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Geo-environmental Ground Investigation Report

ON

PROPOSED DEVELOPMENT

AT

**FORMER “THE HOMESTEAD” CARE HOME,
HURST KNOWLE, ALMONDBURY**

FOR

HIGHSTONE

MAY 2025

E24/8263/R002

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1.0 **EXECUTIVE SUMMARY**

SITE	<p>Two storey brick built care home with garden and parking areas and tarmacked access from Hurst Knowle. Mature trees to the northern, western and southern boundaries.</p> <p>The site falls from north west to south east and is retained approximately 0.5-1.0m above Hurst Knowle on the eastern boundary.</p>
HISTORY	<p>The site was shown as open field until care home constructed in early 1960s. There has primarily been residential developments immediately adjacent the site.</p>
GEOLOGY	<p>Geological records indicate no artificial or superficial strata overlying site. Eastern two thirds of site underlain by Penning Middle Coal Measures consisting of Mudstone, Siltstone and Sandstone. Western third underlain by Greenmoor Rock formation consisting of sandstone.</p> <p>No fault lines are shown in the vicinity of the site.</p> <p>Generally the site investigation works proved a shallow depth of made ground and clays with a mudstone bedrock encountered at 1.8-2.0m below existing ground levels.</p>
MINING/QUARRYING	<p>The site lies outside development high risk areas with respect to coal mining.</p>
HYDROLOGY	<p>There are no recorded open surface water features within 250m of the site, A culverted watercourse is known to run west to east just south of the development.</p> <p>The site is not located within any Environment Agency defined flood zones or shown to be at risk of flooding from rivers or the sea.</p>
HYDROGEOLOGY	<p>The bedrock underlying the site is classified as a Secondary A Aquifer.</p> <p>No groundwater was encountered during the site investigation.</p>
CONTAMINATION	<p>Only the sample of made ground from WS05 proved elevated levels of PAH(Total) and individual PAH compounds. None of the other samples from site proved elevated levels of contaminants.</p>
REMEDIATION	<p>Contamination hotspot identified at TP02 to be removed from site and removal of material validated.</p> <p>Asbestos survey to be undertaken on existing building prior to demolition.</p> <p>Existin topsoil to be stockpiled and further testing undertaken to confirm its suitability for use on site.</p>

FOUNDATIONS

Based on the available information, we would suggest that the residential properties should be constructed on strip/trench fill footings founded entirely onto clay strata. Where mudstone/sandstone is encountered within the excavations, the foundations should be deepened to lie entirely onto the mudstone strata to avoid differential settlement.

DRAINAGE

Infiltration methods have proved unsuitable for use on site. A discharge rate and connection point should be agreed with the Local Water Authority and the LLFA through the planning application.

2.0 INTRODUCTION

- 2.1 As requested by Highstone, this practice carried out ground and contamination investigation works for a proposed development on the former Homestead Care Homes, Hurst Knowle, Almondbury.
- 2.2 The purpose of the report was to:-
- 2.2.1 Identify the nature of the near surface strata.
 - 2.2.2 To identify any areas of contaminated ground.
 - 2.2.3 Propose a suitable outline remediation strategy, which will enable the site to be developed safely, to the satisfaction of the overseeing regulators and in compliance with the current environmental standards.
 - 2.2.4 Determine if infiltration methods would be a suitable form of surface water disposal.
- 2.3 Soil sampling was undertaken via trial pits to determine the near surface strata. Distributed samples were taken for testing to ascertain the nature of the soils and fills present.
- 2.4 The conclusions and recommendations made in this report are limited to the findings of the preliminary Geotechnical Survey. The report is made on condition that Haigh Huddleston Associates will not in any circumstances be liable for loss, arising directly or indirectly from ground conditions encountered between trial pits, which have not been revealed by the investigation.
- 2.5 Any opinion given on the possible configuration of strata between trial pit locations and below maximum depth of the investigation is for guidance only. Any remarks on groundwater conditions made are based solely on observations made at the time of investigation. Kindly note that levels may differ from those reported due to seasonal variations or other influences.
- 2.6 Furthermore, there is the possibility that any trial pits undertaken as part of the investigatory works may be within the influence of existing or proposed foundations or excavations. Haigh Huddleston Associates cannot be held responsible for any failure of any excavations, foundations or structures within the influence of the trial pits.

3.0 THE SITE

- 3.1 The site is located at the former The Homestead care home, to the west of Hurst Knowle, Almondbury, Huddersfield and is situated around Ordnance Survey grid reference 417235, 415800. A site location plan is included in Appendix A.
- 3.2 The site is a roughly rectangular are of land occupied by The Homestead, a former care home. To the north and west are residential properties, and to the south is a small area of grassland with further residential properties beyond. To the east is Hurst Knowle adopted highway with parkland beyond. The area of the development is approximately 0.44ha.
- 3.3 The majority of the site is taken up by The Homestead, a two-storey brick built former care home, and tarmacked parking areas to the north west and south of the building. Access to the site is from Hurst Knowle in the north east and east of the site, The remainder of the site is grassed with some ornamental shrub growth.
- 3.4 Mature tree growth is noted to the northern, western and southern boundaries, with sporadic tree growth in the grassed area in the south east and along the eastern boundary.
- 3.5 The site generally falls from a high point of 116.97m AOD in the north west to a low point of 11.88m AOD in the south east at an average grade of 1 in 17, and is retained approximately 0.5-1.0m above Hurst Knowle on the eastern boundary.

4.0 SITE HISTORY

A number of historical Ordnance Survey plans have been consulted and are included in Appendix E. Below is a brief description outlining the significant developments that may affect future construction of the site.

Date	Historical uses on site	Historical findings within 100m perimeter of the site	Historical findings further than 100m perimeter of the site
1855-1948	i) Site shown as open land split into fields	i) Open fields within 100m of the site.	i) Open fields within 250m of the site.
1957	i) The on-site features are similar to the previous sheet.	i) Hurst Knowle highway constructed on eastern boundary of site. ii) Residential developments shown 10m north and west of site, and 20m south of site.	i) Residential developments 100m north east and south east of the site
1968-2025	i) Care home constructed on site.	i) Formal park area 10m east of site.	i) No significant developments 100-500m from site.

5.0 SITE GEOLOGY & MINING/QUARRYING

5.1 The BGS Geological Map of Great Britain SE11NE (Huddersfield East) at 1:10,000 has been consulted and we would report as follows:-



5.2 No artificial or made ground is shown to overlie, or in the immediate vicinity of, the site.

5.3 No superficial geology is shown to overlie the site.

5.4 The eastern two thirds of the site are shown to be underlain by the Pennine Lower Coal Measures consisting of Mudstone, Siltstone and Sandstone. The western third of the site is underlain by the Greenmoor Rock formation consisting of Sandstone.

5.5 The nearest fault line is located 45m south west of the site.

5.6 The Coal Authority Report states that the property is not within the likely zone of influence from recorded underground coal workings.

5.7 The property is not in an area for which the Coal Authority is determining whether to grant a licence to remove coal using underground methods. The property is not in an area for which a licence has been granted to remove or otherwise work coal using underground methods.

- 5.8 The Coal Authority Map Viewer indicates the site lies outside development high risk areas. There are no coal outcrops or mine entries recorded in the immediate vicinity of the site.



- 5.9 There are no known coal mine entries within, or within 20 metres of, the boundary of the property.
- 5.10 There are no subsidence claims within 50 metres of the site.
- 5.11 There are no recorded BGS boreholes in the vicinity of the site.

6.0 ENVIRONMENTAL CONSIDERATIONS

6.1 Radon

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

No Radon Protective Measures are necessary for the development. However, a number of warranty providers consider it good practice to provide basic radon protective measures as standard and they should be consulted at an early stage to confirm their requirements.

6.2 Landfill Sites

There are no recorded historical landfills within 250m of the site.

6.3 Flood Risk

The site is not located in an Environment Agency defined Flood Zone and is not considered at risk from flooding from rivers or the sea. Flooding is indicated encroaching on the southern boundary on the surface water flooding map, potentially associated with the culverted watercourse to the south of the site.

6.4 Groundwater

The bedrock underlying the site is classed as a Secondary A Aquifer. These are 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.

There are no water abstraction licences recorded within 250m of the site.

There are no recorded licensed discharge consents within 250m of the site.

There are no recorded pollution incidents in controlled waters within 250m of the site.

The site is not located in a Source Protection Zone.

There are no open surface water features recorded in the vicinity of the site. However, a culverted watercourse is known to run just south of the development site from west to east.

7.0 **PRELIMINARY CONCEPTUAL SITE MODEL**

7.1 The initial stage in assessing the risks posed from contaminated land during the redevelopment of a site is to prepare a conceptual model. A generalised conceptual model can be developed highlighting the main pollutant linkages through a contaminant ► pathway ► receptor model for a residential development. In order to prepare the conceptual model for a particular site the following parameters need to be reviewed as discussed below.

7.2 Contamination of existing land can be caused by a number of factors, including:-

- i) Possible historical/current industrial activities.
- ii) Disposal of waste materials.
- iii) Storage of materials.
- iv) A number of natural processes can also lead to hazardous gases and elevated heavy metals.

7.3 Potential pathways can include ground and surface water, permeable strata, existing services providing a conduit and voided ground. Potential receptors can include human health, ecosystems, controlled waters and building structures. There are a number of ways that a receptor can be exposed to the contaminant these include, inhalation, direct contact, ingestion, dermal contact and uptake.

7.4 The site itself remained undeveloped until the 1960s when the current care home was constructed. In the vicinity of the site there has been only residential development since the 1950s. There is therefore the risk of contamination from the following sources:

- i) Potential contaminated material from development of adjacent land.
- ii) Potential contaminants in made ground beneath areas of hardstanding,
- iii) Potential contaminated materials within the construction of the existing building.
- iv) Potential leaks from vehicles in parking areas.

There is therefore considered to be a low risk of ground contamination present.

7.5 Considering the proposed residential end use, there will be two possible human receptor groups exposed to the existing onsite contamination:-

- a) Site operatives during development.
- b) End users, future site residents (the critical receptor is a 6 year old female).

7.6 Human receptors may be exposed to site contamination by a number of possible pathways. These pathways are summarised in Table 1 below.

Table 1- Potential Human Exposure Pathways

<u>Human Exposure Pathway</u>	<u>Site Visitors</u>	<u>Construction Workers</u>
Soil Ingestion	YES	YES
Consumption of Home Grown Vegetables	YES	NO
Dermal Contact	YES	YES
Dust Inhalation	YES	YES
Gases/Vapours	YES	NO

7.7 The construction workers will come into contact with any contaminated soil to a far greater extent than future residents. The exposure pathways are generally through dermal contact and indirect ingestion. However, their exposure will be for a limited time and the provision and correct use of personnel protective equipment and adequate welfare facilities during construction should restrict their risks to acceptable levels.

7.8 The risk of pollution to controlled waters by existing contamination is considered low. There are no historical contaminative uses of the site recorded, and no recorded pollution incidents to controlled waters in the vicinity of the site.

7.9 No specific areas of ecological importance have been identified in the initial desk top study. Therefore the site is considered to be in a low risk environmental setting. The potential for phototoxic materials to exist at shallow depth should be considered, these could pose a potential risk to new planting and soft landscaping areas within the proposed development.

7.10 The presence of elevated sulphates and hydrocarbons could affect the long term integrity of buried concrete structures, including foundations and drainage pipes. Plastic water supply pipes can also be damaged by the presence of hydrocarbon contamination.

8.0 FIELDWORK

- 8.1 Site investigation works were undertaken on 18th March 2025 and consisted of 7 trial pits undertaken by an 8 tonne tracked excavator with 600mm wide bucket. One of the trial pits was used for undertaking soakaway tests.
- 8.2 Materials encountered in the trial pits were examined and categorised. Window sample logs are contained within Appendix B of the report.
- 8.3 The soakaway tests were undertaken in accordance with the method specified in BRE Digest 365 Soakaway Design. An instantaneous supply of water was provided via an IBC. In general, the trial pits were filled and the water levels were recorded against time as the water permeated into the underlying strata. The water level was monitored over an extended time period to determine the infiltration rate.
- 8.4 The site investigation works were designed to achieve comprehensive site coverage within the proposed development area. However, the existing building on site, along with utilities serving the property restricted the location of trial pits on site.
- 8.5 Soil samples were removed from the natural and made ground deposits within the trial pits. The samples were removed by operatives wearing gloves and placed into airtight clean plastic containers and glass bottles for transportation to the laboratory.
- 8.6 A total of five samples from natural and artificial ground deposits were recovered from the trial pits for chemical analysis. The testing was carried out by a UKAS accredited laboratory to nationally or accredited in-house methods. The results of the contamination testing are contained within Appendix C of this report.
- 8.7 A suite of common potential contaminants consisting of heavy metals, phytotoxic metals, sulphates, sulphides and poly-aromatic hydrocarbons was analysed for, including asbestos.
- 8.8 All samples were stored in airtight containers within cool boxes at approximately 4°C until delivery to the laboratory.

9.0 RESULTS OF THE INVESTIGATION

9.1 GEOTECHNICAL INVESTIGATION

- 9.1.1 Trial Pit logs providing a complete record of strata encountered beneath the proposed development is presented in Appendix B. A plan showing the location of the trial pits, along with any significant features encountered is included within Appendix A.
- 9.1.2 At the surface of all but TP05, there was a 0.2-0.7m thick layer of dark brown topsoil with occasional roots. Beneath this in TP01 there was a second 0.2m thick layer of darker topsoil with occasional sandstone gravels and a layer of potentially re-engineered clays and soils associated with a rubble land drain encountered within the trial pit. In TP02, there was a 50mm thick layer of black ashy gravel at the base of the topsoil.
- 9.1.3 TP05 was undertaken in an area of hardstanding and the surface proved a thin layer of tarmac overlying an ashy brick fill to a depth of 0.3m overlying 0.2m of re-engineered clays.
- 9.1.4 Beneath the topsoils and re-engineered clays except in TP01 and TP07 there was 0.6-1.5m thick layer of firm to stiff light brown mottled grey occasionally sandy clay with occasional gravels. In TP02 a 0.05m thin band of sandstone was encountered within the clay strata at 0.7-0.75m beneath existing ground levels.
- 9.1.5 In TP07, beneath the topsoil, there was a 0.2m thick layer of moderately strong weathered sandstone excavated as gravels within a clayey matrix.
- 9.1.6 In TP02, TP03 and TP04 in the north of the site, a moderately strong mudstone was encountered at 1.8-1.9m below existing ground levels and extended to the base of the trial pits at 1.9-2.1m below existing ground levels.
- 9.1.7 In the remainder of the trial pits, a moderately strong light sandstone was encountered at 0.5-1.9m below existing ground levels. This was excavated as horizontally bedded shale becoming difficult to excavate. The trial pits terminated in this strata at 1.1-2.1m below existing ground levels.

9.1.8 As discussed previously in the report, soak-a-way tests were undertaken in two of the trial pits on site. A summary of the results is included in Table 3 below:-.

Table 2 Summary of infiltration rates

SOAKAWAY NUMBER	INFILTRATION RATE m/s x10⁻⁶
TP02	NO CHANGE IN LEVELS

9.1.9 The soakaway testing proved no infiltration into the natural clays and weathered mudstone underlying the site.

9.1.10 The result of the geotechnical analysis undertaken on the samples of clayey soil indicates the clay to be of low to high plasticity (Liquid Limit 30-59%). If the modified results are calculated, taking into account the percentage of material retained on a 425micron sieve, the results correspond to a MEDIUM shrinkage clay. The test certificate is contained in Appendix C.

9.2 GROUNDWATER

9.2.1 No groundwater was recorded within the trial pits.

9.2.2 It should be recognised that ground water levels may vary throughout the year. During periods of heavy rainfall the groundwater levels may be substantially higher than the results revealed in these investigations.

10.0 CONTAMINATION

10.1 HUMAN HEALTH RISK ASSESSMENT

10.1.1 The appraisal of contaminated land within the UK is based on a risk assessment approach. The method involves the principle of defining a source ► pathway ► receptor, linkage to establish a human health risk. For any risk to exist to a potential receptor from an identified contaminant there must be an unbroken source ► pathway ► target relationship.

10.1.2 In the first instance site data for the contaminant levels are compared against guidance such as the CLEA values published by DEFRA. Should the site values exceed the guidance criteria, the contamination levels are recognised to have the potential to pose a risk to human health. Two scenarios are then available:-

- a) To break or remove one of the source ► pathway ► receptor linkages, by specifying an appropriate level of remedial work. Examples of remedial action may include the removal of the contaminated material or alternatively specifying a sufficient capping layer.
- b) The alternative approach is to provide a more detailed human health site specific risk assessment. This will involve examining factors such as soil properties, exposure assumptions, groundwater flows and contamination composition.

10.2 CONTAMINATION RESULTS

10.2.1 As stated above, in order to put the analytical results into context, the data has in the first instance been assessed in relation to several sets of guidelines: -

10.2.2 The analytical results have been assessed via an initial screening assessment with regard to the current Contaminated Land Exposure Assessment model (CLEA UK) for human health, which has been produced for the Environment Agency and the Department of Environment, Food and Rural Affairs (DEFRA). The CLEA model provides Soil Guideline Values (SGVs) for a limited range of contaminants only, and these are based on risk to human health. As such they do not take into account potential risks to other receptors eg groundwater and third party land.

- 10.2.3 It is proposed to redevelop the site for residential properties with private garden areas. Soil results have therefore been assessed against Generic Assessment Criteria (GAC) based on guidelines from the Chartered Institute of Environmental Health (CIEH) and Land Quality Management Ltd (LQM) S4UL document. Where there is no GAC, guidance limits have been adopted from sources referenced in the table below.
- 10.2.4 In addition to the above, the calculation of SGVs based on an acceptably low level of risk is currently being undertaken. These Category 4 Screening Levels (C4SL) have been calculated for six substances to date by modifying the toxicological/exposure parameters within CLEA. C4SLs have been used as tier 1 trigger levels within this assessment, superseding the previous CIEH and LQM SGVs.
- 10.2.5 Assessment of risk is considered as a tiered approach. Assessment based on non intrusive means is considered Tier 1 assessment, comparison against SGVs and GACs is a Tier 2 assessment, and the generation of and comparison with Site Specific Assessment Criteria (SSAC) is a Tier 3 assessment and is conducted where deemed appropriate following the Tier 2 assessment.
- 10.2.6 The sulphate and acid concentrations have been compared against the BRE digest "Concrete in Aggressive Ground" parts 1-4. This will enable the concrete class to be specified in relation to possible contact with aggressive soils.
- 10.2.7 The results of the chemical analysis are presented on the laboratory analysis sheets with Appendix C. A summary of the significance of the results is presented in Table 3.

Table 3**Comparison of contaminant against accepted guidance values for residential use with plant uptake for the samples from site.**

<u>CONTAMINANT</u>	<u>SGV</u> <u>MG/KG</u>	<u>CONCENTRATION IN</u> <u>ALL SOILS.</u> <u>MG/KG</u>	<u>No. OF</u> <u>SAMPLES</u> <u>EXCEEDING</u> <u>GUIDANCE</u> <u>VALUES</u>	<u>PERCENTAGE</u> <u>OF SAMPLES</u> <u>EXCEEDING</u> <u>GUIDELINE</u> <u>VALUE</u>
Arsenic	37 (4)	22-84	1/5	20%
Cadmium	22 (4)	<0.1-0.3	0/5	
Chromium (Total)	130 (2)	24-44	0/5	
Lead	200 (4)	35-86	0/5	
Mercury (Total)	40 (1,5)	0.14-0.22	0/5	
Selenium	250 (1)	0.6-1.3	0/5	
Copper	2400 (1)	34-640	0/5	
Nickel	180 (1)	15-31	0/5	
Zinc	3700 (1)	51-180	0/5	
Sulphate	0.24 (3)	0.05-0.09	0/5	
Thiocyanate	50	<0.6-2.1	0/5	
Sulphide	250	<10-60	0/5	
Benzo(b)flouranthene	2.6 (1)	<0.1-8.0	1/5	20%
Benzo(a)anthracene	7.2 (1)	<0.1-7.3	1/5	20%
Benzo(a)pyrene	5 (4)	<0.1-7.9	1/5	20%
Dibenzo(a,h)anthracene	0.24 (1)	<0.1-0.9	2/5	40%
PAH (Total)	40	<1.6-90	1/5	20%
Phenols	760 (1)	0.6-3.1	0/5	
Asbestos	No fibres	Chrysotile and Amosite fibre bundles	1/5	20%
pH	6-8	6.2-7.2	4/5	80%

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(2) DEFRA CLR SGV's withdrawn used for initial comparison

(3) BS 8110 1985 Table 6.1

(4) Category 4 Screening Levels

(5) Unless there is considered to be historical site usage that would result in elemental and methylmercury compounds to be present, the inorganic mercury SGV is used as this is the most prevalent for of mercury present in the natural environment.

10.2.8 Only the sample of ashy made ground from TP02 at 0.3m proved elevated levels of Arsenic at 84 mg/kg, over twice the tier 1 trigger level.

10.2.9 Only the sample of ashy made ground from TP02 at a depth of 0.3m recorded elevated levels of PAH (Total) of 90mg/kg as well as the following individual PAH compounds:

- Elevated levels of Benzo(b)Flouranthene of 8.0 mg/kg.
- Elevated levels of Benzo(a)anthracene of 7.3 mg/kg.
- Elevated levels of Benzo(a)pyrene of 7.9 mg/kg.
- Elevated levels of Dibenzo(a,h)anthracene of 0.9 mg/kg.

10.2.10 The sample of topsoil from TP07 showed a marginally elevated level of dibenzo(a,h)anthracene of 0.3 mg/kg. The other two samples of topsoil recorded values of dibenzo(a,h)anthracene of 0.1 mg/kg, bringing the average for the topsoil down to 0.167 mg/kg, below the tier 1 trigger level.

10.2.11 Asbestos in the form of Chrysotile and Amosite fibre bundles was proved in the limited area of ashy made ground from sample TP02 on the eastern boundary.

10.2.12 No elevated sulphate levels were recorded on site and the pH values are all above 6.2. This corresponds to a design sulphate class DS-1, ACEC class AC-2z, when compared against the BRE Special Digest 1 “Concrete in aggressive ground”.

10.3 QUALITATIVE RISK ASSESSMENT

10.3.1 The Qualitative Risk Assessment is based upon the previously discussed source ► pathway ► receptor principle. In relation to the proposed site these may be described as follows:-

10.3.2 SOURCE

- i) Elevated levels of Arsenic within the ashy made ground from TP02.
- ii) Elevated levels of PAH (Total) and individual PAH compounds in the ashy made ground from TP02.
- iii) Chrysotile and Amosite fibre bundles in the ashy made ground from TP02.

10.3.3 PATHWAYS

- i) Ingestion of contamination material.
- ii) Inhalation of contaminated particles.
- iii) Dermal contact with the known contamination.
- iv) Leaching to controlled waters.

10.3.4 RECEPTORS

- i) Residential site users.
- ii) Construction and maintenance workers.
- iii) Controlled waters.
- iv) The building structure.

10.3.5 Each of the receptors will now be appraised and attribute the likely risks involved.

i) Residential site users.

Based on the chemical results obtained it is considered that there is currently a **low** risk to end users from ground contamination on-site.

Only the ashy made ground sample from TP02 recorded elevated levels of Arsenic, PAH (Total), individual PAH compounds and asbestos in the form of Amosite and Chrysotile fibre bundles.

It is recommended that the ashy made ground contamination hotspot identified at TP02 is excavated and removed from site to a licensed waste facility. Following the excavation of the material, further samples should be taken from the perimeter and base of the excavation to confirm that all contaminated material has been removed.

The existing topsoil on site should be scraped and stockpiled prior to remediation works being undertaken on site. Further samples should be taken of the topsoil to provide a robust sample set. The topsoil should be screened prior to being relaid to remove any unsuitable materials.

ii) Construction and Maintenance Workers.

It is considered that there is a **low** risk to construction and maintenance workers from the redevelopment of the site.

Construction workers should always wear PPE including overalls, boots and gloves when handling the contaminated materials onsite. In addition eating, drinking and smoking should be restricted to designated areas where the above hygiene facilities are available.

iii) Controlled Waters

There has been no recorded instances of contamination from site affecting controlled waters, or recorded historical uses of the site likely to cause contamination. The investigation works have proven the site to be underlain by impermeable clays with a mudstone/sandstone bedrock. It is therefore considered unlikely that there is a risk to groundwater and controlled waters from existing contamination on site.

iv) Building Structures.

Service providers should be forwarded the final validated chemical levels in order for them to provide an accurate specification for the apparatus to be provided. New services should be surrounded and backfilled with clean material to afford some protection to the apparatus and allow any future maintenance work to be undertaken in clean material.

No elevated sulphate levels were recorded on site and the pH values are all above 6.2. This corresponds to a design sulphate class DS-1, ACEC class AC-2z, when compared against the BRE Special Digest 1 "Concrete in aggressive ground".

11.0 CONCLUSIONS AND RECOMMENDATIONS

11.1 GEOTECHNICAL ASSESSMENT

11.1.1 The site investigation works have proven a shallow depth of made ground and topsoil overlying clays with a mudstone/sandstone bedrock encountered at 1.1-2.1m below existing ground levels. For initial design purposes we would envisage a safe bearing capacity of 100kN/m² where foundations are cited onto the clay strata and 150kN/m² where foundations are extended onto the mudstone/sandstone strata

11.1.2 We would therefore propose that the low rise residential properties should be constructed on strip/trench fill footings founded entirely onto the clay strata. Where mudstone/sandstone is encountered within the excavations, the foundations should be deepened to lie entirely onto the mudstone/sandstone strata to avoid differential settlement. Due to the size of the proposed properties, it is likely they will straddle the mudstone/sandstone bedrocks. In this instance, the foundation will need to be heavily reinforced to prevent differential settlement. The foundation widths will vary dependent upon the line loadings calculated.

11.1.3 All foundations should be placed below a line of 45deg drawn up from the base of any services or other structures.

11.1.4 Where existing foundations or structures are encountered during construction, these should be totally removed from the excavations to enable the new foundations to be constructed without obstructions.

11.1.5 At present it is not expected that excessive ground water control measures will be required during winter months. Please note that ground water flows can vary throughout the year and a further assessment should be undertaken if construction work is proposed following a prolonged rainfall event.

11.1.6 No elevated sulphate levels were recorded on site and the pH values are all above 6.2. This corresponds to a design sulphate class DS-1, ACEC class AC-2z, when compared against the BRE Special Digest 1 "Concrete in aggressive ground".

11.1.7 Wherever any foundations are located near existing or proposed new trees, their foundations must be sited below the root growth zone. Reference should be made to

the NHBC standards Chapter 4.2 “Building Near Trees” which provides guidance on foundation criteria, depths and construction. All services should be similarly protected. Plasticity testing of the clays on site has shown them to be of **medium** volume change potential. In particular, mature tree growth is noted to the site boundaries.

11.2 CONTAMINATION ASSESSMENT

- 11.2.1 Only the ashy made ground sample from TP02 recorded elevated levels of Arsenic, PAH (Total), individual PAH compounds and asbestos in the form of Amosite and Chrysotile fibre bundles.
- 11.2.2 It is recommended that the contamination hotspot identified at TP02 is excavated and removed from site to a licensed waste facility. Following the excavation of the material, further samples should be taken from the perimeter and base of the excavation to confirm that all contaminated material has been removed.
- 11.2.3 The existing topsoil on site should be scraped and stockpiled prior to remediation works being undertaken on site. Further samples should be taken of the topsoil to provide a robust sample set. The topsoil should be screened prior to being relaid to remove any unsuitable materials.
- 11.2.4 Should the further sampling prove the topsoil unsuitable for use on site, or there is insufficient topsoil for the proposed soft landscaped areas, suitable clean material will need to be imported to site.
- 11.2.5 If the imported material is from a Greenfield site, a minimum of 3 samples or 1 per 250m³ of imported material should be taken for testing, whichever is greater. If it is from a brownfield site, a minimum of 6 samples, or 1 per 100m³ of imported material should be taken for testing, whichever is greater. Material provided by a commercial supplier should be certified to the same level of testing, with the certificate less than two months old.
- 11.2.6 All imported certified material should be placed immediately. If this is not possible, or the material is not certified and sampling is to be carried out prior to being laid, it should be securely stored on site prior to use to prevent possible contamination from any materials on site.

- 11.2.7 Should any further suspected areas of contamination be exposed during site strip/construction, an engineer should be contacted to determine if additional chemical testing should be undertaken. The on-site staff should maintain a photographic record and dates of any exposed contaminated material.
- 11.2.8 If any areas of made ground are removed off site, they should be taken to a licensed waste site and full documentation should be obtained. Any material to be taken off-site should be suitably quarantined prior to removal to prevent cross contamination. Any relevant chemical test results should be given to the landfill operator, so that they can determine if this material is suitable to be disposed of in their licensed landfill.

11.3 SURFACE WATER DRAINAGE

- 11.3.1 The site investigation works proved clays with a sandstone/mudstone bedrock. Infiltration testing was undertaken in TP02 on site and the water level remained stationary throughout the test.
- 11.3.2 There is a surface water culvert recorded running west to east immediately south of the site. A manhole was lifted to the south of the site, which proved a relatively new and clean 300mm diameter sewer. However, on review of the YW records, this would appear to be the adopted 300mm combined sewer that runs eastwards into Hurst Knowle.
- 11.3.3 Positive connection was proved for the surface water run-off from site to the adopted 300mm combined sewer located in Hurst Knowle to the east of the site from an existing adopted lateral connection located on site.
- 11.3.4 It is recommended a proposed discharge rate using the existing combined lateral connection is agreed with the local water authority and lead local flood authority.

12.0 SUGGESTED FURTHER WORK

- 12.1 Existing topsoil to be scraped and stockpiled prior to demolition work on site.
- 12.2 Asbestos survey to be undertaken prior to demolition work on site.
- 12.3 Contaminated ashy made ground from the hotspot at TP02 to be excavated and removed from site.
- 12.4 Removal of contamination hotspot to be validated.

13.0 APPROVALS

13.1 Proposals for the remediation of contaminated land may require the approval of numerous bodies.

These include:

- a) Kirklees Council Environmental Health Department as required by the building and planning regulations.
- b) The NHBC or similar as they will provide the insurance costs to cover the property.
- c) The Environment Agency if there are risks of contamination to ground or surface water systems. They will also require notification if material is removed from site and taken to an appropriate tip.
- d) Relevant highways and drainage authorities and other service companies may also wish to know about the level of contaminants.

Prepared by

Redacted

M.Dean. BSc(Hons) HND

Checked by

Redacted

M. Huddleston. MEng

May 2025

This report is subject to the provisions of the Copyright Acts and is for the sole benefit of Highstone in respect of the proposals described.

APPENDIX A

Site Location Plan

Site Investigation Plan

Typical Site Conceptual Model



Haigh Huddleston & Associates

Civil Structural Engineering Consultants

t 01924 574074

e martin@haighhuddleston.co.uk

Unit 4
Midgley Business Park
Bar Lane
Midgely
WF4 4JJ

Client : Highstone
Job Title: The Homestead, Almondbury
Job Number : E25/8263

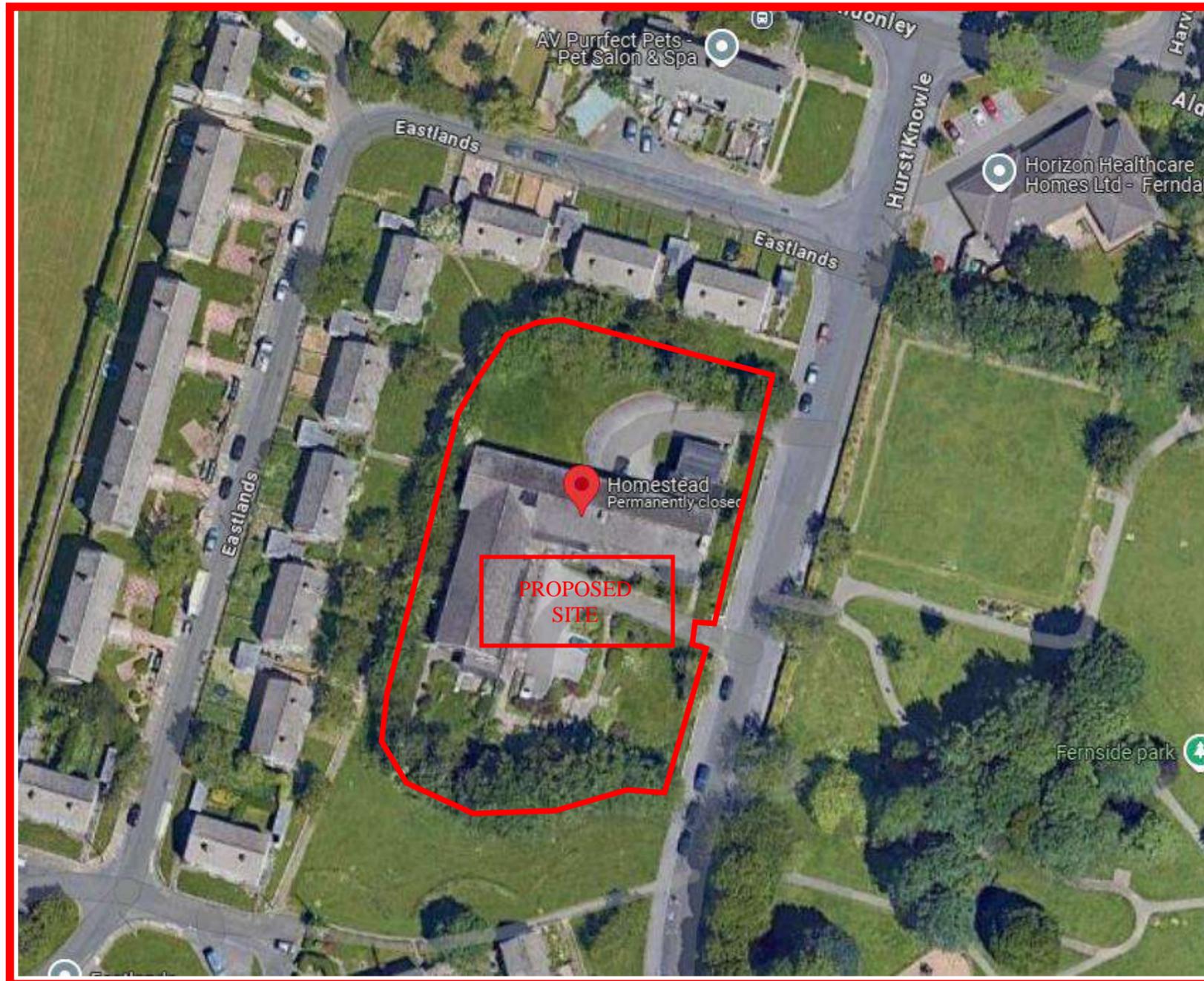
LOCATION PLAN

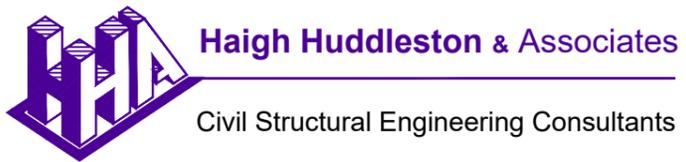
OS Grid Reference : SE172158

Easting : 417232

Northing : 415805

Topographical Survey carried out
using GPS.



