

# LAND CONTAMINATION RISK MANAGEMENT REMEDIATION STRATEGY

for the proposed  
**Residential development**

at

**Manor Farm,  
Cross Gates,  
Harpham  
YO25 4QT**



*frontispiece – 3D view towards southeast*

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**Report on:** LCRM - Remediation Strategy

**Report at:** Manor Farm, Cross Gate, Harpham YO25 4QT

**Report for:** Applemont, 72 Lairgate, Beverley HU17 8EU

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# 1. INTRODUCTION

## 1.1 Site details

It is proposed to redevelop the agricultural buildings at Manor Farm, Harpham with *alterations and extensions to form five dwellings with detached gardens and alterations to convert two dwellings and agricultural outbuildings into a single dwelling with garage together with associated works.*

There is potential for contamination in the ground at this site from the former use as a farm.

A Phase 1 Geo-Environmental report was prepared to identify specific sources of contamination that could be present, from current and historical use, from both on-site or from off-site but close enough to affect the site.

This report presents a strategy for dealing with the contamination hazards identified in the Phase 1 report in order to make the site safe for the proposed development.

The report is based on:

- interpretation and assessment of previous work undertaken; and
- the practicalities of applying the remedial works given the proposed development.

The purpose of this document is to provide a formal procedure statement for the remediation to be applied at this site to make it safe for the proposed development and future users.

## 1.2 Scope of report

As part of the planning consent from East Riding of Yorkshire Council (ERYC), has conditioned that, due to the risk of contamination from the former use, a Remediation Scheme should be submitted for approval prior to commencement of works.

The Environment Agency Land Contamination: Risk Management (LCRM) guidance prescribes the following three step framework for managing land contamination in England.

LCRM Framework		Planning Condition
<b>Stage 1</b>	<b>Risk Assessment</b>	Site Characterisation
	Tier 1: Preliminary Risk Assessment (PRA)	
	Tier 2: Generic Quantitative Risk Assessment (GQnRA)	
	Tier 3: Detailed Quantitative Risk Assessment (DQnRA)	
<b>Stage 2</b>	<b>Options Appraisal</b>	Submission of Remediation Strategy
<b>Stage 3</b>	<b>Remediation</b>	
	Tier 1: Develop a Remediation Strategy (RS)	Implementation of Approved Remediation Strategy
	Tier 2: Remediation and Verification	
	Tier 3: Long term monitoring and maintenance (if required)	

**Table 1 – Stages of risk assessment for contaminated land**

This report satisfies Stage 3 Remediation – Tier 1 Develop a Remediation Strategy.

## 2. SOURCES OF INFORMATION

Alan Wood and Partners 2021 – Phase 1 Geo-Environmental report at Manor Farm Harpham JS/AC/46605 (copy without appendices appended)

## 3. PLANNING PERMISSION REQUIREMENTS

The planning permission reference is 22/30005/PCF, with additional references from 16/00743/PCF and 16/01338/PLB.

## 4. PREVIOUS REPORTS

### 4.1 Review

The Phase 1 report previously prepared comprehensively assessed all likely Sources and Receptors for any contamination that had the potential to be at the site.



Fig 1 – aerial view of manor Farm site



**Fig 2 – Executive Summary of Phase 1 Geo-Environmental survey (from Phase 1 report)**

No significant contamination hazards were identified, and the report described a typical traditional (*i.e.* Victorian) farmstead that had become redundant as farming practice changed.

With the absence of any specific source of contamination (*e.g.* fuel AST and oil stores, CBA-roofing, tractor workshops, chemical stores) the report identified the generic potential sources of contamination from:

- Made Ground.

The potential for contamination from asbestos fibres, metals, PAH and organic gas are commonly assigned to Made Ground.

Potential Source	Potential Receptor	Plausible Pathway	Probability	Severity	Initial Risk Rating	Solution
Potentially contaminated made ground, near surface natural strata/perched groundwater	Human Health	Direct ingestion or dermal contact with soil, dust and/or vapour inhalation	Likely	Medium	Moderate	Soil capping or removal of contaminated soils where necessary
	Site end-users, inc. maintenance and site workers (short term risk during construction)	Direct ingestion and/or dermal contact with liquid contaminants	Low Likelihood	Mild	Low	
		Inhalation of asbestos fibres	Low likelihood	Severe	Moderate	Appropriate removal and disposal, burial at depth or soil capping where necessary
	Construction (Potable Water Supply Pipes)	Direct contact/leaching (tainting)	Low likelihood	Mild	Low	Upgraded water pipes/clean backfill material where necessary
	Construction (Foundations)	Direct contact/leaching	Low likelihood	Mild	Low	Appropriate concrete specification
	Controlled Waters	Surface run-off / lateral migration	Low Likelihood	Mild	Low	Low risk anticipated due to intermediate soil leaching potential
Made ground deposits	Human Health	Inhalation (via ingress and accumulation)	Low likelihood	Medium	Moderate/Low	Gas monitoring with necessary precautions appropriate to proposed site end use

## 4.2 Assessment

### 4.2.1 Made ground

A review of the site conditions does not lend credence to the likelihood of a *substantial thickness of Made Ground* and the consequential generation of CO<sub>2</sub> and CH<sub>4</sub> gases.

The ground at the site is Sand and Gravel which is a surface that does not need any improvement for agricultural over-run other than a surface dressing, usually amounting to 0.3 m thick, and with no requirement for the creation of Made Ground.

### 4.2.2 Tank

There is no reference to the former *Tank* and its function as described in the Desk Study.

It is likely that the Tank was an AST (above-ground storage tank) for tractor fuel (*i.e.* diesel) and spills of the fuel beneath the tank would be inevitable and, if not contained, would contaminate the ground and seep into the underlying Sand and Gravel.

## 5. REMEDIATION REQUIREMENTS

### 5.1 Proposed development

It is proposed to redevelop the agricultural buildings at Manor Farm, Harpham with *alterations and extensions to form five dwellings with detached gardens and alterations to convert two dwellings and agricultural outbuildings into a single dwelling with garage together with associated works.*

Most of the developmental work will be above-ground.

Some ground scarping may be necessary for the roads and garden areas.

There will be shallow excavations for services and utilities.

The garden areas will require the importation of Topsoil.



Fig 6 – Proposed development



## 5.2 Remediation strategy

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### 5.2.1 Made ground

There is a risk that the site workers will be exposed to the Made Ground when excavating the foundations for the extension and that there may be a surplus of that ground that will need to be disposed off.

There is a low potential that the ground is contaminated.

Details for dealing with this risk are given in Chapter 6 and 7.

### 5.2.2 Buried utilities

Details for dealing with buried utilities, particularly drinking water pipes, are given in Chapter 8.

### 5.2.3 Topsoil

Details for dealing with imported Topsoil are given in Chapter 9.

### 5.2.4 Validation

Confirmation will be required to confirm that any remedial work undertaken has been completed satisfactorily.

Details for validation are given in Chapter 10.

## 6. RISKS TO GROUNDWORKERS

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### 6.1 Pre-construction induction

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All site workers should be informed of the potential for contamination in the ground at the site, particularly in the area of the former *Tank*.

The risk of contamination is moderate to low and can be dealt with by good site practice, to include:

- identification of contaminated ground (*i.e.* odour, discolouration); and
- the wearing of normal protective clothing.

### 6.2 Procedure if contaminated ground is encountered

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If any suspected ground contamination is encountered then:

- work at that 'hot spot' should be stopped and the area fenced off and made safe;
- Langdale-Smith and Co. should be contacted and the hazard should be described;
- the Council should be advised immediately by email of the findings;
- any excavated material from that 'hot spot' should be kept separately from existing spoil; and
- delays in the construction programme in the area of the 'hot spot' should be anticipated.

Samples of the remaining ground should be analysed to ensure effective removal of any contamination.

## **7. MATERIAL EXPORTED FROM SITE**

### **7.1 Material to be disposed off**

It is illegal to trans-ship material from a site if that material has the potential to be contaminated.

Material to be disposed off should be stockpiled prior to testing and removal.

The stockpile should be located so that any leachate from that pile cannot affect uncontaminated land or water sources.

Asbestos contaminated waste should be removed by correctly licensed operators.

### **7.2 Waste classification and disposal**

Soils in the stockpile should be analysed to establish whether the soil is hazardous or not.

The Environment Agency guidance 'Waste sampling and testing for disposal to landfill' recommends sampling rates of:

- 5 No. samples for <60 m<sup>3</sup> of heterogenous waste; and
- 2 No. samples for <60 m<sup>3</sup> of homogenous waste.

