

Map Name: National Grid

Map date: 1984

Scale: 1:2,500

Printed at: 1:2,500



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Edition N/A
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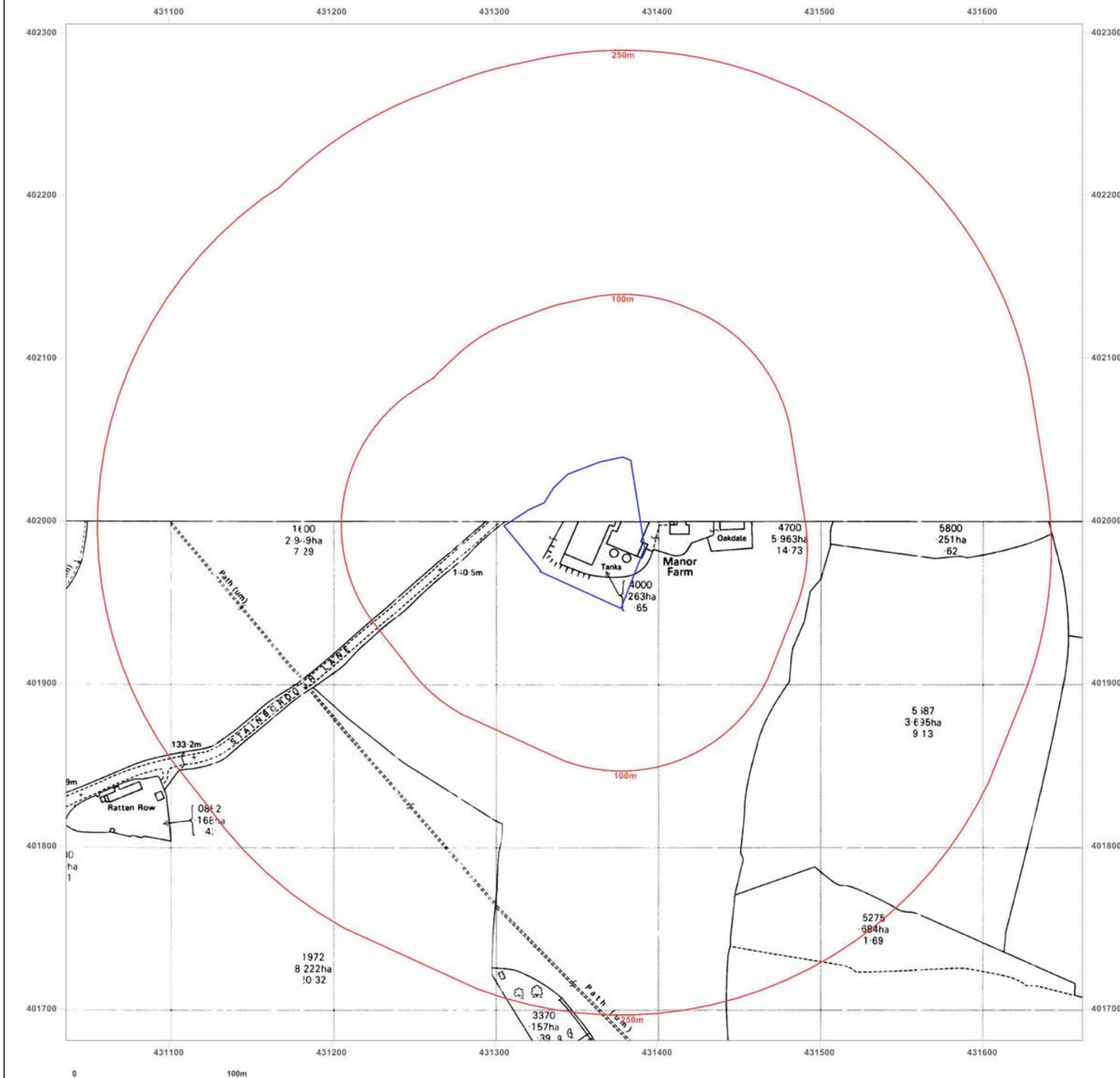


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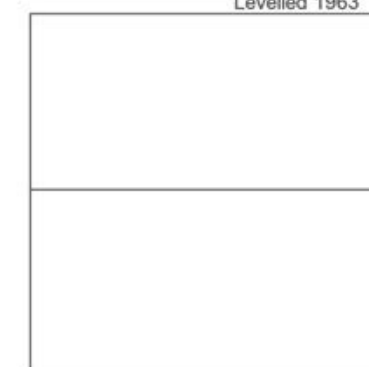
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Surveyed 1963
Revised 1990
Edition N/A
Copyright 1990
Levelled 1963

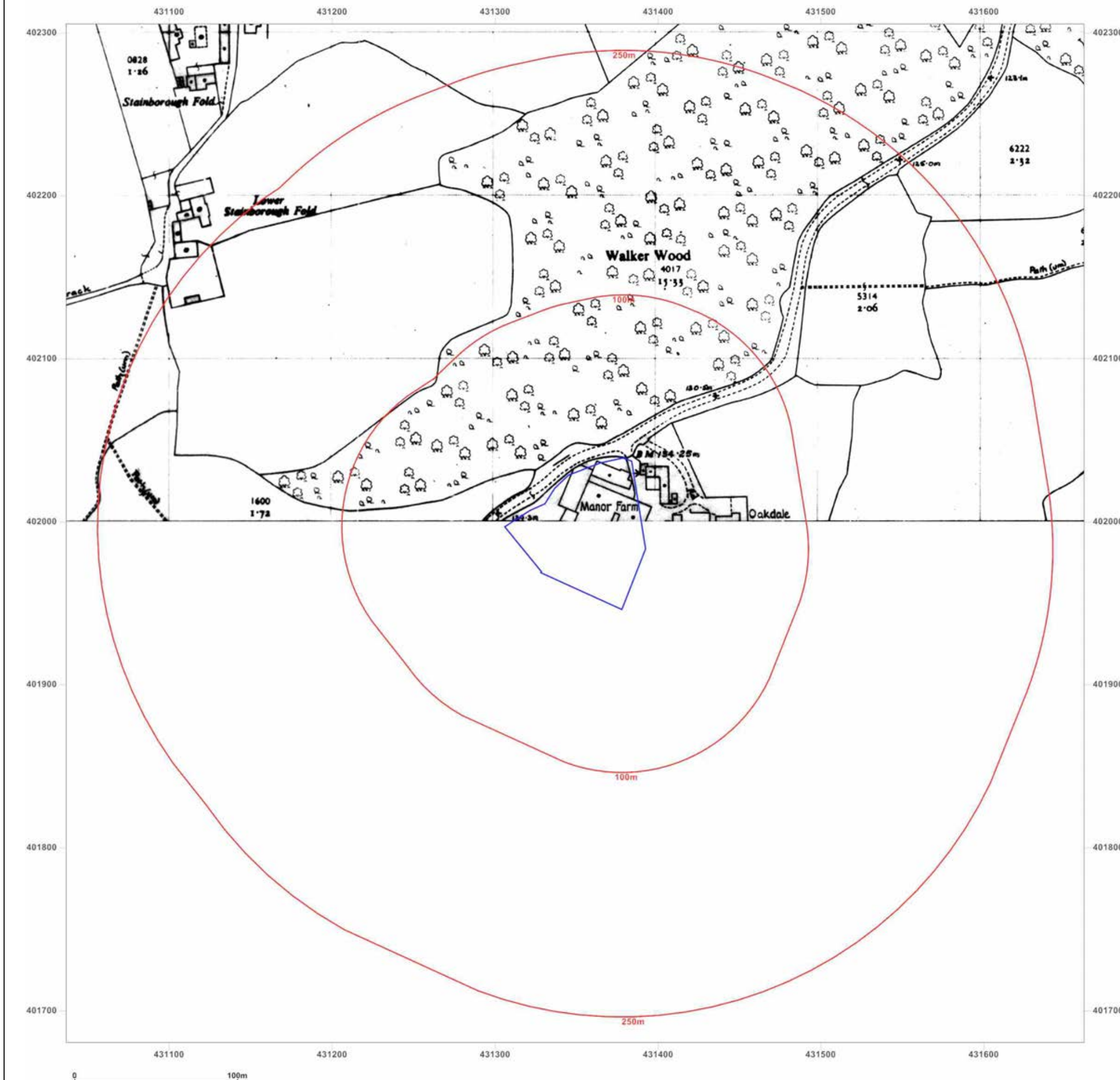


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Report Ref: GS-6769322
Grid Ref: 431349, 401993