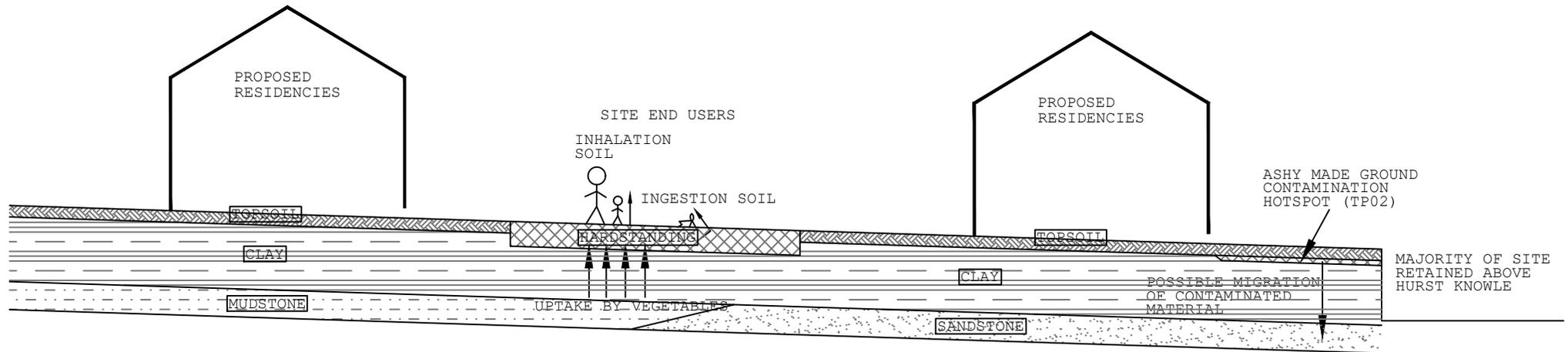


Haigh Huddleston & Associates

Civil Structural Engineering Consultants

Firth Buildings, 99 - 101 Leeds Rd, Dewsbury, WF12 7BU t 01924 464342 f 01924 450662
e trevor.haigh@haighhuddleston.co.uk

Project				
HIGHSTONE				
Client				
THE HOMESTEAD, ALMONDBURY				
Detail				
SITE INVESTIGATION PLAN				
Scale	Dwn	Chkd	Date	Dwg No.
1:500	JF		Apr'25	E24/8263/03



Haigh Huddleston & Associates

Civil Structural Engineering Consultants

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Client
HIGHSTONE

Project
THE HOMESTEAD, ALMONDBURY

Detail
Typical Site Conceptual Model

Scale	Dwn	Chkd	Date	Dwg No.
NTS	MD		May'25	E24/8263/32

APPENDIX B

Trial Pit Logs

Soakaway Test Results



TRIAL HOLE NO. 1

Client :	HIGHSTONE	Job No :	8263
Site :	THE HOMESTEAD, ALMONDBURY	Date :	18 March 2025

0.0		
		Rough grass over dark brown sandy topsoil
	0.3	
		Darker brown / black soil with occasional sandstone gravels
0.5	0.5	
		Moderately weak soils and clay with sandstone gravels. Potentially re-engineered ground due to Rubble filled land drain
	0.9	
1.0		Moderately strong light brown sandstone horizontally bedded excavated as thin shales
	1.1	
1.5		
2.0		
2.5		
3.0		
3.5		
4.0		

REMARKS:

Ground water encountered during excavation	NO
Sample taken	YES at 0.20m & 0.40m
Sides of excavation remained stable	YES
Level

NOTES:

Old rubble land drain crossing western edge of trial pit.



TRIAL HOLE NO. 2

Client :	HIGHSTONE	Job No :	8263
Site :	THE HOMESTEAD, ALMONDBURY	Date :	18 March 2025

0.0		
		Rough grass over dark brown sandy topsoil. Occasional roots
	0.2	
	0.25	Black ashy gravel
		Firm light brown mottled grey slightly sandy clay
0.5	0.5	
	0.7	
	0.75	Weak sandstone
1.0		Stiff light brown mottled grey clay with small angular mudstone gravels
1.5		
	1.7	
		Moderately strong sandstone mudstone excavated as horizontally bedded shale
	1.9	
2.0	2.0	Moderately strong mudstone excavated as horizontally bedded shale
2.5		
3.0		
3.5		
4.0		

REMARKS:

Ground water encountered during excavation

NO

Sample taken

YES @ 0.30m & 0.50m

Sides of excavation remained stable

YES

Level

.....

NOTES:



TRIAL HOLE NO. 3

Client :	HIGHSTONE	Job No :	8263
Site :	THE HOMESTEAD, ALMONDBURY	Date :	18 March 2025

0.0	
	Rough grass over dark brown topsoil. Occasional roots
0.4	
0.5	Dark brown very sandy clay
0.8	
1.0	Stiff light brown mottled grey clay with small angular mudstone gravels
1.5	
1.9	
2.0	Moderately strong mudstone excavated as angular gravels
2.1	
2.5	
3.0	
3.5	
4.0	

REMARKS:

Ground water encountered during excavation	NO
Sample taken	YES @ 0.20m
Sides of excavation remained stable	YES
Level

NOTES:



TRIAL HOLE NO. 4

Client :	HIGHSTONE	Job No :	8263
Site :	THE HOMESTEAD, ALMONDBURY	Date :	18 March 2025

0.0		
		Rough grass over dark brown topsoil. Occasional roots
	0.4	
	0.5	Moderately firm dark brown very sandy clay
	0.9	
	1.0	Stiff light brown mottled grey clay with small angular mudstone gravels
	1.5	
	1.8	
	1.9	Moderately strong mudstone excavated as angular gravels
	2.0	
	2.5	
	3.0	
	3.5	
	4.0	

REMARKS:

Ground water encountered during excavation	NO
Sample taken	YES @ 0.20m & 1.10m
Sides of excavation remained stable	YES
Level

NOTES:



TRIAL HOLE NO. 5

Client :	HIGHSTONE	Job No :	8263
Site :	THE HOMESTEAD, ALMONDBURY	Date :	18 March 2025

0.0		
	0.04	Tarmac
	0.3	Brick fill within black ashy gravels
	0.4	Soft dark brown re engineered clay
0.5	0.5	Soft dark grey re engineered clay
		Stiff light brown mottled grey clay with small sandstone gravels
1.0	1.1	
	1.15	Strong light brown sandstone. Becoming difficult to excavate with depth
1.5		
2.0		
2.5		
3.0		
3.5		
4.0		

REMARKS:

Ground water encountered during excavation NO
Sample taken NO
Sides of excavation remained stable YES
Level

NOTES:



TRIAL HOLE NO. 6

Client :	HIGHSTONE	Job No :	8263
Site :	THE HOMESTEAD, ALMONDBURY	Date :	18 March 2025

0.0		
		Rough grass over dark brown topsoil. Numerous roots
	0.5	
	0.7	
		Loosely compacted subsoils and clay with sandstone gravels
	1.0	
		Firm light brown mottled grey slightly sandy clay with angular sandstone gravels
	1.5	
	1.9	
		Moderately strong light brown sandstone horizontally bedded excavated as thin shales and sand
	2.0	Becoming difficult to excavate with depth
	2.1	
	2.5	
	3.0	
	3.5	
	4.0	

REMARKS:
Ground water encountered during excavation NO
Sample taken YES @ 0.40m & 1.30m
Sides of excavation remained stable YES
Level

NOTES:



TRIAL HOLE NO. 7

Client :	HIGHSTONE	Job No :	8263
Site :	THE HOMESTEAD, ALMONDBURY	Date :	18 March 2025

0.0		
		Rough grass over dark brown topsoil
	0.3	
		Moderately strong light brown sandstone gravels within a clayey matrix
0.5	0.5	
		Moderately strong light brown sandstone horizontally bedded excavated as shale. Becoming difficult to excavate with depth
	0.7	
1.0		
1.5		
2.0		
2.5		
3.0		
3.5		
4.0		

REMARKS:

Ground water encountered during excavation	NO
Sample taken	YES @ 0.15m
Sides of excavation remained stable	YES
Level

NOTES:

Soil Permeability test

TP02

Site The Homestead, Almondbury

Date

Mar-25 (Test 1)

Client Highstone

Job No.

E24/8263

Pit dimensions m
 Length 1.7
 Width 0.6
 Depth 2.0

Time	Time into Test Mlns	Dip Reading mm	Vol cu.m	Vol Change cu.m	Contact area Avge sq.m	Permeability lit/ sq.m/sec
9.44	0	1680	0.32640		2.49200	
10.15	31	1680	0.32640	0.00000	2.49200	0.00000
10.32	48	1680	0.32640	0.00000	2.49200	0.00000
11.02	78	1680	0.32640	0.00000	2.49200	0.00000
11.41	117	1680	0.32640	0.00000	2.49200	0.00000

TEST ABANDONED DUE TO STATIONARY WATER LEVEL

Average Permeability Value: 0.000000000 lit/ sq.m/sec

APPENDIX C

Chemical Analysis of Samples

Geotechnical Analysis of Samples

Certificate of Analysis

Certificate Number 25-06362

Issued: 03-Apr-25

Client Haigh Huddleston & Associates Ltd
Firth Buildings
99-101 Leeds Road
Dewsbury
WF12 7BU

Our Reference 25-06362

Client Reference ~ 8263

Order No ~ (not supplied)

Contract Title ~ The Homestead

Description 5 Soil samples.

Date Received 24-Mar-25

Date Started 24-Mar-25

Date Completed 03-Apr-25

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By **Redacted**

Louise Cook
Contracts Manager



Summary of Chemical Analysis

Soil Samples

Our Ref 25-06362

Client Ref ~ 8263

Contract Title ~ The Homestead

Lab No	2483033	2483034	2483035	2483036	2483037
Sample ID ~	TP01	TP02	TP04	TP06	TP07
Depth ~	0.40	0.30	0.20	0.40	0.15
Other ID ~					
Sample Type ~	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date ~	18/03/2025	18/03/2025	18/03/2025	18/03/2025	18/03/2025
Sampling Time ~	00AM	00AM	00AM	00PM	00PM

Test	Method	LOD	Units					
Metals								
Arsenic	DETSC 2301#	0.2	mg/kg	28	84	24	27	22
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	< 0.1	0.2	0.2	0.3
Chromium	DETSC 2301#	0.15	mg/kg	32	24	44	32	30
Copper	DETSC 2301#	0.2	mg/kg	640	57	34	35	39
Lead	DETSC 2301#	0.3	mg/kg	86	35	63	64	68
Mercury	DETSC 2325#	0.05	mg/kg	0.22	0.19	0.22	0.14	0.15
Nickel	DETSC 2301#	1	mg/kg	26	27	24	24	24
Selenium	DETSC 2301#	0.5	mg/kg	0.7	0.6	1.3	0.8	0.7
Zinc	DETSC 2301#	1	mg/kg	180	51	88	88	100
Inorganics								
pH	DETSC 2008#		pH	7.1	7.2	6.4	6.7	6.2
Thiocyanate	DETSC 2130#	0.6	mg/kg	0.7	< 0.6	1.1	0.9	2.1
Total Organic Carbon	DETSC 2084#	0.5	%	4.4	15	3.1	3.4	4.9
Sulphide	DETSC 2024*	10	mg/kg	59	60	< 10	32	< 10
Sulphate as SO4, Total	DETSC 2321#	100	mg/kg	557	478	845	693	902
PAHs								
Naphthalene	DETSC 3301	0.1	mg/kg	0.6	< 0.1	< 0.1	0.1	0.4
Acenaphthylene	DETSC 3301	0.1	mg/kg	0.2	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	1.7	< 0.1	< 0.1	0.2	0.2
Fluorene	DETSC 3301	0.1	mg/kg	1.3	< 0.1	< 0.1	0.2	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	11	< 0.1	0.3	1.6	0.9
Anthracene	DETSC 3301	0.1	mg/kg	2.5	< 0.1	< 0.1	0.4	0.2
Fluoranthene	DETSC 3301	0.1	mg/kg	16	< 0.1	0.6	2.1	1.6
Pyrene	DETSC 3301	0.1	mg/kg	15	< 0.1	0.4	1.8	0.5
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	7.3	< 0.1	0.3	1.0	0.7
Chrysene	DETSC 3301	0.1	mg/kg	8.0	< 0.1	0.2	0.9	0.9
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	5.8	< 0.1	0.3	0.7	0.6
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	3.6	< 0.1	0.1	0.3	0.6
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	7.9	< 0.1	0.2	0.9	0.8
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	4.6	< 0.1	< 0.1	0.5	1.5
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	0.9	< 0.1	< 0.1	0.1	0.3
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	4.4	< 0.1	< 0.1	0.5	0.5
PAH 16 Total	DETSC 3301	1.6	mg/kg	90	< 1.6	2.6	11	9.7
Phenols								
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.9	0.6	1.6	1.0	3.1

Summary of Asbestos Analysis

Soil Samples

Our Ref 25-06362

Client Ref ~ 8263

Contract Title ~ The Homestead

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2483033	TP01 0.40	SOIL	NAD	none	Ben Rose
2483034	TP02 0.30	SOIL	Chrysotile Amosite	Chrysotile and Amosite present as fibre bundles	Ben Rose
2483035	TP04 0.20	SOIL	NAD	none	Ben Rose
2483036	TP06 0.40	SOIL	NAD	none	Ben Rose
2483037	TP07 0.15	SOIL	NAD	none	Ben Rose

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 25-06362

Client Ref ~ 8263

Contract ~ The Homestead

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Incorrect container for tests
2483033	TP01 0.40 SOIL	18/03/25	GJ 250ml, PT 1L		
2483034	TP02 0.30 SOIL	18/03/25	GJ 250ml, PT 1L		
2483035	TP04 0.20 SOIL	18/03/25	GJ 250ml, PT 1L		
2483036	TP06 0.40 SOIL	18/03/25	GJ 250ml, PT 1L		
2483037	TP07 0.15 SOIL	18/03/25	GJ 250ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

Normec DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results

* -not accredited.

-MCERTS (accreditation only applies if report carries the MCERTS logo).

\$ -subcontracted.

n/s -not supplied.

I/S -insufficient sample.

U/S -unsuitable sample.

t/f -to follow.

nd -not detected.

End of Report

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LABORATORY REPORT

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job number	date
site address	
date scheduled	date issued
issued by	

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8948

Schedule of UKAS Accredited Laboratory Tests



1. CLASSIFICATION OF SOIL	BS 1377-2:2022	BS EN ISO 17892	Accredited (A)	Unaccredited (U)
1.1 Moisture / Water content determination				
i. Oven drying	Pt 2	BS EN ISO 17892-1:2014+A1:2022	A	
ii. Saturation m/c of chalk	Pt 2 :			U
1.2 Index Properties				
i. Liquid limit – cone penetrometer	Pt 2	BS EN ISO 17892-12 2018+A2:2022	A	
ii. Plastic limit	Pt 2	BS EN ISO 17892-12 2018+A2:2022	A	
iii. Shrinkage limit	:			U
iv. Linear shrinkage	Pt 2		A	
1.3 Particle Density				
i. Gas jar	Pt 2 :		A	
ii. Large pycnometer	Pt 2			U
iii. Small pycnometer		BS EN SIO 17892-3:2015	A	
1.4 Density Tests				
i. Linear measurement	Pt 2	BS EN ISO 17892-2:2014	A	
ii. Immersion in water	Pt 2	Pt 2 : 2014 : 5.2		U
iii. Fluid / Water displacement	Pt 2	Pt 2 : 2014 : 5.3		U
iv. Sand replacement	Pt 9			U
v. Core cutter	Pt 9			U
1.5 Particle Size Distribution				
i. Dry Sieve	Pt 2	BS EN ISO 17892-4:2016	A	
ii. Wet Sieve	Pt 2	BS EN ISO 17892-4:2016	A	
iii. Sedimentation by pipette	Pt 2	BS EN ISO 17892-4:2016	A	
iv. Sedimentation by hydrometer	Pt 2			U
2. CHEMICAL TESTS				
BS 1377-3:2018				
ii. Mass loss on ignition	Pt 3 : 4			U
3. COMPACTION RELATED TESTS				
BS 1377-2:2022				
3.1 Dry density/moisture relationship				
i. 2.5kg rammer – 1 litre mould	Pt 2		A	
- CBR mould	Pt 2		A	
ii. 4.5kg rammer – 1 litre mould	Pt 2		A	
- CBR mould	Pt 2		A	
3.2 Moisture Condition Value				
i. Single point test	Pt 2			U
ii. MCV/moisture content relationship	Pt 2			U
3.3 California Bearing Ratio				
i. Undisturbed sample	Pt 2		A	
ii. Recompact sample	Pt 2		A	
iii. Soaked, inc measurement of swell	Pt 2		A	
4. COMPRESSIBILITY OF SOIL				
BS 1377-2:2022				
i. One dimensional consolidation	Pt 2	BS EN ISO 17892-5:2017	A	
ii. Swelling pressure test	Pt 2			U
5. SHEAR STRENGTH OF SOIL				
BS 1377-2:2022				
i. Hand shear vane	Makers instructions			U
ii. Shear box (100mm square sample)	BS 1377 : Pt 7 : 4			U
iii. Triaxial – quick undrained	BS 1377 : Pt 2	BS EN ISO 17892-8:2018	A	
6. PERMEABILITY				
i. Falling head	K. H. Head Vol 2			U
ii. Constant head	BS 1377 : Pt 6 : 6			U
iii Triaxial cell	BS 1377 : Pt 6 : 6			U
7. ROCK TESTS				
7.1 Classification Tests				
i. Natural moisture content	-			U
ii. Saturated moisture content	-			U
iii. Natural density	-			U
iv. Porosity	-			U
7.2 Strength Tests				
i. Point load index	ISRM '85			U
ii. Uniaxial compression test	ISRM '81			U

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Disclaimer

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GEOTECHNICAL TESTING RESULTS



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



Rogers Geotechnical Services Ltd.
 Offices 1&2,
 Barncliffe Business Park,
 Near Bank, Shelley,
 Huddersfield,
 HD8 8LU

Classification of Index Properties

C/5118/25/L/7802

Project Name: The Homestead

BS EN ISO 17892-12 2018+A2:2022

Fig. 2
 Sheet. 1

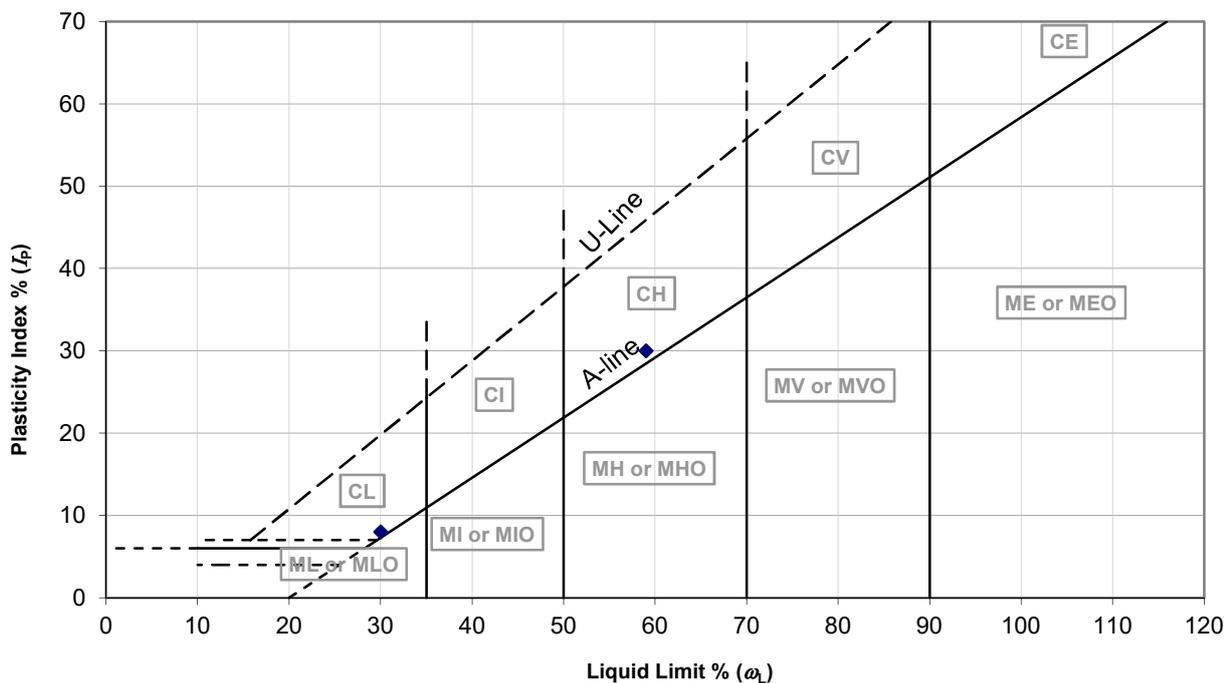
Location:

Input By: Harry

Client: Haigh Huddleston & Associates

Check By: Harry

Location	Depth (m)	Water Content (ω) (%)	Liquid Limit (ω_L) (%)	Plastic Limit (ω_P) (%)	Plasticity Index (I_P) (%)	Retained by 0.425mm (%)	Modified (ω) (ω') (%)	Modified (I_P) (I_P') (%)	Liquidity/ Consistency		Casagrande Class	N.H.B.C Class (%)
									(I_L) (%)	(I_c) (%)		
TP02	0.50	28	59	29	30	1	28	30	0.0	1.0	C H	MEDIUM
TP06	1.30	18	30	22	8	8	20	7	-0.5	1.5	C L	*





< ENVIRONMENTAL > < GEOTECHNICAL >

End of Report



Rogers Geotechnical Services Ltd
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APPENDIX D

Groundsure Enviro & Geo Report

Coal Authority Report

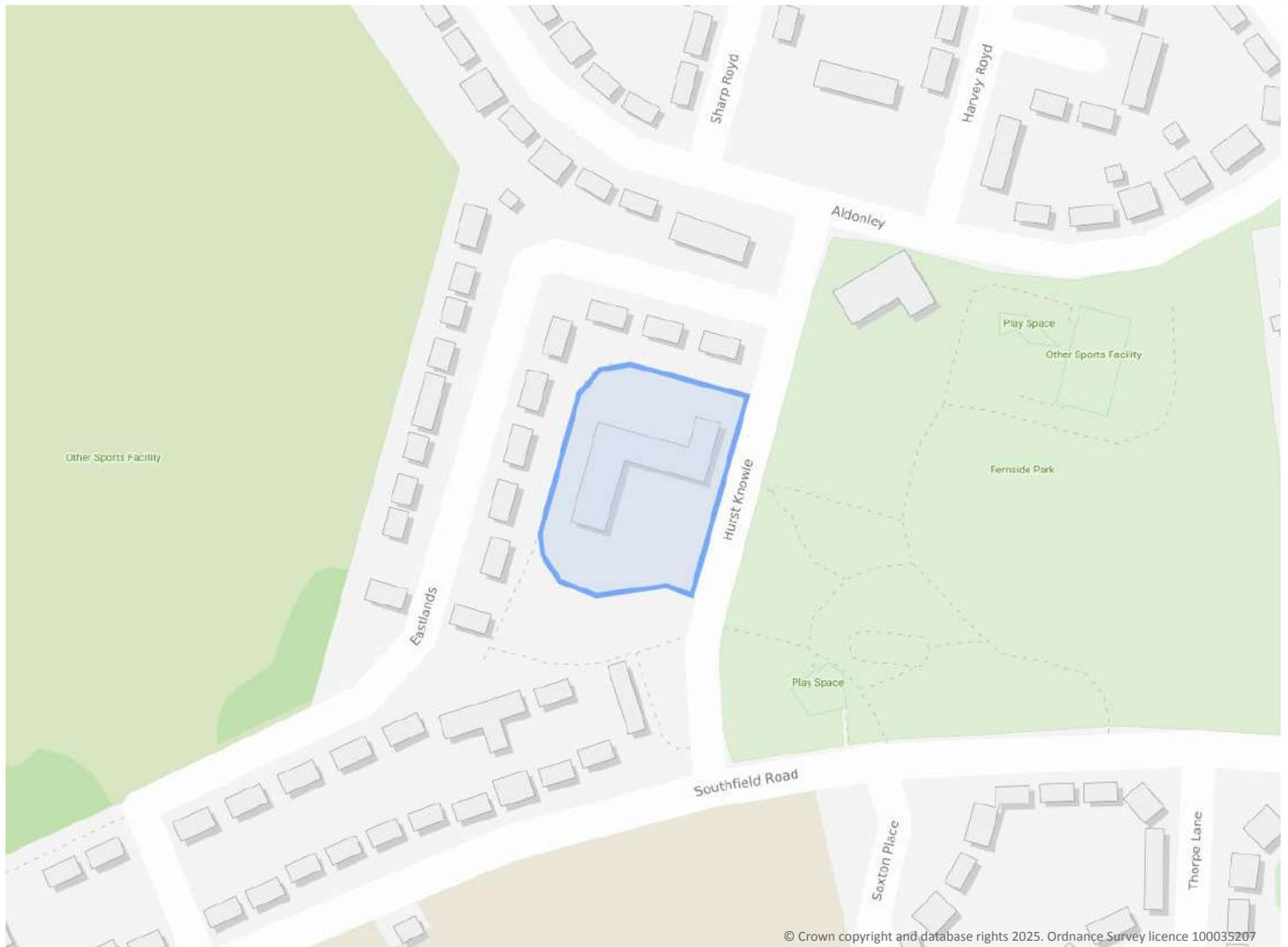
The Homestead, Hurst Knowle

Order Details

Date: 08/01/2025
Your ref: 8263 The Homestead
Our Ref: GS-5F1-S2U-H5Y-ON4

Site Details

Location: 417233 415798
Area: 0.44 ha
Authority: [Kirklees Council](#) ↗



[Summary of findings](#)

[p. 2 > Aerial image](#)

[p. 9 >](#)

[OS MasterMap site plan](#)

[p.14 > Insight User Guide](#) ↗

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	0	0	8	-
16 >	1.2 >	Historical tanks >	0	0	1	4	-
16 >	1.3 >	Historical energy features >	0	0	1	12	-
17	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	Historical garages	0	0	0	0	-
18	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
19 >	2.1 >	Historical industrial land uses >	0	0	0	10	-
20 >	2.2 >	Historical tanks >	0	0	1	5	-
20 >	2.3 >	Historical energy features >	0	0	2	25	-
22	2.4	Historical petrol stations	0	0	0	0	-
22	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
23	3.1	Active or recent landfill	0	0	0	0	-
23	3.2	Historical landfill (BGS records)	0	0	0	0	-
24	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
24	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
24	3.5	Historical waste sites	0	0	0	0	-
24	3.6	Licensed waste sites	0	0	0	0	-
24 >	3.7 >	Waste exemptions >	0	0	5	0	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
26 >	4.1 >	Recent industrial land uses >	0	0	2	-	-
27	4.2	Current or recent petrol stations	0	0	0	0	-
27	4.3	Electricity cables	0	0	0	0	-
27	4.4	Gas pipelines	0	0	0	0	-
27	4.5	Sites determined as Contaminated Land	0	0	0	0	-



27	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
28	4.7	Regulated explosive sites	0	0	0	0	-
28	4.8	Hazardous substance storage/usage	0	0	0	0	-
28	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
28	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
28	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
29	4.12	Radioactive Substance Authorisations	0	0	0	0	-
29	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
29	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
29	4.15	Pollutant release to public sewer	0	0	0	0	-
29	4.16	List 1 Dangerous Substances	0	0	0	0	-
30	4.17	List 2 Dangerous Substances	0	0	0	0	-
30	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
30	4.19	Pollution inventory substances	0	0	0	0	-
30	4.20	Pollution inventory waste transfers	0	0	0	0	-
30	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
31	5.1	Superficial aquifer	None (within 500m)				
32 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
33 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
34	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
34	5.5	Groundwater vulnerability- local information	None (within 0m)				
35 >	5.6 >	Groundwater abstractions >	0	0	0	0	9
38 >	5.7 >	Surface water abstractions >	0	0	0	0	2
39	5.8	Potable abstractions	0	0	0	0	0
39	5.9	Source Protection Zones	0	0	0	0	-
39	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
40	6.1	Water Network (OS MasterMap)	0	0	0	-	-



40	6.2	Surface water features	0	0	0	-	-
41 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
41 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
42 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
43	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
43	7.2	Historical Flood Events	0	0	0	-	-
43	7.3	Flood Defences	0	0	0	-	-
44	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
44	7.5	Flood Storage Areas	0	0	0	-	-
45	7.6	Flood Zone 2	None (within 50m)				
45	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
46 >	8.1 >	Surface water flooding >	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding >					
48 >	9.1 >	Groundwater flooding >	Negligible (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
49	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
50	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
50	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
50	10.4	Special Protection Areas (SPA)	0	0	0	0	0
50	10.5	National Nature Reserves (NNR)	0	0	0	0	0
51	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
51 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	10
52	10.8	Biosphere Reserves	0	0	0	0	0
52	10.9	Forest Parks	0	0	0	0	0
52	10.10	Marine Conservation Zones	0	0	0	0	0
52 >	10.11 >	Green Belt >	0	0	0	1	0
53	10.12	Proposed Ramsar sites	0	0	0	0	0



53	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
53	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
53	10.15	Nitrate Sensitive Areas	0	0	0	0	0
54	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
55 >	10.17 >	<u>SSSI Impact Risk Zones ></u>	1	-	-	-	-
56	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
57	11.1	World Heritage Sites	0	0	0	-	-
57	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
57	11.3	National Parks	0	0	0	-	-
57	11.4	Listed Buildings	0	0	0	-	-
58	11.5	Conservation Areas	0	0	0	-	-
58	11.6	Scheduled Ancient Monuments	0	0	0	-	-
58	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	<u>Agricultural designations ></u>	On site	0-50m	50-250m	250-500m	500-2000m
59 >	12.1 >	<u>Agricultural Land Classification ></u>	Urban (within 250m)				
60	12.2	Open Access Land	0	0	0	-	-
60	12.3	Tree Felling Licences	0	0	0	-	-
60	12.4	Environmental Stewardship Schemes	0	0	0	-	-
60	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
61	13.1	Priority Habitat Inventory	0	0	0	-	-
61	13.2	Habitat Networks	0	0	0	-	-
61	13.3	Open Mosaic Habitat	0	0	0	-	-
61	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	<u>Geology 1:10,000 scale ></u>	On site	0-50m	50-250m	250-500m	500-2000m
62 >	14.1 >	<u>10k Availability ></u>	Identified (within 500m)				
63 >	14.2 >	<u>Artificial and made ground (10k) ></u>	0	0	0	1	-
64	14.3	Superficial geology (10k)	0	0	0	0	-



64	14.4	Landslip (10k)	0	0	0	0	-
65 >	14.5 >	Bedrock geology (10k) >	2	2	4	12	-
66 >	14.6 >	Bedrock faults and other linear features (10k) >	0	1	1	2	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
68 >	15.1 >	50k Availability >	Identified (within 500m)				
69	15.2	Artificial and made ground (50k)	0	0	0	0	-
69	15.3	Artificial ground permeability (50k)	0	0	-	-	-
70	15.4	Superficial geology (50k)	0	0	0	0	-
70	15.5	Superficial permeability (50k)	None (within 50m)				
70	15.6	Landslip (50k)	0	0	0	0	-
70	15.7	Landslip permeability (50k)	None (within 50m)				
71 >	15.8 >	Bedrock geology (50k) >	2	2	4	12	-
72 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
73 >	15.10 >	Bedrock faults and other linear features (50k) >	0	1	1	1	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
74	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence >					
75 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
77 >	17.2 >	Running sands >	Negligible (within 50m)				
78 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
79 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
80 >	17.5 >	Landslides >	Very low (within 50m)				
81 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
83	18.1	BritPits	0	0	0	0	-
84 >	18.2 >	Surface ground workings >	0	0	3	-	-
84	18.3	Underground workings	0	0	0	0	0
84	18.4	Underground mining extents	0	0	0	0	-
84	18.5	Historical Mineral Planning Areas	0	0	0	0	-



85	18.6	Non-coal mining	0	0	0	0	0
85	18.7	JPB mining areas	None (within 0m)				
85	18.8	The Coal Authority non-coal mining	0	0	0	0	-
85	18.9	Researched mining	0	0	0	0	-
86	18.10	Mining record office plans	0	0	0	0	-
86	18.11	BGS mine plans	0	0	0	0	-
86 >	18.12 >	Coal mining >	Identified (within 0m)				
86	18.13	Brine areas	None (within 0m)				
87	18.14	Gypsum areas	None (within 0m)				
87	18.15	Tin mining	None (within 0m)				
87	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
88	19.1	Natural cavities	0	0	0	0	-
88	19.2	Mining cavities	0	0	0	0	0
88	19.3	Reported recent incidents	0	0	0	0	-
88	19.4	Historical incidents	0	0	0	0	-
Page	Section	Radon >					
90 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
92 >	21.1 >	BGS Estimated Background Soil Chemistry >	2	2	-	-	-
92	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
93	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
94	22.1	Underground railways (London)	0	0	0	-	-
94	22.2	Underground railways (Non-London)	0	0	0	-	-
94	22.3	Railway tunnels	0	0	0	-	-
94	22.4	Historical railway and tunnel features	0	0	0	-	-
94	22.5	Royal Mail tunnels	0	0	0	-	-
95	22.6	Historical railways	0	0	0	-	-