Landfill sites are classified according to whether they can accept wastes that are:

- hazardous;
- non-hazardous; and/or
- inert.

The WAC test is a standard test that will provide the information required to derive the type of waste to be disposed off.

The results from the WAC test can be used to select the most economical destination for the waste.

Any licensed landfill site will provide documentation to confirm the safe disposal of the waste.

## **8. BURIED UTILITIES**

### **8.1 Drinking water pipes**

It is common practice for Yorkshire Water to insist on the installation of metal-coated drinking water pipes at any Brownfield Site, whether proven contaminated or not.

Sampling should be undertaken along the main services route to identify if any trigger values are exceeded.

Water infrastructure is normally laid between 0.75 m and 1.35 m below finished ground level and the crown of the pipe and the ground needs to be proven to have no contamination at concentrations that exceed the trigger values (Table 2) to 0.5 m below the pipes.

At the Colosseum site the existing water supply pipes are of the barrier type because no sampling/analysis was undertaken because no contamination was anticipated in the ground.

The connection to the proposed development will be in clean newly emplaced ground and will be at very low risk from ground contamination.

From Table 15, below, it is apparent that the Polyethylene-Aluminium barrier pipe is usually the most suitable.

Parameter group	PE	PVC	Barrier Pipe (PE/Al/PE)	Wrapped Steel	Wrapped Ductile Iron	Copper
VOC	0.5	0.125	Pass	Pass	Pass	Pass
VOC + BTEX + MTBE	0.1	0.03	Pass	Pass	Pass	Pass
SVOC + C5-C10	2	1.4	Pass	Pass	Pass	Pass
SVOC + C5-C10 + phenols	2	0.4	Pass	Pass	Pass	Pass
SVOC + C5-C10 + phenols + Cresols and chlorinated phenols	2	0.04	Pass	Pass	Pass	Pass
Mineral oil C11-C20	10	Pass	Pass	Pass	Pass	Pass
Mineral oil C21-C40	500	Pass	Pass	Pass	Pass	Pass
Corrosive	Pass	Pass	Pass	pH<7, Eh not neutral, EC>400 uS/cm	pH<5, Eh not neutral, EC>400 uS/cm	pH<5, pH>8, Eh positive
Ethers	0.5	1	Pass	Pass	Pass	Pass
Nitrobenzene	0.5	0.4	Pass	Pass	Pass	Pass
Ketones	0.5	0.02	Pass	Pass	Pass	Pass
Aldehydes	0.5	0.02	Pass	Pass	Pass	Pass
Amines	Fail	Pass	Pass	Pass	Pass	Pass

Table 15 – threshold concentration mg/kg for water pipes in contaminated ground

## 9. CLEAN COVER and TOPSOIL

### 9.1 Simple cover system

It is likely that Topsoil will be brought to this site.

Any soil imported onto the development site from an outside source must be suitable for use and free from contamination.

### 9.2 Topsoil and subsoil suitability

There are two grades of manufactured Topsoil:

- multi-purpose; and
- specific purpose (*i.e.* for acid or calcareous soils).

Usually multi-purpose Topsoil is suitable for garden areas.

The depth of Topsoil cover to be installed varies between 0.3 m and 0.6 m and can be calculated from BRE465 – Cover Systems for Land Regeneration.

Subsoil can be used to replace the lower part of the Topsoil cover system as long as 0.3 m of Topsoil remains.

The subsoil should be subject to the same criteria as Topsoil with the exception that a sand and/or stone content of 10% is acceptable.

### 9.3 Sampling and analysis of imported soils

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Imported manufactured topsoil should conform to BS3882:2015 Specification for Topsoil, which requires:

- where the topsoil came from and previous land use;
- analytical proof that it is free from chemical contamination (e.g. metals, PAH);
- proof that it is free from physical contaminants (e.g. asbestos, stone, glass, plastic etc);
- suitable pH, electrical conductivity (i.e. salinity);
- available plant nutrients (K, P, Ca, Mg etc);
- suitable particle size distribution (PSD), because too much sand, silt or clay is not suitable;
- adequate organic matter content (loss on ignition); and
- whether the soil is multipurpose (e.g. gardens, landscaping) or for a specific purpose (e.g. for acidic or calcareous soil).

For the contamination assessment (i.e. metals, PAH) the SGV for residential with garden uptake, published by LQM/CIEH, should be used.

A cumulative TPH EC5-EC35 of 500 mg/kg and total PAH of 50 mg/kg would be considered as acceptable.

For asbestos a suitable acceptance criteria would be 'asbestos not identified in any quantity'.

Garden areas:

- topsoil sample frequency of 1 per 50 m<sup>3</sup> if origin of soil is not known;
- topsoil sample frequency of 1 per 100 m<sup>3</sup> if origin of soil is known;
- subsoil sample frequency of 1 per 200 m<sup>3</sup>; or
- minimum 3 samples per soil type to give statistical confidence, whichever is the greatest.

Landscaped areas:

- topsoil sample frequency of 1 per 200 m<sup>3</sup>;
- subsoil sample frequency of 1 per 250 m<sup>3</sup>; or
- minimum 3 samples per soil type to give statistical confidence, whichever is the greatest.

## 10. VERIFICATION

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The Verification Report should document all aspects of the Remedial Works undertaken so that future users can have confidence that the original contamination risks have been allayed and that they are not at risk of any harm from that contamination.

Data collection for the Validation Report will begin during the Remediation Stage and continue throughout the Remedial Works.

The data to be collected can comprise of:

- observational records made during inspection of the works;
- sampling from at least 3 No. locations, to be representative of the ground;
- analysis for Pb, PAH and asbestos;
- photographs of on-going work such as installation of water pipes;
- receipts and waybills providing evidence of imported and exported materials;
- plans integrating the remedial scheme into the construction process; and
- excavations and sample analysis to confirm cover system installation.

The Verification Report should be prepared by an Independent Suitably Qualified Person to provide confirmation that the Remedial Work has been undertaken satisfactorily

Any conditions relating to ground contamination in the planning permission granted will not be discharged until the Verification Report has been accepted and approved by the relevant planning department.

**<< END >>**

Engineer/  
Manage/  
Deliver/



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## **PHASE I GEO-ENVIRONMENTAL APPRAISAL, MANOR FARM, CROSS GATES, HARPHAM, DRIFFIELD**

for

### **Smartbuild Harpham Limited**

Project Reference: JS/AC/46605-Rp001

Prepared by: **A. Clark BSc (Hons) MSc FGS**



Signed:

Date: 17<sup>th</sup> December 2021

Approved by: **J. Saunders BSc (Hons), MSc (Eng), CEng. MIMMM, FGS**



Signed:

Date: 17<sup>th</sup> December 2021

Issue	Revision	Revised by	Approved by	Revised Date

For the avoidance of doubt, the parties confirm that these conditions of engagement shall not and the parties do not intend that these conditions of engagement shall confer on any party any rights to enforce any term of this Agreement pursuant of the Contracts (Rights of third Parties) Act 1999.

The Appointment of Alan Wood & Partners shall be governed by and construed in all respects in accordance with the laws of England & Wales and each party submits to the exclusive jurisdiction of the Courts of England & Wales