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



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

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

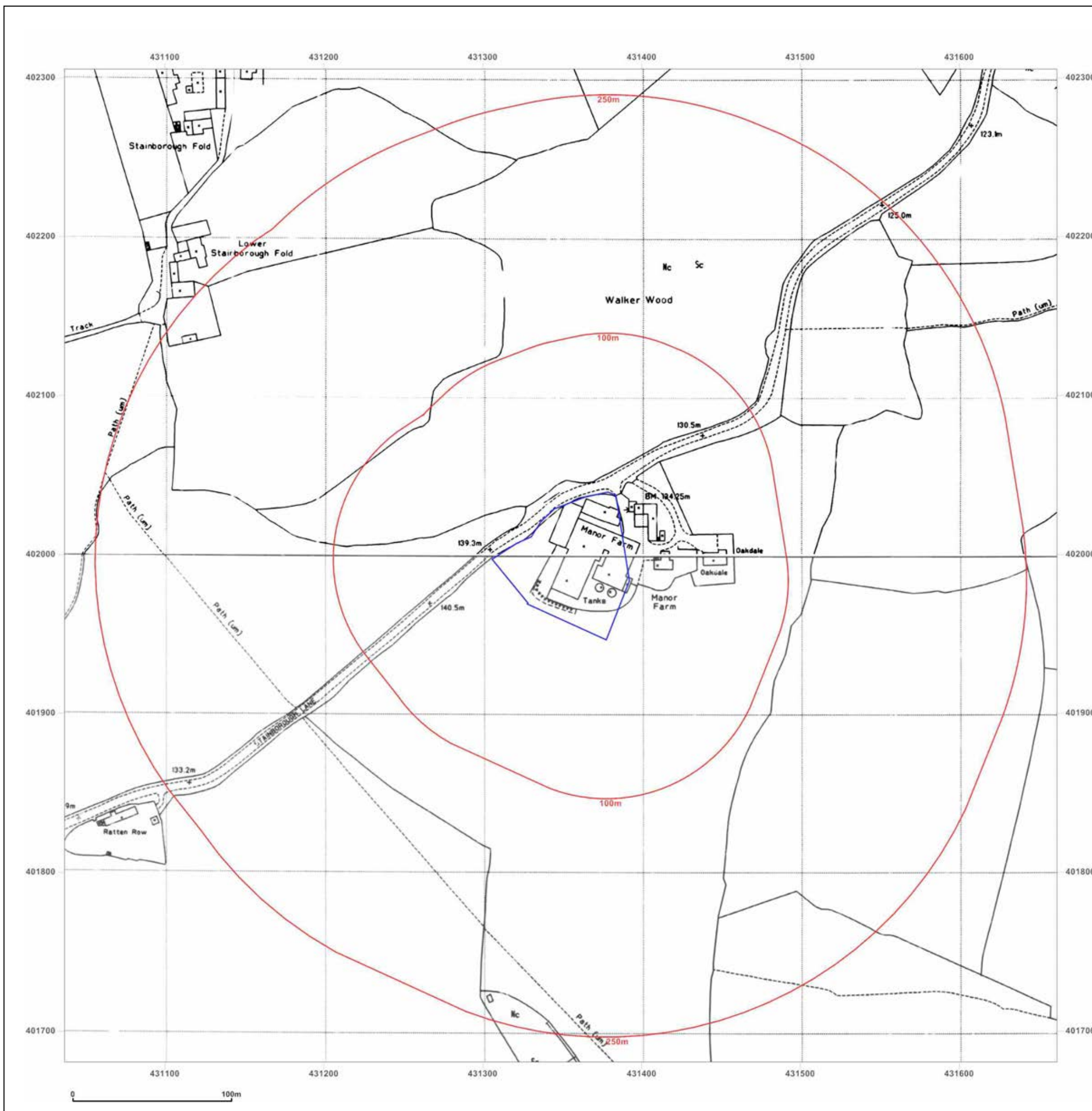


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Production date: 21 May 2020

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Site Details:

MANOR FARM,
STAINBOROUGH LANE, HOOD
GREEN, BARNSELY, S75 3HA

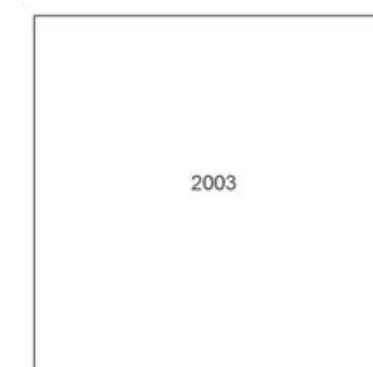
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Grid Ref: 431349, 401993

Map Name: LandLine

Map date: 2003

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Printed at: 1:1,250

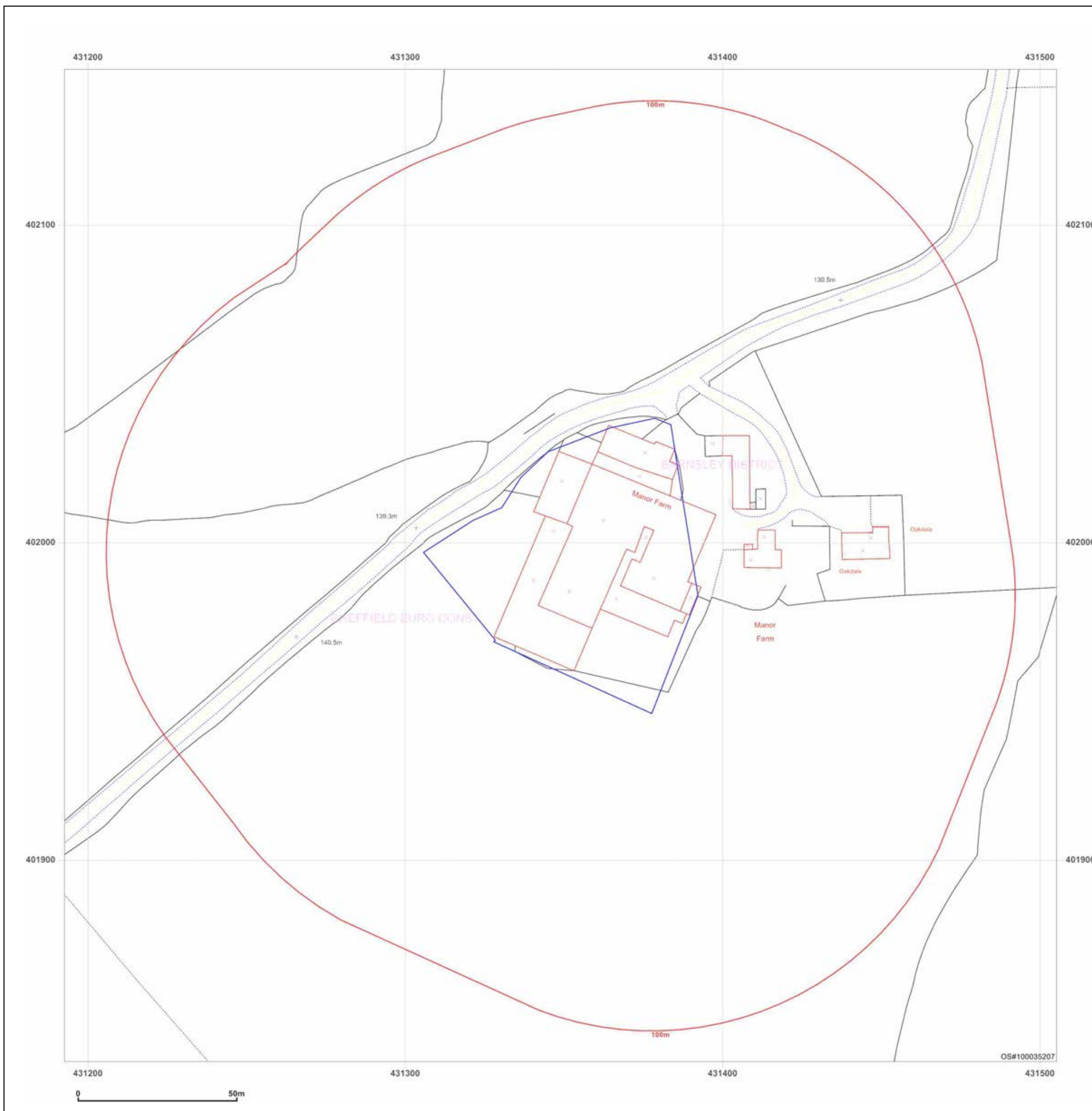


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Site Details:

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GREEN, BARNSELY, S75 3HA

Client Ref: C754_20_E_1163_PO-07
Report Ref: GS-6769322
Grid Ref: 431349, 401993

Map Name: County Series

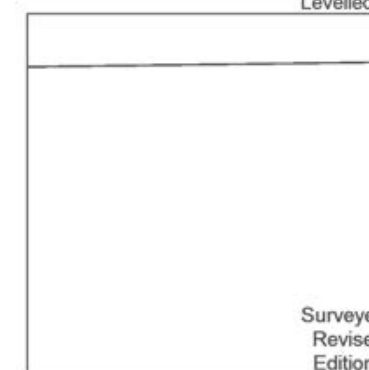
Map date: 1850-1855

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1851
Revised N/A
Edition 1850
Copyright N/A
Levelled N/A



Surveyed 1851
Revised N/A
Edition 1855
Copyright N/A
Levelled N/A

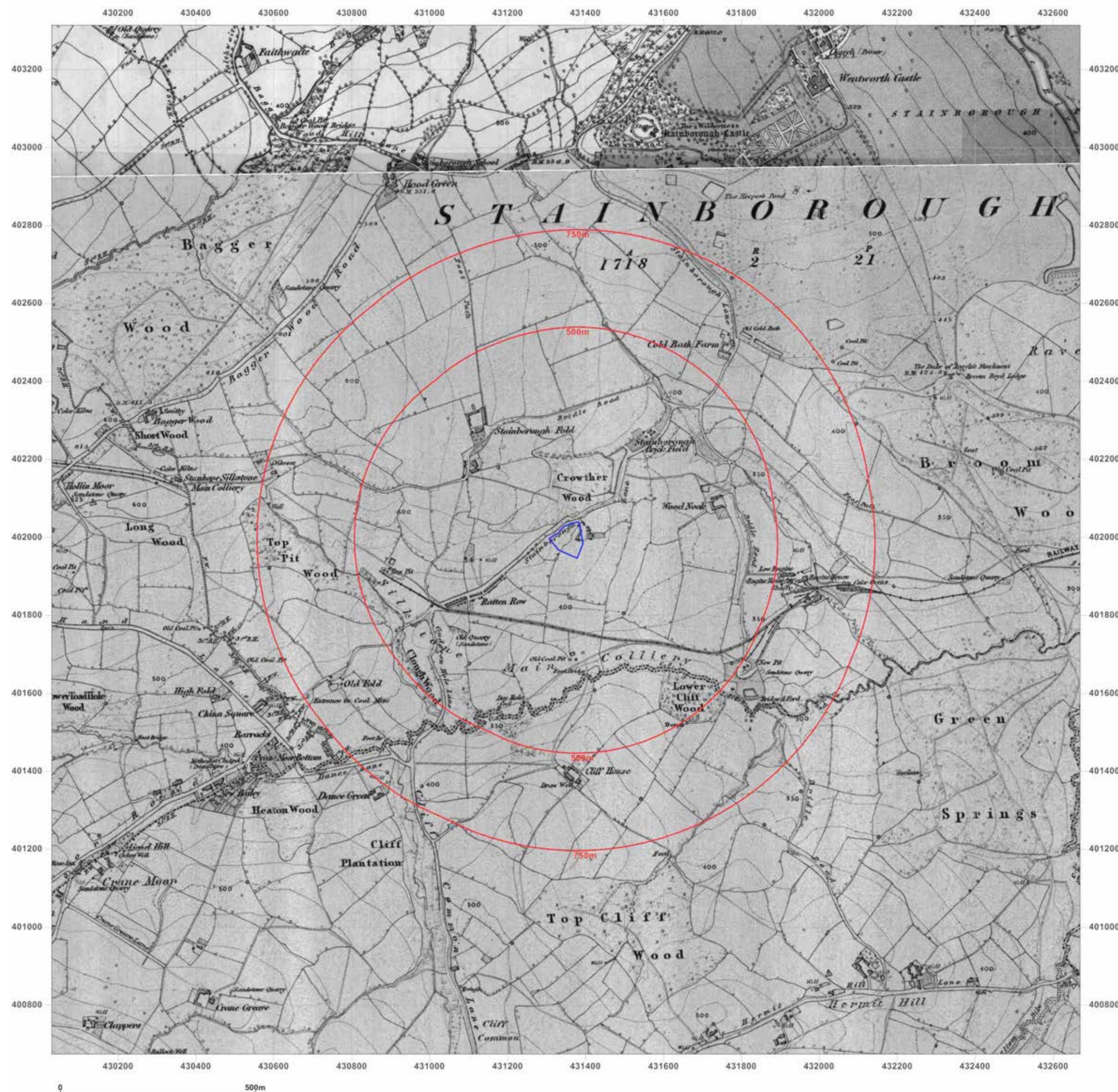


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Site Details:

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Client Ref: C754_20_E_1163_PO-07
Report Ref: GS-6769322
Grid Ref: 431349, 401993

Map Name: County Series

Map date: 1890-1891

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1891
Revised 1891
Edition N/A
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Surveyed 1890
Revised 1890
Edition 1890
Copyright N/A
Levelled N/A

Surveyed 1891
Revised 1891
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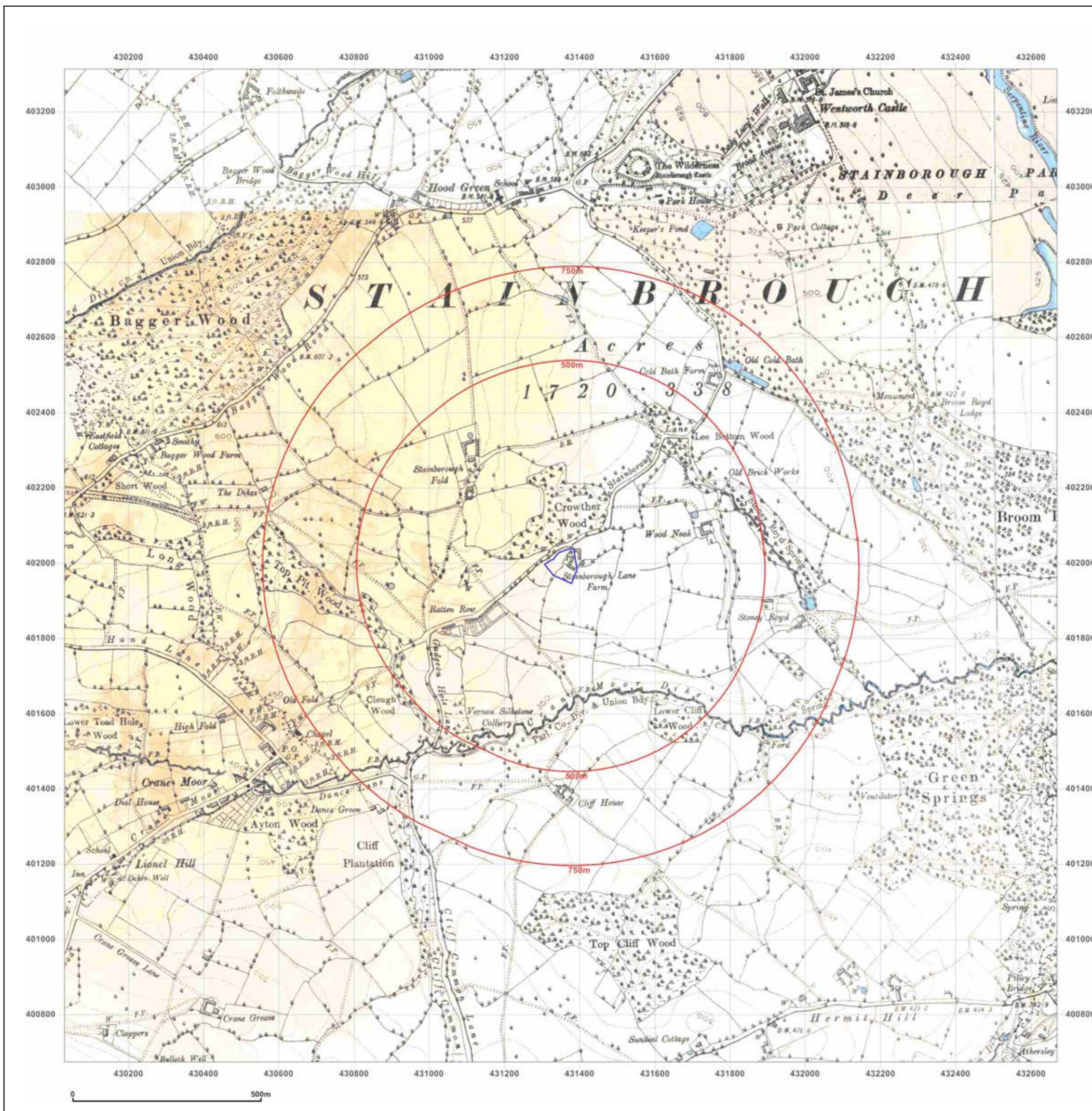