95	22.7	Railways	0	0	0	-	-
95	22.8	Crossrail 2	0	0	0	0	-
95	22.9	HS2	0	0	0	0	-



Recent aerial photograph



Capture Date: 30/05/2021

Site Area: 0.44ha



Recent site history - 2018 aerial photograph



Capture Date: 01/07/2018

Site Area: 0.44ha



Recent site history - 2012 aerial photograph



Capture Date: 26/03/2012

Site Area: 0.44ha



Recent site history - 2000 aerial photograph



Capture Date: 05/08/2000

Site Area: 0.44ha



Recent site history - 1999 aerial photograph

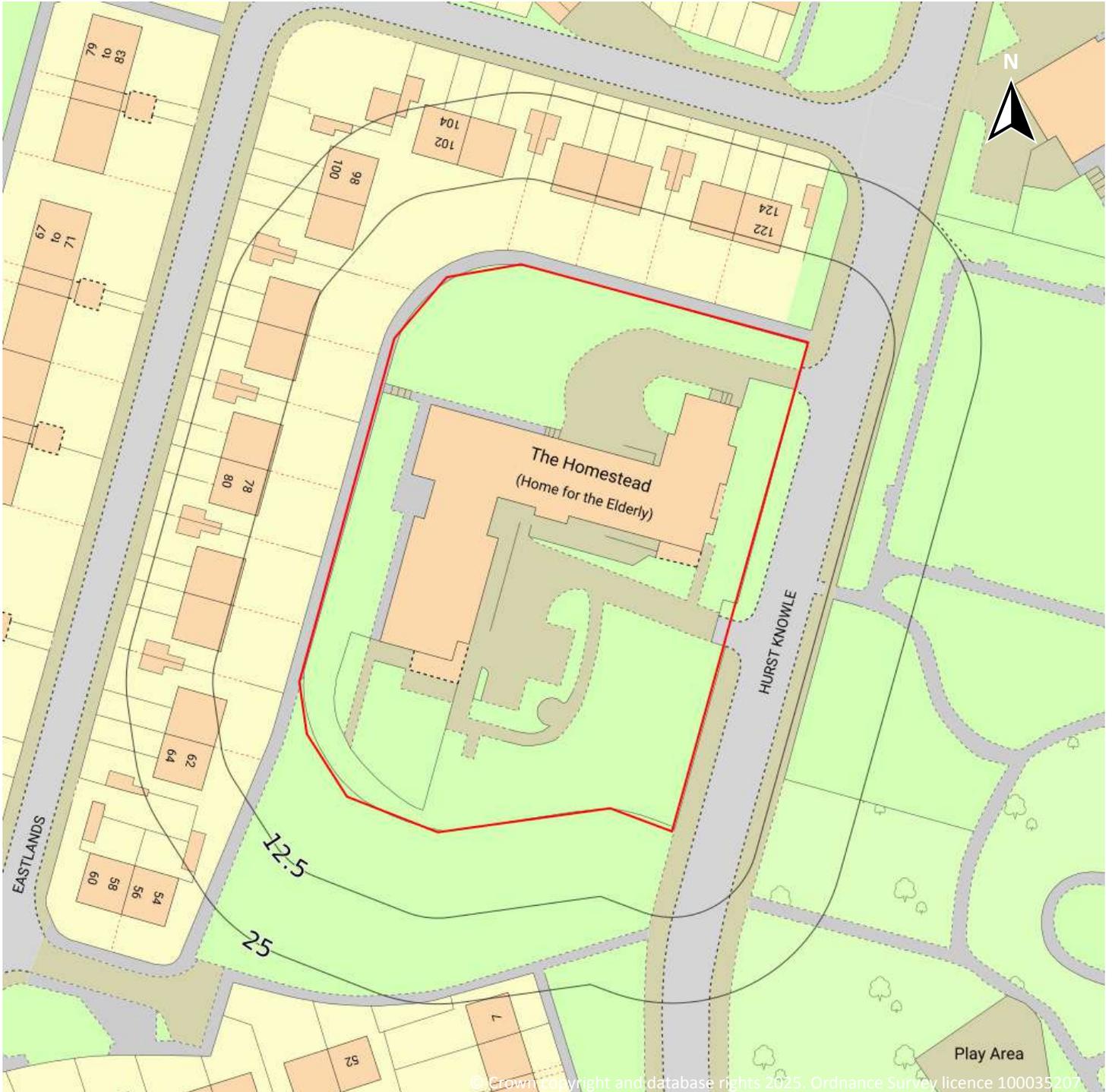


Capture Date: 04/09/1999

Site Area: 0.44ha



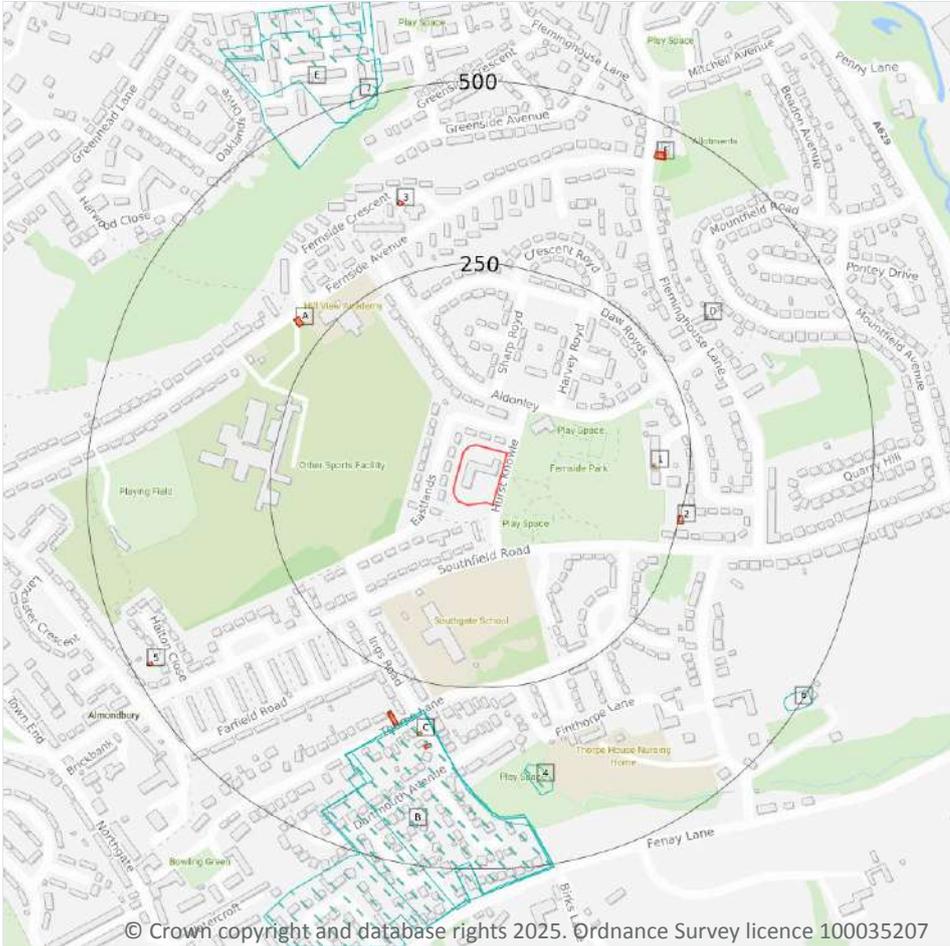
OS MasterMap site plan



Site Area: 0.44ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m **8**

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 15 >](#)

ID	Location	Land use	Dates present	Group ID
B	288m S	Nurseries	1938	1550518

ID	Location	Land use	Dates present	Group ID
B	288m S	Nurseries	1948	1565957
B	293m S	Nurseries	1956 - 1965	1552319
4	360m S	Unspecified Pit	1905	1450200
E	446m NW	Unspecified Mills	1988	1528377
E	474m N	Unspecified Mills	1956 - 1965	1500975
6	480m SE	Unspecified Pit	1905	1450201
7	490m N	Unspecified Heap	1965	1466625

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

5

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 15 >](#)

ID	Location	Land use	Dates present	Group ID
1	200m E	Unspecified Tank	1893	241675
C	317m S	Unspecified Tank	1957 - 1961	261142
D	329m NE	Unspecified Tank	1963	244784
D	329m NE	Unspecified Tank	1957	248831
D	330m NE	Unspecified Tank	1958	258342

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

13

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or



succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
2	248m E	Electricity Substation	1979 - 1990	153042
A	280m NW	Electricity Substation	1967	147812
A	281m NW	Electricity Substation	1994 - 1995	150652
C	302m S	Electricity Substation	1989	157001
C	302m S	Electricity Substation	1993	150872
C	303m S	Electricity Substation	1971	150828
C	331m S	Electricity Substation	1971	149777
C	331m S	Electricity Substation	1989 - 1993	161178
3	344m N	Electricity Substation	1971 - 1993	150799
F	452m NE	Electricity Substation	1993	160742
F	453m NE	Electricity Substation	1990 - 1992	153881
F	461m NE	Electricity Substation	1968 - 1971	159323
5	472m SW	Electricity Substation	1972	143673

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

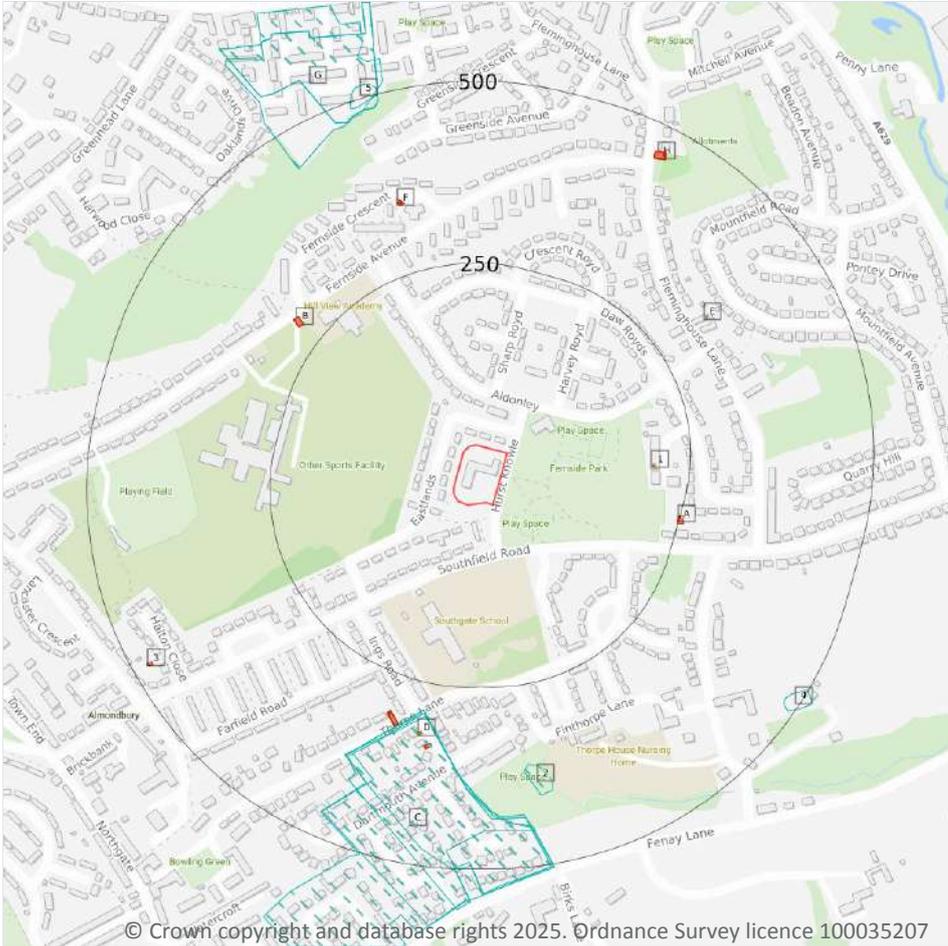
0

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
- Historical energy features

2.1 Historical industrial land uses

Records within 500m **10**

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

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

ID	Location	Land Use	Date	Group ID
C	288m S	Nurseries	1938	1550518
C	288m S	Nurseries	1948	1565957
C	293m S	Nurseries	1956	1552319

ID	Location	Land Use	Date	Group ID
C	296m S	Nurseries	1965	1552319
2	360m S	Unspecified Pit	1905	1450200
G	446m NW	Unspecified Mills	1988	1528377
G	474m N	Unspecified Mills	1965	1500975
G	474m N	Unspecified Mills	1956	1500975
4	480m SE	Unspecified Pit	1905	1450201
5	490m N	Unspecified Heap	1965	1466625

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

6

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 19 >](#)

ID	Location	Land Use	Date	Group ID
1	200m E	Unspecified Tank	1893	241675
D	317m S	Unspecified Tank	1961	261142
D	318m S	Unspecified Tank	1957	261142
E	329m NE	Unspecified Tank	1963	244784
E	329m NE	Unspecified Tank	1957	248831
E	330m NE	Unspecified Tank	1958	258342

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

27

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



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

ID	Location	Land Use	Date	Group ID
A	248m E	Electricity Substation	1990	153042
A	248m E	Electricity Substation	1979	153042
B	280m NW	Electricity Substation	1967	147812
B	281m NW	Electricity Substation	1995	150652
B	281m NW	Electricity Substation	1994	150652
D	302m S	Electricity Substation	1989	157001
D	302m S	Electricity Substation	1989	157001
D	302m S	Electricity Substation	1993	150872
D	303m S	Electricity Substation	1971	150828
D	331m S	Electricity Substation	1971	149777
D	331m S	Electricity Substation	1993	161178
D	331m S	Electricity Substation	1989	161178
D	331m S	Electricity Substation	1989	161178
F	344m N	Electricity Substation	1993	150799
F	345m N	Electricity Substation	1971	150799
F	346m N	Electricity Substation	1990	150799
F	346m N	Electricity Substation	1990	150799
F	346m N	Electricity Substation	1990	150799
F	346m N	Electricity Substation	1992	150799
H	452m NE	Electricity Substation	1993	160742
H	453m NE	Electricity Substation	1990	153881
H	453m NE	Electricity Substation	1990	153881
H	453m NE	Electricity Substation	1990	153881
H	453m NE	Electricity Substation	1992	153881
H	461m NE	Electricity Substation	1968	159323
H	461m NE	Electricity Substation	1971	159323
3	472m SW	Electricity Substation	1972	143673



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

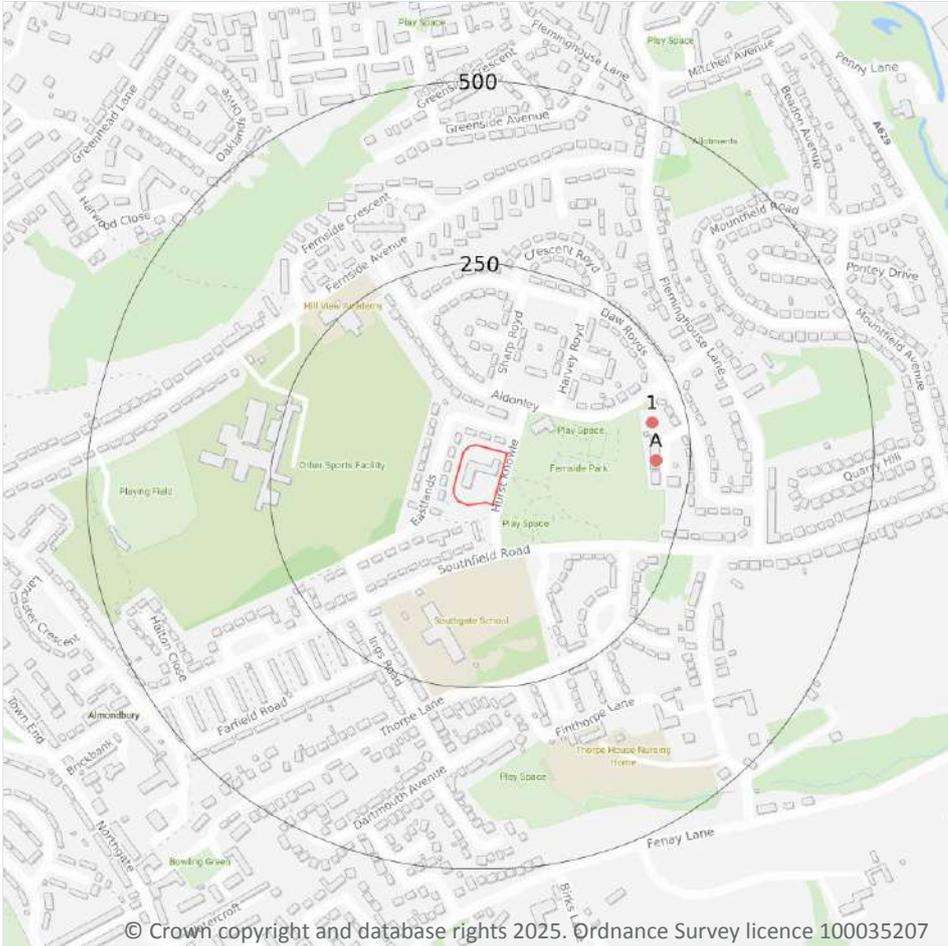
0

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

5

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

Features are displayed on the Waste and landfill map on [page 23](#) >



ID	Location	Site	Reference	Category	Sub-Category	Description
1	202m E	Npa - Depot 14m From 1 South Royd. 27m From South Royd South Royd Huddersfield Hd5 8su	EPR/VF0003VX /A001	Treating waste exemption	Agricultural waste only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	203m E	Fernside Park Depot, South Royd, Almondbury, Huddersfield, Hd5 8su	WEX157013	Using waste exemption	Not on a farm	Use of mulch
A	203m E	Fernside Park Depot, South Royd, Almondbury, Huddersfield, Hd5 8su	WEX157013	Using waste exemption	Not on a farm	Spreading of plant matter to confer benefit
A	203m E	Fernside Park Depot, South Royd, Almondbury, Huddersfield, Hd5 8su	WEX157013	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	203m E	Fernside Park Depot, South Royd, Almondbury, Huddersfield, Hd5 8su	WEX157013	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising

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

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 26 >](#)

ID	Location	Company	Address	Activity	Category
1	159m SW	Paul Brook Quality Builder	4, Eastlands, Almondbury, Huddersfield, West Yorkshire, HD5 8SE	Agricultural Contractors	Contract Services
2	195m SW	Electricity Sub Station	West Yorkshire, HD5	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.



4.2 Current or recent petrol stations

Records within 500m

0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m

0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m

0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m

0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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

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

Records within 500m

0

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

This data is sourced from Local Authority records.



4.12 Radioactive Substance Authorisations

Records within 500m

0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m

0

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

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

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

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

4.15 Pollutant release to public sewer

Records within 500m

0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m

0

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

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



4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

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

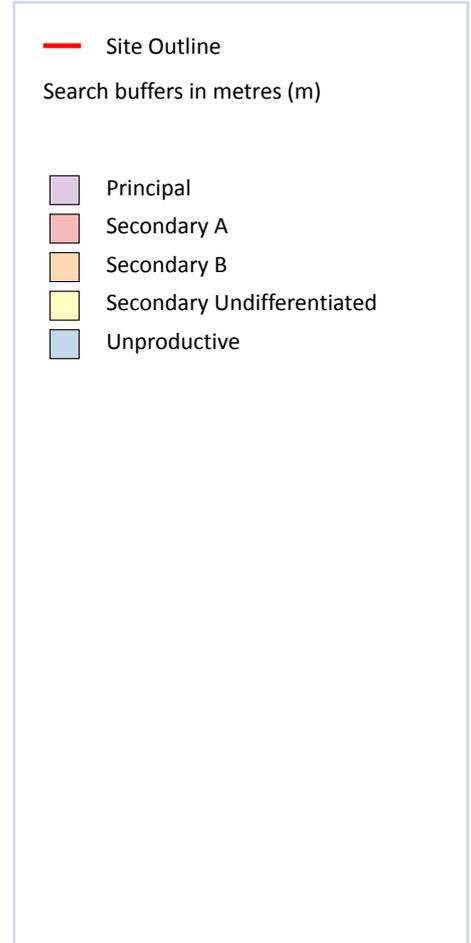
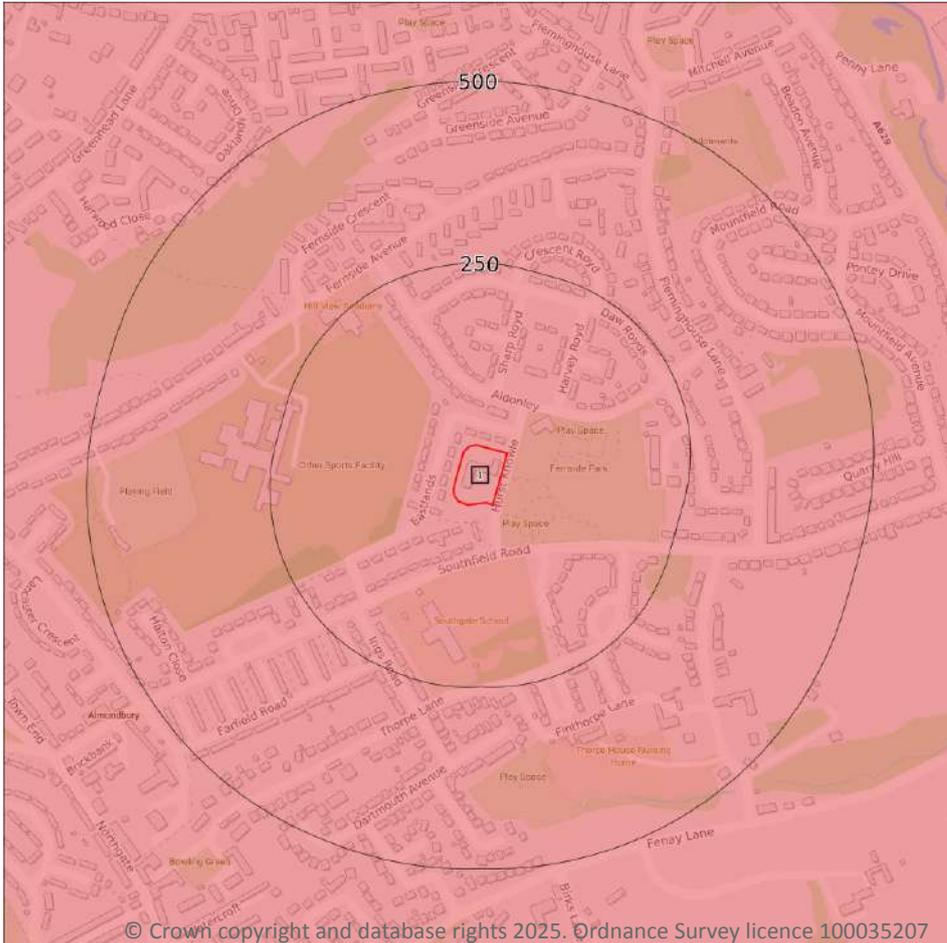
0

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



5.2 Bedrock aquifer

Records within 500m

1

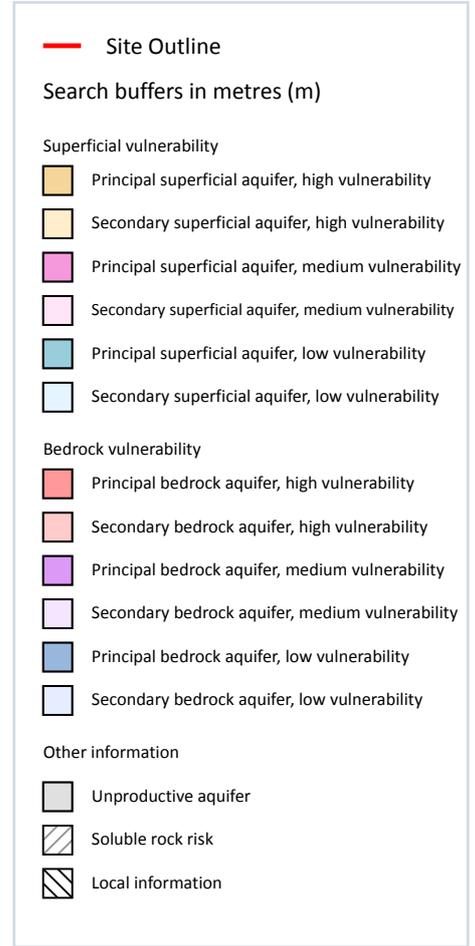
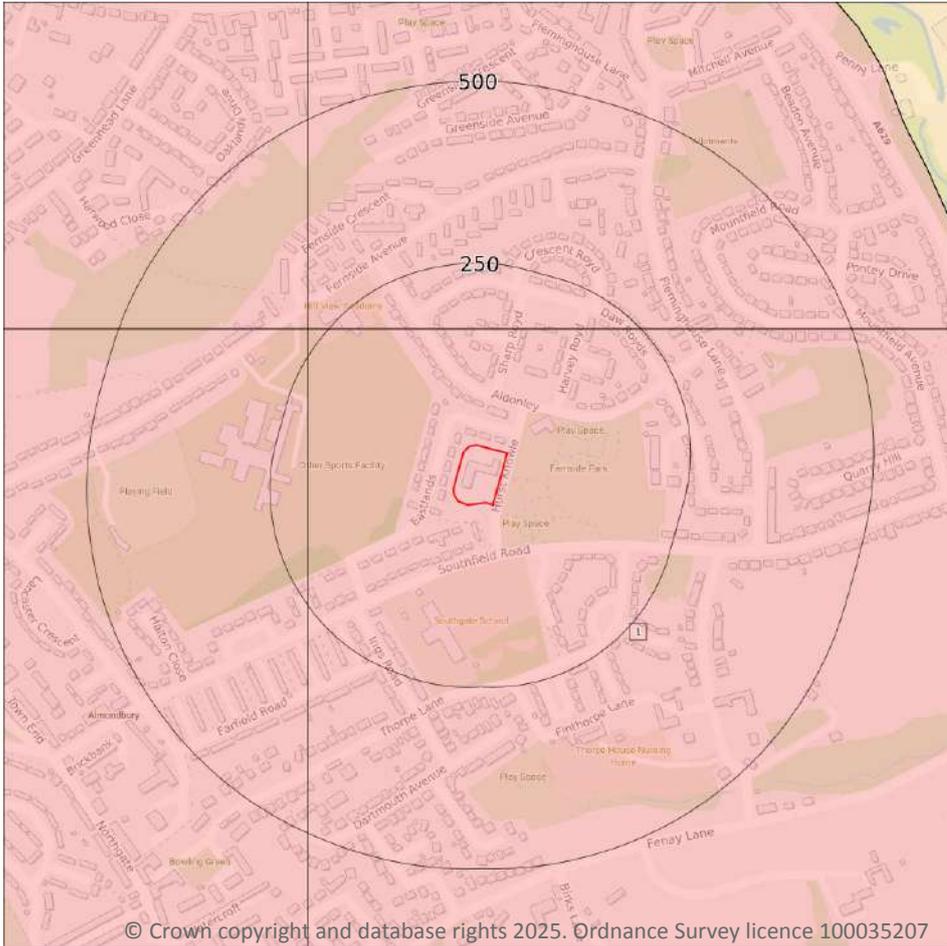
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on [page 32 >](#)

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

1

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

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

Features are displayed on the Groundwater vulnerability map on [page 33](#) >

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High 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

9

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.

Features are displayed on the Abstractions and Source Protection Zones map on [page 35 >](#)

ID	Location	Details	
A	814m NE	Status: Historical Licence No: 2/27/11/188/R01 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - LOWER COAL MEASURES - HUDDERSFIELD Data Type: Point Name: Total Fitness Health Clubs Ltd Easting: 417876 Northing: 416373	Annual Volume (m ³): 31000 Max Daily Volume (m ³): 250 Original Application No: NPS/WR/018037 Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2015 Version End Date: -
A	821m NE	Status: Historical Licence No: 2/27/11/188 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - LOWER COAL MEASURES - HUDDERSFIELD Data Type: Point Name: Total Fitness 2010 Ltd Easting: 417880 Northing: 416380	Annual Volume (m ³): 60000 Max Daily Volume (m ³): 250 Original Application No: - Original Start Date: 16/07/2001 Expiry Date: 31/03/2015 Issue No: 3 Version Start Date: 08/02/2012 Version End Date: -
-	1556m W	Status: Active Licence No: 2/27/11/018 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - MOLDGREEN Data Type: Point Name: W T JOHNSON & SONS (HUDDERSFIELD) LTD Easting: 415700 Northing: 416200	Annual Volume (m ³): 105854 Max Daily Volume (m ³): 390.96 Original Application No: 1567(1) Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
-	1556m W	Status: Active Licence No: 2/27/11/031 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - MOLDGREEN Data Type: Point Name: W T JOHNSON & SONS (HUDDERSFIELD) LTD Easting: 415700 Northing: 416200	Annual Volume (m ³): 36754 Max Daily Volume (m ³): 136.38 Original Application No: 1567(2) Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -



ID	Location	Details	
-	1556m W	Status: Historical Licence No: 2/27/11/031 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: W T JOHNSON & SONS (HUDDERSFIELD) LTD Easting: 415700 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
-	1556m W	Status: Historical Licence No: 2/27/11/018 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: W T JOHNSON & SONS (HUDDERSFIELD) LTD Easting: 415700 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
-	1556m W	Status: Historical Licence No: 2/27/11/031 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - MOLDGREEN Data Type: Point Name: W T JOHNSON & SONS (HUDDERSFIELD) LTD Easting: 415700 Northing: 416200	Annual Volume (m ³): 36754 Max Daily Volume (m ³): 136.38 Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
-	1556m W	Status: Historical Licence No: 2/27/11/018 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - MOLDGREEN Data Type: Point Name: W T JOHNSON & SONS (HUDDERSFIELD) LTD Easting: 415700 Northing: 416200	Annual Volume (m ³): 105854 Max Daily Volume (m ³): 390.956 Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -



ID	Location	Details	
-	1772m SE	Status: Active Licence No: NE/027/0011/029 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE IN SANDSTONE AT WOODSOME HALL Data Type: Point Name: WOODSOME HALL GOLF CLUB LTD Easting: 418356 Northing: 414372	Annual Volume (m ³): 9400 Max Daily Volume (m ³): 63 Original Application No: NPS/WR/032376 Original Start Date: 15/10/2020 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 15/10/2020 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	2
-----------------------------	----------

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 35 >](#)

ID	Location	Details	
-	1595m SE	Status: Historical Licence No: 2/27/11/156 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER Point: POND - WOODSOME HALL Data Type: Point Name: WOODSOME HALL GOLF CLUB LTD Easting: 417900 Northing: 414300	Annual Volume (m ³): 6819 Max Daily Volume (m ³): 40.91 Original Application No: - Original Start Date: 16/12/1970 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1970 Version End Date: -
-	1652m SE	Status: Active Licence No: 2/27/11/156 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER Point: POND - WOODSOME HALL Data Type: Point Name: WOODSOME HALL GOLF CLUB LTD Easting: 418010 Northing: 414290	Annual Volume (m ³): 2250 Max Daily Volume (m ³): 41 Original Application No: NPS/WR/034012 Original Start Date: 16/12/1970 Expiry Date: - Issue No: 101 Version Start Date: 13/10/2020 Version End Date: -

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



5.8 Potable abstractions

Records within 2000m

0

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

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

5.9 Source Protection Zones

Records within 500m

0

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

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m

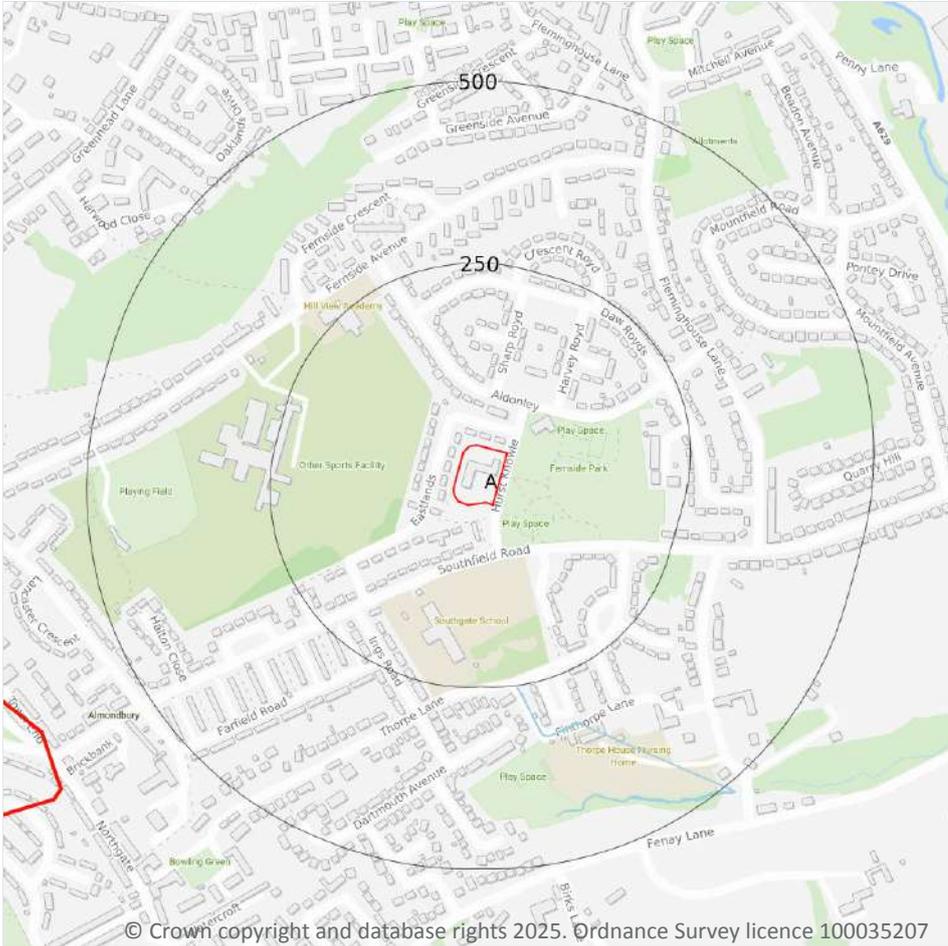
0

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

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



6 Hydrology



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- 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

0

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

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

0

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.

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 40 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River	Fenay beck from Source to River Colne	GB104027063340	Colne and Holme	Aire and Calder

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 40 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	692m NE	River	Fenay beck from Source to River Colne	GB104027063340 ↗	Moderate	Fail	Moderate	2019

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



6.5 WFD Groundwater bodies

Records on site	1
------------------------	----------

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

Features are displayed on the Hydrology map on [page 40 >](#)

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Aire & Calder Carb Limestone / Millstone Grit / Coal Measures.	GB40402G700400 ↗	Poor	Poor	Good	2019

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

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m

0

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

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

7.2 Historical Flood Events

Records within 250m

0

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

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

7.3 Flood Defences

Records within 250m

0

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

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



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

0

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

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 1000 year, 0.1m - 0.3m

Highest risk within 50m

1 in 30 year, 0.1m - 0.3m

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

Features are displayed on the Surface water flooding map on [page 46 >](#)

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

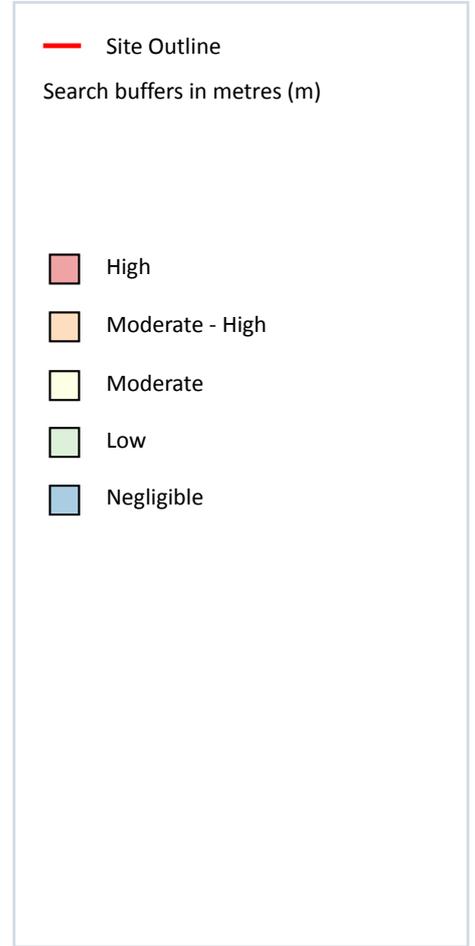
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.1m and 0.3m
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



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9.1 Groundwater flooding

Highest risk on site

Negligible

Highest risk within 50m

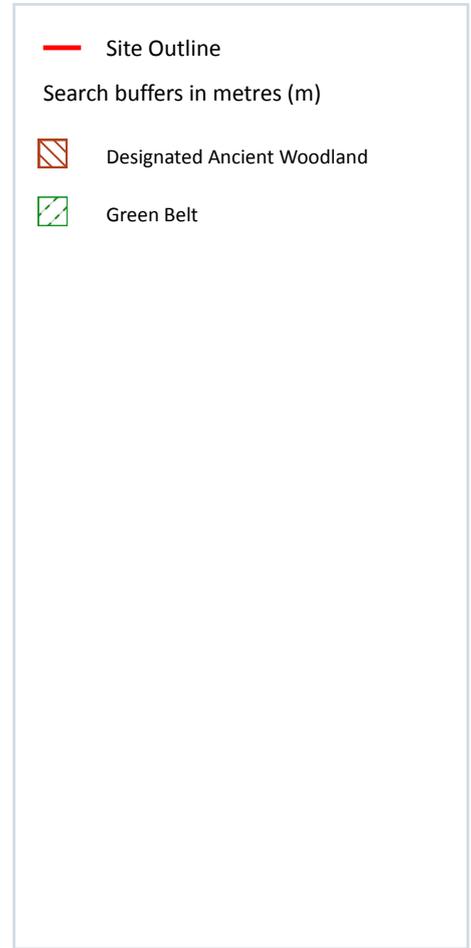
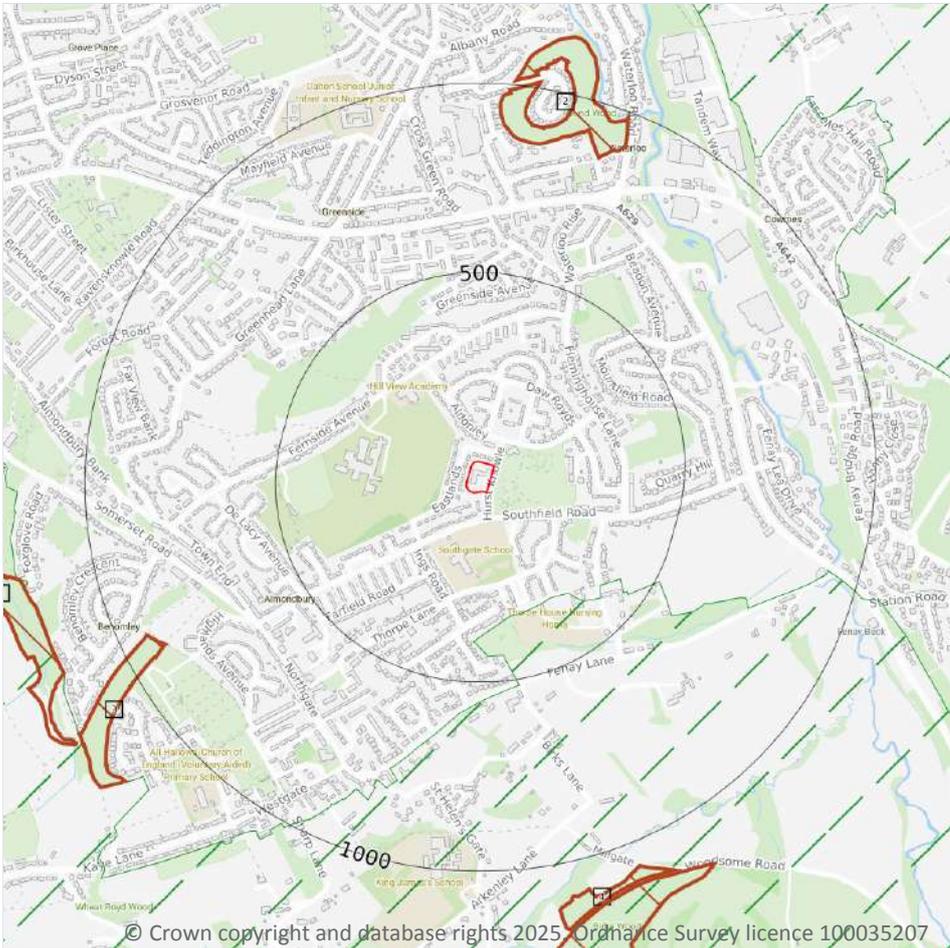
Negligible

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 48](#) >

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m

0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m

0

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

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



10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

10.7 Designated Ancient Woodland

Records within 2000m

10

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 49 >](#)

ID	Location	Name	Woodland Type
2	854m N	Round Wood	Ancient & Semi-Natural Woodland
3	894m SW	Benholmley Wood	Ancient Replanted Woodland
4	1065m S	Carr Wood	Ancient & Semi-Natural Woodland
5	1110m S	Carr Wood	Ancient & Semi-Natural Woodland
6	1165m SW	Benholmley Wood	Ancient Replanted Woodland
-	1378m SE	Carr Wood	Ancient & Semi-Natural Woodland
-	1447m S	Carr Wood	Ancient & Semi-Natural Woodland
-	1517m S	Carr Wood	Ancient & Semi-Natural Woodland
-	1770m SW	Mellor Wood	Ancient Replanted Woodland
-	1889m S	Carr 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 49 >](#)

ID	Location	Name	Local Authority name
1	324m SE	South and West Yorkshire Green Belt	Kirklees

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



10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

This data is sourced from Natural England.