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- APPENDIX B:    EMAPSITE: HISTORICAL ORDNANCE SURVEY PLANS**

## EXECUTIVE SUMMARY

<b>Site Location</b>	The site is located on the southern edge of the village of Harpham, approximately 8.5km to the north-east of Driffield and 9.5km to the south-west of Bridlington. It is centred at National Grid Reference (NGR) 509278mE, 461548mN.
<b>Site Size and Shape</b>	The site is irregular shape and covers an area of approximately 0.84ha.
<b>Current Site Use</b>	The site currently comprises a series of derelict buildings (a former farm).
<b>Site History</b>	<p>The site has been developed as a farm since the earliest available map reviewed dated 1850. It has undergone some reconfiguration with new structures being built primarily in the southern half of the site. A tank was shown to be present on the southern edge of the site from the 1970s up until mapping dated 2010.</p> <p>Off site, development has occurred primarily to the north and east, with the centre of Harpham village located to the north of the site. A church and graveyard are located immediately to the west of the site, with an area formerly labelled as a moat and earthworks between 110m and 200m to the west.</p>
<b>Geology</b>	<p><b>Superficial Soils</b> - Sand and Gravel.  <b>Solid Geology</b> - Flamborough Chalk Formation.</p>
<b>Hydrogeology</b>	<p><b>Aquifer within Superficial Deposits:</b> Secondary A  <b>Aquifer within Bedrock:</b> Principal</p>
<b>Hydrology</b>	There are four reported surface water features within 250m of the site. The nearest is located 143m to the east of the site and appears to be a surface water drain.
<b>Mining</b>	On the basis of available information risk associated with shallow coal mining subsidence is considered to be negligible.
<b>Groundwater</b>	It is anticipated that some localised perched groundwater may be present below the site, but that true groundwater shall be located at depth within the chalk bedrock.
<b>Unexploded Ordnance (UXO)</b>	Using Zetica online risk maps, there is a low risk of encountering UXO on site, therefore no further action is required.
<b>ENVIRONMENTAL APPRAISAL</b>	
<b>Sources of Potential Contamination</b>	Potentially contaminated made ground soils, underlying natural strata/perched groundwater
<b>Radon</b>	The site lies within an area where radon protective measures are not required in construction.
<b>Ground Gases</b>	It is considered possible that elevated concentrations of CO <sub>2</sub> and CH <sub>4</sub> may be present as a result of potential significant made ground deposits.
<b>Invasive Plant Species</b>	Japanese Knotweed was not observed during the site walkover. It would be prudent however to undertake an invasive plant species survey to confirm this prior to redevelopment.
<b>Risk to End Users and Site Workers</b>	Low to Moderate
<b>Remediation Requirements</b>	At this stage it is possible that a soil capping layer might be required in gardens and soft landscaped areas given the potential for elevated concentrations of inorganic and organic contaminants within any made ground soils (and/or the underlying near surface natural strata).
<b>Protection of Potable Water Supplies</b>	It is considered, at this stage, that some protective measures may be required where potable water supply pipes are to be laid, where made ground is found to be present.

<b>GEOTECHNICAL APPRAISAL</b>	
<b>Principal Bearing Strata</b>	Superficial sand and gravel (where a suitable bearing capacity is obtained)
<b>Influence from Trees and Volume Change Potential</b>	There are some trees around the boundaries to the site, so precautions may be required should structures lie within influencing distance if any clay is encountered, although available information suggests that this is unlikely. In addition, precautions may be required where trees are to be removed or where new planting is proposed.
<b>Likely Foundation Types</b>	It is understood that the majority of the redevelopment of the site will repurpose existing buildings and their foundations. At this stage it is considered, for new construction, where competent undisturbed natural strata is encountered at founding depth, that for 2-3 storey structures of typical construction traditional strip or trench-fill foundations should be suitable. A rafted foundation solution may potentially be required if areas of deep fill are present on site, subject to the presence of an even thickness of uniform soil type being provided.
<b>Likely Foundation Depth Range</b>	A minimum footing depth of around 600mm in this instance will probably be adequate (for granular soils or bedrock). Made ground soils of any type are not suitable founding stratum.
<b>Likely Ground Slab</b>	In situ suspended floor slabs are likely to be the most suitable for use at the site, particularly where in excess of 600mm of unsuitable material is present below floor slabs following site preparation/regrading. Should ground bearing slabs be suitable however, care must be taken to ensure that shallow strata do not become heavily disturbed by site clearance/construction activities (especially during inclement weather). Where this occurs, this could result in an increased requirement for suspended slabs.
<b>Buried Concrete</b>	Sulphate protection is expected to be required in buried structures where made ground is present. Sulphate Class DS-2 will probably be suitable; however, this will need to be confirmed through laboratory testing.
<b>Soakaways</b>	It is considered, at this stage, that soakaways may be suitable, unless shallow groundwater is present. Should favourable ground conditions be encountered during intrusive investigation, permeability testing will be required to confirm whether soakaways could be utilised and likely infiltration rates.
<b>Obstruction &amp; Excavations</b>	Obstructions to excavations should be expected due to historical information indicating buildings once stood on the majority of the site. Other currently unforeseen obstructions may also be present.
<b>Roads</b>	A preliminary CBR value of <2.5% is currently considered for road and pavement design. It is recommended that in-situ CBR testing is carried out when final site levels will be known and after construction of the development platform.
<b>FURTHER WORKS</b>	
	<p>Ground investigation by windowless sampler boreholes to facilitate the collection of samples from within the on-site made ground and the underlying near surface natural strata for chemical and geotechnical laboratory testing and allow for the installation of ground gas and groundwater monitoring equipment;</p> <p>Hand excavated foundation inspection pits should information be required about the existing foundations;</p> <p>Assessment of the risk to human health from the identified levels of contamination, of the thickness and nature of the made ground soils, and of the geotechnical properties of the underlying natural strata for foundation</p>

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	<p>design purposes;</p> <p>Report on the presence of likely development abnormalities (e.g. shallow bedrock, buried obstructions, soft ground, deep made ground etc), where encountered;</p> <p>In situ permeability testing to assess infiltration rates for drainage design (subject to favourable ground conditions);</p> <p>Establish the presence of fugitive ground gases over the period of monitoring as outlined above. A minimum of 3 No. ground gas/groundwater monitoring installations would be required;</p> <p>Invasive plant species survey (to be commissioned under separate agreement if necessary).</p>
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## 1 INTRODUCTION

### 1.1 Details of Commission

- 1.1.1 Alan Wood & Partners were appointed by Smartbuild Harpham Limited (the 'Client') to undertake a Phase I Geo-Environmental Assessment. This report covers the proposed development area only.
- 1.1.2 This report provides geotechnical and environmental information in relation to the proposed redevelopment of the site for a residential end-use assuming that ground levels will remain similar to present. Interpretation and recommendations should not be assumed valid for adjacent areas of land, or for alternative land uses. Should the proposed site usage change, the recommendations and conclusions presented in this report may need to be re-assessed.
- 1.1.3 The assessment undertaken and presented in this report includes potential sources of historical ground contamination, likely impacts on sensitive receptors and, where necessary, the identification of any remediation and/or subsequent investigative works that may be required.
- 1.1.4 The report has been prepared for the sole use and reliance of the Client. No other third party may rely on, reproduce or redistribute any content of this report without the prior written consent of Alan Wood & Partners. Any unauthorised third parties using the information presented in this report do so entirely at their own risk and are duly excluded from any warranty, duty of care or skill.

### 1.2 Previous Reports

- 1.2.1 Alan Wood & Partners are not aware of any historical assessment or ground investigation reports, with respect to the site or neighbouring property, which may be used to facilitate the assessment presented herein.

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## 1.3 Scope of Works

1.3.1 This report constitutes the findings of the Phase I Geo-Environmental Assessment for the site and is based on a review of available geological, hydrogeological and environmental records. The scope of works undertaken within the context of this report comprised:

- A site walkover;
- A review of environmental site sensitivity and historical mapping data;
- A review of available British Geological Survey (BGS) records and plans;
- A review of BGS on-shore borehole records (where available); and the,
- Review of Coal Authority data.

1.3.2 The principal objectives of the Phase I assessment was to:

- Obtain information from accessible sources about the soil and groundwater conditions within the area of the site;
- Determine the possible ground related geotechnical and environmental hazards within the site boundaries that may affect the proposed development;
- Develop an initial Conceptual Site Model (CSM) of potential *source-pathway-receptor* contaminant linkages and undertake a preliminary Risk Assessment in accordance with the proposed development end use scenario;
- Outline preliminary development recommendations;
- Provide advice on any additional phases of work that need to be completed to satisfy the regulatory authorities.

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## 2 ENVIRONMENTAL SETTING

### 2.1 Introduction

2.1.1 Published environmental, geological and historical data relating to the site area has been reviewed, in conjunction with a walkover survey undertaken on the 30<sup>th</sup> of November 2021, the findings of which are presented below. The principal considerations of immediate relevance are presented in the following sections.

### 2.2 Site Location & Description

2.2.1 The site is located on the southern edge of the village of Harpham, approximately 8.5km to the north-east of Driffield and 9.5km to the south-west of Bridlington. It is centred at National Grid Reference (NGR) 509278mE, 461548mN. A site location plan is presented as Figure 46605/001.

2.2.2 The site is irregular shape and covers an area of approximately 0.84ha. A photographic record of the walkover is presented as Plates 1-12. Key site features are shown on Figure 46605/002.

2.2.3 The site slopes very gently from north to south, with a fall in elevation of approximately 1m. An area of soft landscaping was present in the eastern half of the site, with an area of hardstanding in the southern half of the site.

2.2.4 An access track runs from the northern boundary of the site, through the centre and out towards the western boundary of the site.