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Site Details:

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GREEN, BARNLEY, S75 3HA

Client Ref: C754_20_E_1163_PO-07
Report Ref: GS-6769322
Grid Ref: 431349, 401993

Map Name: County Series

Map date: 1903-1904

Scale: 1:10,560

Printed at: 1:10,560



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

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

Surveyed 1891
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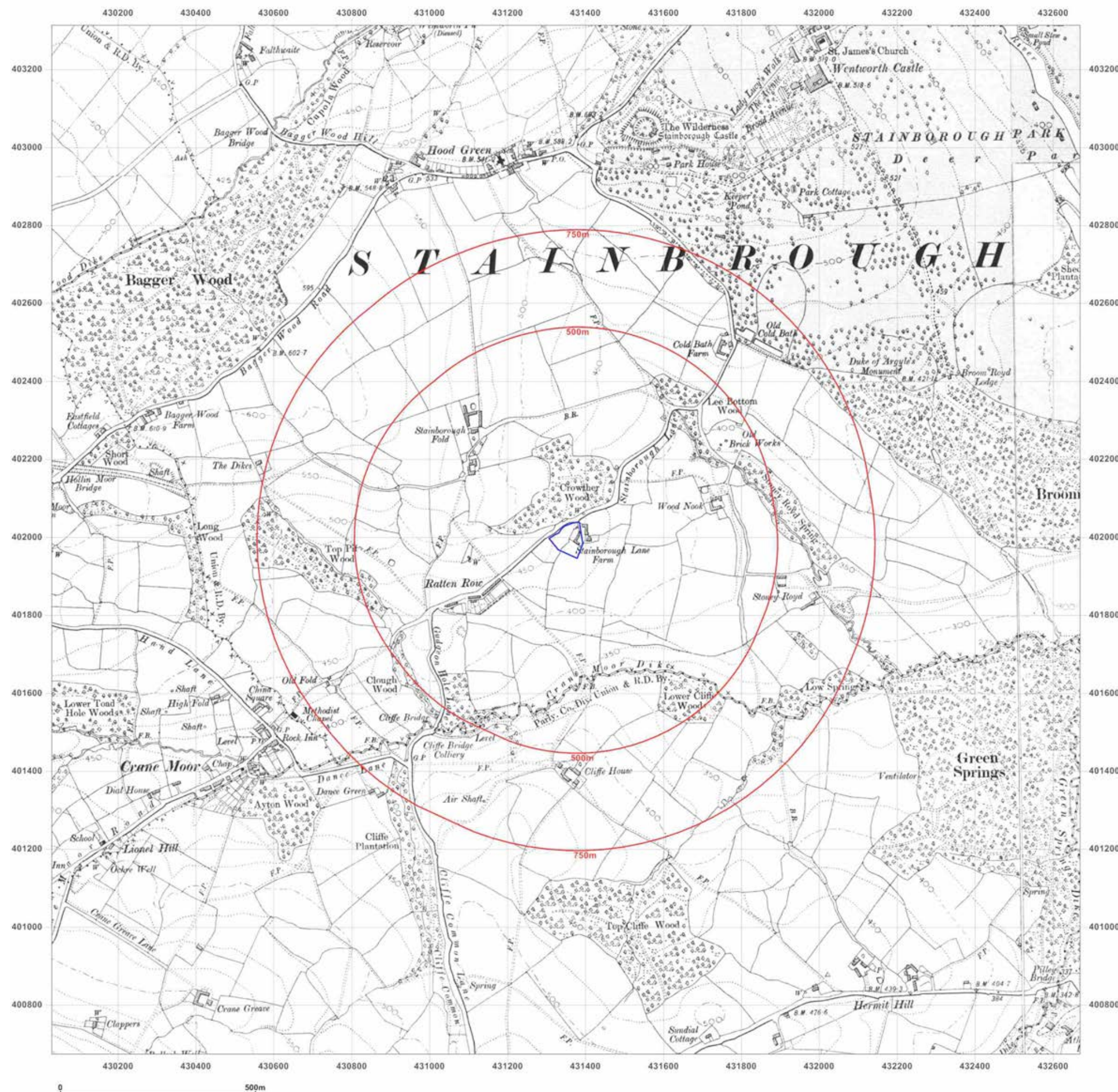


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Site Details:

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GREEN, BARNLEY, S75 3HA

Client Ref: C754_20_E_1163_PO-07
Report Ref: GS-6769322
Grid Ref: 431349, 401993

Map Name: County Series

Map date: 1929-1932

Scale: 1:10,560

Printed at: 1:10,560



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

Surveyed 1851
Revised 1929
Edition 1929
Copyright N/A
Levelled 1915

Surveyed 1851
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1851
Revised 1929
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Levelled 1915