10.16 Nitrate Vulnerable Zones

Records within 2000m

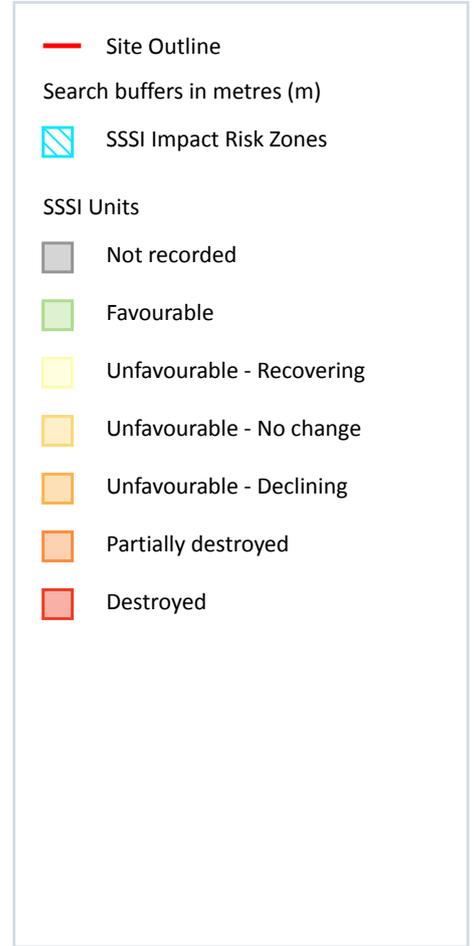
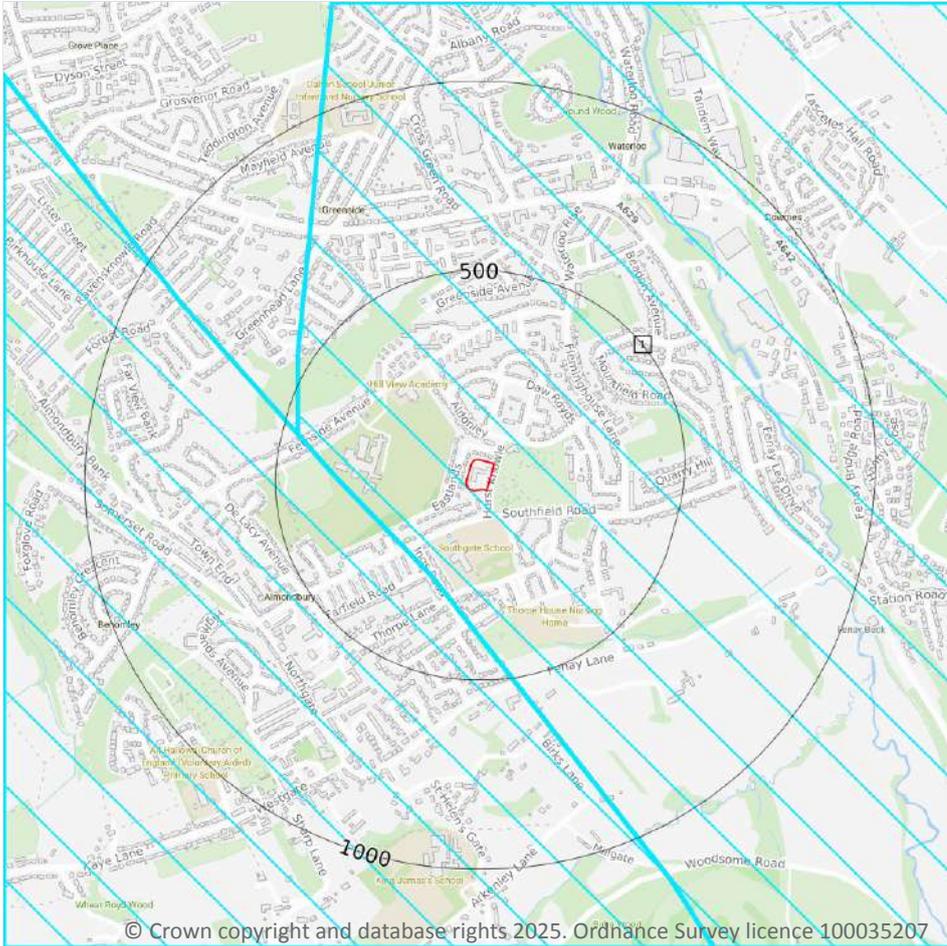
0

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.

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



SSSI Impact Zones and Units



10.17 SSSI Impact Risk Zones

Records on site

1

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

Features are displayed on the SSSI Impact Zones and Units map on [page 55](#) >

ID	Location	Type of developments requiring consultation
----	----------	---

1	On site	Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 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.
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This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

0

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

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



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

0

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



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

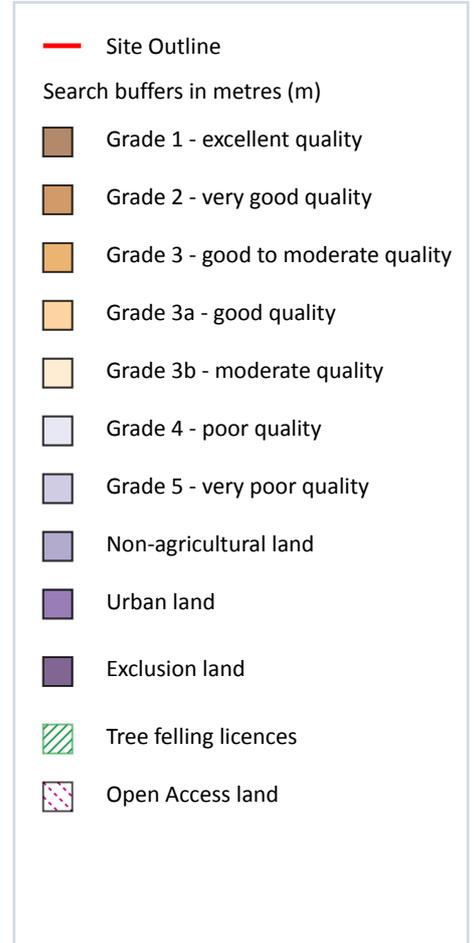
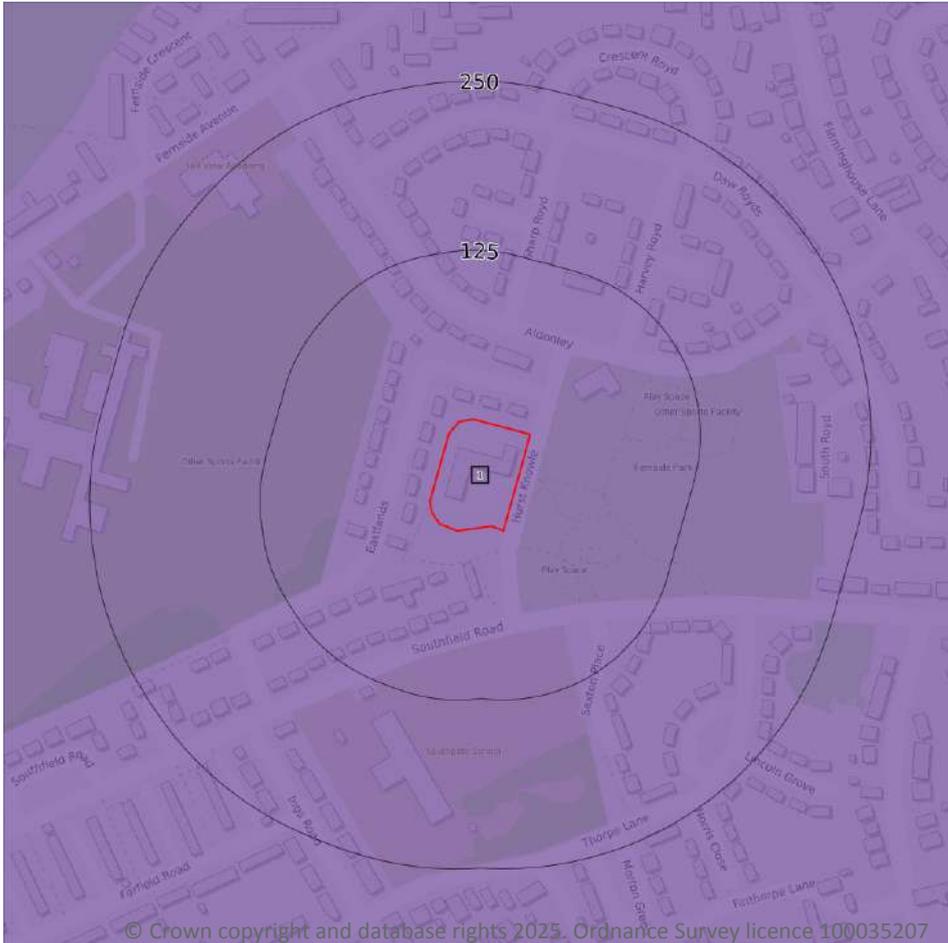
0

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

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



12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m

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 59](#) >

ID	Location	Classification	Description
1	On site	Urban	Non-agricultural/no quality assigned

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

0

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

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

12.3 Tree Felling Licences

Records within 250m

0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.



13 Habitat designations

13.1 Priority Habitat Inventory

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

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

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

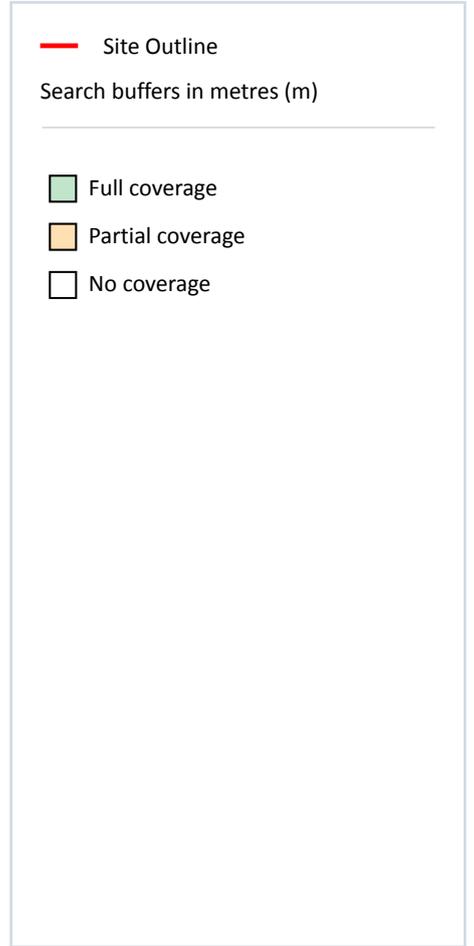
Records within 250m	0
---------------------	---

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



14.1 10k Availability

Records within 500m

1

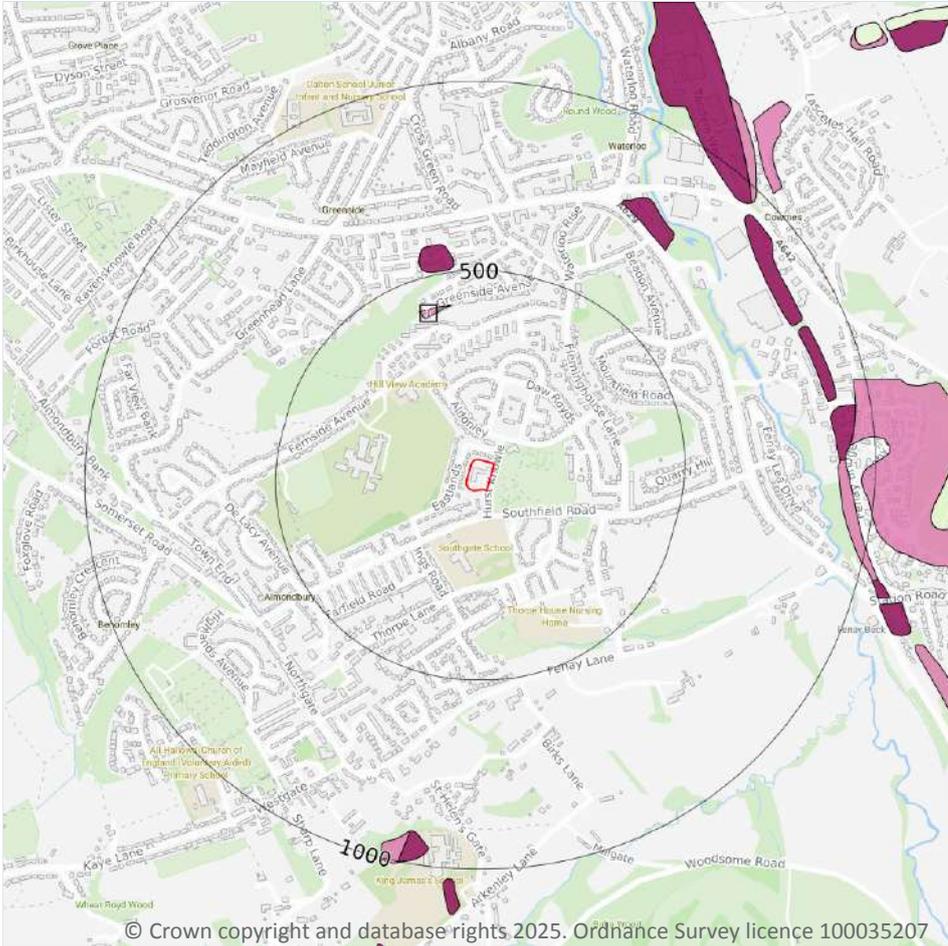
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on [page 62](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SE11NE

This data is sourced from the British Geological Survey.

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



14.2 Artificial and made ground (10k)

Records within 500m **1**

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 63](#) >

ID	Location	LEX Code	Description	Rock description
1	394m N	WGR-VOID	Worked Ground (Undivided)	Void

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

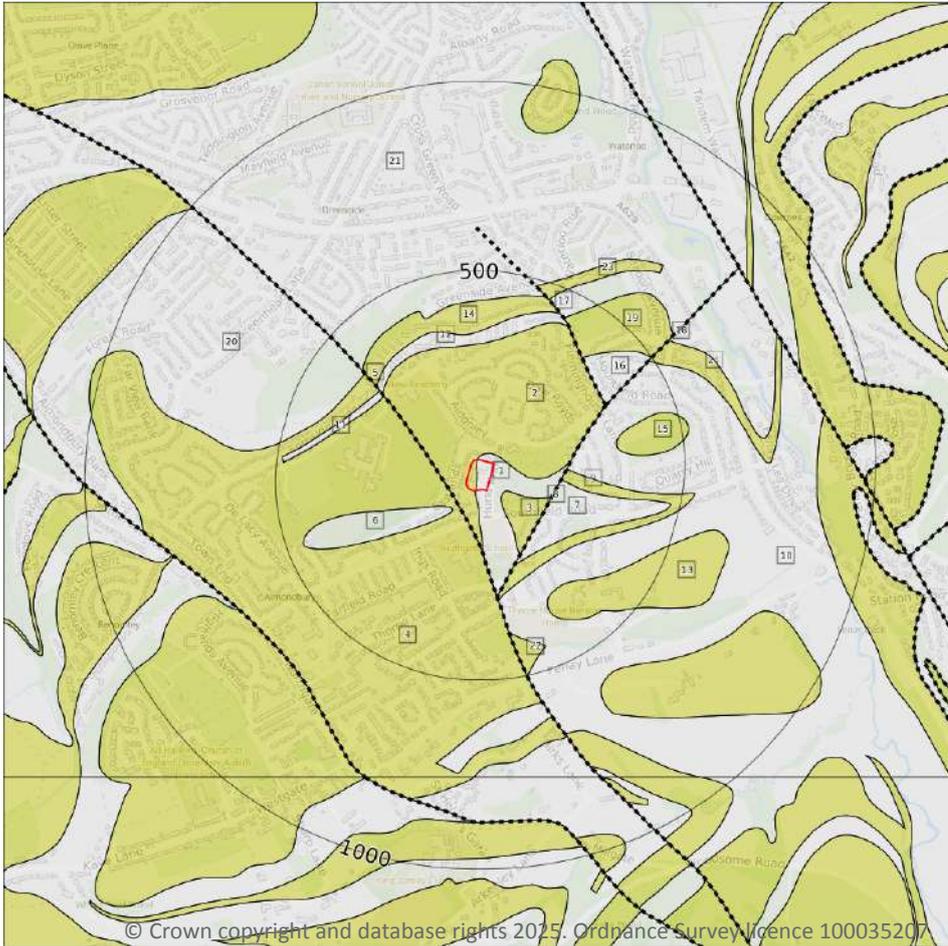
0

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

20

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 65](#) >

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	GM-SDST	Greenmoor Rock - Sandstone	Langsettian Sub-age
3	41m SE	GM-SDST	Greenmoor Rock - Sandstone	Langsettian Sub-age

ID	Location	LEX Code	Description	Rock age
4	45m SW	GM-SDST	Greenmoor Rock - Sandstone	Langsettian Sub-age
6	69m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
7	158m SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
9	181m E	GM-SDST	Greenmoor Rock - Sandstone	Langsettian Sub-age
10	191m E	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
11	291m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
12	297m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
13	318m SE	GR-SDST	Grenoside Sandstone - Sandstone	Langsettian Sub-age
14	319m NW	GM-SDST	Greenmoor Rock - Sandstone	Langsettian Sub-age
15	325m E	GR-SDST	Grenoside Sandstone - Sandstone	Langsettian Sub-age
16	331m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
19	362m NE	GM-SDST	Greenmoor Rock - Sandstone	Langsettian Sub-age
20	367m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
21	374m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
22	378m S	GM-SDST	Greenmoor Rock - Sandstone	Langsettian Sub-age
23	457m N	GM-SDST	Greenmoor Rock - Sandstone	Langsettian Sub-age
24	487m NE	GM-SDST	Greenmoor Rock - 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

4

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 65 >](#)

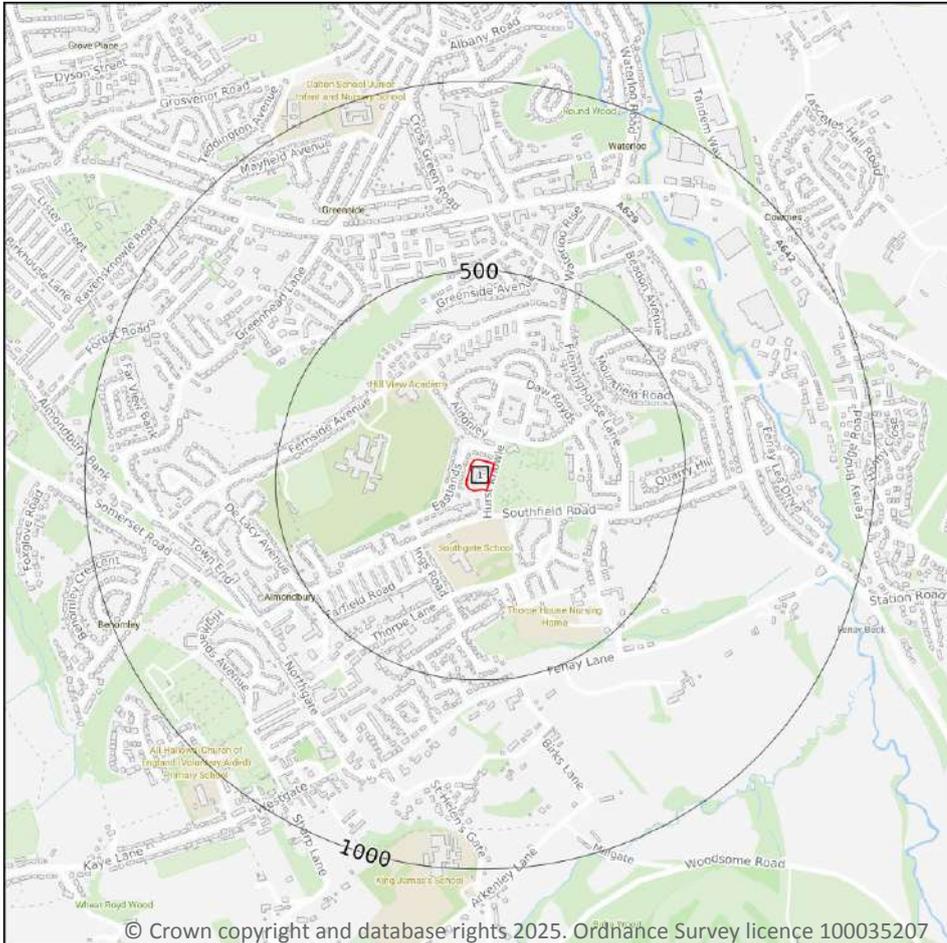


ID	Location	Category	Description
5	45m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side
8	158m SE	FAULT	Normal fault, inferred; crossmarks on downthrow side
17	331m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
18	331m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side

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 68](#) >

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

This data is sourced from the British Geological Survey.



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

15.2 Artificial and made ground (50k)

Records within 500m

0

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.

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

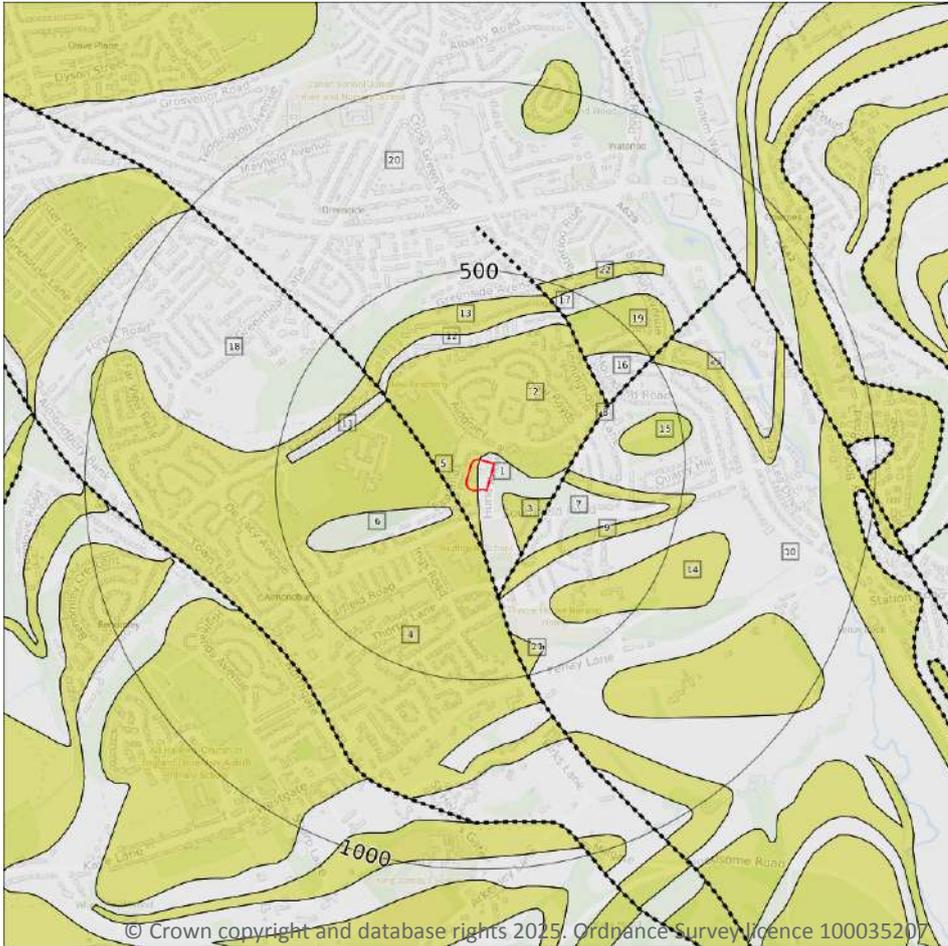
0

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

20

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 71](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	On site	GM-SDST	GREENMOOR ROCK - SANDSTONE	WESTPHALIAN
3	43m SE	GM-SDST	GREENMOOR ROCK - SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
4	43m SW	GM-SDST	GREENMOOR ROCK - SANDSTONE	WESTPHALIAN
6	72m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
7	160m SE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
9	184m E	GM-SDST	GREENMOOR ROCK - SANDSTONE	WESTPHALIAN
10	195m E	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
11	277m NW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
12	288m NW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
13	320m NW	GM-SDST	GREENMOOR ROCK - SANDSTONE	WESTPHALIAN
14	322m SE	GR-SDST	GRENOSIDE SANDSTONE - SANDSTONE	WESTPHALIAN
15	332m E	GR-SDST	GRENOSIDE SANDSTONE - SANDSTONE	WESTPHALIAN
16	336m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
18	364m NW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
19	368m NE	GM-SDST	GREENMOOR ROCK - SANDSTONE	WESTPHALIAN
20	376m NW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
21	379m S	GM-SDST	GREENMOOR ROCK - SANDSTONE	WESTPHALIAN
22	458m N	GM-SDST	GREENMOOR ROCK - SANDSTONE	WESTPHALIAN
23	487m NE	GM-SDST	GREENMOOR ROCK - SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m

3

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



Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Moderate	Low
On site	Fracture	High	Moderate
43m SE	Fracture	High	Moderate

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	3
----------------------------	----------

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 71 >](#)

ID	Location	Category	Description
5	43m SW	FAULT	Fault, inferred
8	160m SE	FAULT	Fault, inferred
17	336m NE	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.

16 Boreholes

16.1 BGS Boreholes

Records within 250m

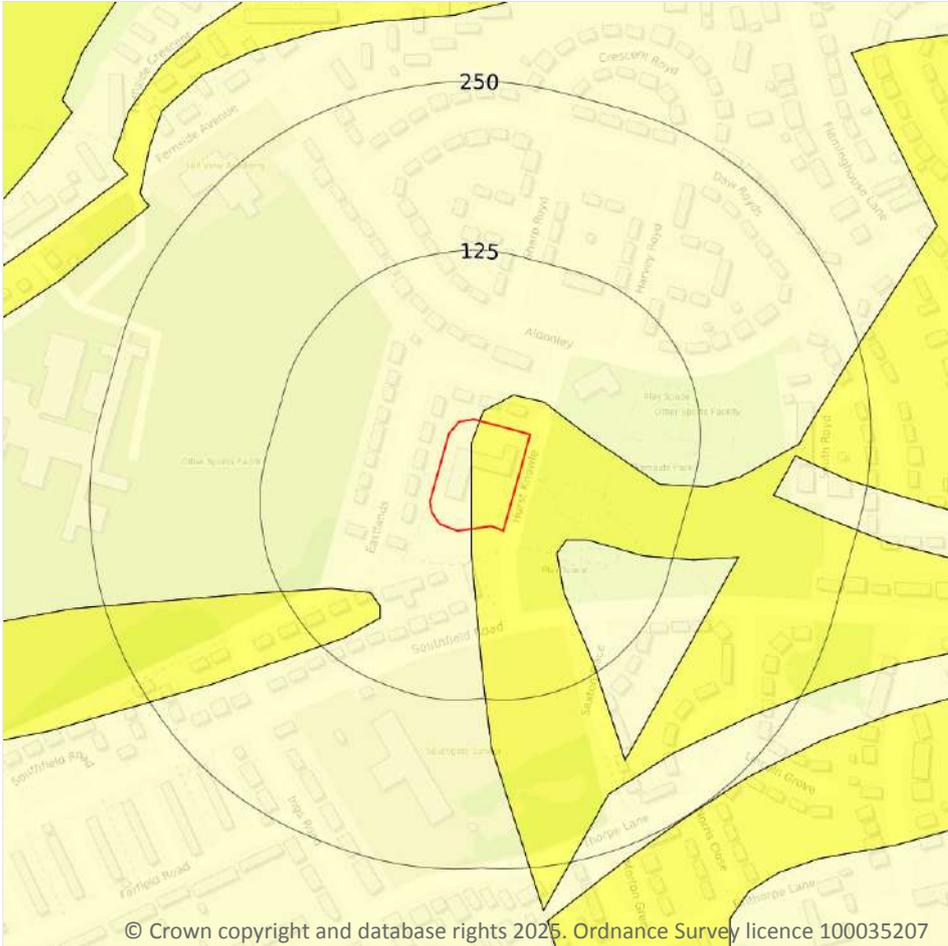
0

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

3

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).

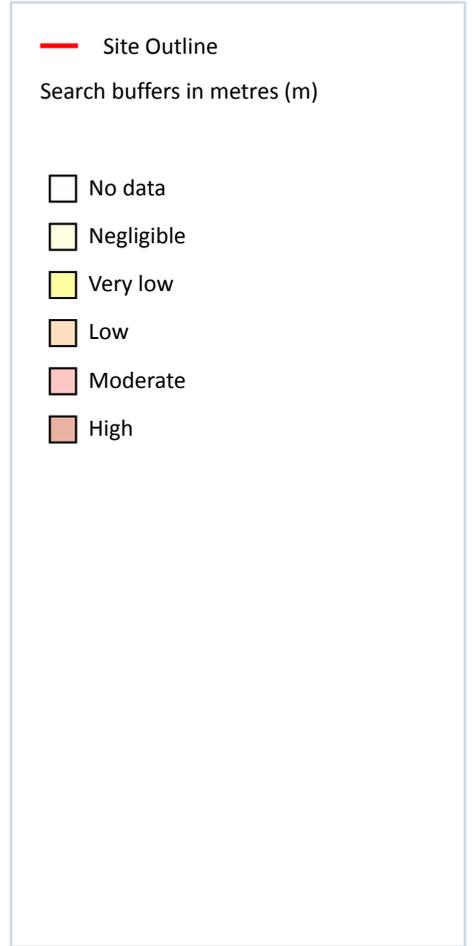
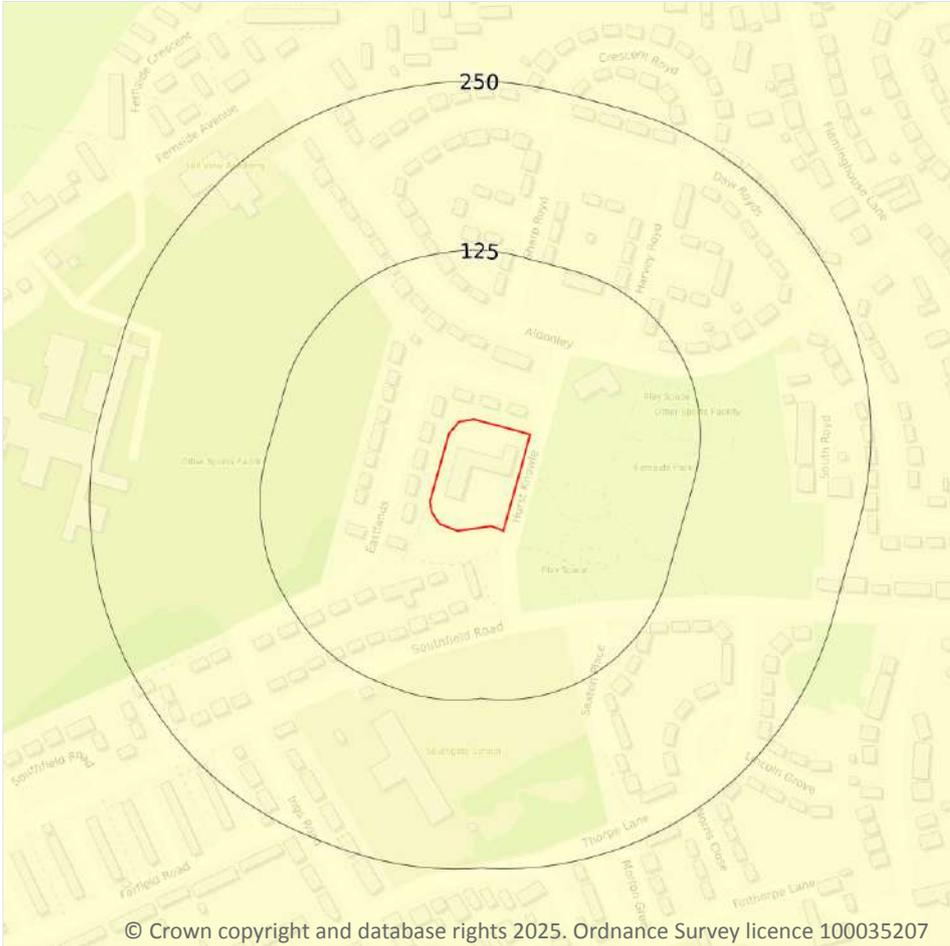
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 75 >](#)

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.
43m SE	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