2.2.5 There are a number of derelict buildings present on the site, the majority of which are red brick built with tiled rooves comprising residential dwellings and old farm buildings. A further brick built building is present in the centre of the northern half of the site with a corrugated metal roof. A building in the centre of the site also had no roof, thought to have collapsed in due to old age and instability.

2.2.6 No evidence of asbestos containing materials was noted to be present on site.

2.2.7 An above ground tank was noted adjacent to the western boundary of the site, between the existing site building and the church to the west. A potential below ground tank was recorded within the southern-most building. Evidence of this comprised a square hole in the ground in the floor of the building, filled with stagnant water.

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2.2.8 Three large trees are noted to be present on site. These are located in the centre of the eastern half of the site, in the south-eastern corner of the site, and on the western edge of the site (to the south of the church).

2.2.9 The northern boundary of the site is marked by the extent of the residential properties. The eastern boundary of the site was not visible for the majority of the site length due to overgrown vegetation. A hedge is present along the eastern part of the southern boundary, with no physical marker of this boundary across two-thirds of its length. The western boundary of the site is marked half by a brick wall and half by the extent of the existing buildings on site.

2.2.10 No evidence of fly tipping was recorded during the site walkover.



### 3 GEO-ENVIRONMENTAL DATA

#### 3.1 Anticipated Geology, Hydrogeology & Mining

3.1.1 A summary of the available published geological and hydrogeological information is provided in Table 3.1 below and overleaf. A review of the following information was undertaken:

- British Geological Survey 1:50,000 scale series, Sheet No. 64 Great Driffield, Solid & Drift Edition;
- Coal Authority online ground stability database;
- Emapsite GroundSure Enviro and GeoInsight Data Report Ref. EMS-741383\_965084 (Appendix A) dated 30<sup>th</sup> November 2021.

**Table 3.1 - Geological Information**

<b>Made Ground and Surface Ground Workings</b>	<p>Information presented in the GroundSure report indicates that there are no areas of artificial/made ground within 500m of the site.</p> <p>There is one entry in the GroundSure report that refers to a historical surface ground working feature within 250m of the site. This is located 234m to the south-west of the site and refers to an unspecified heap.</p>
<b>Geology</b>	<p>Superficial soils below the site are recorded as Sand and Gravel.</p> <p>The solid geology underlying the site area is recorded as being the Flamborough Chalk Formation.</p> <p>There are no historical BGS boreholes within 250m of the site boundary.</p>
<b>Discontinuities</b>	<p>Information presented in the Groundsure report indicates that there are no bedrock faults or other linear features within 500m of the site.</p>
<b>Hydrogeology</b>	<p><b>Aquifer within Superficial Deposits:</b> 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.</p> <p><b>Aquifer within Bedrock:</b> Principal - rock with high intergranular and/or fracture permeability and can provide a high level of water storage. These deposits are capable of supporting water supply and/or base river flow on a strategic scale.</p> <p><b>Source Protection Zones:</b> There are no source protection zones within 500m of the site.</p> <p><b>Vulnerability &amp; Leaching Potential:</b> The superficial soils are recorded as having an intermediate leaching class with the bedrock having a low vulnerability.</p>
<b>Hydrology</b>	<p>There are four reported surface water features within 250m of the site. The nearest is located 143m to the east of the site and appears to be a surface water drain.</p>
<b>Mining &amp; Ground Stability</b>	<p><b>Historic Underground Working Features</b></p> <p>Information presented in the Groundsure report indicates that there are no historical underground working features within 1km of the site.</p> <p><b>Coal Mining</b></p> <p>Information presented on the Coal Authority website (<a href="http://www.coal.decc.gov.uk">www.coal.decc.gov.uk</a>) indicates that the site does not lie within a Coal</p>

	<p>Mining Reporting area.</p> <p>On the basis of available information risk associated with shallow coal mining subsidence is considered to be <b>negligible</b>.</p>
<b>Non-coal Mining</b>	Historical information indicates that there are no non-coal mining areas within 1km of the site.
<b>Natural Cavities</b>	The GroundSure data indicates that there are no natural cavities recorded within 1km of the study site.
<b>Radon and Mine Gas</b>	<p>The site lies within an area where radon protective measures are not required in construction.</p> <p>Risk associated with mine gas emission requiring action by the Coal Authority within the boundary of the site is not anticipated.</p>
<b>Unexploded Ordnance (UXO)</b>	Using Zetica online risk maps, there is a low risk of encountering UXO on site, therefore no further action is required.

### 3.2 Environmental Records

3.2.1 A summary of the available environmental information is presented in Table 3.2.

**Table 3.2 - Environmental Data**

<b>Potentially Harmful Discharges (Red List) to Controlled Waters</b>	There are no records of red list discharge consents reported to be within 500m of the site.
<b>Licensed Discharge Consents</b>	There is one record of a licensed discharge consents reported to be within 500m of the site. This is located 219m to the north of the site at The Old Chapel on Man Street.
<b>EA Recorded Pollution Incidents to Controlled Waters</b>	There are no EA recorded pollution incidents within 500m of the site.
<b>Landfill and Other Waste Sites</b>	<p>There are no active/recent or historical landfill sites within 500m of the site. There are also no historical or licensed waste sites within 500m of the site.</p> <p>There are 54 recorded waste exemptions within 500ms of the site, several which are located at Manor Farm itself, including exemptions relating to disposing and the treatment of agricultural waste. Further waste exemptions are recorded 180m to the north-east of the site at East End Farm.</p>
<b>Flooding</b>	<p>The site does not lie within 50m of an Environment Agency Flood Zone 2 or Flood Zone 3.</p> <p>There is a high risk of groundwater flooding on site.</p>
<b>Abstractions</b>	There are no active groundwater, surface water or potable water abstractions located within 1km of the site.
<b>Invasive Plant Species</b>	Japanese Knotweed was not observed during the site walkover. It would be prudent however to undertake an invasive plant species survey to confirm this prior to redevelopment.
<b>Public Register of Contaminated Land: Part 2A (EPA 1990)</b>	There are no sites designated as contaminated land under, Section 78R of the EPA 1990, within 500m of the site.
<b>Dangerous or Hazardous Sites</b>	There are no NIHHS or COMAH sites or high pressure underground pipelines within 500m of the site.

<b>Potentially Contaminative Current Land Uses</b>	The are no active petrol or fuel sites within 500m of the site.
	There is one potentially contaminative industrial land-use within 250m of the site. This is located within the site boundary and refers to a tank on the southern edge of the site.

### 3.3 Historical Land Use

3.3.1 A study of historical Ordnance Survey maps has been undertaken to identify any potentially contaminative former land-uses at the site. The main historical features of the site and surrounding area are summarised in the following table, whilst a copy of the historical maps is presented in Appendix B.

3.3.2 Ordnance Survey map editions may not however be complete, and it is possible, therefore, that additional land uses to those presented in the plans have occurred. Alan Wood & Partners have tried to ascertain the complete record of the site's history, but the possibility that other potentially significant land uses may have taken place cannot be ignored.

3.3.3 A summary of the historical land use and surrounding area is presented in Table 3.3 and Table 3.4.

**Table 3.3 - Summary of Principal Historical Features (On Site)**

Year	Scale(s)	Principal Features
1850	1:10,560	The site area contains a number of buildings and is labelled as Manor Farm.
1852	1:10,560	Minor reconfiguration of the buildings in the centre of the site.
1891-1892	1:10,560	No significant changes.
1892	1:2,500	Pump located towards the northern boundary of the site.
1909	1:10,560	Minor reconfiguration of the buildings in the centre of the site. Pump no longer shown to be present on site.
1910	1:2,500	No significant changes.
1912	1:10,560	Mapping incomplete – site and surrounding area not shown.
1926-1929	1:10,560	New structure has been built towards the south-western corner of the site.
1927	1:2,500	No significant changes.
1929	1:10,560	
1946	1:10,560	
1952	1:10,560	New structure has been built in the centre of the northern half of the site.
1977	1:2,500	Redevelopment of the southern half of the site with a number of new structures. Tank shown on the southern boundary of the site.
1977-1982	1:10,560	No significant changes.
2001	1:10,000	
2003	1:1,250	

Year	Scale(s)	Principal Features
2010	1:10,000	Tank no longer labelled.
2021	1:10,000	Building on the southern boundary of the site is no longer shown. Minor reconfiguration of other buildings on site.