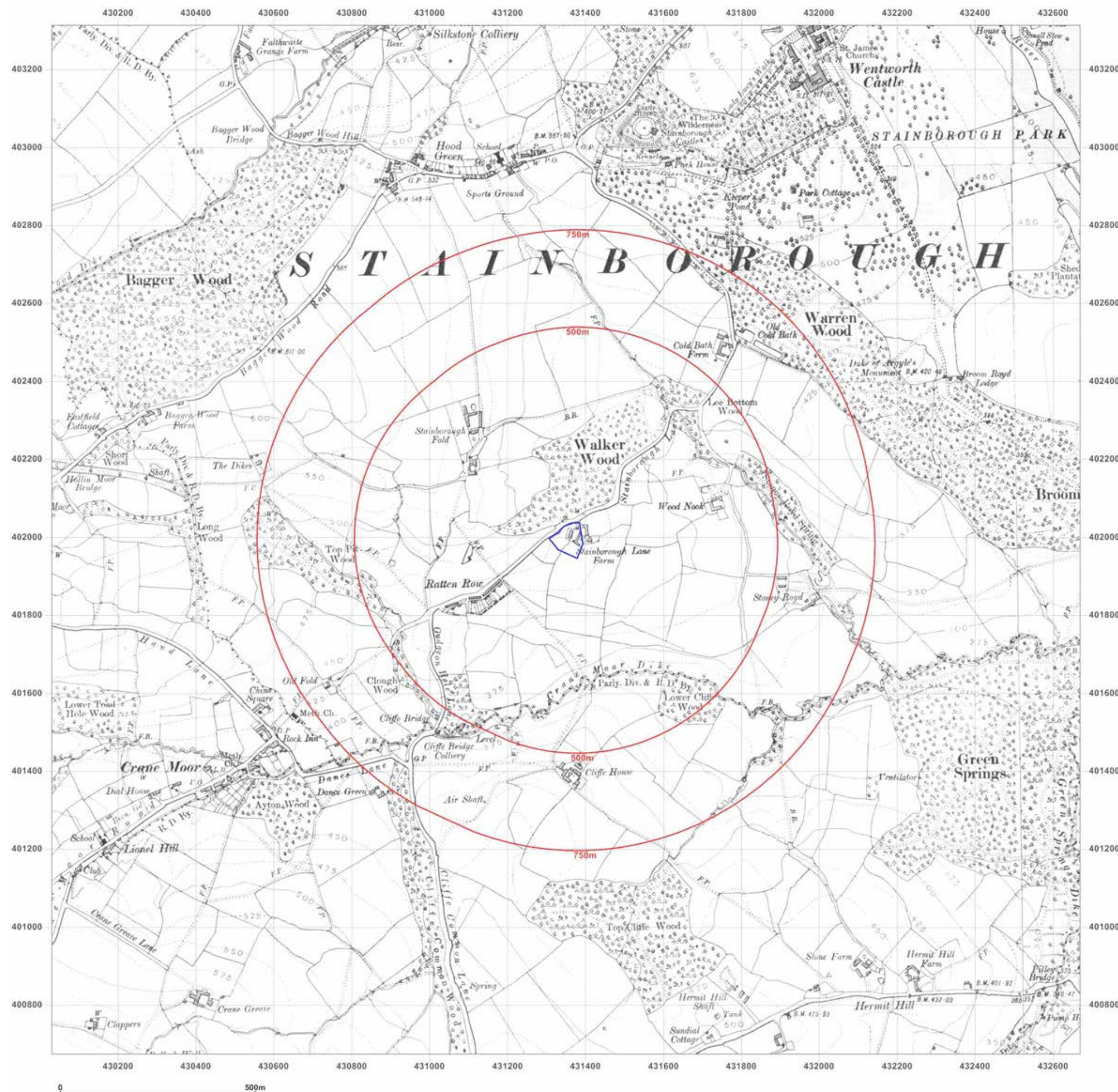


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Production date: 21 May 2020

Map legend available at:
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Site Details:

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STAINBOROUGH LANE, HOOD
GREEN, BARNSELY, S75 3HA

Client Ref: C754_20_E_1163_PO-07
Report Ref: GS-6769322
Grid Ref: 431349, 401993

Map Name: Provisional

Map date: 1956

Scale: 1:10,560

Printed at: 1:10,560



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

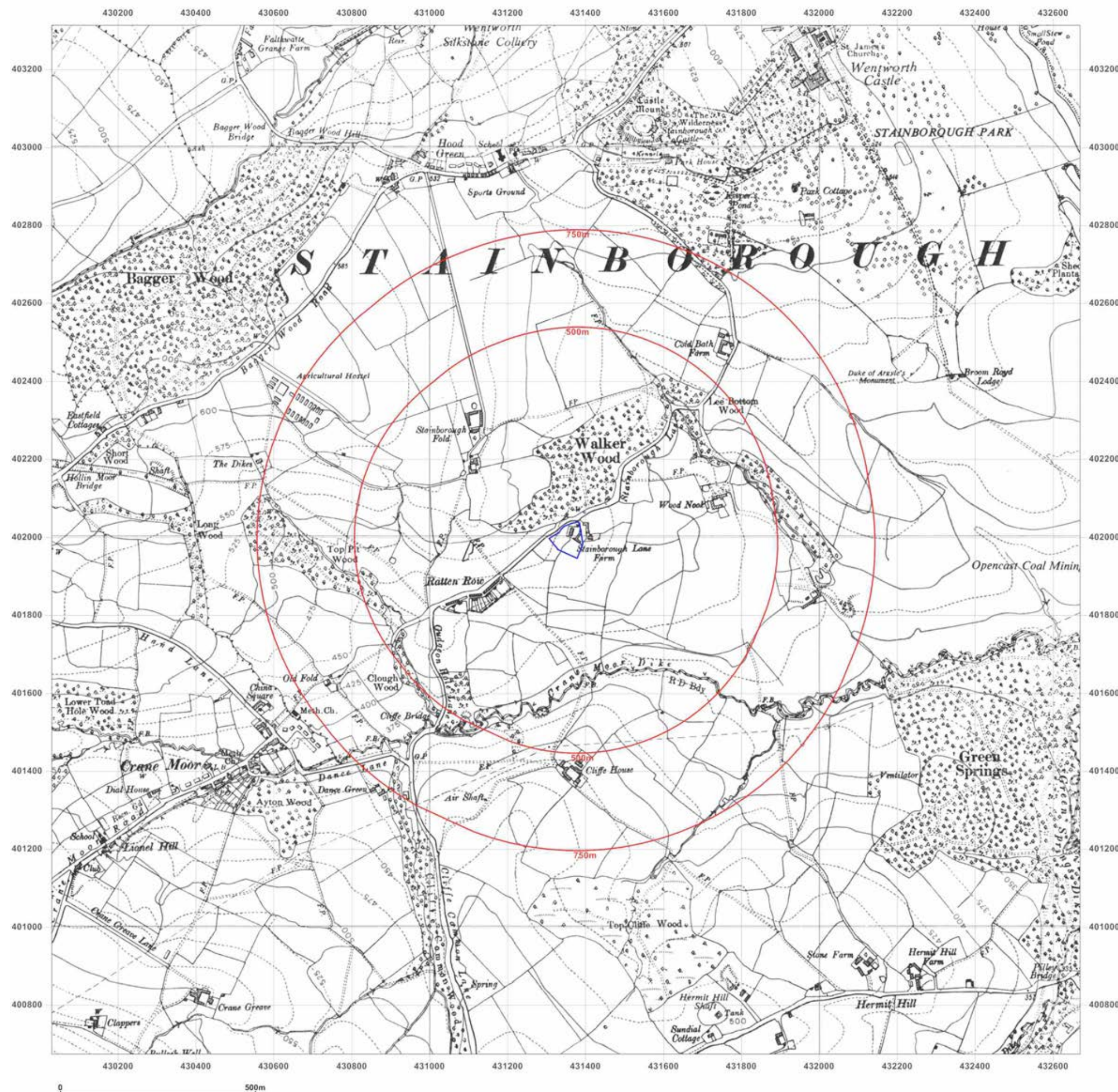


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Site Details:

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GREEN, BARNSELY, S75 3HA

Client Ref: C754_20_E_1163_PO-07
Report Ref: GS-6769322
Grid Ref: 431349, 401993

Map Name: Provisional

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Printed at: 1:10,560



Surveyed 1965
Revised 1965
Edition N/A
Copyright N/A
Levelled N/A

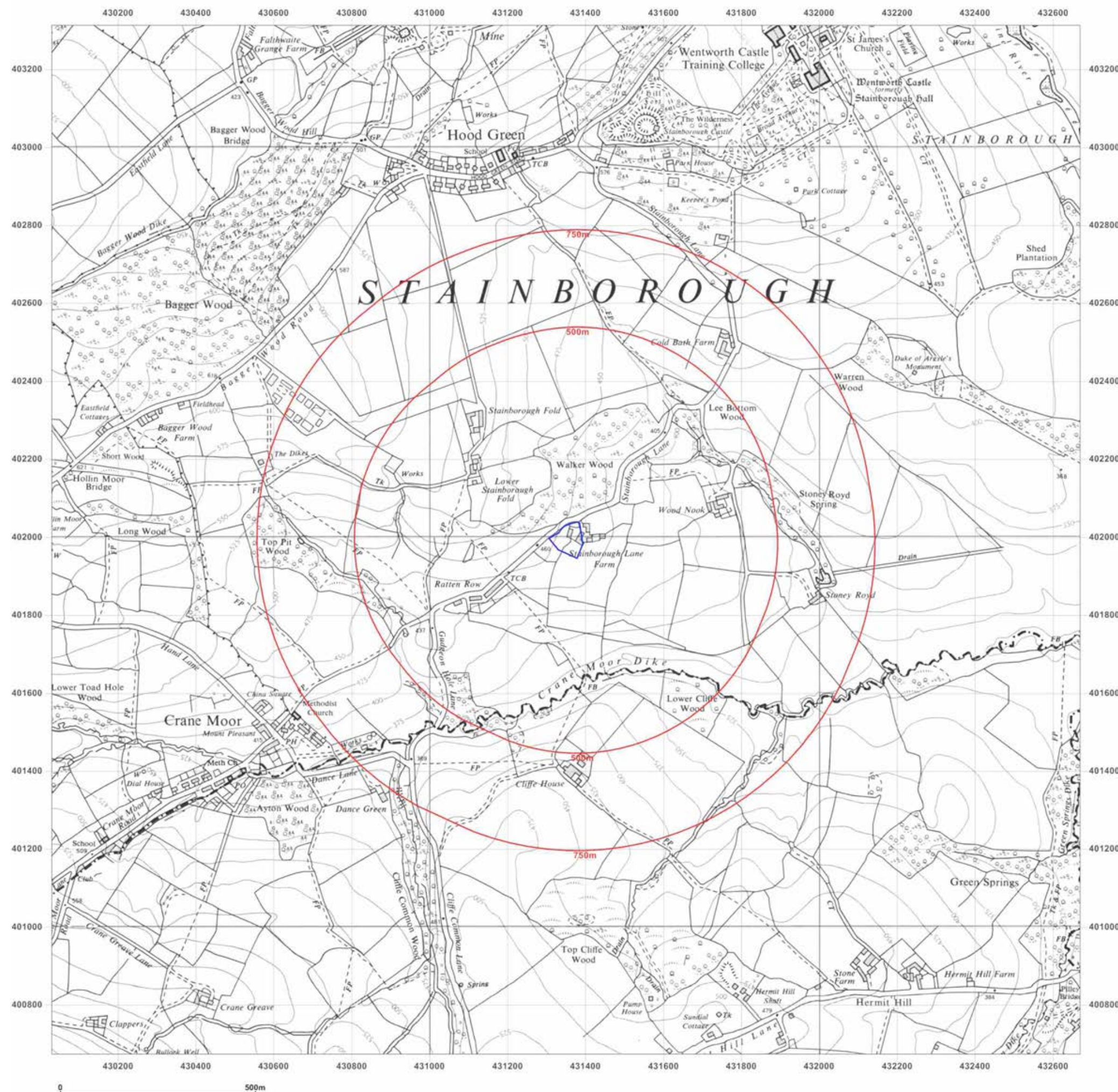


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Site Details:

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GREEN, BARNLEY, S75 3HA

Client Ref: C754_20_E_1163_PO-07
Report Ref: GS-6769322
Grid Ref: 431349, 401993

Map Name: National Grid

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Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1973
Revised 1977
Edition N/A
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Levelled N/A

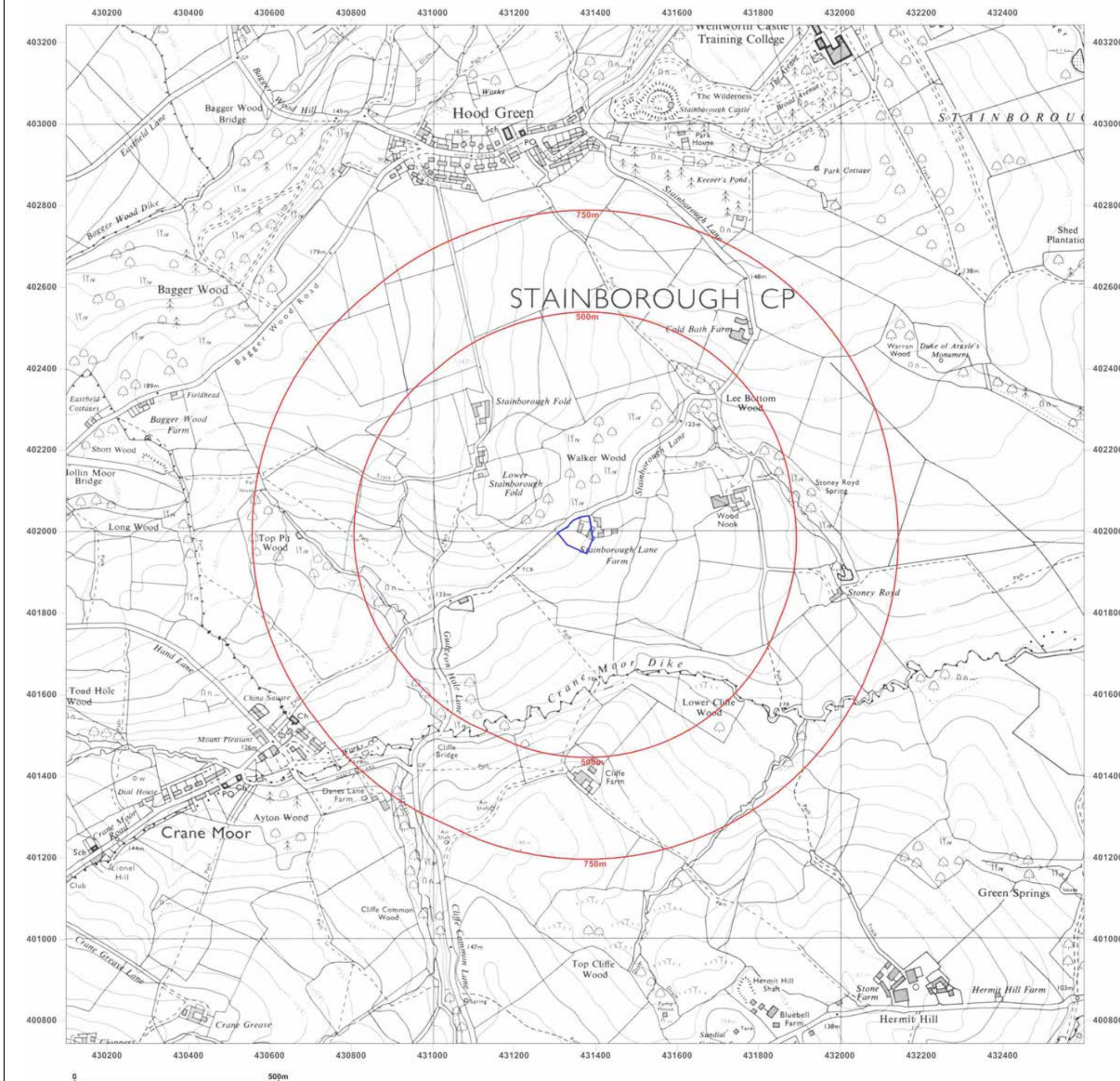


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Site Details:

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GREEN, BARNSELY, S75 3HA

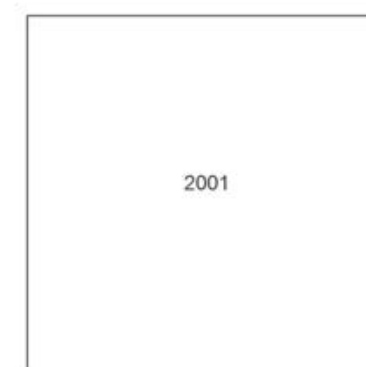
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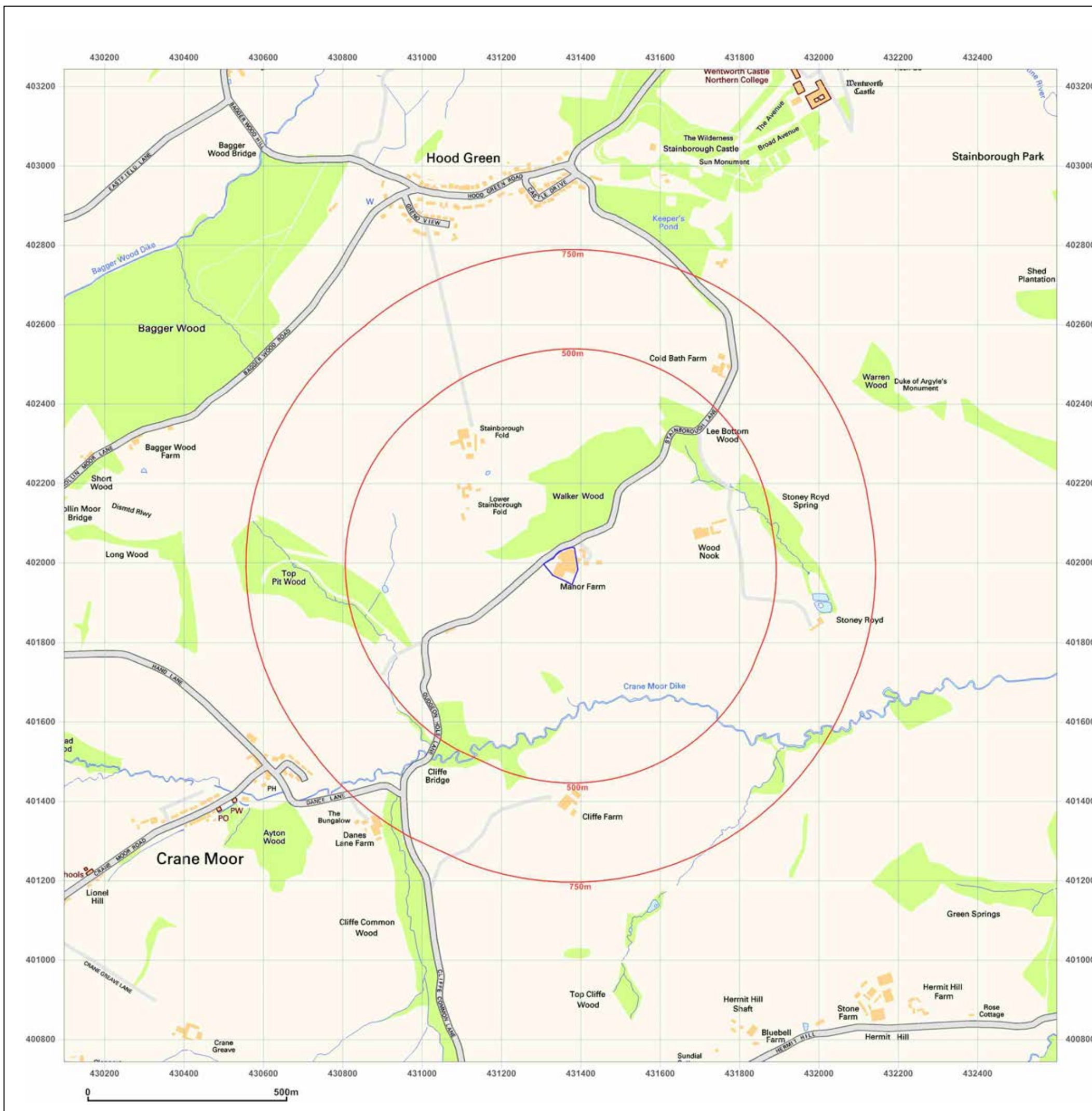


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Site Details:

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GREEN, BARNSELY, S75 3HA

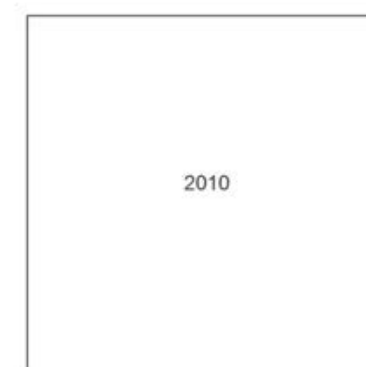
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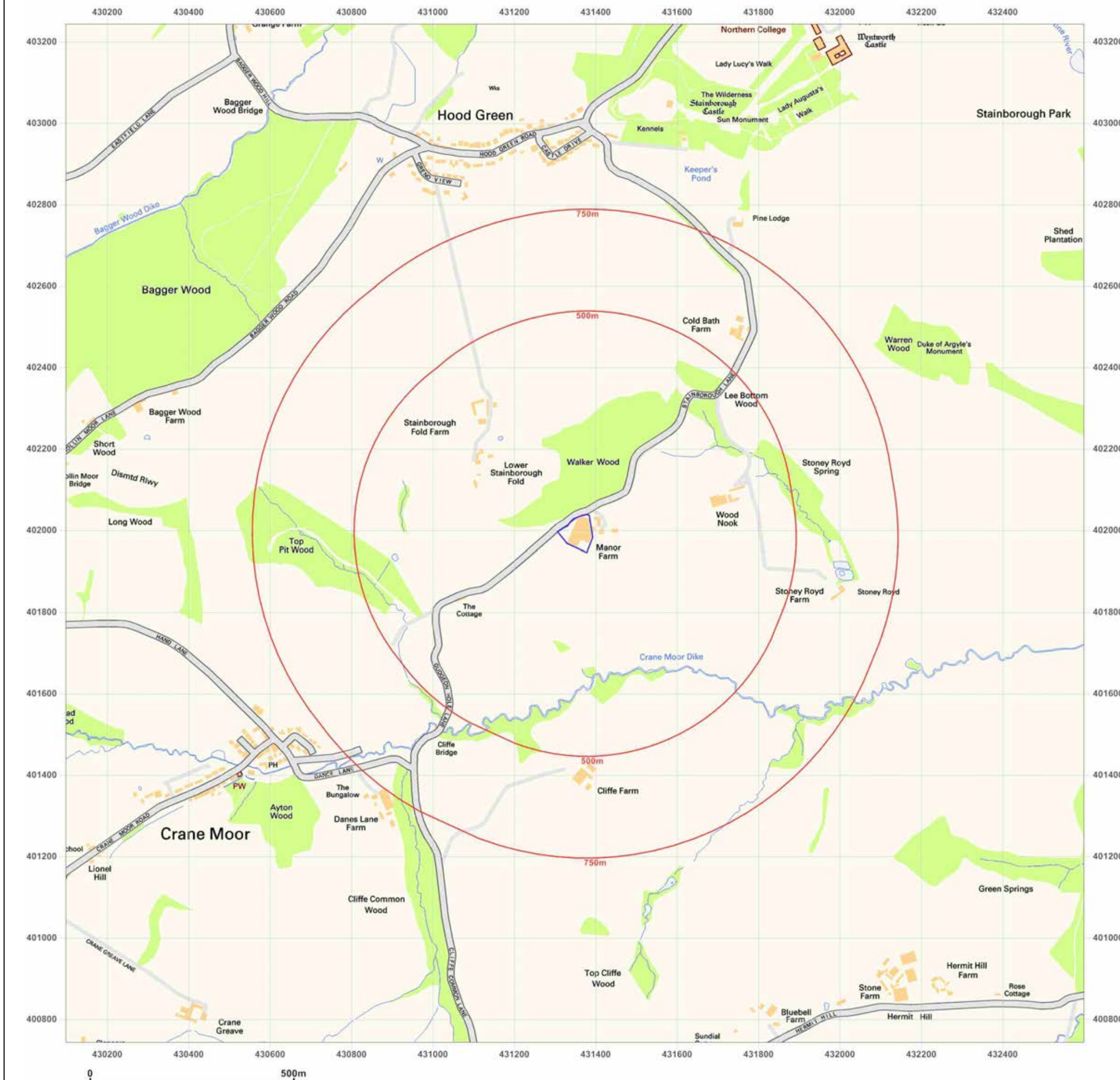


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Production date: 21 May 2020

Map legend available at:
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Site Details:

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GREEN, BARNSELY, S75 3HA

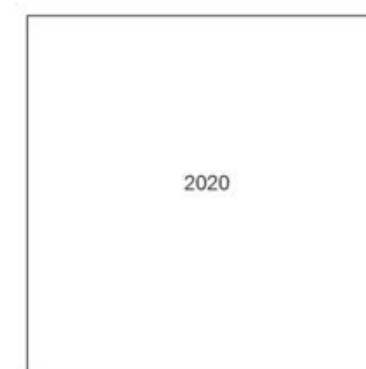
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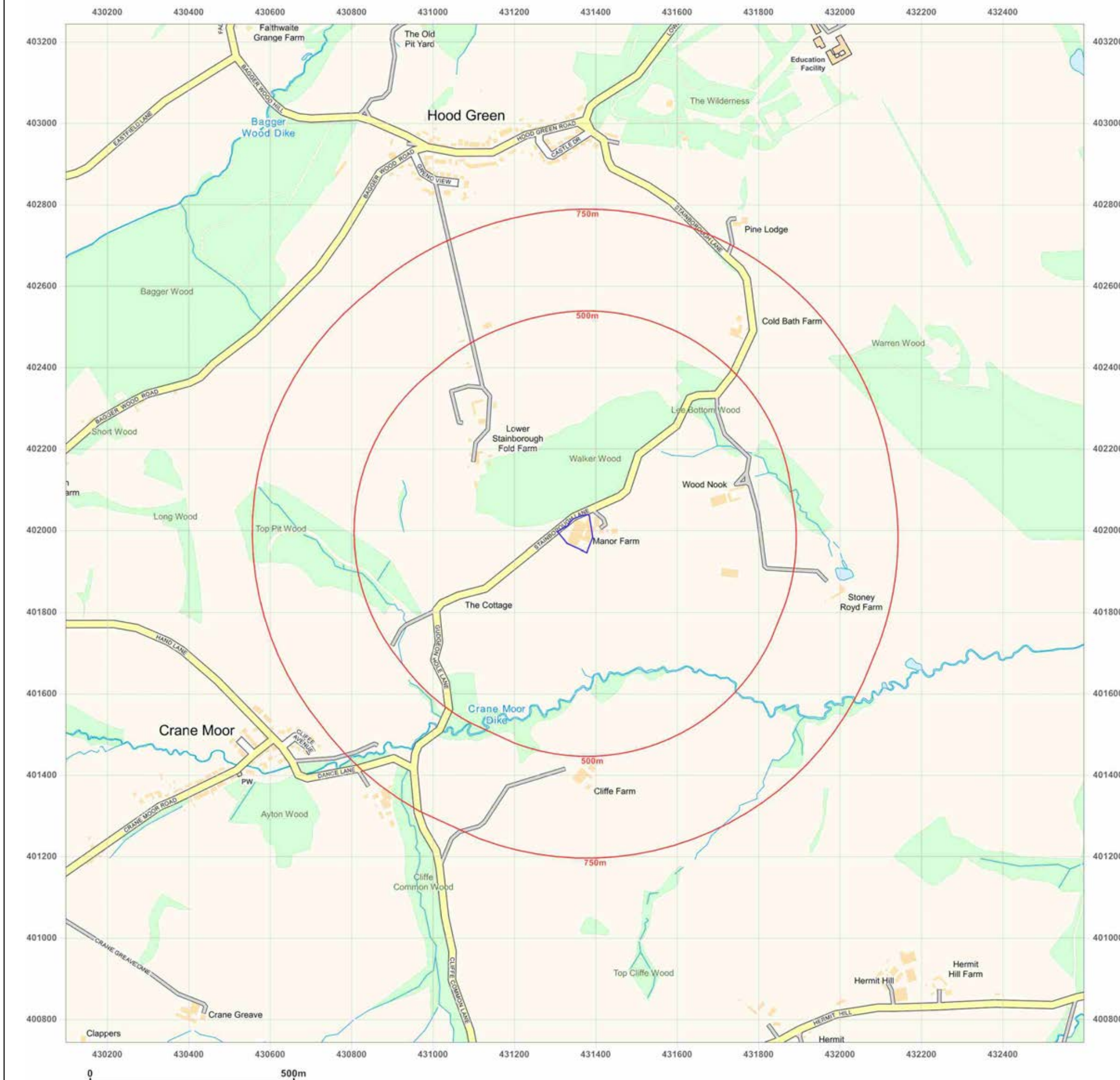


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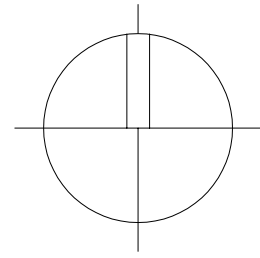




Appendix 3

Site Plans

North



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MANOR FARM
STAINBOROUGH LANE
HOOD GREEN
BARNSELY
S75 3HA

LOCATION PLAN

Scale 1:1250

Date APRIL 2020

Ref 20.05

Drwg No **0S1**

 **mboothdesign**
architectural design and building consultants

Fairfield House
Berneslai Close Barnsley
S70 2FL
T: 01226 286256
M: 07881898300
E: mboothdesign@btconnect.com



Appendix 4

Photographs



Northern area (Facing west). Current campervan conversions unit on the right.



North-eastern corner (Facing west).



Rogers
Geotechnical

Project Name:

**Manor Farm, Stainborough Lane, Hood
Green, Barnsley, South Yorkshire, S75**

Project Number:

C754/20/E/1163



North-western area (Facing south).



Western storage area (Facing south)



Rogers
Geotechnical

Project Name:

**Manor Farm, Stainborough Lane, Hood
Green, Barnsley, South Yorkshire, S75**

Project Number:

C754/20/E/1163



South-western area (Facing south)



South-west corner (Facing east).



Rogers
Geotech-
nical

Project Name:

**Manor Farm, Stainborough Lane, Hood
Green, Barnsley, South Yorkshire, S75**

Project Number:

C754/20/E/1163



South-east corner facing north.



Southeast area (Facing east)



Rogers
Geotechnical

Project Name:

**Manor Farm, Stainborough Lane, Hood
Green, Barnsley, South Yorkshire, S75**

Project Number:

C754/20/E/1163



Eastern area (Facing north-west)



Eastern area (Facing north)



Rogers
Geotech-
nical

Project Name:

**Manor Farm, Stainborough Lane, Hood
Green, Barnsley, South Yorkshire, S75**

Project Number:

C754/20/E/1163



Appendix 5

Coal Authority Report



The Coal
Authority

Consultants Coal Mining Report

Manor Farm
Stainborough Lane
Hood Green
Barnsley
S75 3HA

Date of enquiry:	20 May 2020
Date enquiry received:	20 May 2020
Issue date:	20 May 2020

Our reference:	51002276552001
Your reference:	C/754/20/E/1163



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

ROGERS GEOTECHNICAL SERVICES LTD

Enquiry address

Manor Farm
Stainborough Lane
Hood Green
Barnsley
S75 3HA

How to contact us

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

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
WENTWORTH	SILKSTONE	Coal	6YIH	72	Beneath Property	4.0	North-East	167	1864
BRIERY ROYD	SILKSTONE	Coal	6YHR	75	Beneath Property	5.7	North-East	152	1876

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

2099	SY104	1187
SY118	8805	SY102
NE612	SY95	PO0

Our records show we have more plans than those shown above which could affect the enquiry boundary.

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
MIDDLETON MAIN	Coal	Yes	Within	N/A	86

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

Please refer to the "Summary of findings" map (on separate sheet) for details of any opencast areas within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

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

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

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

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

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

Withdrawal of support notices

The property is not in an area where a notice to withdraw support has been given.

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

Payments to owners of former copyhold land

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

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices

Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

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Key

- Approximate position of the enquiry boundary shown
- Outcrop (Conjectured)
- Unlicensed opencast site

402600
402500
402400
402300
402200
402100
402000
401900
401800
401700
401600
401500
401400

430500 430600 430700 430800 430900 431000 431100 431200 431300 431400 431500 431600 431700 431800 431900 432000 432100 432200

Issues
Path (um)
Track
Pond
Spread
Road Spring
Wood Nook
Silo
Lee Bottom Wood
Cold Bath
Warren Wood
Fold Cottage
Stainborough
Stainborough Fold
Fold
Lower Fold
Walker
Oakdale
Manor Farm
The Cottage
Top Pit Wood
China Square
Mount Pleasant
Barford
Church
Post Office
Sewage Works
Tanks
Slurry Bed
Crane Moor Dike
Danes Lane
Bungalow
Cliffe Bridge
Cliffe Farm
Tank