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17.2 Running sands

Records within 50m

1

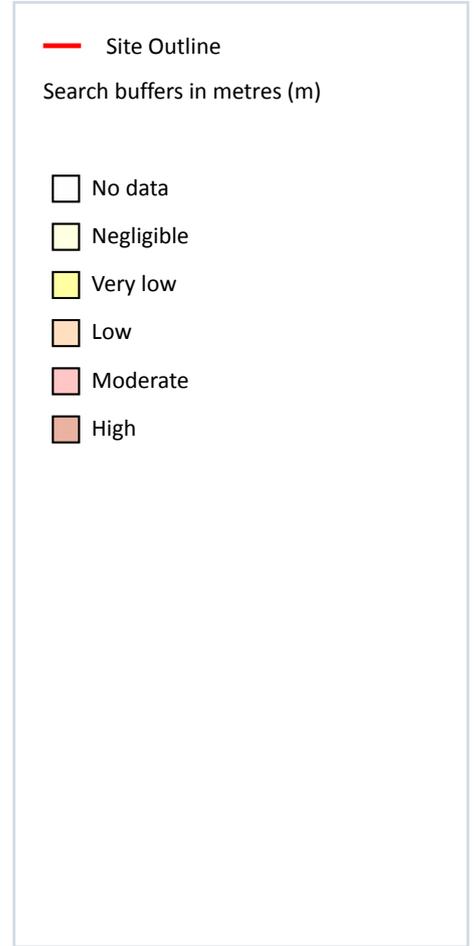
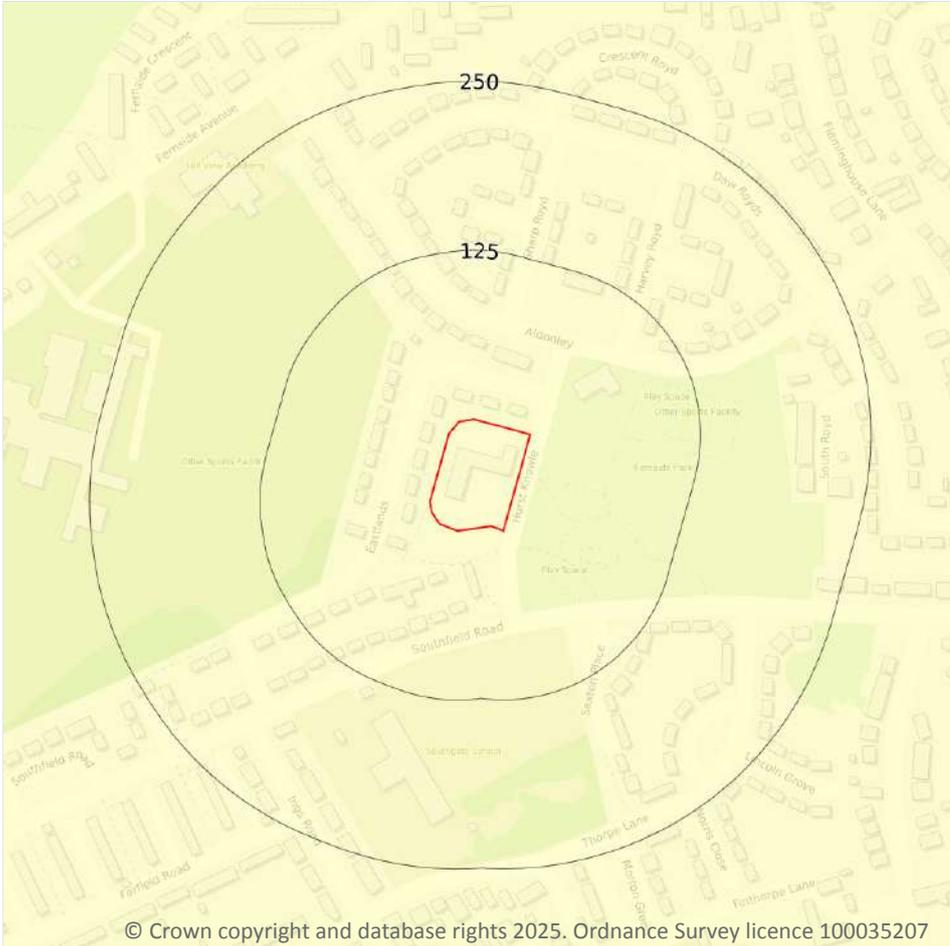
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on [page 77 >](#)

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



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17.3 Compressible deposits

Records within 50m

1

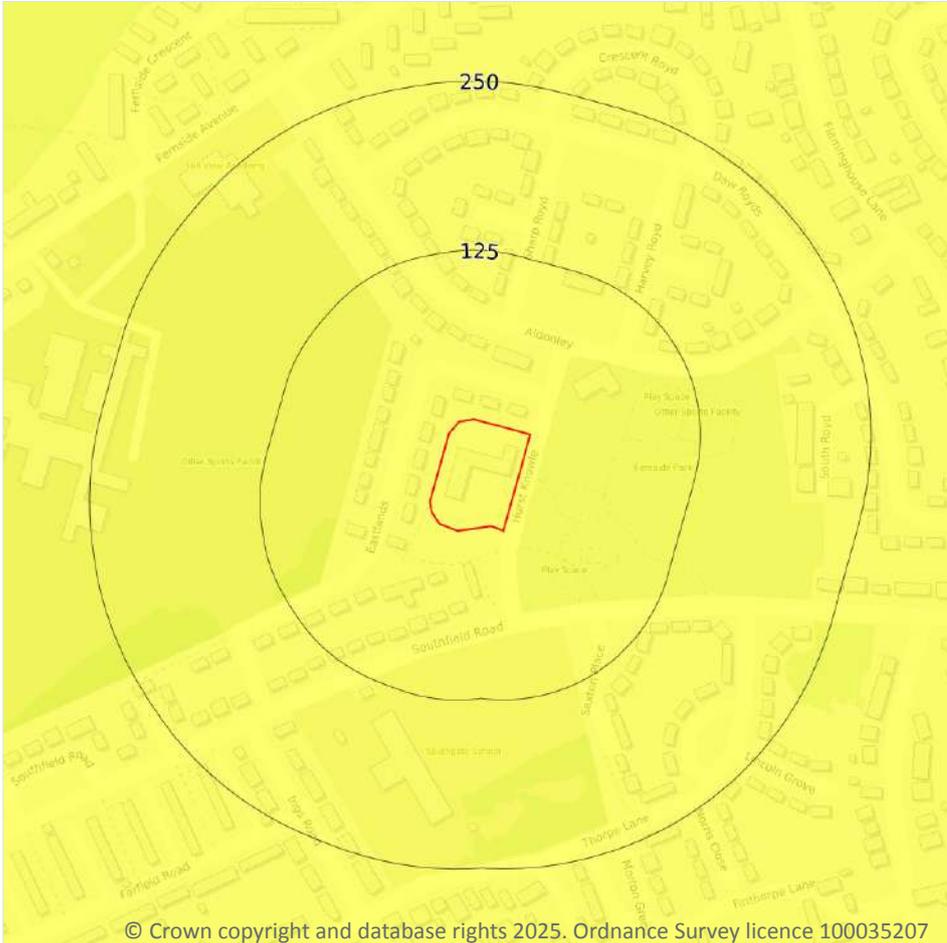
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 78](#) >

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

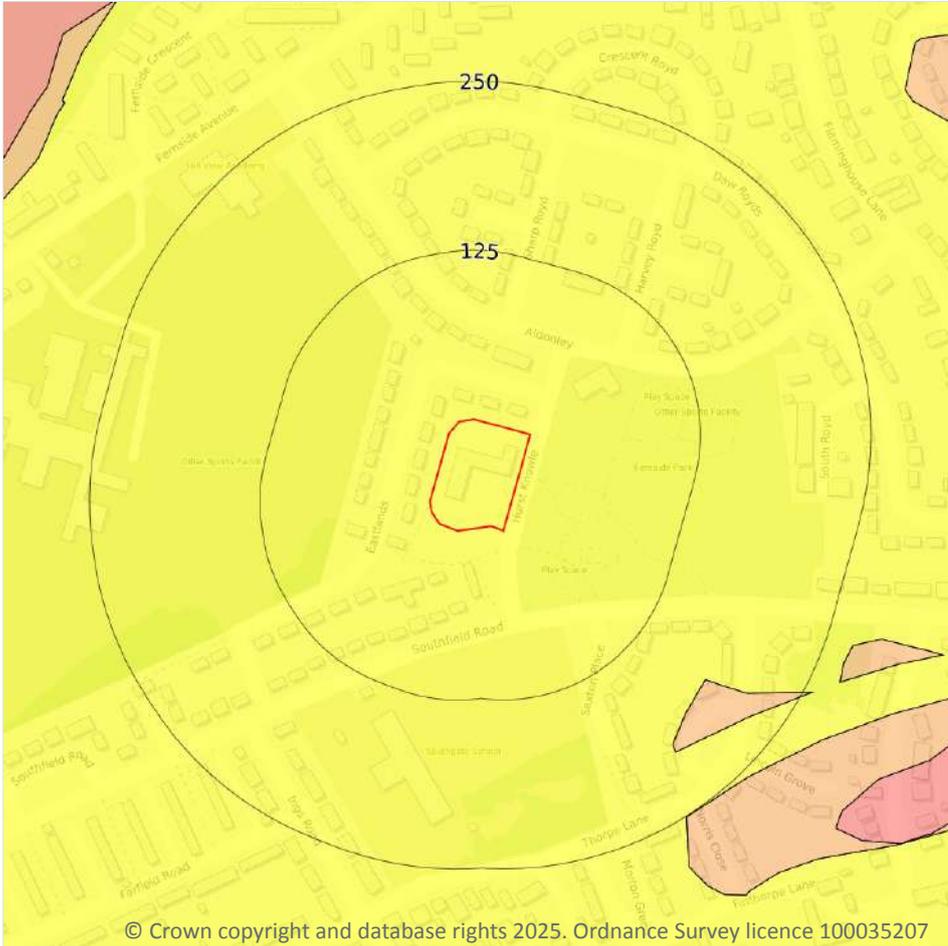
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 79 >](#)

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

17.5 Landslides

Records within 50m

1

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.

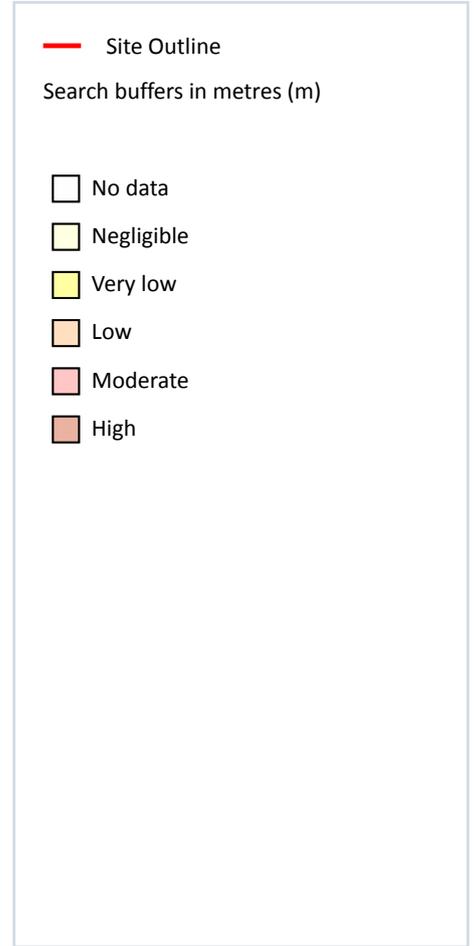
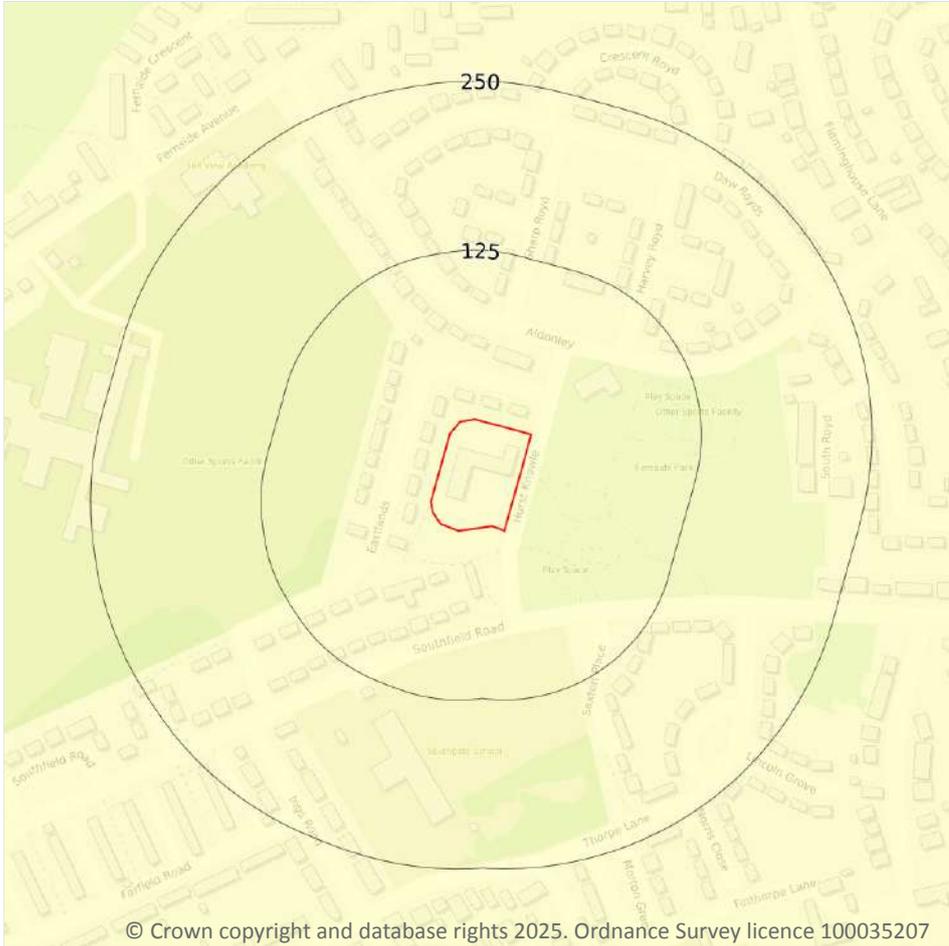
Features are displayed on the Natural ground subsidence - Landslides map on [page 80](#) >

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.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



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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.

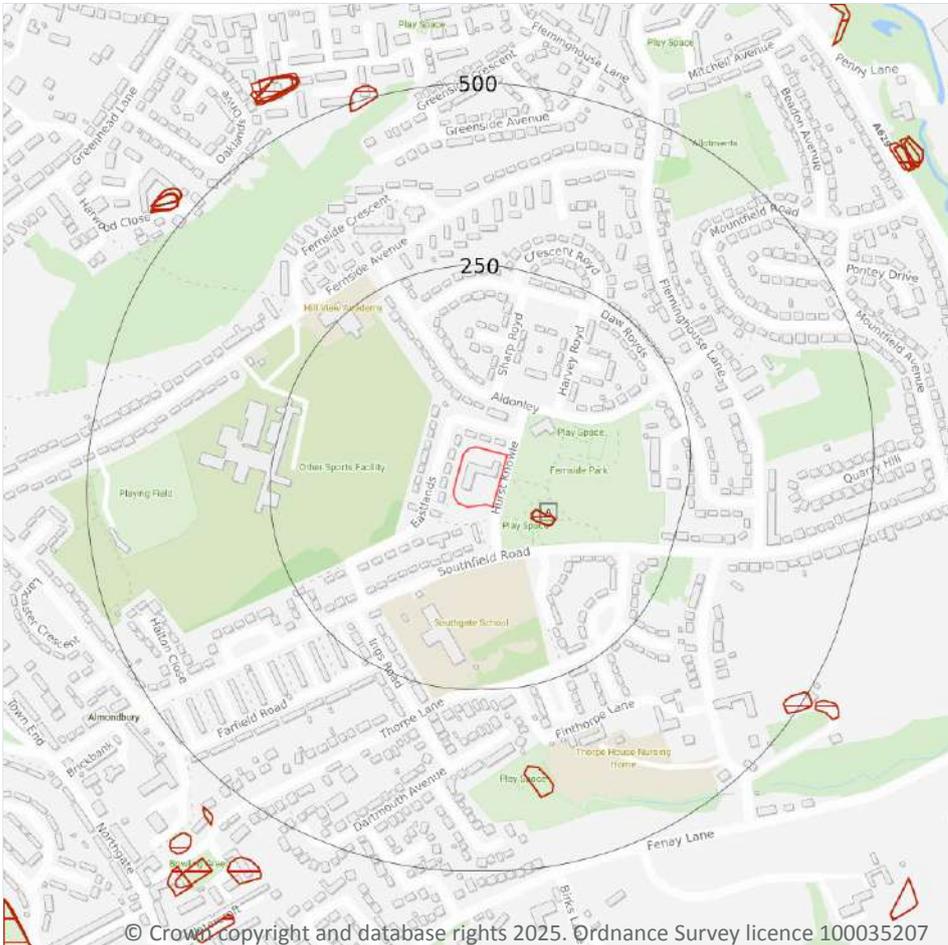
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 81](#) >

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

This data is sourced from the British Geological Survey.



18 Mining and ground workings



18.1 BritPits

Records within 500m

0

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.

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m

3

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

Features are displayed on the Mining and ground workings map on [page 83 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
A	54m SE	Pool	1975	1:10000
A	54m SE	Pool	1988	1:10000
A	54m SE	Pool	1965	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.



18.6 Non-coal mining

Records within 1000m

0

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

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

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

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m

0

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

This data is sourced from Groundsure.



18.10 Mining record office plans

Records within 500m

0

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m

0

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

This data is sourced from Groundsure.

18.12 Coal mining

Records on site

1

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

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

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site

0

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

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



18.14 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

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

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

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

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

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

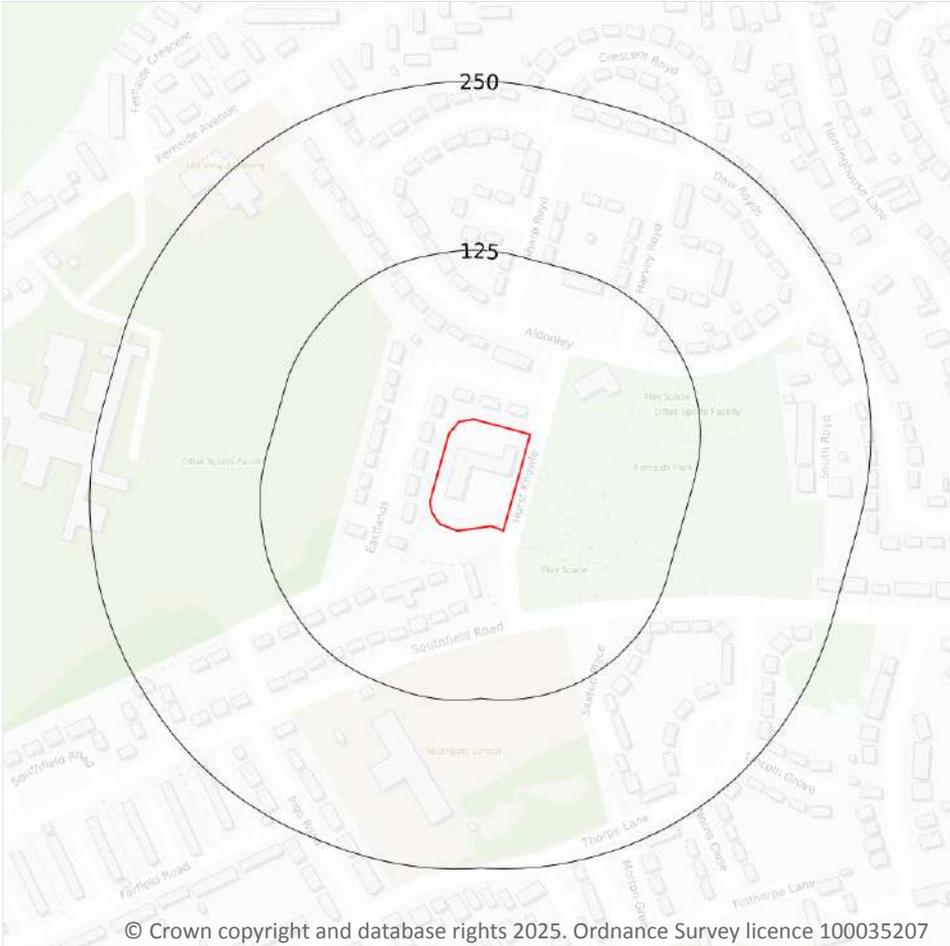
Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.



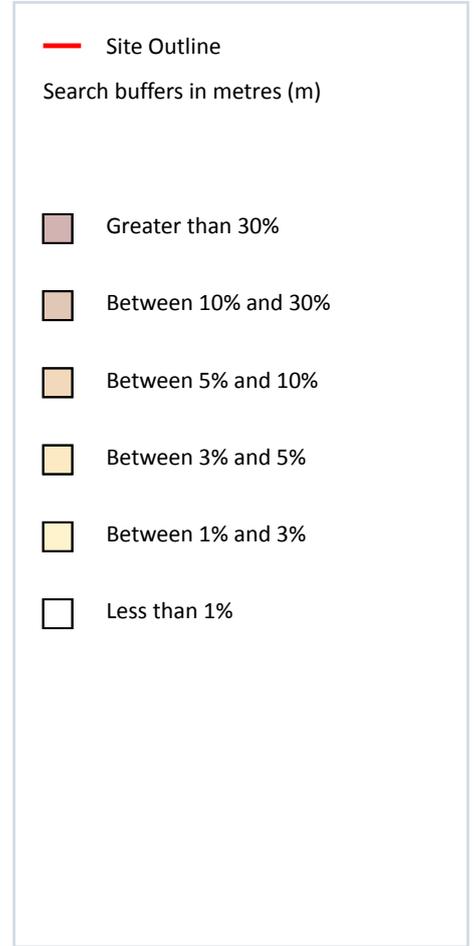
This data is sourced from Groundsure.



20 Radon



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20.1 Radon

Records on site

1

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

Features are displayed on the Radon map on [page 90](#) >

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



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



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

4

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	35 - 45 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
43m SE	35 - 45 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
43m SW	35 - 45 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



21.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

22.1 Underground railways (London)

Records within 250m 0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m 0

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m 0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m 0

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

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m 0

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



This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m **0**

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

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m **0**

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 2

Records within 500m **0**

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

This data is sourced from publicly available information by Groundsure.

22.9 HS2

Records within 500m **0**

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

This data is sourced from HS2 Ltd.



Data providers

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

Terms and conditions

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



The Homestead, Hurst Knowle

Professional opinion

Including mine entry interpretive assessment where appropriate



Site plan



Search results

- | | |
|--|---|
|  1. Past underground coal mining
Not identified |  9. Coal mining subsidence claims
Not identified |
|  2. Present underground coal mining
Not identified |  10. Mine gas emissions
Not identified |
|  3. Future underground coal mining
Not identified |  11. Emergency Call Out incidents
Not identified |
|  4. Mine entries
Not identified |  12. Withdrawal of support
Not identified |
|  5. Coal mining geology
Not identified |  13. Working facilities orders
Not identified |
|  6. Past opencast coal mining
Not identified |  14. Payments to copyhold owners
Not identified |
|  7. Present opencast coal mining
Not identified |  Cheshire Brine
Not identified |
|  8. Future opencast coal mining
Not identified | |

Coal mining (CON29M) assessment

We consider the property to be acceptably free from coal mining related risk. No further action is required with regards to past coal mining.

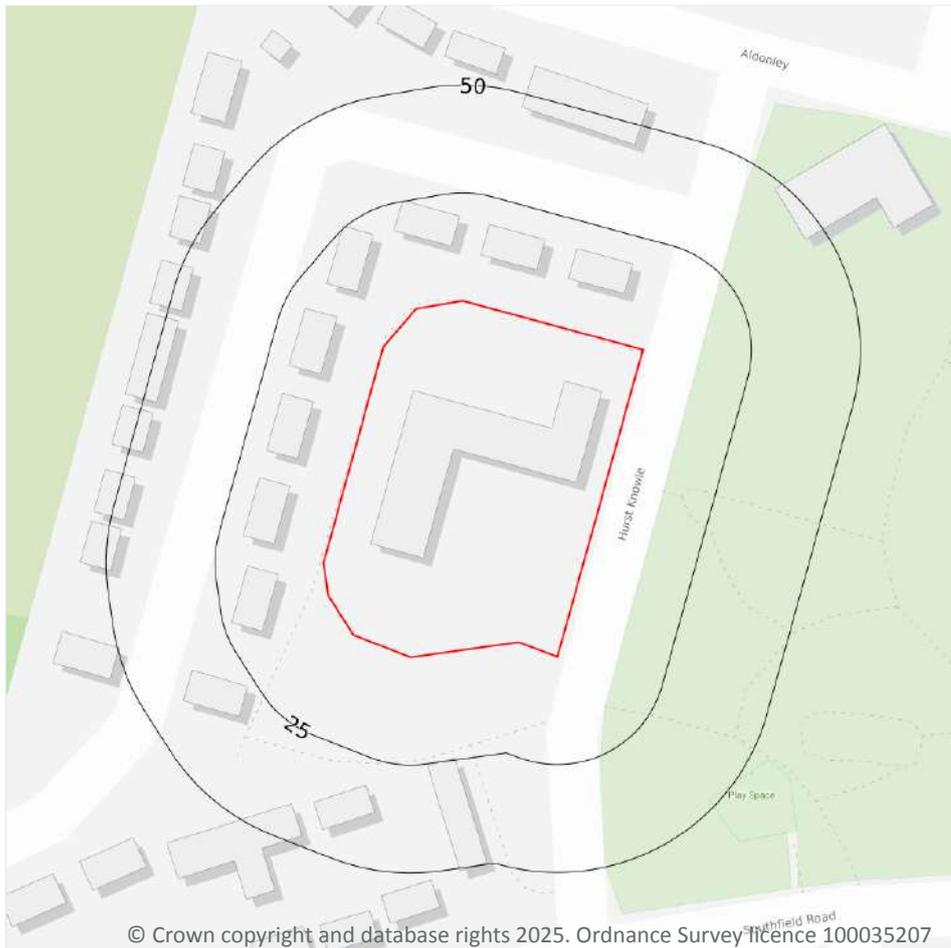


Coal mining

CON29M reports are a requirement for conveyancing and are recommended throughout the official Coal Mining Reporting Area. This is the area within which it is deemed prudent to clarify the risk presented by coal mining, using the questions laid out in the Law Society's CON29M form. The need for a CON29M does not always translate to an identification of risk, and reports will often be assessed as free from risk or 'Passed' even though they are within the official Coal Mining Reporting Area.



Coal mining (CON29M)



- Site Outline
- Search buffers in metres (m)
- Mine entries
 - Adits
 - Shafts
 - Calculated 'zone of influence'
- Subsidence claims
 - Awaiting decision
 - Rejected
 - Admitted
 - Deferred
 - Settled
 - Withdrawn
 - Probable shallow coal mine workings
 - Coal outcrops
 - Past shallow coal mine workings

Coal mining (CON29M)

The map above shows relevant, mappable hazards identified that could constitute a risk to the property. It does not necessarily show all features or potential issues identified in this report. Further details of any features shown indicating the location of Mine Entries or Subsidence Claims can be found in the relevant sections of this report (4 and 9 respectively).

Responses to the Law Society CON29M Coal Mining search enquiries are produced using official Coal Authority data and the expert interpretation of Groundsure. This report is prepared in accordance with The Law Society CON29M (2018) Guidance Notes. Additional interpretation and calculation of mine entry zones of influence has also been carried out by Groundsure using Coal Authority and British Geological Survey data.

Please read this report carefully, and in particular any sections flagged with an amber 'i'.



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**The Law Society**

These enquiries are The Law Society CON29M (2018) Coal Mining search enquiries and are used with permission of The Law Society. The Law Society CON29M Coal Mining search enquiries are protected by copyright owned by The Law Society of 113 Chancery Lane, London WC2A 1PL. The Law Society has no responsibility for information provided in response to CON29M (2018) Coal Mining search enquiries within this report or otherwise.

1. Past underground coal mining



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

- **The property does not lie within the potential zone of influence of any recorded underground coal workings.**

2. Present underground coal mining



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

- **The property does not lie within the boundary of an underground site from which coal is being removed by underground methods.**

3. Future underground coal mining



(a) Is the property within any geographical area for which the Coal Authority is determining whether to grant a licence to remove coal by underground methods?

- **The property does not lie within the boundary of an underground site for which the Coal Authority is determining whether to grant a licence to remove coal by underground methods.**

(b) Is the property within any geographical area for which a licence to remove coal by underground methods has been granted?

- **The property does not lie within the boundary of an underground site for which a licence to remove coal by underground methods has been granted.**

(c) Is the property within the zone of likely physical influence on the surface of planned future underground coal workings?

- **The property does not lie within the zone of likely physical influence on the surface of planned future underground workings.**

(d) Has any notice of proposals relating to underground coal mining operations been given under section 46 of

[Back to Summary](#)

Contact us with any questions at:
info@groundsure.com ↗
01273 257 755

Ref: GS-PIZ-G1G-LPM-XIL
Your ref: 8263 The Homestead
Grid ref: 417233 415798

the Coal Mining Subsidence Act 1991?

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

4. Mine entries



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

- **No coal mine entries are recorded to lie within 20 metres of the property.**

5. Coal mining geology



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

- **No damage arising from geological faults or other lines of weakness activated by coal mining are recorded within the property.**

6. Past opencast coal mining



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

- **The property does not lie within the boundary of an opencast site from which coal was removed by opencast methods.**

7. Present opencast coal mining



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

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

8. Future opencast coal mining



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



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

(b) Is the property within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted?

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

9. Coal mining subsidence claims



(a) Has any damage notice or claim for alleged coal mining subsidence damage to the property been given, made or pursued since 31st October 1994?

- **We have no evidence of a damage notice or subsidence claim for the property or within 50m of the property since 31st October 1994.**

(b) In respect of any such notice or claim has the responsible person given notice agreeing that there is a remedial obligation or otherwise accepted that a claim would lie against them?

- **Not applicable.**

(c) In respect of any such notice or acceptance has the remedial obligation or claim been discharged?

- **Not applicable.**

(d) Does any current "Stop Notice" delaying the start of remedial works or repairs affect the property?

- **There are no current Stop Notices delaying the start of remedial works or repairs to the property.**

(e) Has any request been made under Section 33 of the 1991 Act to execute preventive works before coal is worked, which would prevent the occurrence or reduce the extent of subsidence damage to any buildings, structures or works and, if yes, has any person withheld consent or failed to comply with any such request to execute preventive works?

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

NB. Records of damage notices or subsidence claims before 31st October 1994 are excluded from The Coal Authority data from which this search is compiled.

10. Mine gas emissions



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

- **No mine gas emissions are recorded within the boundary of the property.**



11. Emergency Surface Hazard Call Out incidents



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

- **No Emergency Surface Hazard Call Out procedures are recorded against the property.**

12. Withdrawal of support



(a) Does the land lie within a geographical area in respect of which a notice of entitlement to withdraw support has been published?

- **The property does not lie in an area where the right to withdraw support has been granted.**

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

- **The property does not lie within a geographical area in which a revocation notice has been given under section 41 of the Coal Industry Act 1994.**

13. Working facilities orders



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

- **The property is not in an area where a court order has been issued.**

14. Payments to owners of former copyhold land



(a) Has any relevant notice, which may affect the property, been given?

- **The property does not lie within former copyholder land.**

(b) If yes, has any notice of retained interests in coal and coal mines been given?

- **No notices of retained interests in coal and coal mines been given.**

(c) If yes, has any acceptance notice or rejection notice been served?

- **No acceptance or rejection notices have been served.**

(d) If any such acceptance notice has been served, has any compensation been paid to a claimant?

- **No compensation has been paid to a claimant.**



Methodologies and limitations

Groundsure's methodologies and limitations are available here: knowledge.groundsure.com/methodologies-and-limitations ↗.

Data providers

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

Conveyancing Information Executive and our terms & conditions

IMPORTANT CONSUMER PROTECTION INFORMATION

This search has been produced by Groundsure Ltd. Groundsure adheres to the Conveyancing Information Executive Standards.

In addition to The Property Ombudsman (TPO) redress scheme covering consumers, TPO will also provide redress to small businesses (including Charities and Trusts) and where the customer meets the following criteria:

- a small business (or group of companies) with an annual turnover of less than £3 million;
- a charity with an annual income of less than £3 million;
- a Trust with a net asset value of less than £3 million.

Complaints Advice

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure.

If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award up to £5,000 to you if the Ombudsman finds that you have suffered actual financial loss and/or aggravation, distress or inconvenience as a result of your search provider failing to keep to the Standards.

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

COMPLAINTS PROCEDURE: If you want to make a complaint, we will:

- acknowledge it within 5 working days of receipt
- normally deal with it fully and provide a final response, in writing, within 20 working days of receipt
- liaise, at your request, with anyone acting formally on your behalf

Complaints should be sent to:

Operations Director, Groundsure Ltd, Nile House, Nile Street, Brighton, BN1 1HW. Tel: 01273 257 755. Email: info@groundsure.com

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

Groundsure's Terms and Conditions can be viewed here: www.groundsure.com/terms-and-conditions-april-2023/ ↗

All of the advice and reports that Groundsure produces are covered by a comprehensive Remediation Contribution policy to ensure customers are protected, see www.groundsure.com/remediation ↗ for full details.



Coal Mining Report Insurance Policy



Coal Mining Report Insurance Policy

The Schedule

Policy Number: The Reference contained in the **Coal Mining Search Report**

Premium: £1.20 inclusive of Insurance Premium Tax at 12%

Property: The property which is the subject of the **Coal Mining Search Report**

Limit of Indemnity: £100,000 increasing by 10% compound per annum on each anniversary of and for the first 10 years following the **Commencement Date**

Commencement Date: The date of the **Coal Mining Search Report**

You/Your:

1. A purchaser of the **Property**
2. A lender providing a **Mortgage** in connection with a purchase of the **Property**
3. A lender providing a **Mortgage** by way of a re-mortgage of the **Property**

Definitions

Where a word is defined below or in the schedule it shall carry the same meaning wherever it appears in bold text in this policy

Insured Use: The continued use of the **Property** as a single house or flat or a single commercial premises

Market Value: The value as determined by a surveyor appointed by agreement between **You** and **Us** or (in default of agreement) the President for the time being of the Royal Institution of Chartered Surveyors

Mortgage: A mortgage or charge secured on the **Property** by an institutional mortgage lender

Coal Mining Search Report: The coal mining search report attached to this policy

Search: An official search comprising a search in form CON29M (2018) being mining searches relating to coal and brine in the area in which the **Property** is situated

We/Our/Us:

Zurich Insurance plc. A public limited company incorporated in Ireland. Registration No. 13460. Registered Office: Zurich House, Ballsbridge Park, Dublin 4, Ireland. UK Branch registered in England and Wales Registration No. BR7985. UK Branch Head Office: The Zurich Centre, 3000 Parkway, Whiteley, Fareham, Hampshire PO15 7JZ.

Zurich Insurance plc is authorised by the Central Bank of Ireland and authorised and subject to limited regulation by the Financial Conduct Authority. Details about the extent of our authorisation by the Financial Conduct Authority are available from us on request. Our FCA Firm Reference Number is 203093.

Communications may be monitored or recorded to improve our service and for security and regulatory purposes.

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Your Policy

This is a legal document and should be kept in a safe place.

This policy is an agreement between **You** and **Us** and cover is provided subject to the payment of the **Premium**.

You must read this policy and its conditions, exclusions, schedule and any endorsements as one contract. Please read all of them to make sure that they provide the cover **You** require. If they do not, please contact **Us** or **Your** insurance adviser who arranged the policy for **You**.

When **You** take out and make changes to the cover provided by this policy, **You** must take reasonable care to ensure that **You** accurately answer any questions which **We** ask of **You** and that any information **You** give **Us** is accurate. If **You** are taking out this policy for purposes which are mainly related to **Your** trade, business or profession, **You** must also let **Us** know about all facts which are material to **Our** decision to provide **You** with insurance. Failure to meet these obligations could result in this policy being invalidated, a claim not being paid, or an additional premium being charged.

Fair presentation of the risk

a) At inception of this policy and also whenever changes are made to it at **Your** request **You** must:

- i) where **You** have taken out this policy for purposes which are wholly or mainly related to **Your** trade, business or profession, disclose to **Us** all material facts in a clear and accessible manner and not misrepresent any material facts, and
- ii) where **You** have taken out this policy for purposes which are wholly or mainly unrelated to **Your** trade, business or profession, take reasonable care not to misrepresent any material facts.

b) If **You** do not comply with clause a) of this condition **We** may:

- i) avoid this policy which means that **We** will treat it as if it had never existed and refuse all claims where any non-disclosure or misrepresentation by **You** is proven by **Us** to be deliberate or reckless in which case **We** will not return the premium paid by **You**; and
- ii) recover from **You** any amount **We** have already paid for any claims including costs or expenses **We** have incurred.

c) If **You** do not comply with clause a) of this condition and the non-disclosure or misrepresentation is not deliberate or reckless this policy may be affected in one or more of the following ways depending on what **We** would have done if **We** had known about the facts which **You** failed to disclose or misrepresented:

- i) if **We** would not have provided **You** with any cover **We** will have the option to:
 1. avoid the policy which means that **We** will treat it as if it had never existed and repay the premium paid; and
 2. recover from **You** any amount **We** have already paid for any claims including costs or expenses **We** have incurred
- ii) if **We** would have applied different terms to the cover **We** will have the option to treat this policy as if those different terms apply. **We** may recover any payments made by **Us** on claims which have already been paid to the extent that such claims would not have been payable had such additional terms been applied
- iii) if **We** would have charged **You** a higher premium for providing the cover **We** will charge **You** the additional premium which **You** must pay in full.

d) If any insured person, other than **You**, is responsible for a misrepresentation or failure to make a fair presentation of the risk, **We** will invoke the remedies available to **Us** under this condition as against that particular person as if a separate insurance contract had been issued to them leaving the remainder of the policy unaffected.