**Table 3.4 - Summary of Principal Historical Features (Off Site)**

Year	Scale	Direction	Principal Features
1850	1:10,560	North	Assumed residential development – up to 200m from site boundary Smithy Pit – 150m Well – 275m
		East	Assumed residential development – 40m Well – 80m Open agricultural fields to in excess of 500m from boundary.
		South	Open agricultural fields to in excess of 500m from boundary.
		West	St John's Church – adjacent to western stepped boundary Well – 150m
1852	1:10,560	North	Smithy Pit no longer present
		East, South	No significant changes
		West	Pond – 110m Moat – 150m
1891-1892	1:10,560	All Directions	No significant changes
1892	1:2,500	North	Pump – 10m Smithy – 10m
		East, South	No significant changes
		West	Graveyard – 25m
1909	1:10,560	All Directions	No significant changes
1910	1:2,500	North	Pump now labelled as Old Well – 10m
		East, South, West	No significant changes
1912	1:10,560	-	Mapping incomplete – site and surrounding area not shown.
1926-1929	1:10,560	North	Smithy no longer labelled – 10m
		East, South, West	No significant changes
1927	1:2,500	All Directions	No significant changes
1929	1:10,560		
1946	1:10,560		
1952	1:10,560	North, East, South	No significant changes
		West	Moat no longer labelled – 150m
1977	1:2,500	North, East, South	No significant changes
		West	Area labelled as Earthworks – 110m
1977-1982	1:10,560	North, East, South	No significant changes
		West	Area labelled as Earthworks – 200m
2001	1:10,000	North, East, South	No significant changes
		West	Areas labelled as Earthworks no longer

Year	Scale	Direction	Principal Features
			present
2003	1:1,250	All Directions	No significant changes
2010	1:10,000	North, East, South	No significant changes
		West	Well no longer present
2021	1:10,000	All Directions	No significant changes

3.3.4 In summary, the site has been developed as a farm since the earliest available map reviewed dated 1850. The site has undergone some reconfiguration with new structures being built primarily in the southern half of the site. A tank was shown to be present on the southern edge of the site from the 1970s up until mapping dated 2010.

3.3.5 Off site, development has occurred primarily to the north and east, with the centre of Harpham village located to the north of the site. A church and graveyard are located immediately to the west of the site, with an area formerly labelled as a moat and earthworks between 110m and 200m to the west.

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## 4 PHASE I GEOTECHNICAL APPRAISAL

### 4.1 Made Ground

- 4.1.1 Given the previous development that has taken place on site, it is anticipated that deposits of made ground may be present across the majority of the site.
- 4.1.2 The presence, type and extent of any on-site made ground soils will need to be established through ground investigation.

### 4.2 Natural Strata

- 4.2.1 Superficial soils below the site are recorded as Sand and Gravel with the solid geology underlying the site area is recorded as being the Flamborough Chalk Formation.

### 4.3 Groundwater

- 4.3.1 It is anticipated that some localised perched groundwater may be present below the site, but that true groundwater shall be located at depth within the chalk bedrock.

### 4.4 Foundations

- 4.4.1 It is understood that the majority of the redevelopment of the site will repurpose existing buildings and their foundations. Where new construction is proposed, the most appropriate foundation solution will be confirmed following completion of the ground investigation and receipt of finalised construction proposals/development layout.
- 4.4.2 At this stage it is considered, where competent undisturbed natural strata is encountered at founding depth, that for 2-3 storey structures of typical construction traditional strip or trench-fill foundations should be suitable. A minimum footing depth of around 600mm in this instance will probably be adequate (for granular soils or bedrock). Made ground soils of any type are **not** suitable founding stratum.
- 4.4.3 There are some trees around the boundaries to the site, so precautions may be required should structures lie within influencing distance when if clay is encountered. In addition, precautions may be required where trees are to be removed or where new planting is proposed. All foundations should be constructed in accordance with current guidelines (e.g. NHBC Standards, Chapter 4.2). If foundations are built off competent bedrock, no precautions are likely to be required.

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- 4.4.4 The widening, strengthening and reinforcement of foundations in accordance with current guidelines would be required where footings are found to straddle strata of different type (e.g. clay and rock) or where soft and/or where locally unstable ground is encountered at founding depth. With respect to buried sub-structures, it is anticipated that these will need to be grubbed-out and backfilled in a controlled manner; site-won made ground materials could possibly be used in this instance if the material is of suitable engineering grade and type (subject to testing and design specification).
- 4.4.5 A rafted foundation solution may potentially be required if areas of deep fill are present on site, subject to the presence of an even thickness of uniform soil type being provided. Specific information with respect to foundation design and any earthworks required to facilitate construction will need to be given in a remedial strategy.
- 4.4.6 Where a piled foundation solution is required, a detailed pile design should be carried out by a specialist piling contractor using information obtained by appropriate intrusive investigation and laboratory testing.

#### **4.5 Coal Mining Induced Subsidence**

- 4.5.1 It is considered, on the basis of available information, that foundations will not need to be reinforced / strengthened to accommodate any potential movement associated with historic coal mining activity and any ground instability that may occur post development. Should further information become available this assessment may need to be revised.

#### **4.6 Floor Slabs**

- 4.6.1 *In situ* suspended floor slabs are likely to be the most suitable for use at the site, particularly where in excess of 600mm of unsuitable material is present below floor slabs following site preparation/regrading. Should ground bearing slabs be suitable however, care must be taken to ensure that shallow strata do not become heavily disturbed by site clearance/construction activities (especially during inclement weather). Where this occurs, this could result in an increased requirement for suspended slabs.
- 4.6.2 Old substructures should be removed to at least 1.0m below any new floor slabs to prevent the formation of 'hard spots', subject to agreement with your warranty provider.

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4.6.3 A suspended floor system incorporating a sub-floor void, such as beam and block, will be required for all properties where the foundations lie within the heave zone of trees as defined by NHBC Standards (Chapter 4.2), or where seasonally desiccated soils are present at the time of construction.

#### **4.7 Non-Coal Mining**

4.7.1 There is no evidence to suggest that mineral extraction has occurred on site. Should evidence of quarrying be encountered during redevelopment this should be brought to the attention of Alan Wood and Partners. Where this is found to affect construction appropriate precautions may need to be incorporated in to the design (e.g. deepened foundations, reinforced superstructure).

#### **4.8 Excavation Conditions**

4.8.1 Obstructions to excavations should be expected due to historical information indicating buildings once stood on the majority of the site. Other currently unforeseen obstructions may also be present. The breaking-out of obstructions for either foundations or other construction requirements should be allowed for. Excavation of the materials encountered should be easily achieved using conventional hydraulic excavation techniques.

4.8.2 Given the recorded granular nature of superficial deposits, it likely that excavations will be relatively unstable stable in the short term. Materials such as granular soils and made ground are liable to collapse without warning. This situation is likely to be exacerbated by water ingress. No man entry into unsupported excavations should be allowed without an appropriate risk assessment. Reference to CIRIA report 97 (1983) should be made to establish suitable means of support or battering of excavation sides.

4.8.3 It is considered unlikely that dewatering will be required for shallow short-term excavations. Anticipated groundwater conditions suggest that simple dewatering techniques (e.g. sump pumping) are likely to be adequate to control water ingress on a routine basis. However, it is recommended that provision for the drainage of surface water is allowed for to prevent surface water ponding or collection both during and post construction, as this may lead to deterioration of the founding stratum.



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## 4.9 Stability Issues & Retaining Structures

- 4.9.1 The site is relatively flat and level and the area surrounding the site is similar. No particular risk in relation to slope instability should occur on site. Where excavations are proposed close to site boundaries, properties and/or any other existing retaining structures, a risk assessment of the integrity/stability should be undertaken prior to such works being carried out. Designed and engineered temporary/permanent measures should be adopted to ensure their continued stability.
- 4.9.2 Where changes in gradient exist across the site these will be adjusted by minor earthworks. It is anticipated that future ground profiles are unlikely to require earth retaining structures, other than along the western boundary; if this changes, further advice may be required when more information is available.
- 4.9.3 With respect to natural ground subsidence, the site has been classified as having a 'Negligible' risk rating for shrink/swell clay and compressible deposits, and a 'Very Low' risk rating for running sand hazards, landslides, collapsible deposits and ground dissolution hazards.

## 4.10 Surface Water Drainage

- 4.10.1 It is considered, at this stage, that soakaways may be suitable unless shallow groundwater is present. Should favourable ground conditions be encountered during intrusive investigation, permeability testing will be required to confirm whether soakaways could be utilised and likely infiltration rates.

## 4.11 Roads and Pavement

- 4.11.1 A preliminary CBR value of <2.5% is currently considered for road and pavement design. It is recommended that *in-situ* CBR testing is carried out when final site levels will be known and after construction of the development platform. Highways Agency document CD225 (2020) states that where a subgrade has a CBR lower than 2.5%, it is considered unsuitable support for a pavement foundation since it would tend to deform under construction traffic and must be improved.
- 4.11.2 All road design should be discussed with the local authority if highways are to be subject to a Section 38 agreement.

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## 4.12 Concrete

4.12.1 Sulphate protection is expected to the required in buried structures where made ground is present. Sulphate Class DS-2 will probably be suitable; however, this will need to be confirmed through laboratory testing.

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## 5 PHASE I ENVIRONMENTAL APPRAISAL

### 5.1 Introduction

5.1.1 The following section summaries the Preliminary Phase I Conceptual Site Model (CSM), which has been produced following the review of available pertinent desk study and third party information. The CSM summarises the understanding of surface and sub-surface features, the potential sources of contamination, pathways and receptors in order to support the identification and assessment of plausible contaminant linkages.

### 5.2 Initial Conceptual Site Model & Risk Assessment

5.2.1 The risk assessment has been carried out to assess the likelihood of risk to human health and the wider environment, on the basis of information reviewed. The risk assessment is a qualitative *source-pathway-receptor* assessment and its function is to assess the likelihood that each possible linkage exists and to decide whether they pose potentially unacceptable risks to identified receptors (i.e. people, structures, water bodies or ecosystems) that may be harmed.

5.2.2 Risk can be defined as the combination of the consequence of a harmful effect and the probability of its occurrence. The existence of a contaminant linkage is dependent on site use, as well as environmental conditions: **if no contaminant linkage(s) can be proven, then the risk(s) may be discounted.**

### 5.3 Site Summary & Environmental Sensitivity

5.3.1 A review of available desk study information indicates that the proposed development area has been developed as a farm since the earliest mapping dated 1850. Reconfiguration of the buildings on site over time is shown on the available mapping. A Church with a graveyard is present adjacent to the western boundary of the site, with residential development to the north and east.

5.3.2 Made ground soils are expected on site, although the extent of such material would need to be confirmed through ground investigation.

5.3.3 The underlying geology is indicated to comprise Sand and Gravel over Flamborough Chalk Formation.

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- 5.3.4 Some perched/shallow groundwater may be present within the near surface deposits, but this is likely to be localised. True groundwater is anticipated to be at depth within the chalk bedrock.
- 5.3.5 It is considered possible that elevated concentrations of CO<sub>2</sub> and CH<sub>4</sub> may be present as a result of potential significant made ground deposits (see BS 8576:2013, 'Guidance on Investigations for Ground Gas - Permanent Gases and Volatile Organic Compounds').
- 5.3.6 There are potential sources of significant contamination on-site soils including elevated concentrations of metals and metalloids (e.g. arsenic), non-metal inorganics and organic contamination (e.g. PAH, TPH, BTEX). Asbestos containing materials may also be present where historic made ground exists which may contain it. There is also the potential for pesticides given the previous agricultural land-use.
- 5.3.7 The potential leaching of mobile contaminants of concern to the underlying chalk aquifer is considered to be moderate to high given the reported intermediate leaching potential of soils within the vicinity to the site.
- 5.3.8 In summary, given the site history, the anticipated contaminant load within the on-site soils, its underlying geology, gassing potential and the nature of controlled waters receptors, sensitivity of the site is considered, at this stage, to be **moderate**. The nature and concentration of any contamination will need to be confirmed through testing.

## 5.4 Potential Sources

- 5.4.1 A potential source is defined as 'a contaminant which is in, or under the land and has the potential to cause harm to human health or to cause pollution of controlled waters'.
- 5.4.2 The following potential contaminants that may be associated with the site are summarised in Table 5.1.

**Table 5.1 - Summary of Potential Contaminant Sources**

Potential Sources	Associated Potential Contaminants ( <i>not limited to</i> )	
	<i>Metals, inorganics and other contaminants</i>	<i>Organics</i>
Potentially contaminated made ground soils, underlying natural strata/perched groundwater	Heavy metals, metalloids, sulphate, asbestos	PAH, TPH, BTEX, Pesticides
Ground gases associated with potential made ground	CO <sub>2</sub> and CH <sub>4</sub>	

\* Invasive plant species to be assessed separately if encountered.

## 5.5 Potential Receptors

- 5.5.1 A receptor is the potential target of the source pollutant, to which either significant harm or deterioration in quality may be caused.
- 5.5.2 The potential sensitive receptors with respect to the potential contamination hazards identified above are considered in Table 5.2 below.

**Table 5.2 - Summary of Potential Receptors**

Potential Receptor	Comment
Human Health	Site end-users Site operatives (during construction phase only)
Construction	Potable water supply pipes Foundations
Underlying natural strata	Near surface soils and/or any perched groundwater
Controlled Waters	Principal Aquifer

## 5.6 Plausible Pathways

- 5.6.1 Migration pathways are routes by which contaminant sources may come into contact with receptors. Potential pathways for different types of contaminants vary depending on the properties of the contaminant, the mechanism of its release and the nature of the receptor. The principal potential pollution pathways by which receptors might become exposed to potential contamination at the site are summarised in Table 5.3.

**Table 5.3 - Summary of Plausible Pathways**

Potential Source	Pathway
Potentially contaminated made ground soils, underlying natural strata / perched groundwater	Direct ingestion, dermal contact, dust and/or vapour inhalation
	Direct ingestion and/or dermal contact with liquid contaminants
	Inhalation of asbestos fibres
	Leaching and direct contact with foundations and potable water supply pipes. Lateral migration of contaminants through preferential pathways
Ground gases	Migration of gases and/or accumulation in void spaces via transport through service conduit, any permeable made ground and/or underlying permeable natural strata

## 5.7 Risk Assessment

5.7.1 The potential contaminant linkages listed above are based on available data and the features noted during the 'walkover'. Therefore, the linkages identified are tentative in nature and are subject to the following uncertainties (to be followed up through ground investigation):

- Nature and extent of the made ground at the site;
- Nature of the underlying natural strata at the site;
- The actual distribution of contaminants within the made ground and underlying natural soils;
- The hydrogeological regime beneath the site.

5.7.2 The assessment presented herein assumes that the site end-use is to be *residential with gardens*. The assessment is not valid for other land uses. Should the proposed end-use of the site change, the assessment contained herein would need to be revised to accommodate this.

5.7.3 The identified potential contaminants and receptors have been considered in relation to the pathways that may link them. The risk classification has been estimated in accordance with those methods prescribed in CIRIA publication C552 '*Contaminated Land Risk Assessment: A Guide to Good Practice*', 2001.

5.7.4 Risk is regarded as a combination of the likelihood of an 'event' occurring and its severity: both elements must be taken into account when assessing risk. The method for risk assessment, or evaluation, is purely qualitative. As defined in CIRIA

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C552:2001, the magnitude of the potential 'severity' of risk occurring may be assessed against:

- **Severe:** short term risk to human health likely to result in significant harm as defined under EPA 1990, Part 2A. Short term risk of pollution to sensitive water receptor;
- **Medium:** significant harm to human health, pollution of sensitive water resource or significant change to an ecosystem or specific organism;
- **Mild:** pollution of non-sensitive water resource but significant damage to crops, buildings, structures and services or the environment;
- **Minor:** harm, which may result in financial loss, or expenditure to resolve. Non-permanent effects to human health. Easily repairable effects of damage to buildings, structures and services.

5.7.5 Similarly, the classification of the magnitude of the 'probability' of the risk occurring may be assessed against:

- **High Likelihood:** a contaminant linkage exists and an event appears very likely in the short term, or almost inevitable in the long term, or pollution is causing harm at the receptor;
- **Likely:** a contaminant linkage exists and it is probable that an event will occur. An event may not occur, but it is possible in the short term and likely over the long term;
- **Low Likelihood:** a contaminant linkage exists, and it is possible that an event will occur. It is not certain that an event will occur over time but it is less likely in the short term;
- **Unlikely:** a contaminant linkage exists but it is not possible to say if an event will occur even over a very long time.

5.7.6 Following completion of the severity and probability assessment, classifications can be compared to indicate the actual risk each contaminant linkage presents: this can only be undertaken where there is a possibility of there being an active contaminant linkage.

5.7.7 The risk categories which can be assigned are presented in Table 5.4 and range between 'very high risk' to 'very low risk'. *NB - it is not possible to classify an identified risk as 'no-risk'.*

**Table 5.4 - Risk Categories**

		Consequence			
		Severe	Medium	Mild	Minor
Probability	Highly Likely	Very High	High	Moderate	Moderate / Low
	Likely	High	Moderate	Moderate / Low	Low
	Low Likelihood	Moderate	Moderate / Low	Low	Very Low
	Unlikely	Moderate / Low	Low	Very Low	Very Low

Reproduced from Table 6.5, CIRIA C552/2001.