NB: For the purposes of the duty of disclosure stated in paragraphs a) i) and ii) above the content of the **Coal Mining Search Report** will be deemed to satisfy **Your** disclosure obligations.

Cover

1. **You** are in the process of purchasing the **Property** relying on the **Coal Mining Search Report** and/or
2. **You** (being a lender) have agreed to provide a **Mortgage** in connection with **Your** borrower's purchase or re-mortgage of the **Property** relying on the **Coal Mining Search Report**.

We will pay the following losses sustained by **You** arising out of the **Property** being affected by any matter which would have been revealed by a **Search** had one been carried out on the date of the **Coal Mining Search Report** but which was not revealed by the **Coal Mining Search Report**:

1. any reduction in **Market Value** of the **Property** calculated at the date **You** become aware of the matter(s) and/or loss in connection with a **Mortgage** as a result of such reduction.
2. all other costs and expenses including out of court settlement costs incurred by **Us** or by **You** with **Our** prior written agreement.

Waiver of Breach of Policy Condition

We will not exercise **Our** right to avoid **Our** liability to **You** in respect of loss where **You** have inadvertently breached any term or condition of the policy provided that such breach does not prejudice **Our** rights and remedies under the policy or otherwise directly or indirectly result in or increase the amount of any loss.

Protection for Mortgagees and Successors in Title

We will not avoid **Our** liability to make a payment to **You** solely because another person breaches the terms and conditions of this policy, provided such breach was not committed on **Your** behalf or with **Your** agreement, and **We** will invoke the remedies available to **Us** under the Policy as against that other person as if a separate insurance contract had been issued to them leaving the remainder of the policy unaffected.

Joint Insured

Any party insured under this policy standing in the relation of parent company, subsidiary company, associated company, branch office or joint venture partner to each other will be deemed to be joint insured for the purposes of this policy and jointly liable and responsible for any breach of any terms and conditions of this policy. If there is any inconsistency between this clause and any other term of this policy, this clause shall prevail.

Exclusions

We will not pay for any:

1. amount in excess of the **Limit of Indemnity**.
2. loss which would be recoverable under a household buildings insurance policy.
3. loss arising from any matter that **You** were aware of at the **Commencement Date**.
4. loss if the **Property** is used for any purpose other than the **Insured Use**.

Claims Conditions and How to Claim

1. **You** must:

- i) give **Us** written notice as soon as possible of any potential or actual claim or any circumstances likely to result in a claim. Please provide the policy number, **Your** name, the full address of the **Property** and a brief description of the incident that has occurred. Notifications should be sent to: Speciality Lines Claims Team, Zurich Insurance, 8th Floor, 70 Mark Lane, London, EC3R 7NQ. Email: claims@uk.zurich.com ↗, Enquiry line: telephone 0207 648 3523
- ii) pass all court documents and/or other communications to **Us** as soon as possible after receipt
- iii) not deal with, make any admission of liability or attempt to settle a claim without **Our** prior written agreement.
- iv) agree to and carry out at **Our** expense all things necessary to minimise any loss.
- v) provide all information and assistance that **We** may require to help defend and settle the claim.

2. **We** are entitled to:

- i) decide how to settle or defend a claim and may carry out proceedings in the name of any person insured under this policy, including proceedings for recovering any claim.
- ii) pay to **You** at any time, an amount equal to the **Limit of Indemnity** or any lower amount for which the claim can be settled, after deduction of any sum already paid. **We** may then give up control of and have no further liability in connection with the claim.

3. If **We** admit liability for a claim but there is a dispute as to the amount to be paid the dispute will be referred to an arbitrator. The arbitrator will be appointed jointly by **You** and **Us** in accordance with the law at the time. **You** may not take any legal action against **Us** over the dispute before the arbitrator has reached a decision.

4. If **You** or anyone acting on Your behalf:



- a) makes a fraudulent or exaggerated claim under this policy; or
- b) uses fraudulent means or devices including the submission of false or forged documents in support of a claim whether or not the claim is itself genuine; or
- c) makes a false statement in support of a claim whether or not the claim is itself genuine; or
- d) submits a claim under this policy for loss or damage which **You** or anyone acting on **Your** behalf or in connivance with **You** deliberately caused; or
- e) realises after submitting what **You** reasonably believed was a genuine claim under this policy and then fails to tell **Us** that **You** have not suffered any loss or damage; or
- f) suppresses information which **You** know would otherwise enable **Us** to refuse to pay a claim under this policy

We will be entitled to refuse to pay the whole of the claim and recover any sums that **We** have already paid in respect of the claim.

If any fraud is perpetrated by or on behalf of an insured person and not on behalf of **You** this condition should be read as if it applies only to that insured person's claim and references to this policy should be read as if they were references to the cover effected for that person alone and not to the policy as a whole.

5. If any claim is covered by any other insurance, **We** will not pay for more than **Our** share of that claim.

6. The most **We** will pay for any loss (or all losses in the aggregate), including costs and expenses agreed by **Us** is the **Limit of Indemnity**. Once **We** have paid a loss or losses equal to the amount of the **Limit of Indemnity**, **We** will have no further liability under this policy.

General Conditions

1. Neither **You** (nor anyone acting on **Your** behalf) must disclose the existence of this policy to any other party except **Your** legal and other professional advisers, prospective purchasers, lessees and tenants of the **Property**, their respective mortgagees, legal and other professional advisers.
2. In the UK the law allows both **You** and **Us** to choose the law applicable to the contract. This contract will be subject to the relevant law of England and Wales, Scotland, Northern Ireland, the Isle of Man or the Channel Islands depending upon the Property address stated in the Schedule. If there is any dispute as to which law applies it will be English law. The parties agree to submit to the exclusive jurisdiction of the English courts.
3. Notwithstanding any other terms of this policy **We** will be deemed not to provide cover nor will **We** make any payment or provide any service or benefit to **You** or any other party to the extent that such cover, payment, service, benefit and/or any business or activity of **Yours** would violate any applicable trade or economic sanctions law or regulation.

Cancellation Clause

If **You** have taken out this policy for purposes which are wholly or mainly unrelated to **Your** trade, business or profession, **You** may cancel this policy within 14 days of receiving the policy by writing to **Us** and in such event **We** may, at **Our** discretion, charge **You** for the time that **You** have been on cover. Any refund will be made to the party who paid the premium. If **You** do cancel, **You** may be in breach of the terms of **Your** mortgage or the terms of the contract for the sale of **Your** property. If **You** are in doubt, **You** may wish to seek legal advice prior to cancellation.

Fair Processing and Complaints Procedure Our Complaints Procedure

Our commitment to customer service

We are committed to providing a high level of customer service. If you feel we have not delivered this, we would welcome the opportunity to put things right for you.

Who to contact in the first instance

Many concerns can be resolved straight away. Therefore in the first instance, please get in touch with your usual contact at Zurich or your broker or insurance intermediary, as they will generally be able to provide you with a prompt response to your satisfaction.

Contact details will be provided on correspondence that we or our representatives have sent you.

Many complaints can be resolved within a few days of receipt

If we can resolve your complaint to your satisfaction within the first few days of receipt, we will do so. Otherwise, we will keep you



updated with progress and will provide you with our decision as quickly as possible.

Next steps if you are still unhappy

If you are not happy with the outcome of your complaint, you may be able to ask the Financial Ombudsman Service to review your case.

We will let you know if we believe the ombudsman service can consider your complaint when we provide you with our decision. The service they provide is free and impartial, but you would need to contact them within 6 months of the date of our decision.

More information about the ombudsman and the type of complaints they can review is available via their website www.financial-ombudsman.org.uk ↗.

You can also contact them as follows:

Post: Financial Ombudsman Service, Exchange Tower, London, E14 9SR

Telephone: 08000 234567 (free on mobile phones and landlines)

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

If the Financial Ombudsman Service is unable to consider your complaint, you may wish to obtain advice from the Citizens Advice Bureau or seek legal advice.

The Financial Services Compensation Scheme (FSCS)

We are covered by the Financial Services Compensation Scheme (FSCS) which means that you may be entitled to compensation if we are unable to meet our obligations to you. Further information is available on www.fscs.org.uk ↗ or by contacting the FSCS directly on 0800 678 1100.

How we use your information

Who controls your personal information

This notice tells you how Zurich Insurance plc ('Zurich'), as data controller, will deal with your personal information. Where Zurich introduces you to a company outside the group, that company will tell you how your personal information will be used.

You can ask for further information about our use of your personal information or complain about its use in the first instance, by contacting our Data Protection Officer at: Zurich Insurance Group, Tri-centre 1, Newbridge Square, Swindon, SN1 1HN or by emailing the Data Protection Officer at GBZ.General.Data.Protection@uk.zurich.com ↗.

If you have any concerns regarding our processing of your personal information, or are not satisfied with our handling of any request by you in relation to your rights, you also have the right to make a complaint to the Information Commissioner's Office. Their address is: First Contact Team, Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, SK9 5AF.

What personal information we collect about you

We will collect and process the personal information that you give us by phone, e-mail, filling in forms, including on our website, and when you report a problem with our website. We also collect personal information from your appointed agent such as your trustee, broker, intermediary or financial adviser in order to provide you with the services you have requested and from other sources, such as credit reference agencies and other insurance companies, for verification purposes. We will also collect information you have volunteered to be in the public domain and other industry-wide sources. We will only collect personal information that we require to fulfil our contractual or legal requirements unless you consent to provide additional information. The type of personal information we will collect includes; basic personal information (i.e. name, address and date of birth), occupation and financial details, health and family information, claims and convictions information and where you have requested other individuals be included in the arrangement, personal information about those individuals.

If you give us personal information on other individuals, this will be used to provide you with a quotation and/or contract of insurance and/or provision of financial services. You agree you have their permission to do so. Except where you are managing the contract on another's behalf, please ensure that the individual knows how their personal information will be used by Zurich. More information about this can be found in the 'How we use your personal information' section.

How we use your personal information

We and our selected third parties will only collect and use your personal information (i) where the processing is necessary in connection with providing you with a quotation and/or contract of insurance and/or provision of financial services that you have requested; (ii) to meet our legal or regulatory obligations; or (iii) for our 'legitimate interests'. It is in our legitimate interests to collect



your personal information as it provides us with the information that we need to provide our services to you more effectively including providing you with information about our products and services. We will always ensure that we keep the amount of information collected and the extent of any processing to the absolute minimum to meet this legitimate interest. Examples of the purposes for which we will collect and use your personal information are:

1. to provide you with a quotation and/or contract of insurance;
2. to identify you when you contact us;
3. to deal with administration and assess claims;
4. to make and receive payments;
5. to obtain feedback on the service we provide to you;
6. to administer our site and for internal operations including troubleshooting, data analysis, testing, research, statistical and survey purposes;
7. for fraud prevention and detection purposes.

We will contact you to obtain consent prior to processing your personal information for any other purpose, including for the purposes of targeted marketing unless we already have consent to do so.

Who we share your personal information with

Where necessary, we will share the personal information you gave us for the purposes of providing you with the goods and services you requested with the types of organisations described below:

associated companies including reinsurers, suppliers and service providers;
introducers and professional advisers;
regulatory and legal bodies;
survey and research organisations;
credit reference agencies;
healthcare professionals, social and welfare organisations; and
other insurance companies

Or, in order to meet our legal or regulatory requirements, with the types of organisations described below:

regulatory and legal bodies;
central government or local councils;
law enforcement bodies, including investigators;
credit reference agencies; and
other insurance companies

How we use your personal information for websites and email communications

When you visit one of our websites we may collect information from you such as your email address or IP address. This helps us to track unique visits and monitor patterns of customer website traffic, such as who visits and why they visit.

We use cookies and/or pixel tags on some pages of our website. A cookie is a small text file sent to your computer. A pixel tag is an invisible tag placed on certain pages of our website but not on your computer. Pixel tags usually work together with cookies to assist us to provide you with a more tailored service. This allows us to monitor and improve our email communications and website. Useful information about cookies, including how to remove them, can be found on our websites.

How we transfer your personal information to other countries

Where we transfer your personal information to countries that are outside of the UK and the European Union (EU) we will ensure that it is protected and that the transfer is lawful. We will do this by ensuring that the personal information is given adequate safeguards by using 'standard contractual clauses' which have been adopted or approved by the UK and the EU, or other solutions that are in line with the requirements of European data protection laws.

A copy of our security measures for personal information transfers can be obtained from our Data Protection Officer at: Zurich Insurance Group, Tri-centre 1, Newbridge Square, Swindon, SN1 1HN, or by emailing the Data Protection Officer at GBZ.General.Data.Protection@uk.zurich.com ↗.

How long we keep your personal information for

We will retain and process your personal information for as long as necessary to meet the purposes for which it was originally



collected. These periods of time are subject to legal, tax and regulatory requirements or to enable us to manage our business.

Your data protection rights

You have a number of rights under the data protection laws, namely:

- to access your data (by way of a subject access request);
 - to have your data rectified if it is inaccurate or incomplete;
 - in certain circumstances, to have your data deleted or removed;
 - in certain circumstances, to restrict the processing of your data;
 - a right of data portability, namely to obtain and reuse your data for your own purposes across different services;
 - to object to direct marketing;
 - not to be subject to automated decision making (including profiling), where it produces a legal effect or a similarly significant effect on you;
 - to claim compensation for damages caused by a breach of the data protection legislation.
- if we are processing your personal information with your consent, you have the right to withdraw your consent at any time.

We will, for the purposes of providing you with a contract of insurance, processing claims, reinsurance and targeted marketing, process your personal information by means of automated decision making and profiling where we have a legitimate interest or you have consented to this.

What happens if you fail to provide your personal information to us

If you do not provide us with your personal information, we will not be able to provide you with a contract or assess future claims for the service you have requested.

Fraud prevention and detection

In order to prevent and detect fraud we may at any time:

- check your personal data against counter fraud systems
- use your information to search against various publicly available and third party resources
- use industry fraud tools including undertaking credit searches and to review your claims history
- share information about you with other organisations including but not limited to the police, the Insurance Fraud Bureau (IFB), other insurers and other interested parties.

If you provide false or inaccurate information and fraud is identified, the matter will be investigated and appropriate action taken. This may result in your case being referred to the Insurance Fraud Enforcement Department (IFED) or other police forces and fraud prevention agencies. You may face fines or criminal prosecution. In addition, Zurich may register your name on the Insurance Fraud Register, an industry-wide fraud database.

Claims history

We may pass information relating to claims or potential claims to any relevant database. We and other insurers may search these databases when you apply for insurance, when claims or potential claims are notified to us or at time of renewal to validate your claims history or that of any other person or property likely to be involved in the policy or claim.

This helps to check information provided and prevent fraudulent claims.



APPENDIX E

Historical Maps

Site Details:

The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: County Series

Map date: 1854-1855

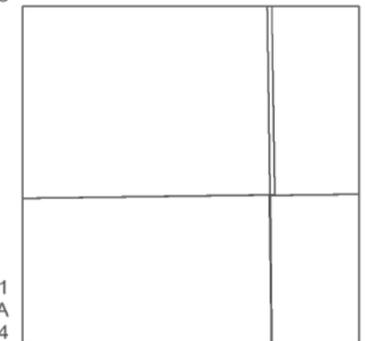
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Printed at: 1:10,560



Surveyed 1850
 Revised N/A
 Edition 1854
 Copyright N/A
 Levelled 1853

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



Surveyed 1851
 Revised N/A
 Edition 1854
 Copyright N/A
 Levelled N/A

Surveyed 1850
 Revised N/A
 Edition 1854
 Copyright N/A
 Levelled N/A

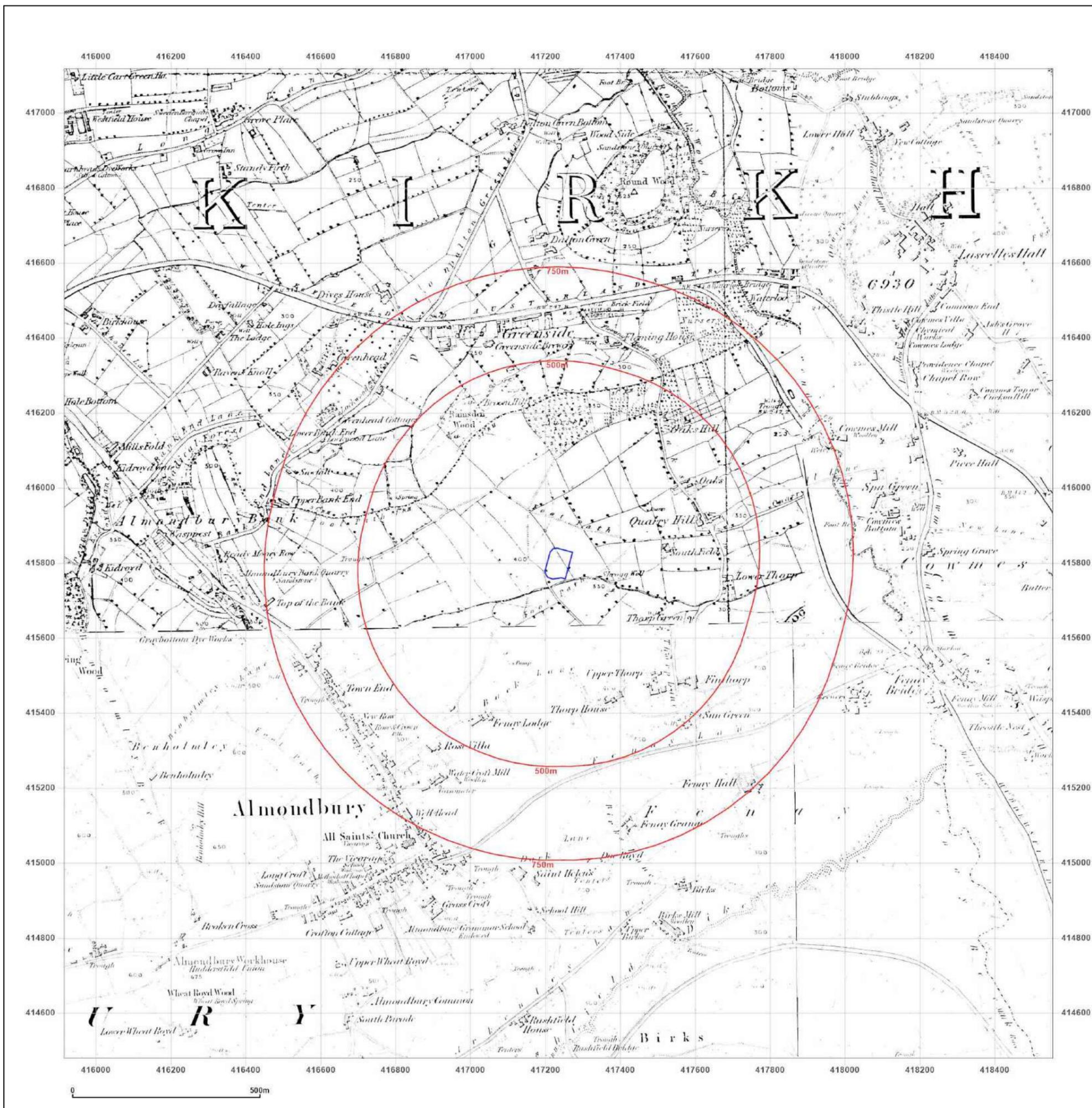


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 Groundsure Insights
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 W: www.groundsure.com

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Production date: 08 January 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: County Series

Map date: 1888-1892

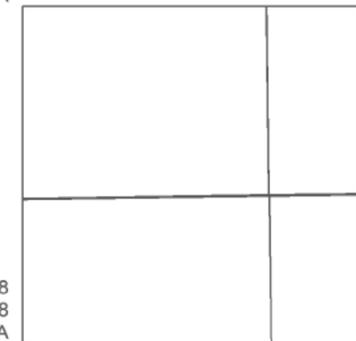
Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1889
 Revised 1889
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1888
 Revised 1888
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1888
 Revised 1888
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1892
 Revised 1892
 Edition N/A
 Copyright N/A
 Levelled N/A

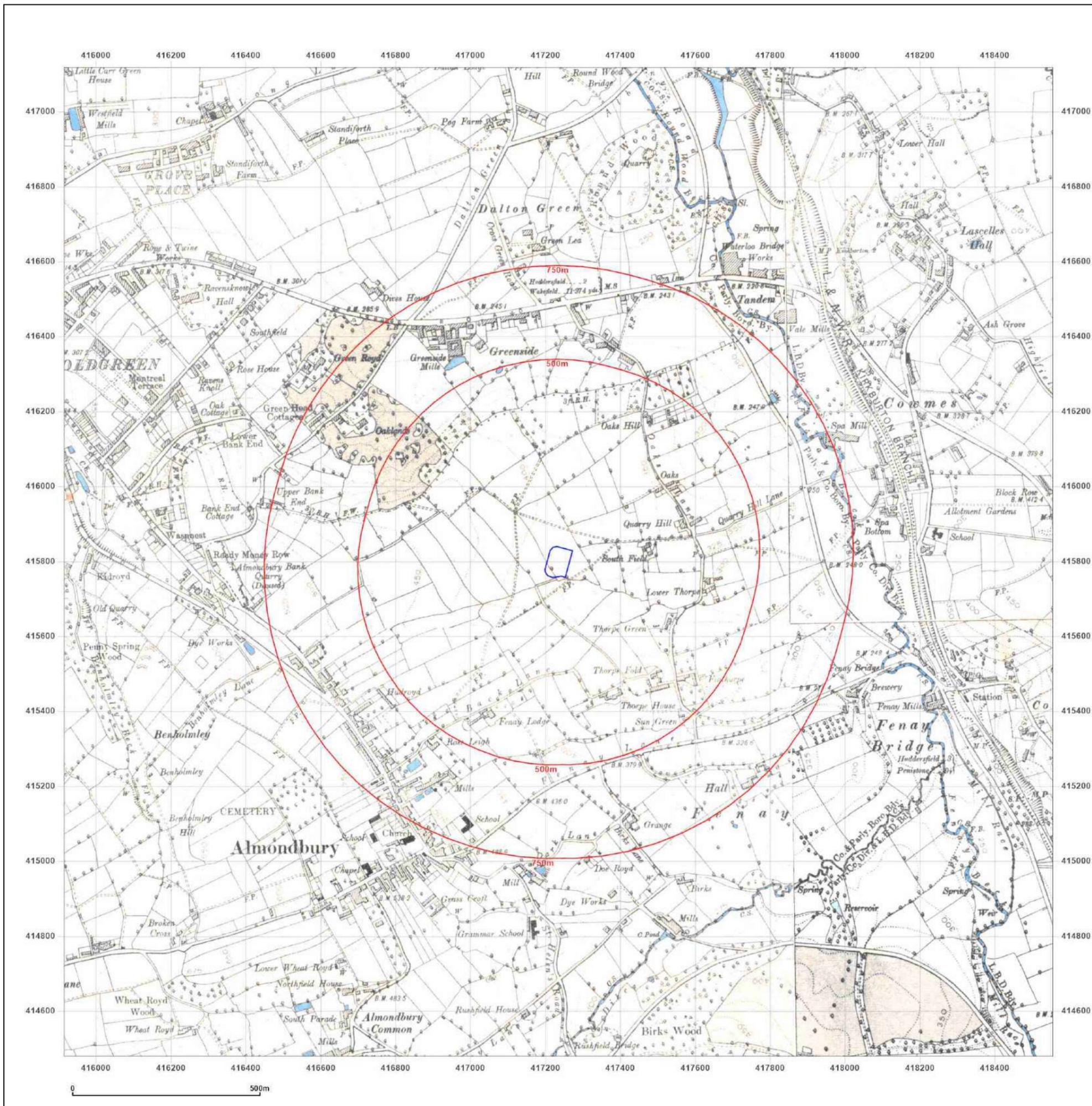


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Production date: 08 January 2025

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Site Details:

The Homestead, Hurst Knowle

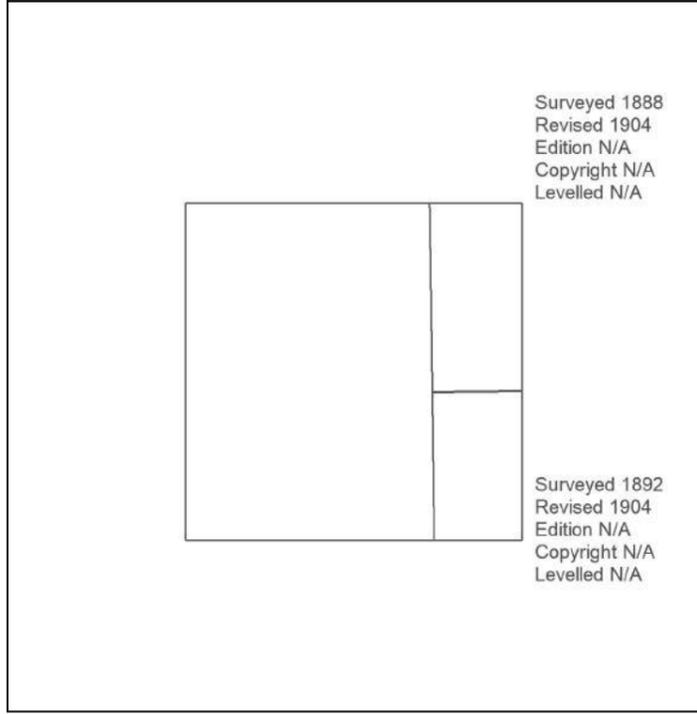
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Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: County Series

Map date: 1904

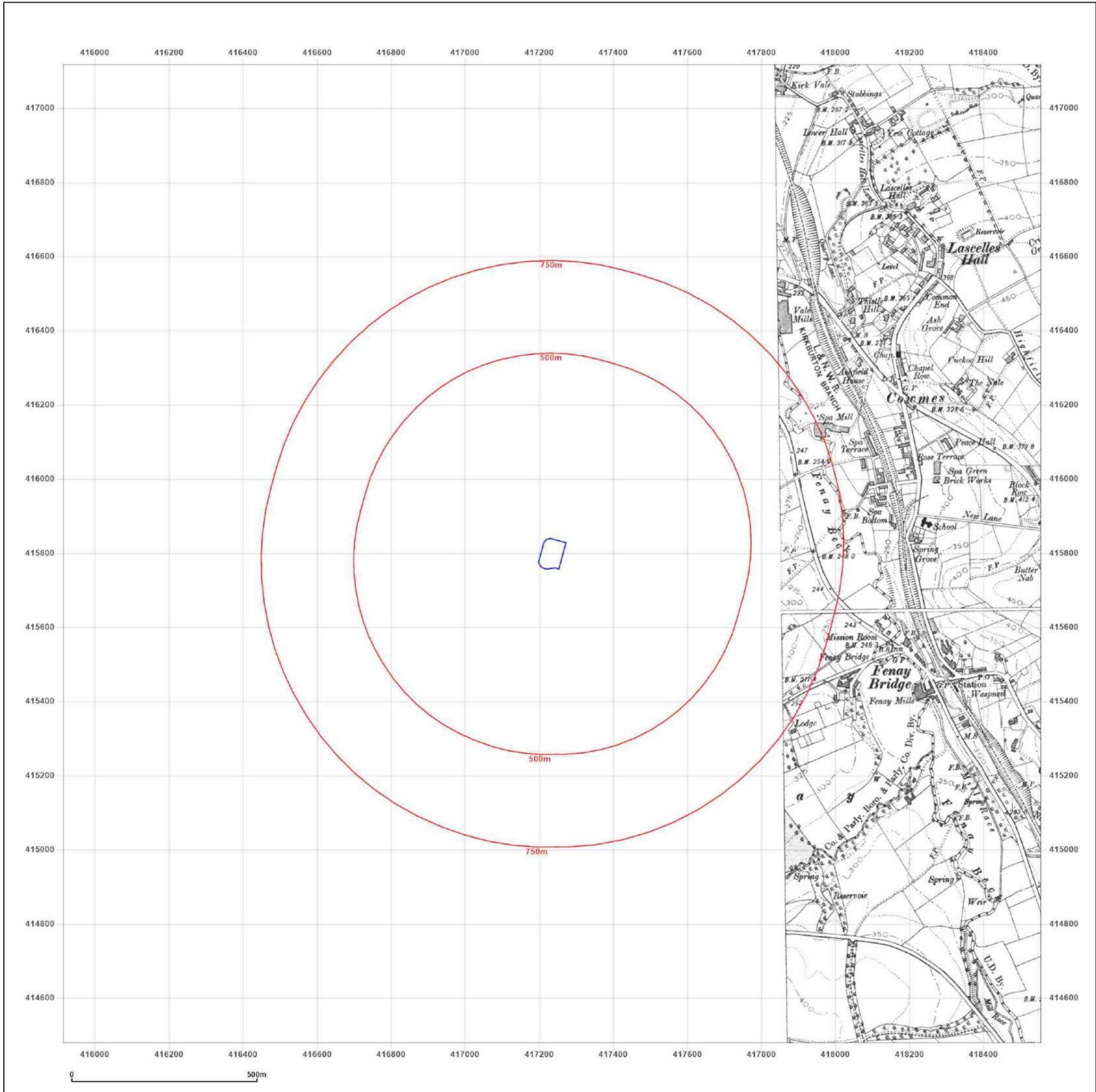
Scale: 1:10,560

Printed at: 1:10,560

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

Surveyed 1892
 Revised 1904
 Edition N/A
 Copyright N/A
 Levelled N/A



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Site Details:

The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: County Series

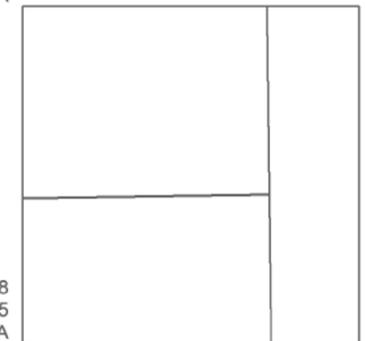
Map date: 1905

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1889
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 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1888
 Revised 1905
 Edition N/A
 Copyright N/A
 Levelled N/A

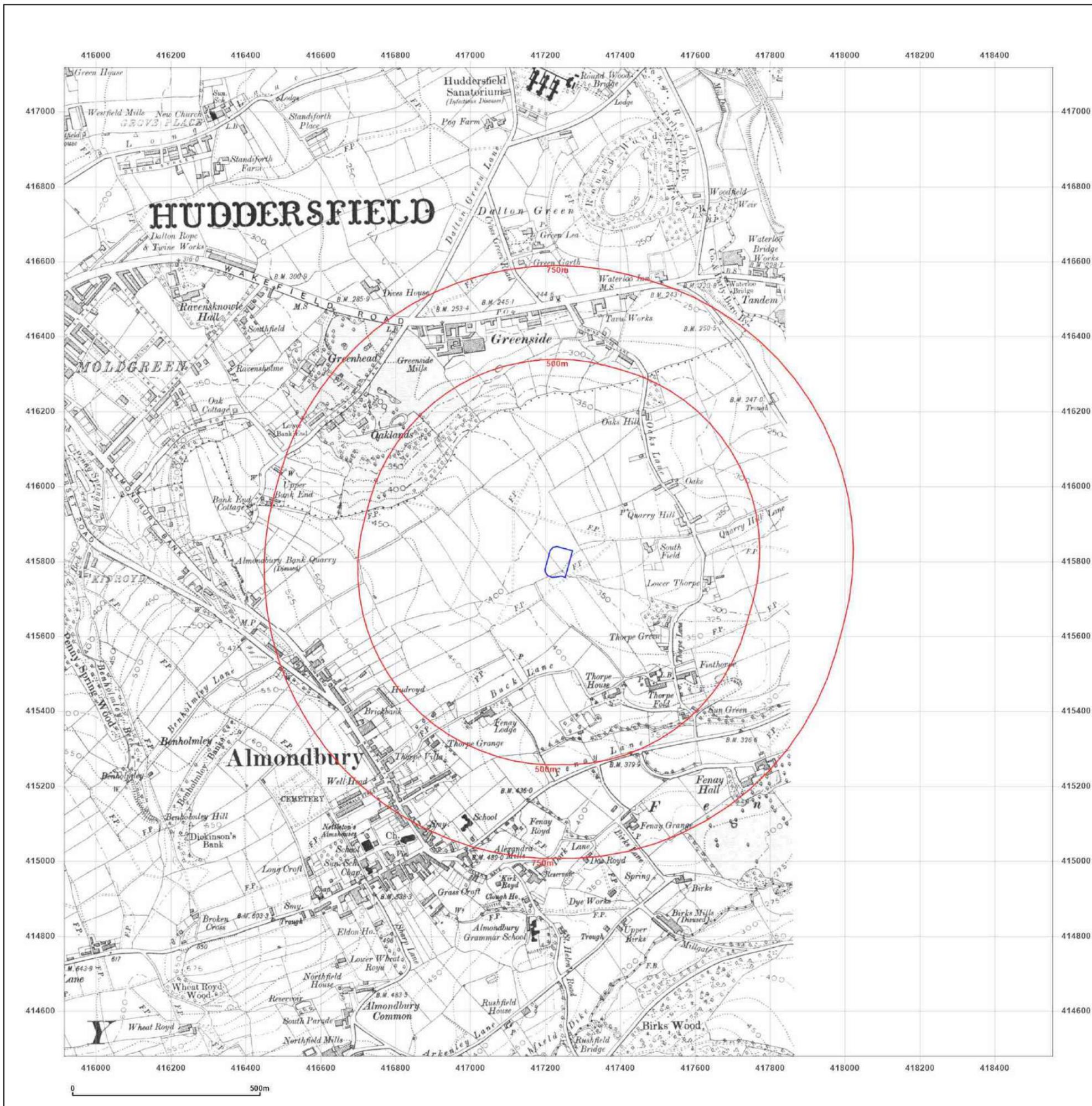


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Site Details:

The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: County Series

Map date: 1930-1931

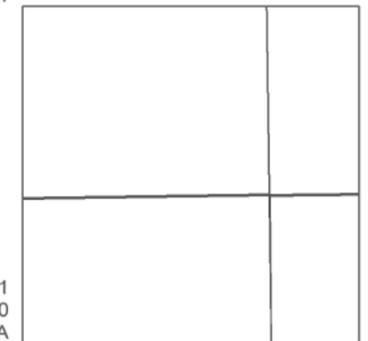
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Surveyed 1851
 Revised 1930
 Edition 1930
 Copyright N/A
 Levelled 1931

Surveyed 1851
 Revised 1930
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1851
 Revised 1930
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1851
 Revised 1930
 Edition N/A
 Copyright N/A
 Levelled N/A