- **Very High** – severe harm could arise to a designated receptor or that severe harm is occurring. Urgent investigation and remediation is likely to be required;
- **High** – harm could occur to a designated receptor and that urgent investigation and remediation may be needed in the short term, but are likely over the longer term;
- **Moderate** – harm could occur. It is unlikely to be severe, most probably relatively mild. Investigation is normally required to clarify the risk with some remedial works being required in the longer term;
- **Low** – possible that harm could occur, but if it did, at worst it would be mild;
- **Very Low** – low possibility of harm arising, and that if it does it is not likely to be severe.

5.7.8 The identified potential contaminants and receptors have been considered in relation to the pathways that may link them. The resulting contaminant linkages are presented in Table 5.5.



**Table 5.5 - Summary of Phase I Conceptual Site Model & Risk Assessment**

Potential Source	Potential Receptor	Plausible Pathway	Probability	Severity	Initial Risk Rating	Solution
Potentially contaminated made ground, near surface natural strata/perched groundwater	<u>Human Health</u>	Direct ingestion or dermal contact with soil, dust and/or vapour inhalation	Likely	Medium	<b>Moderate</b>	Soil capping or removal of contaminated soils where necessary
	Site end-users, inc. maintenance and site workers (short term risk during construction)	Direct ingestion and/or dermal contact with liquid contaminants	Low Likelihood	Mild	<b>Low</b>	
		Inhalation of asbestos fibres	Low likelihood	Severe	<b>Moderate</b>	Appropriate removal and disposal, burial at depth or soil capping where necessary
	<u>Construction</u> (Potable Water Supply Pipes)	Direct contact/leaching (tainting)	Low likelihood	Mild	<b>Low</b>	Upgraded water pipes/clean backfill material where necessary
	<u>Construction</u> (Foundations)	Direct contact/leaching	Low likelihood	Mild	<b>Low</b>	Appropriate concrete specification
	Controlled Waters	Surface run-off / lateral migration	Low Likelihood	Mild	<b>Low</b>	Low risk anticipated due to intermediate soil leaching potential
	Made ground deposits	<u>Human Health</u>	Inhalation (via ingress and accumulation)	Low likelihood	Medium	<b>Moderate/Low</b>

- 
- 5.7.9 The preliminary conceptual site model (CSM) presented above has indicated that potential contaminant linkages may exist on-site.
- 5.7.10 In order to investigate any unacceptable risk presented by these, intrusive investigation is required. The intrusive works will provide information on actual contaminants present on-site and plausible pathways to potentially sensitive receptors.
- 5.7.11 At this stage it is possible that a soil capping layer could be required in gardens and soft landscaped areas given the potential for elevated concentrations of inorganic and organic contaminants within any made ground soils (and/or the underlying near surface natural strata). It would be prudent, at this stage, to allow for 600mm capping to gardens, this reducing to 450mm in landscaped areas; 150mm of the capping thickness will comprise topsoil. The need for remedial measures to mitigate risk associated with any contamination will be provided following the completion of laboratory analysis and risk assessment.
- 5.7.12 Fugitive ground gases associated with potential significant thicknesses of made ground may present a risk to development on the basis of available information. In accordance with BS8485:2007, BS8576:2013, NHBC (2007) and CIRIA C665 (2007), a period of ground gas monitoring appropriate for the proposed end use of the site should be undertaken. Although it is considered that the likely generation potential for ground gas at the site will be low the proposed development case indicates that 9 monitoring visits over a period of 6 months should be undertaken to determine the minimum level of protection required. A minimum of 3 boreholes should be installed. It may be prudent, at this stage, to allow for the provision of gas precautions to Characteristic Situation 2 until proven otherwise. Radon precautions are not required in construction.
- 5.7.13 It is considered, at this stage, that some protective measures may be required where potable water supply pipes are to be laid, where made ground is found to be present. Confirmation of the need for protective measures will however be given following completion of the ground investigation and laboratory analysis. Analytical work may need to be carried out in accordance with those guidelines prescribed in UKWIR (2010) (Ref. 10/WM/03/21). If the concentrations of contaminants within the soils are found to be below the acceptable levels listed in the UKWIR guidelines, standard PE/PVC pipes should be suitable for the development, these being placed in a clean backfill surround where made ground soils are present. The local utility provider should

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be contacted however to determine its exact requirements in respect of the levels of contamination encountered.

5.7.14 Sulphate protection is expected to be required in buried structures where made ground is present. In accordance with Special Digest 1:2005, Sulphate Design class DS2 will most probably be suitable, although this will need to be confirmed by chemical testing.

5.7.15 Other currently unforeseen areas of contaminated soil may be present.

5.7.16 Any materials to be removed from site should be undertaken in accordance with the Duty of Care Regulations 1991. There will also be a requirement to classify the waste in accordance with the European Waste Catalogue, in which case the waste should be subject to Waste Acceptance Criteria (WAC) testing. In light of the new regulations it is recommended that discussion with landfill operators takes place at an early stage if this is to occur.

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## 6 RATIONALE FOR PHASE II GROUND INVESTIGATION

### 6.1 Introduction

- 6.1.1 The overall objective of this study is to contribute towards the understanding of the ground conditions underlying the proposed residential development at the site at Manor Farm, Harpham. Research into the history and evolution of the site up to the present day has been undertaken which allows a fair assessment of the risks posed to the development to be made.
- 6.1.2 The study has provided sufficient background data in terms of the land uses of the site and its surroundings together with details of the general geology, mining and hydrogeology.
- 6.1.3 The preliminary risk assessment, when considered within the context of proposed end-use, indicates that some on-site contaminant linkages may present an unacceptable risk to human health and/or the wider environment and need to be assessed further.
- 6.1.4 It is proposed that a Phase II geo-environmental investigation will be required so that site-specific data can be obtained with respect to any potential soil contamination, ground gas, sulphate precautions etc, so that risks can be quantified in relation to the *source-pathway-receptor* scenarios and plausible contaminant linkages postulated in the initial conceptual model above.

### 6.2 Scope of Works

- 6.2.1 The intrusive investigation will provide information to establish the nature, type and condition of the near-surface soils and underlying bedrock, thus obtaining an initial understanding of the contamination status and geotechnical properties of the on-site soil and rock conditions across the site area. As such, the following should be carried out:
- Ground investigation by windowless sampler boreholes to facilitate the collection of samples from within the on-site made ground and the underlying near surface natural strata for chemical and geotechnical laboratory testing and allow for the installation of ground gas and groundwater monitoring equipment;

- 
- Hand excavated foundation inspection pits should information be required about the existing foundations;
  - Assess the risk to human health from the identified levels of contamination;
  - Assessment of the thickness and nature of the made ground soils;
  - Assessment of the geotechnical properties of the underlying natural strata for foundation design purposes;
  - Report on the presence of likely development abnormalities (e.g. shallow bedrock, buried obstructions, soft ground, deep made ground etc), where encountered;
  - *In situ* permeability testing to assess infiltration rates for drainage design (subject to favourable ground conditions);
  - Establish the presence of fugitive ground gases over the period of monitoring as outlined above. A minimum of 3 No. ground gas/groundwater monitoring installations would be required;
  - Invasive plant species survey (to be commissioned under separate agreement if necessary).

6.2.2 All ground investigation works and soil descriptions will be undertaken in general accordance with BS EN ISO 14688-1 'Geotechnical Investigation and Testing – Identification and Classification of Soil' (2018), BS10175 (2011), BS 5930 (2015) and/or BS EN 1997-2/2007 (EC7 Part 2).

### **6.3 Analytical Strategy**

6.3.1 The analytical strategy to be adopted for the investigations shall be designed to provide an overall assessment of potential contaminants thought to be associated with the potential pollutant sources identified, once full and proper access to the site is achievable.

6.3.2 Whilst no specific contaminants of concern are anticipated in significant concentrations, it is anticipated that the following analytes should be tested for:

- Heavy metals suite (including As, Cd, Cr(III), Cr(VI), Cu, Hg, Se, Pb, Ni, Zn);
- Speciated Polycyclic Aromatic Hydrocarbons;

- 
- Speciated Total Petroleum Hydrocarbons;
  - BTEX;
  - Cyanide (Free and Total);
  - Total phenol;
  - Sulphates (Total and Water Soluble);
  - Sulphide;
  - pH;
  - TOC;
  - Multipesticides;
  - Asbestos fibres.