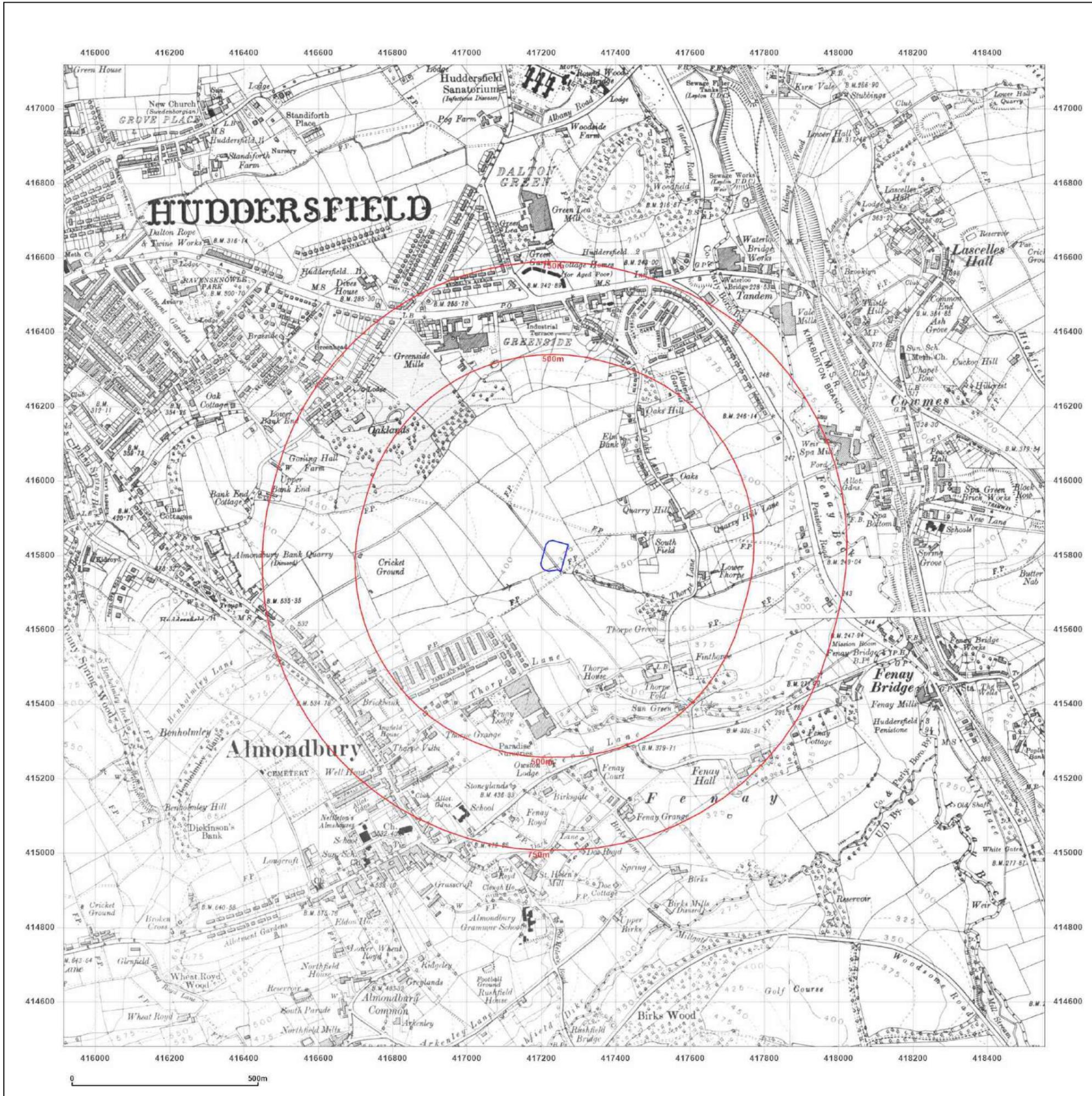


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Site Details:

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Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: County Series

Map date: 1938

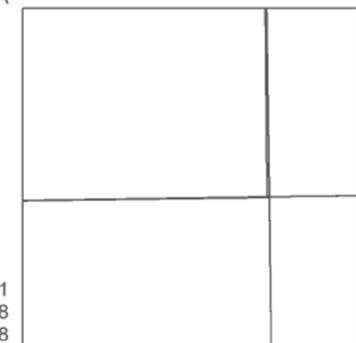
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Surveyed 1851
 Revised 1938
 Edition 1938
 Copyright N/A
 Levelled N/A

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



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

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

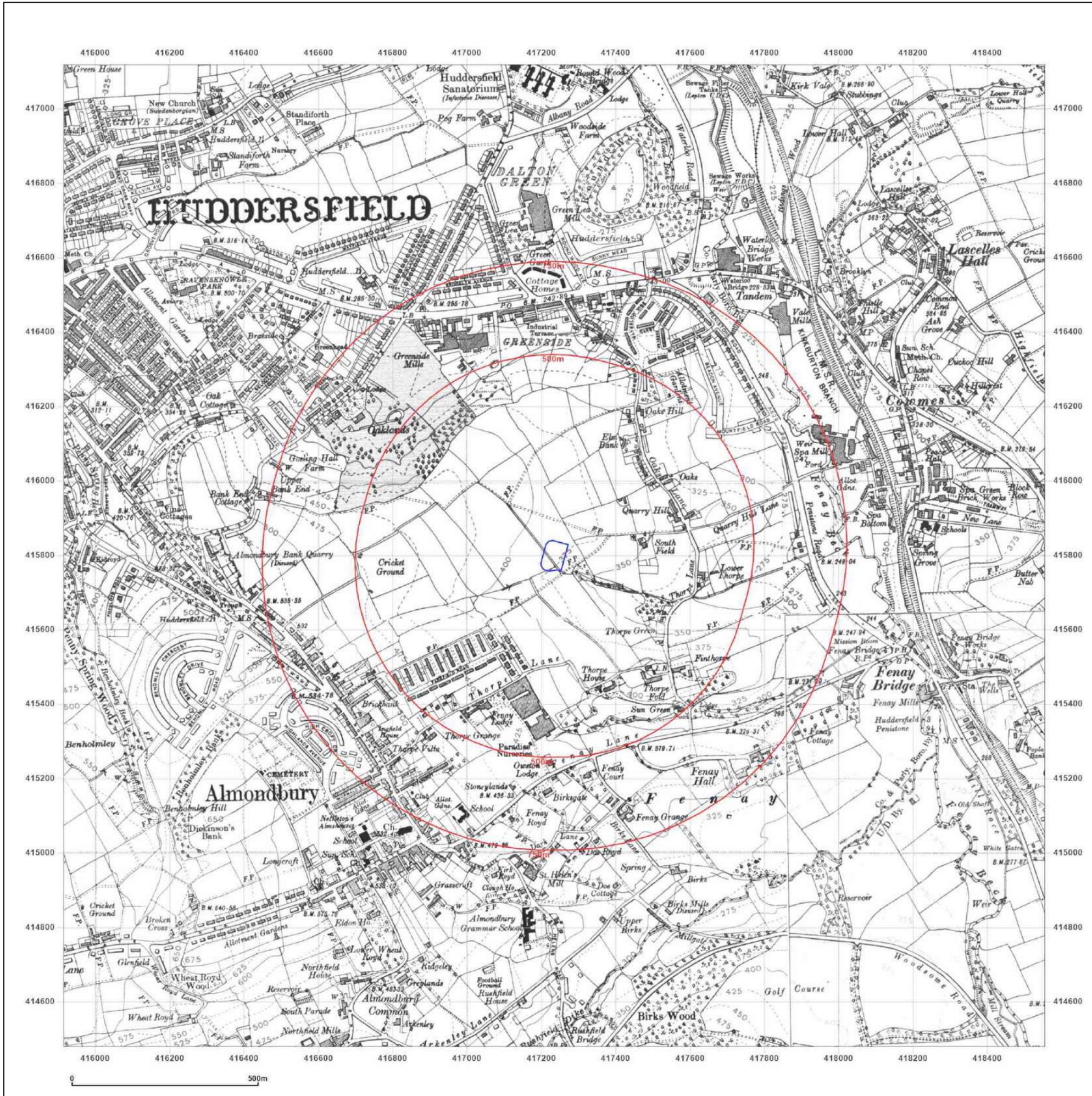


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Site Details:

The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: County Series

Map date: 1948

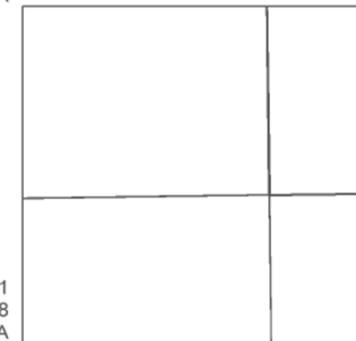
Scale: 1:10,560

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

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



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

Surveyed 1851
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 Edition 1948
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 Levelled N/A

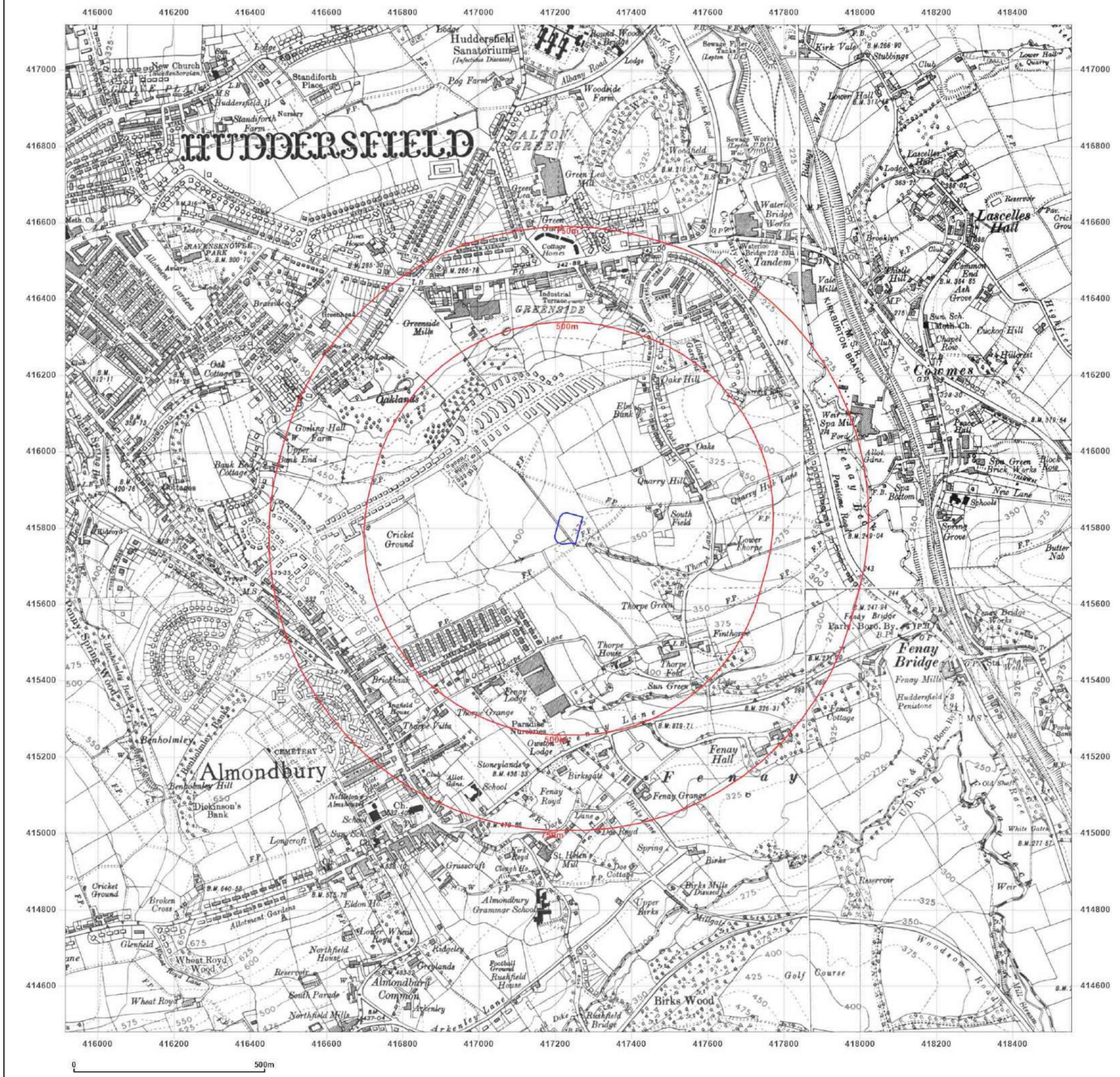


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Site Details:

The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: County Series

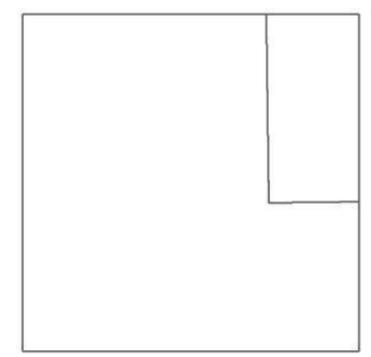
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Printed at: 1:10,560



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

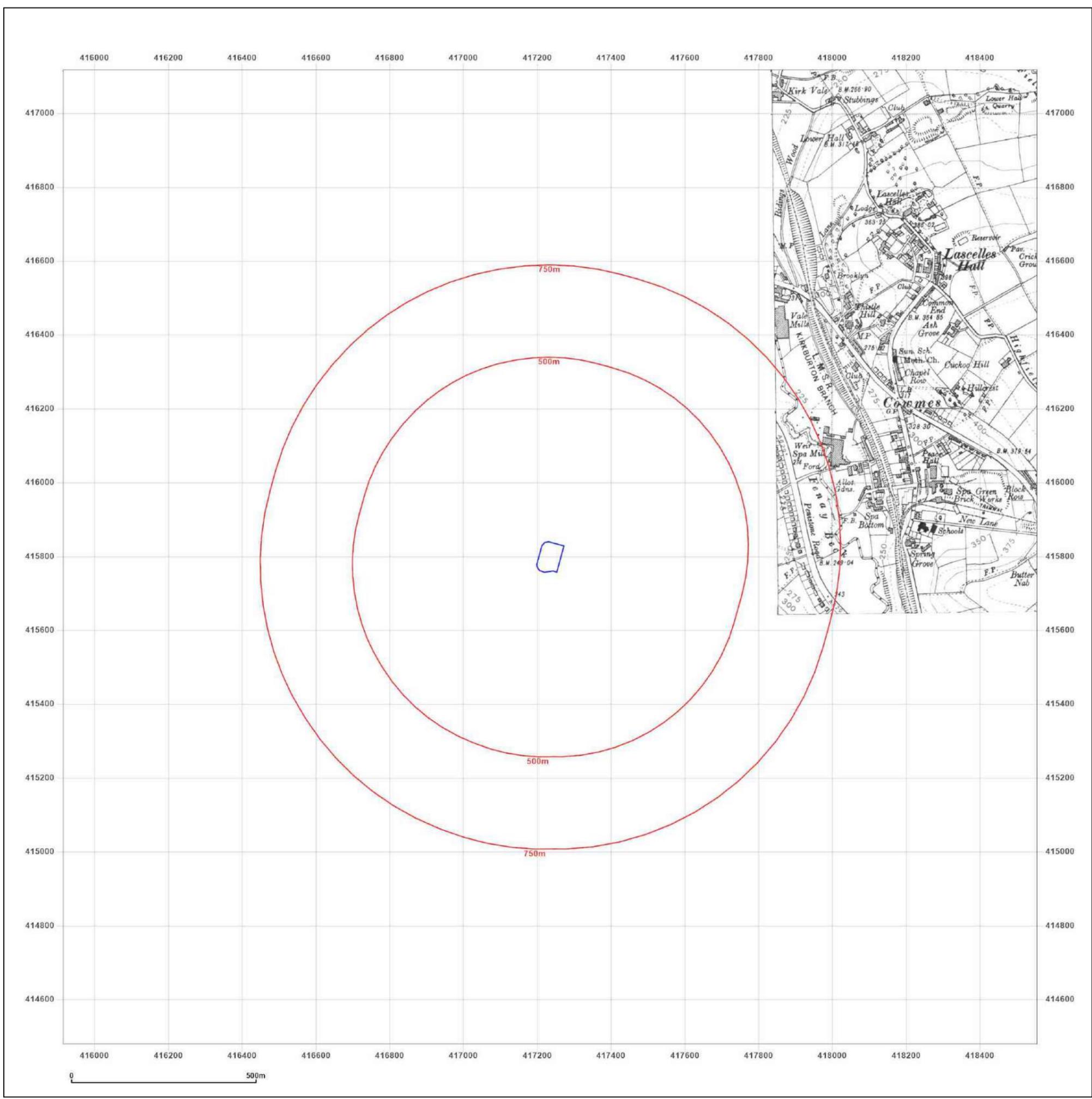


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Site Details:

The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: Provisional

Map date: 1955-1956

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1951
 Revised 1951
 Edition N/A
 Copyright 1956
 Levelled N/A

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



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Site Details:

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Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: Provisional

Map date: 1965-1968

Scale: 1:10,560

Printed at: 1:10,560



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

Surveyed 1968
 Revised 1968
 Edition N/A
 Copyright N/A
 Levelled N/A

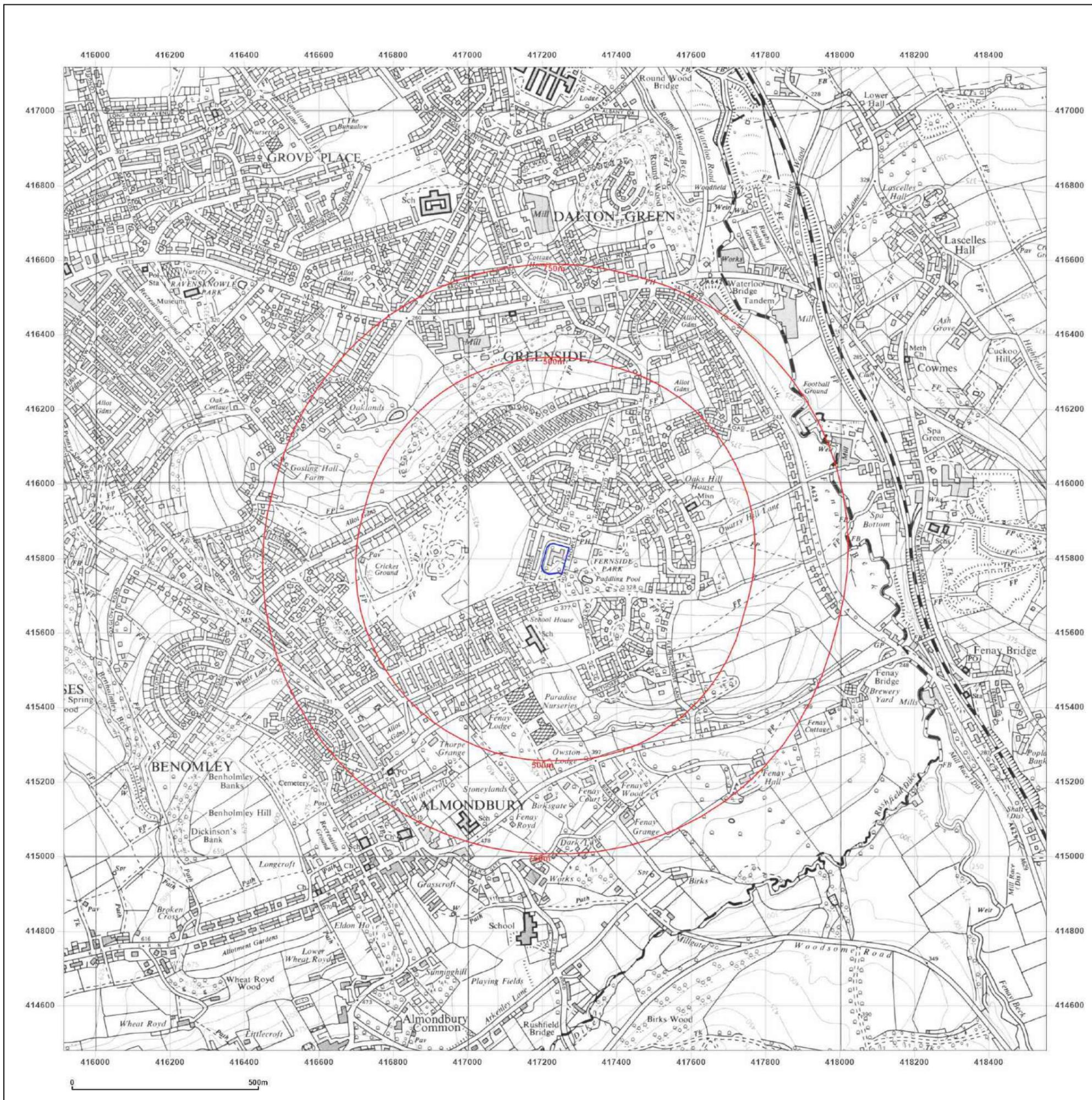


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Site Details:

The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: National Grid

Map date: 1975-1977

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1974
 Revised 1975
 Edition N/A
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 Levelled N/A

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



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Site Details:

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Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: National Grid

Map date: 1988-1990

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1984
 Revised 1988
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1984
 Revised 1990
 Edition N/A
 Copyright N/A
 Levelled N/A

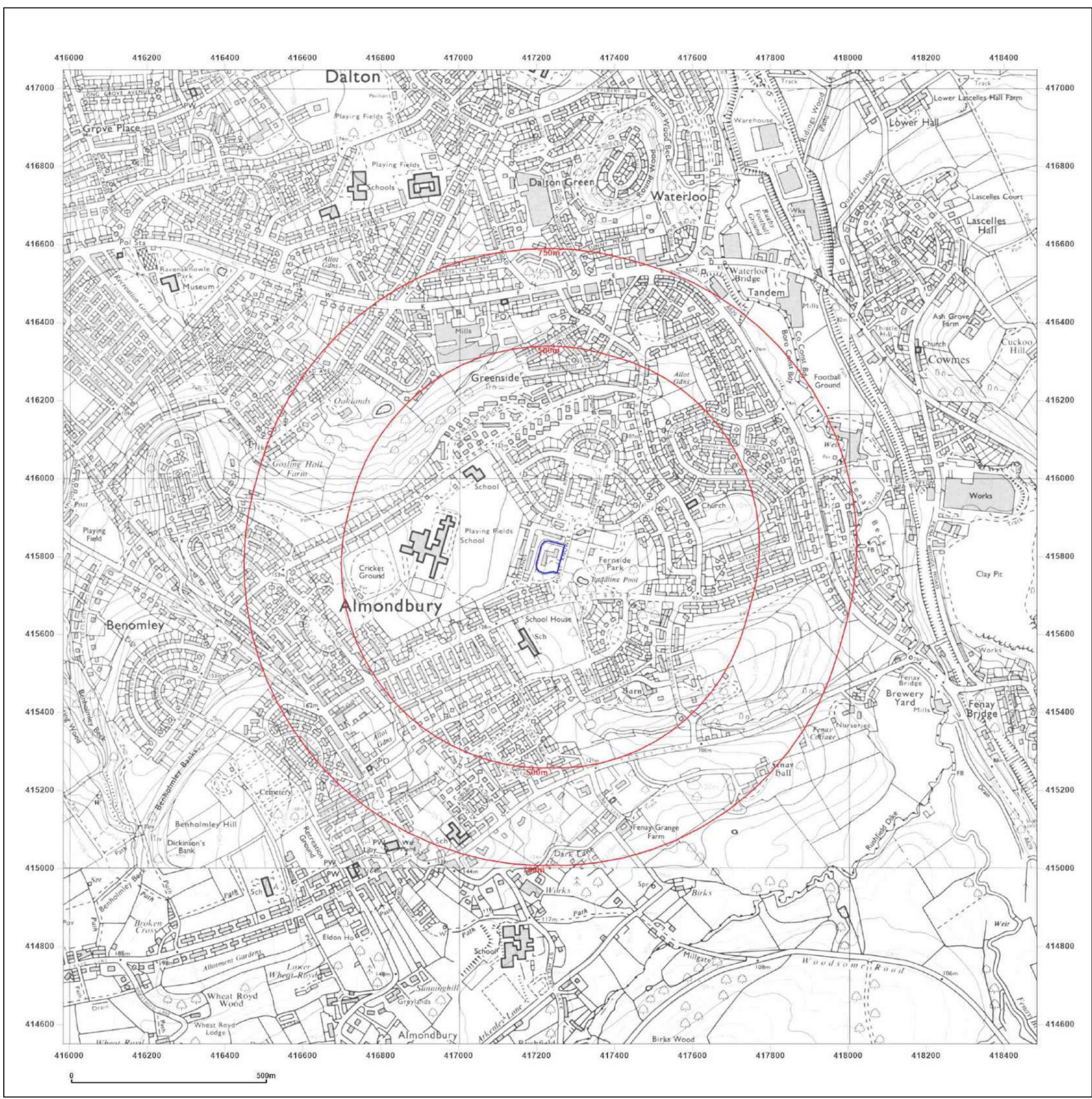


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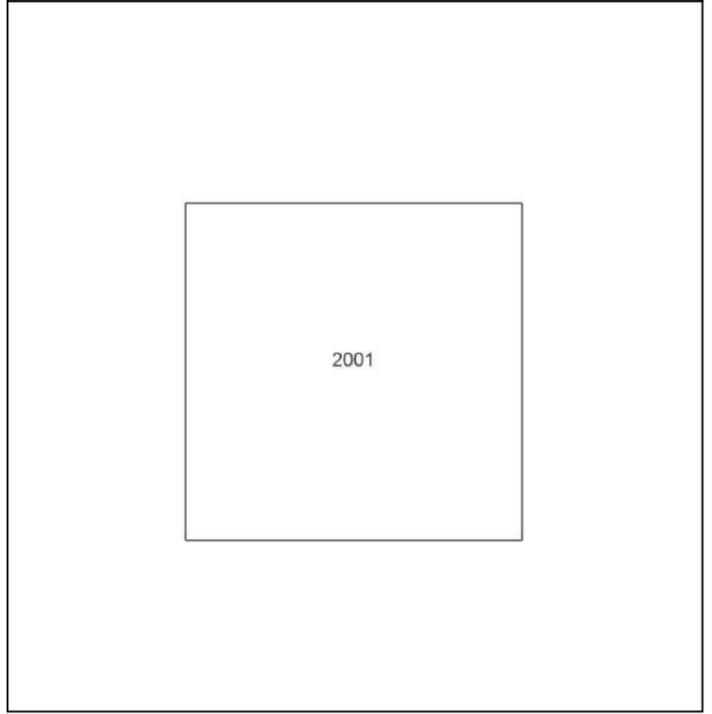
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Site Details:
The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

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

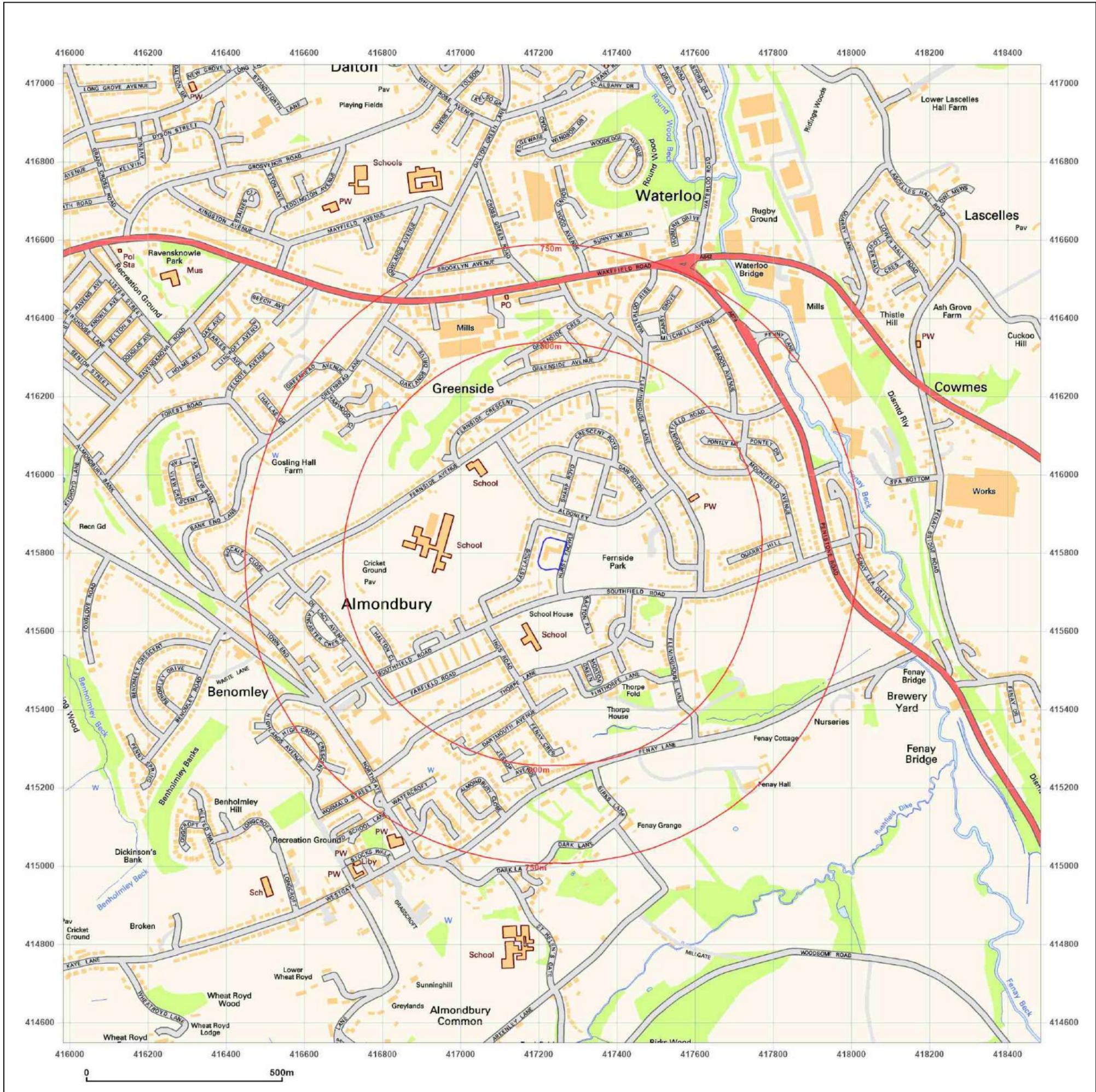


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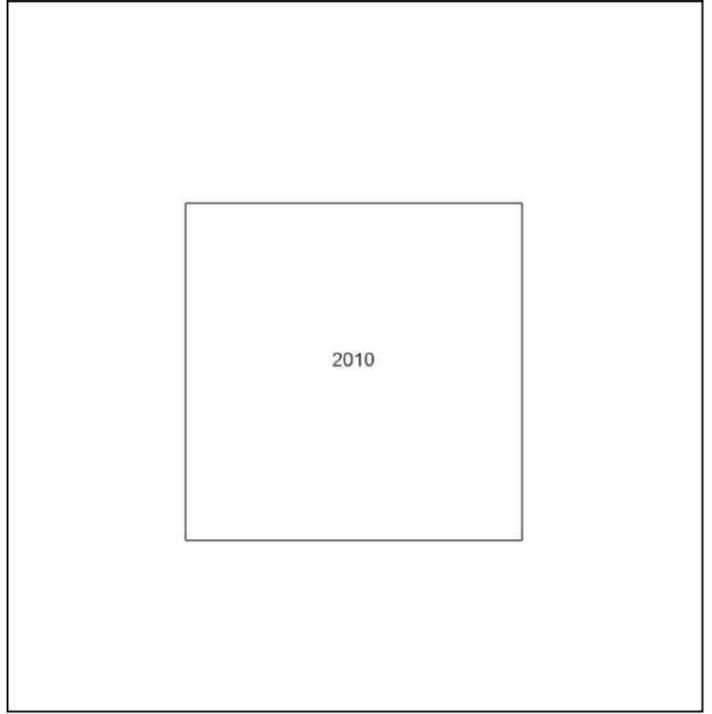
Map legend available at: www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:
 The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: National Grid
Map date: 2010
Scale: 1:10,000
Printed at: 1:10,000

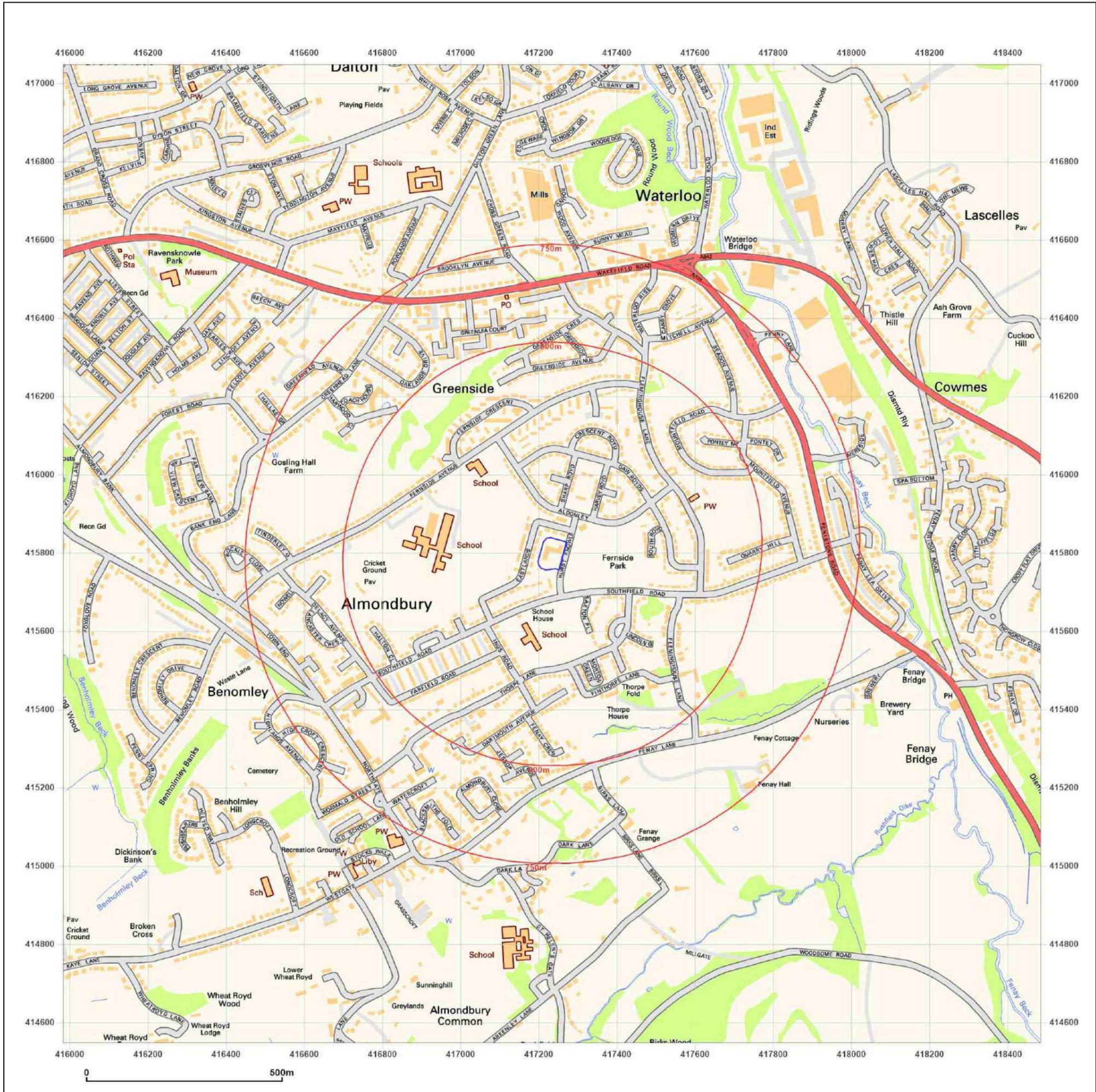


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Site Details:

The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: National Grid

Map date: 2025

Scale: 1:10,000

Printed at: 1:10,000

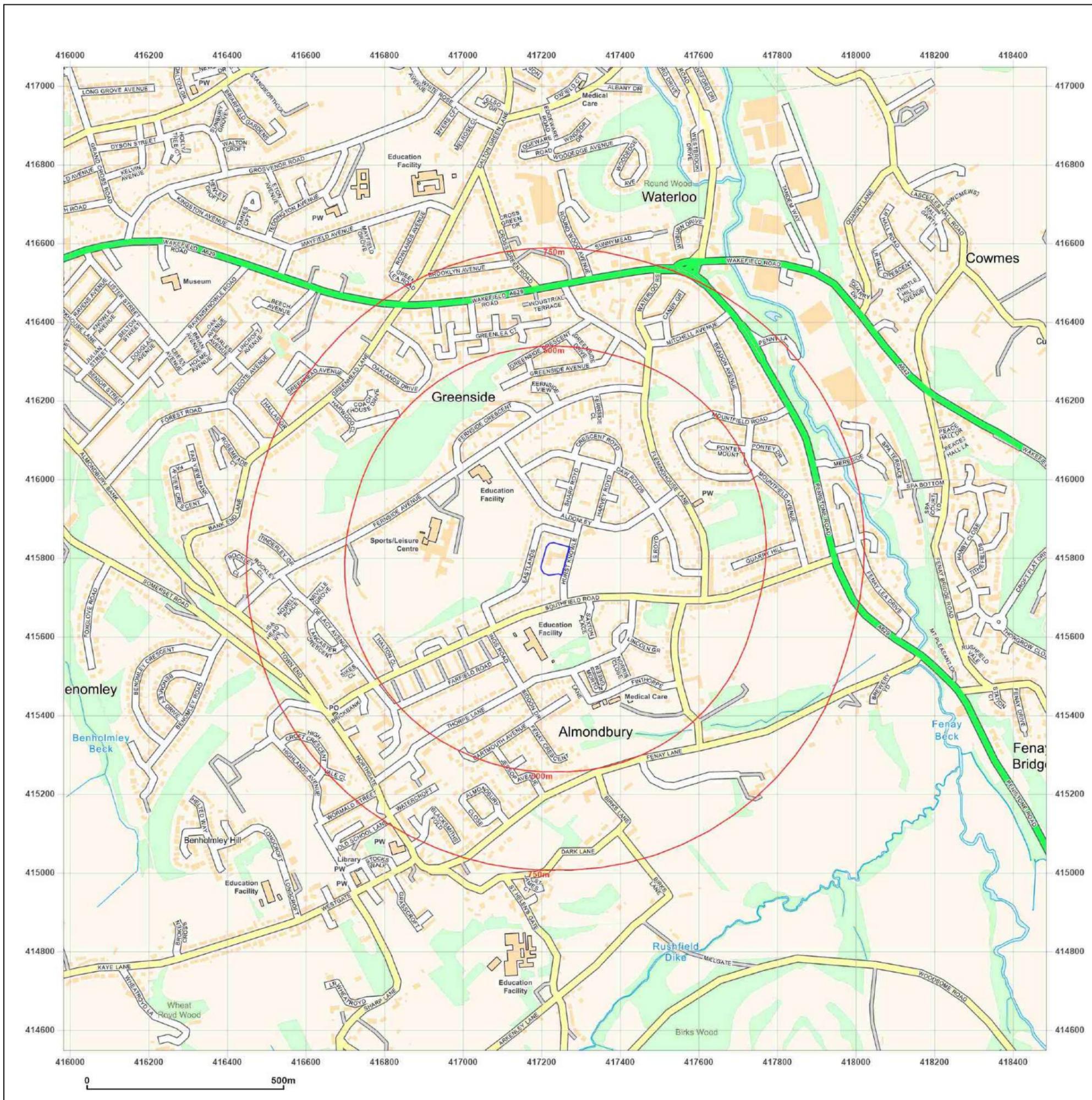


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Site Details:
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Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: County Series

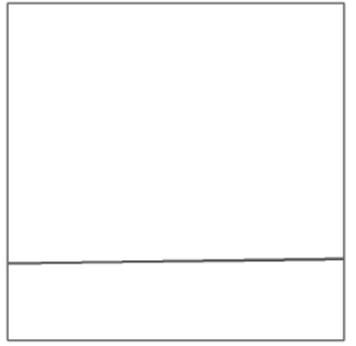
Map date: 1893

Scale: 1:2,500

Printed at: 1:2,500



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 Edition N/A
 Copyright N/A
 Levelled N/A



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

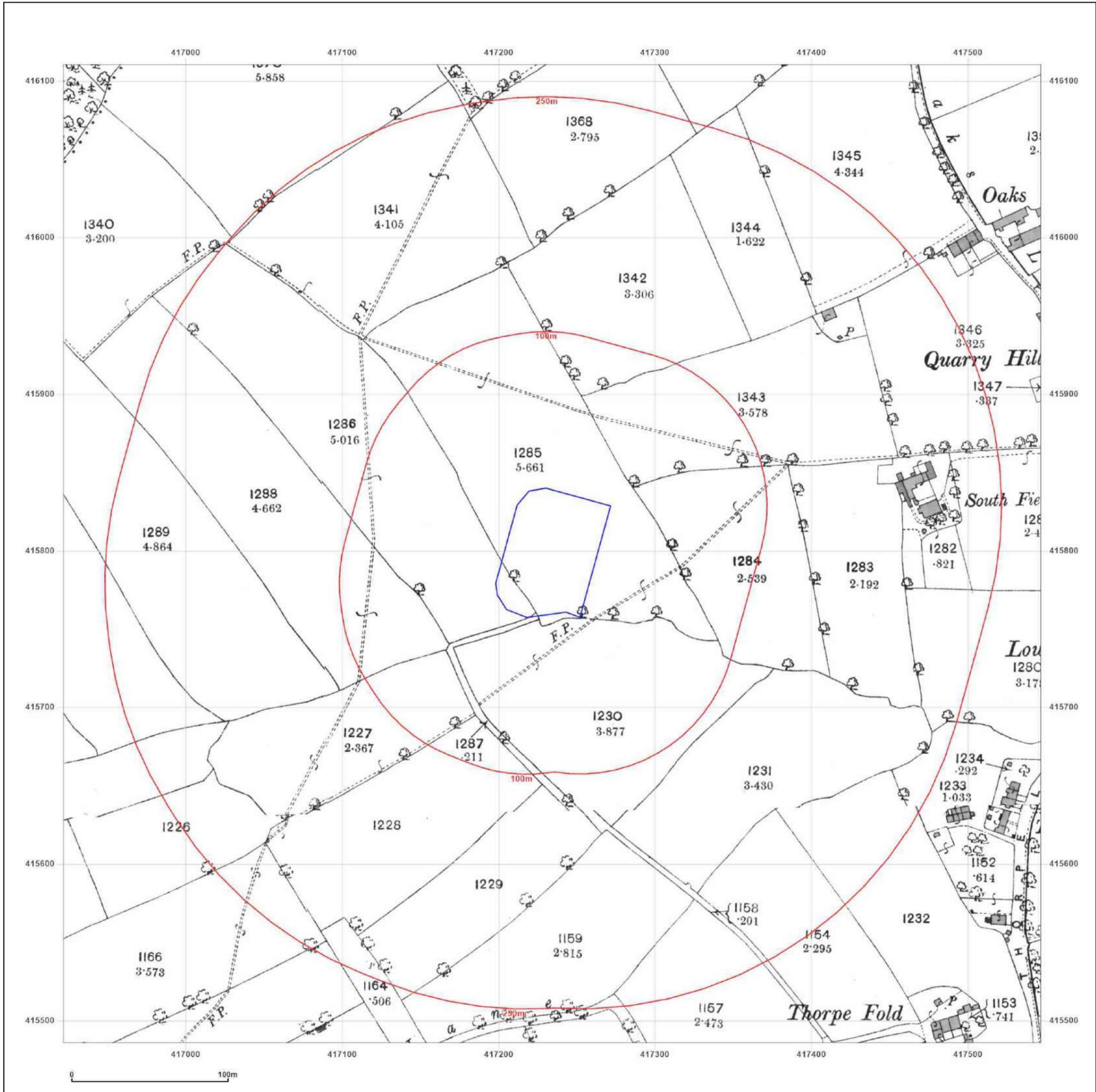


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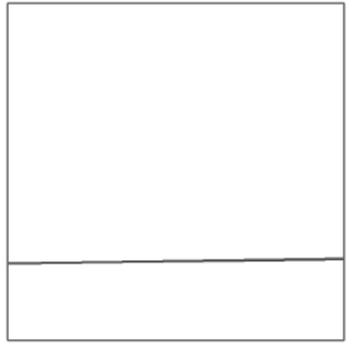
Site Details:
The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: County Series
Map date: 1907
Scale: 1:2,500
Printed at: 1:2,500



Surveyed 1907
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1907
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

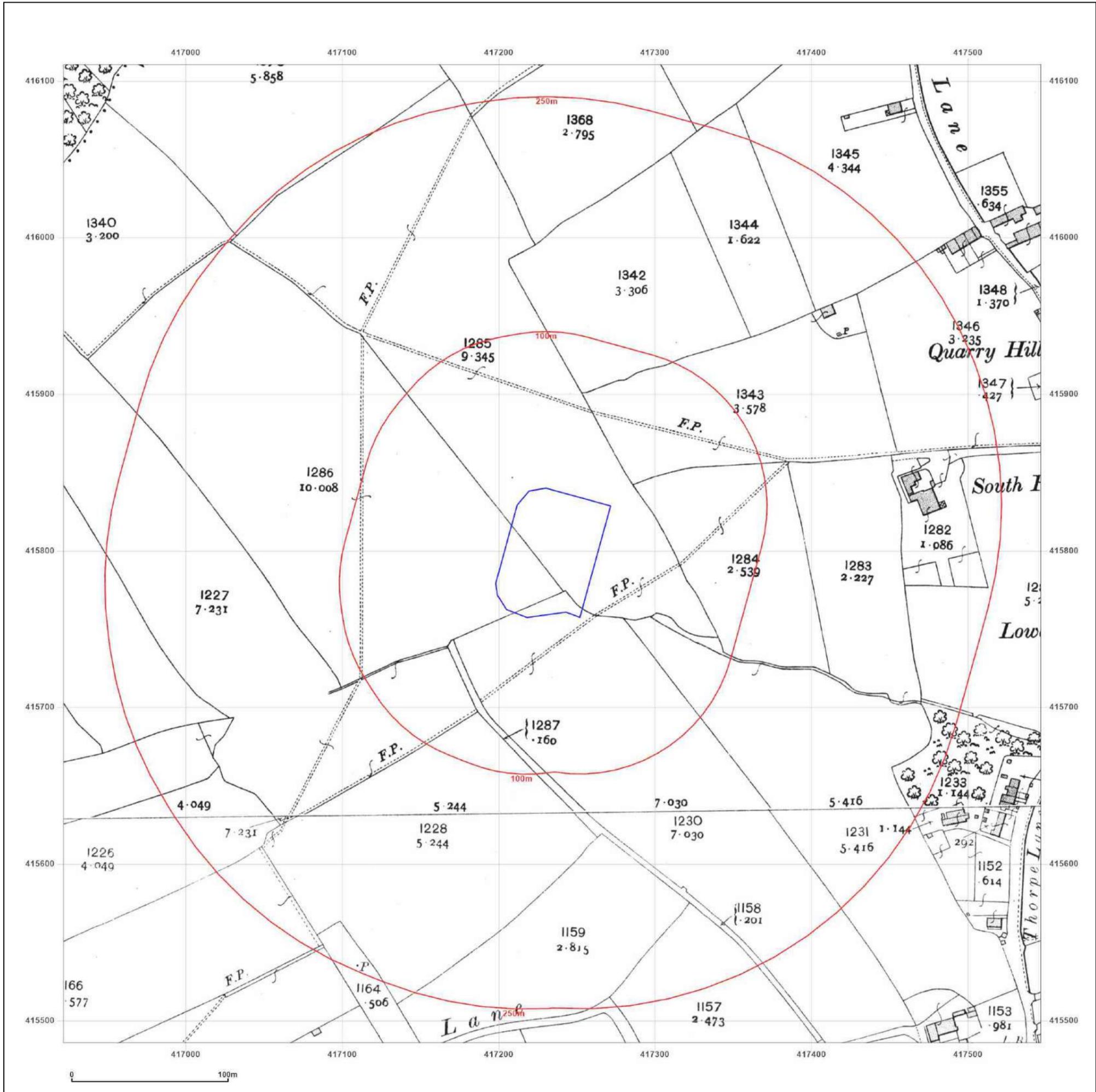


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Site Details:

The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: County Series

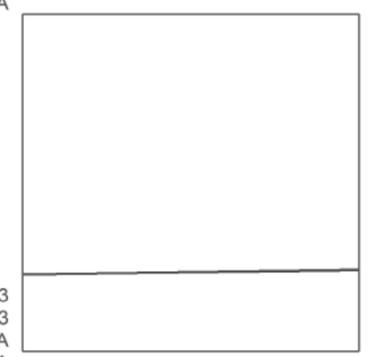
Map date: 1913-1918

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1918
 Revised 1918
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1913
 Revised 1913
 Edition N/A
 Copyright N/A
 Levelled N/A

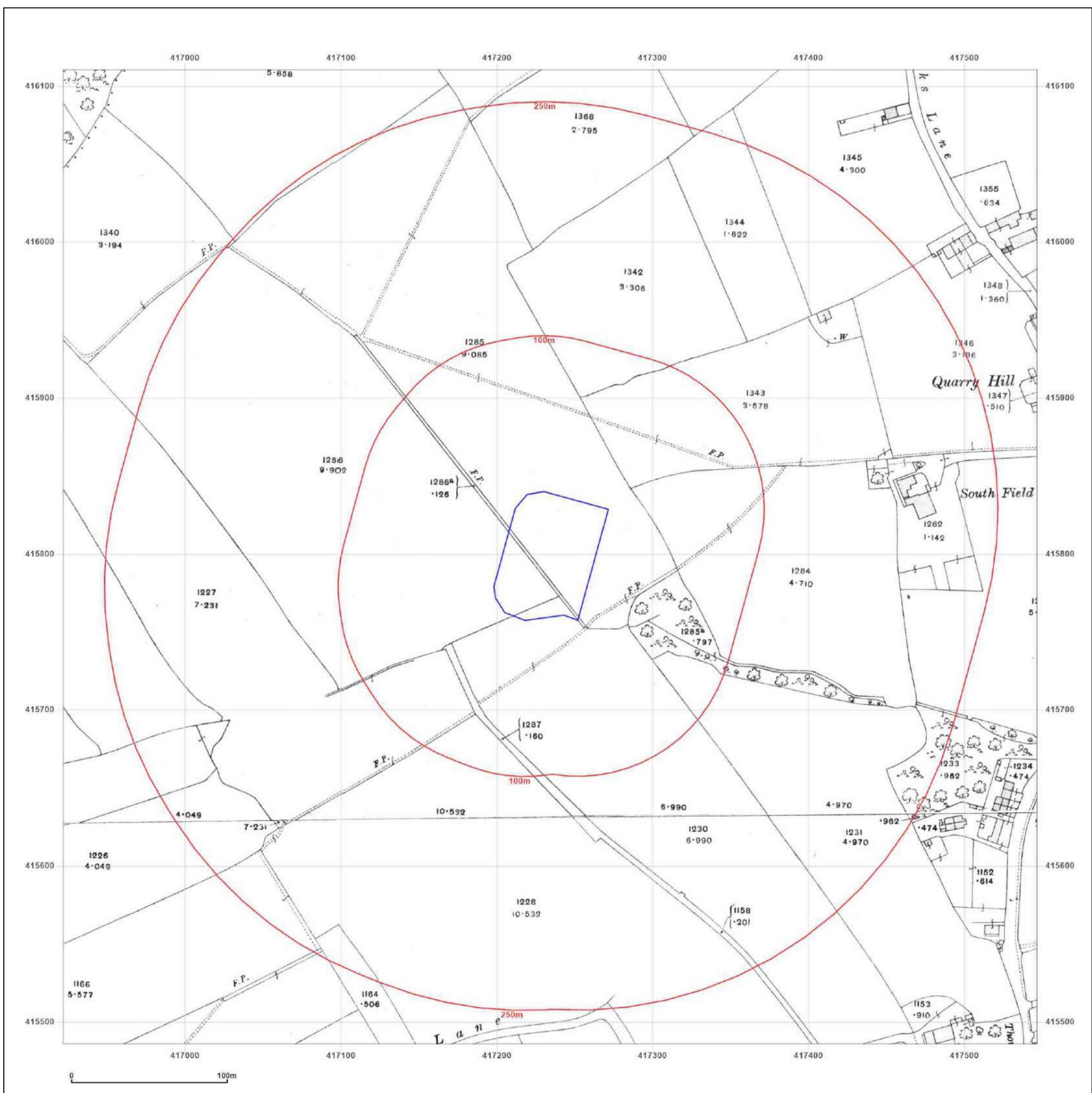


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Site Details:

The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: County Series

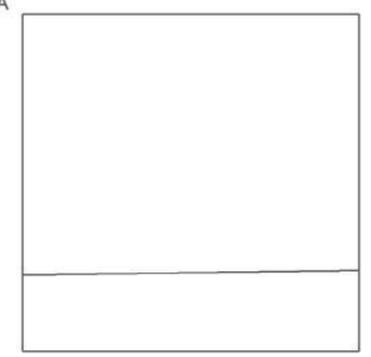
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Scale: 1:2,500

Printed at: 1:2,500



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

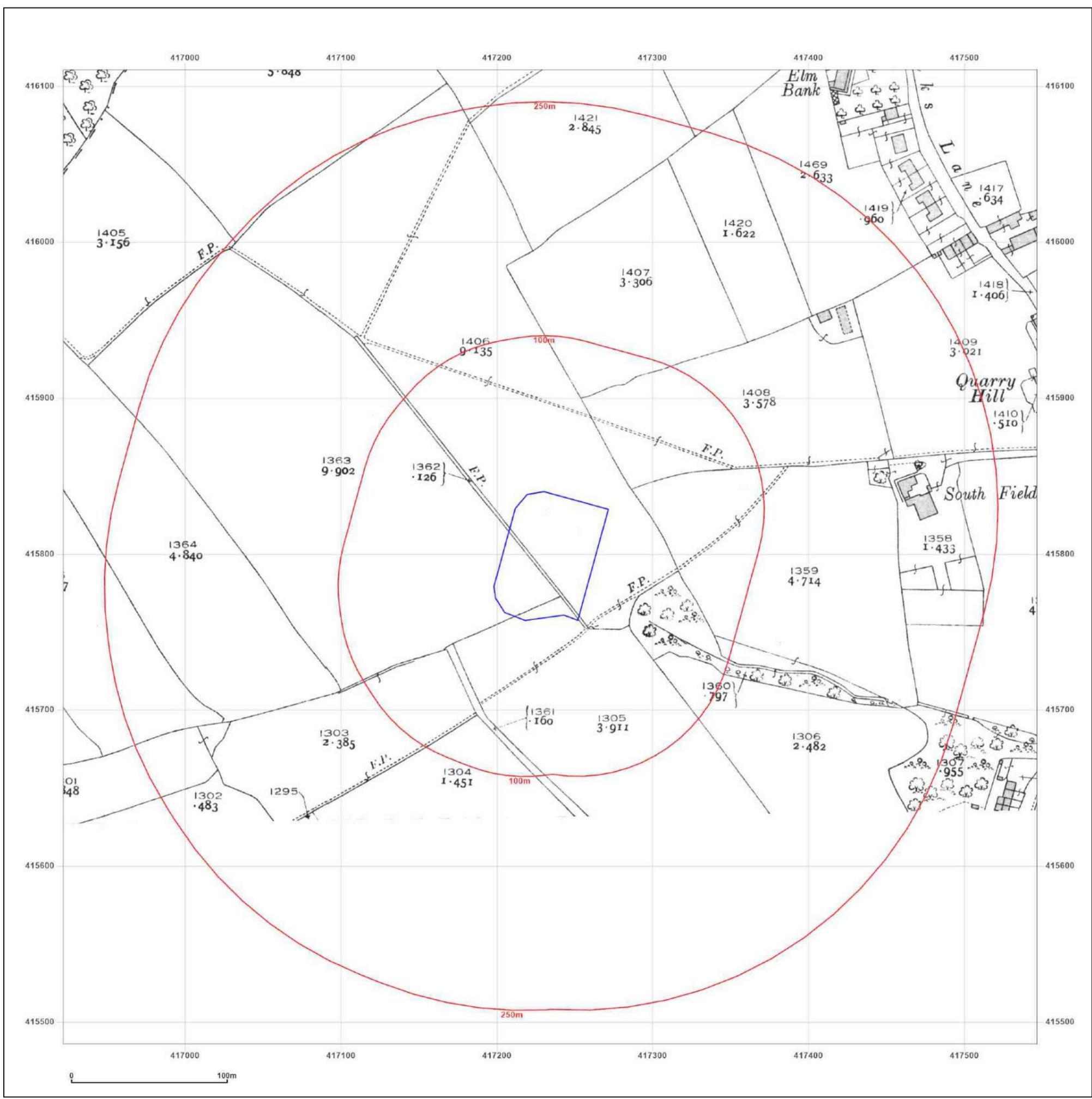


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Site Details:

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Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: National Grid

Map date: 1957

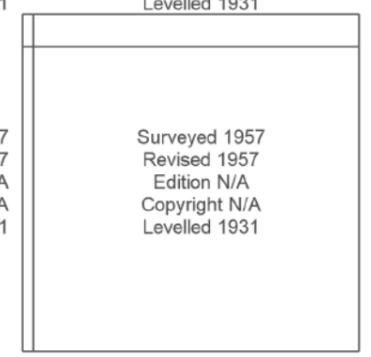
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Printed at: 1:2,000



Surveyed 1957	Surveyed 1957
Revised 1957	Revised 1957
Edition N/A	Edition N/A
Copyright N/A	Copyright N/A
Levelled 1931	Levelled 1931

Surveyed 1957	Surveyed 1957
Revised 1957	Revised 1957
Edition N/A	Edition N/A
Copyright N/A	Copyright N/A
Levelled 1931	Levelled 1931



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Site Details:

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Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: National Grid

Map date: 1958

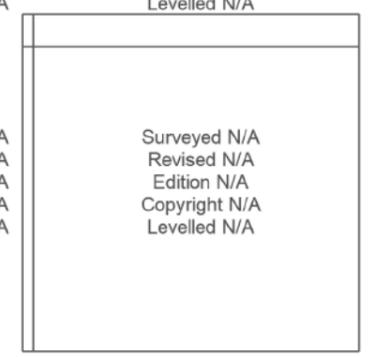
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Printed at: 1:2,000



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

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

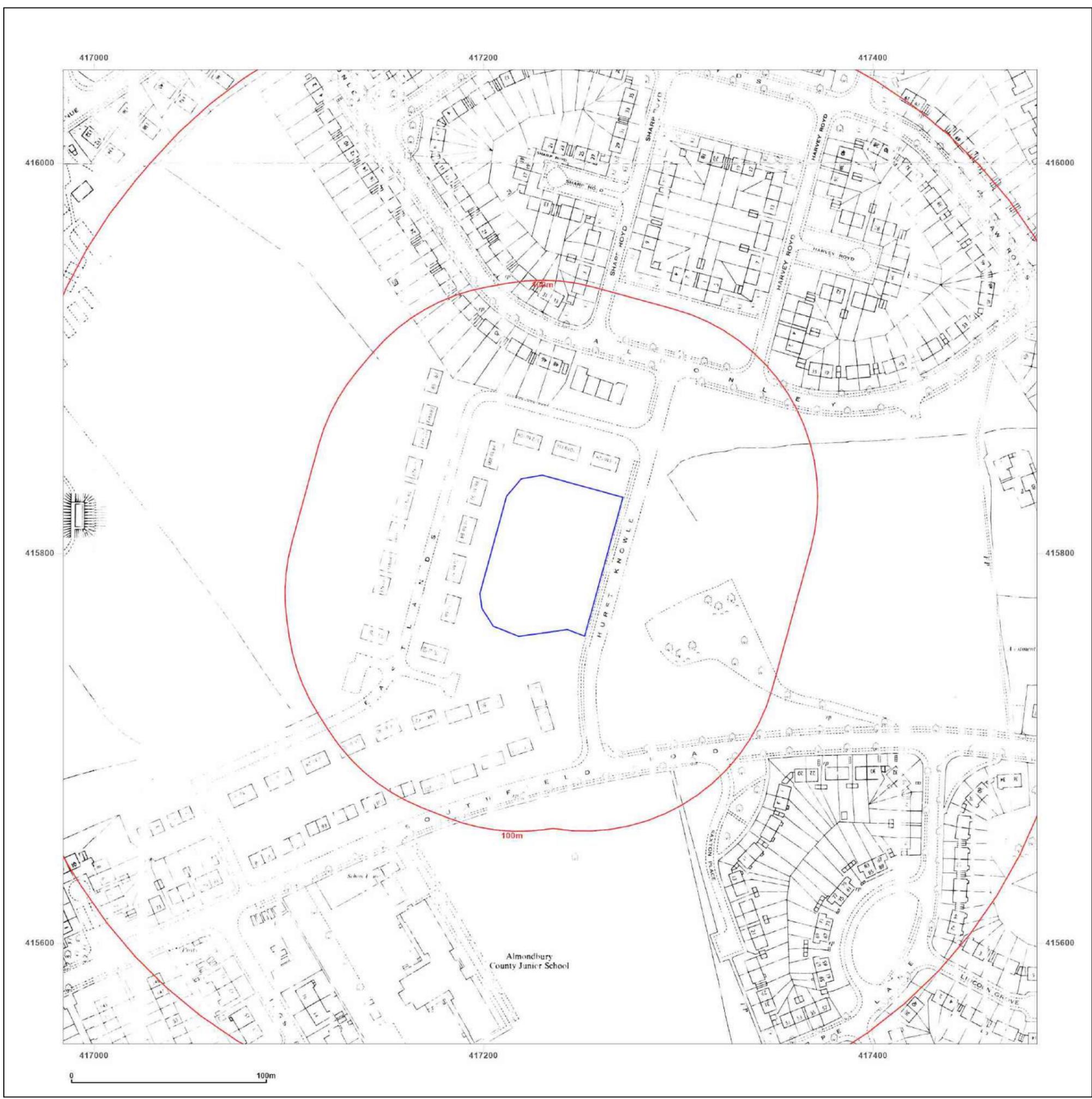


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Site Details:

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Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: National Grid

Map date: 1961

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1959
 Revised 1959
 Edition 1961
 Copyright 1961
 Levelled 1931

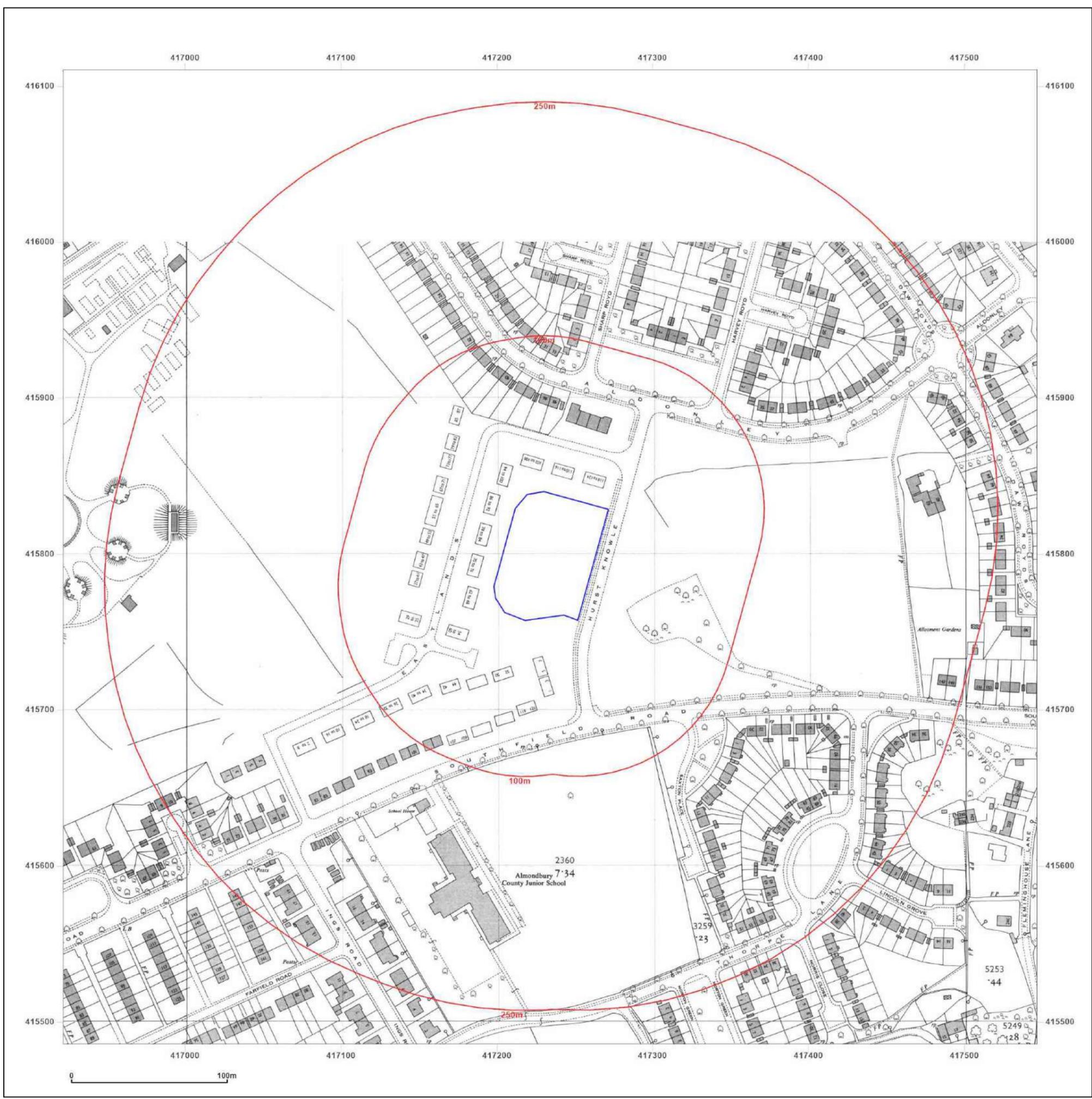


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Site Details:

The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: National Grid

Map date: 1958-1961

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1957 Revised 1957 Edition 1959 Copyright 1959 Levelled 1931	Surveyed 1957 Revised 1957 Edition 1958 Copyright N/A Levelled 1931
Surveyed 1957 Revised 1957 Edition 1958 Copyright N/A Levelled 1931	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A

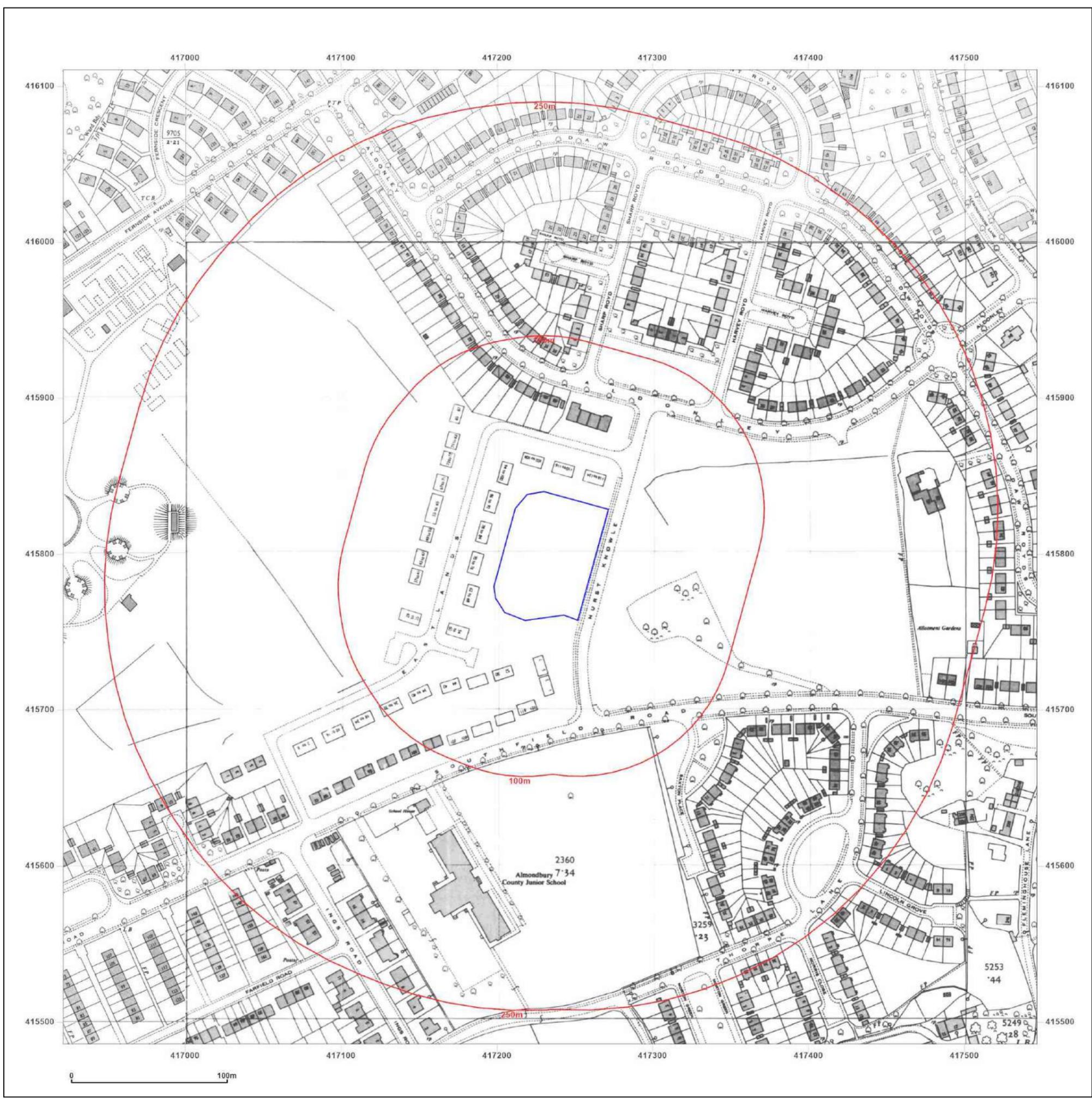


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Site Details:

The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: National Grid

Map date: 1963-1968

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1957	Surveyed 1957
Revised 1966	Revised 1968
Edition N/A	Edition N/A
Copyright 1967	Copyright 1968
Levelled 1959	Levelled 1959

Surveyed 1957
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 Edition N/A
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Site Details:

The Homestead, Hurst Knowle

Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: National Grid

Map date: 1990-1993

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A	Surveyed 1959
Revised N/A	Revised 1990
Edition N/A	Edition N/A
Copyright 1993	Copyright 1990
Levelled N/A	Levelled 1959

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



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Site Details:

The Homestead, Hurst Knowle

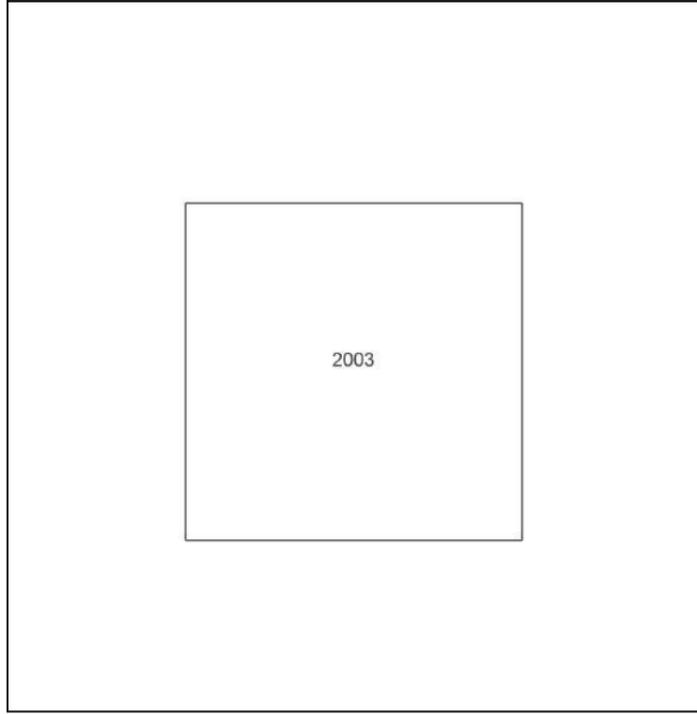
Client Ref: 8263 The Homestead
Report Ref: GS-K5A-XKH-EA1-TH7
Grid Ref: 417234, 415798

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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