6.3.3 Sampling will be undertaken in accordance with those guidelines prescribed in Sections 8.3.2 and 8.6 of BS 10175:2011, whilst the basic engineering properties of soils encountered will be recorded through visual observation.

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## 7 REGULATORY APPROVAL

- 7.1.1 The conclusions and recommendations presented in this report are considered reasonable on the basis of available information and the assessment of the site as carried out by Alan Wood & Partners.
- 7.1.2 It should be noted however that the works undertaken cannot be guaranteed to gain approval by the Regulatory Authorities and your Warranty Provider, so copies of this report should be made available to the relevant organisations (as appropriate) for their comment and approval, prior to undertaking any irrecoverable works associated with the site.

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## 8 INFORMATION SOURCES

In addition to the specific references cited in the text, the following references have been referred to in the production of this report, where relevant to the defined project objectives.

- 1 Emapsite GroundSure Enviro + Geolnsight Report, report ref. EMS-741383\_965084, dated 30th November 2021;
- 2 British Geological Survey Sheet, Sheet No. 64 Great Driffield (1:50,000 scale, solid & drift edition);
- 3 BRE *BR211 (2015) Radon: guidance on protective measures for new dwellings*;
- 4 Coal Authority, [www.coal.decc.gov.uk](http://www.coal.decc.gov.uk);
- 5 CIRIA C665 (2007), *Assessing risks posed by hazardous ground gases to buildings*;
- 6 BS:8576 (2013), *Guidance on Investigations for Ground Gas - Permanent Gases and Volatile Organic Compounds (VOCs)*;
- 7 BSEN 1997-1 (2004), *Geotechnical Design Part 1 – General Rules*;
- 8 BSEN 1997-2 (2007), *Geotechnical Design Part 2 – Ground investigation and testing*;
- 9 BS5930 (2015), *Code of practice for site investigations*;
- 10 CIRIA C552 (2001), *Contaminated Land Risk Assessment, A Guide to Good Practice*;
- 11 CIRIA C758D (2019): *Construction over Abandoned Mine Workings*.
- 12 NHBC Chapter 4.2 (2021), *Building near trees*, NHBC Publication, 2021.
- 13 DETR Circular 02/2000 (2000). *Environmental Protection Act 1990 Part IIA. Contaminated Land*. Department of the Environment, Transport and the Regions, Circular 02/2000, Dated 20<sup>th</sup> March 2000;
- 14 Environment Agency, [www.environment-agency.org.uk](http://www.environment-agency.org.uk);



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## 9 LIMITATIONS OF STUDY

9.1.1 This document has been prepared by Alan Wood & Partners for the titled project and should not be relied upon or used for any other project without prior written authorization being obtained. Alan Wood & Partners can accept no responsibility or liability for the consequences of the use of this document, wholly or in part, for any other purpose than that for which it was commissioned.

This report has been prepared for the sole use and reliance of the Client and shall not be relied upon or transferred to any other party without the express written authorisation of Alan Wood & Partners. It may contain material subject to copyright or obtained subject to license. Any persons so using or relying upon this document for such other purpose do so at their own risk.

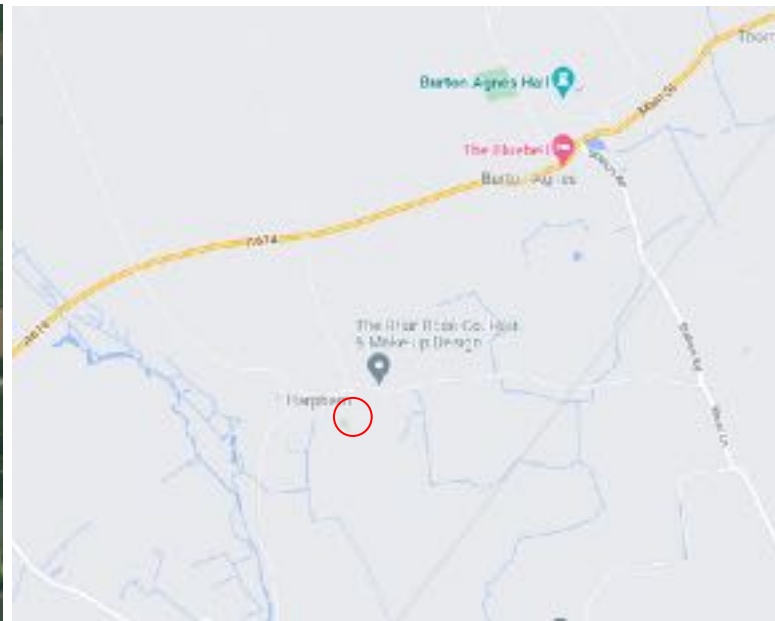
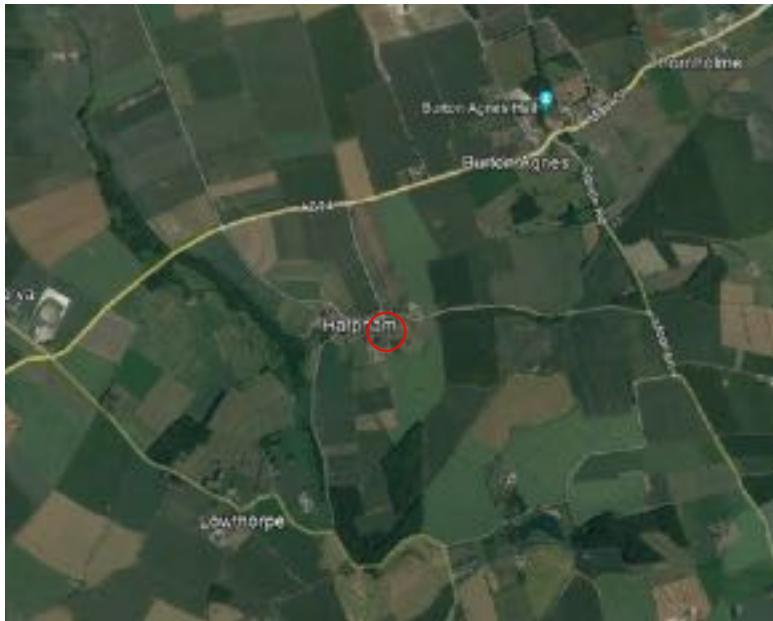
9.1.2 The findings and opinions provided in this document are given in good faith and are subject to the limitations and constraints imposed by the methods and information sources described in this report. Factual information, including, where stated, a visual inspection of the site, has been obtained from a variety of sources. Alan Wood & Partners assumes the third party data to be reliable, but has not independently confirmed this. The validity and accuracy of this information is outside the control of Alan Wood & Partners. No guarantee can therefore be given as to the completeness of the information gathered during the study and no responsibility is accepted for errors or omissions in the third party information used to produce this report. Alan Wood & Partners' professional judgement and experience is however used to ensure that uncertainties are reduced to a level appropriate to the site conditions, the purpose of the investigation and the resources devoted to it by the Client.

9.1.3 The findings and opinions presented in this report are relevant to the dates when the assessment was undertaken, but should not necessarily be relied upon to represent conditions at a substantially later date.

9.1.4 This report provides an assessment of the potential contamination status of the ground below the site, being based only upon information available for review. Where the report refers to the potential presence of invasive plants (such as Japanese Knotweed) or asbestos-containing materials, such observations are for information only and should be verified by a suitably qualified expert.

- 
- 9.1.5 Whilst every effort has been made to carry out an assessment that enables a realistic initial characterisation of the geotechnical and environmental parameters to be identified, the possibility of significant variation in actual ground and groundwater conditions existing cannot be discounted. Further information, ground investigation, construction activities, change of site use, or the passage of time may reveal conditions that were not indicated in the data presented and therefore could not have been considered in the preparation of this report. Where such information might impact upon stated opinions, Alan Wood & Partners reserve the right to modify the opinions expressed in this report. Where opinions expressed in this report are based on current available guidelines and legislation, no liability can be accepted by Alan Wood & Partners for the effects of any future changes to such guidelines and legislation. New information of improved practices and changes in legislation may require reinterpretation of the report as a whole, or in part.
- 9.1.6 The conclusions and recommendations presented in this report are based on site-specific information obtained during the desk study. They are however limited to those that could be reasonably made at the time the assessment was undertaken. Alan Wood & Partners reserve the right to retract either conclusions or recommendations in light of any further information that may become available.
- 9.1.7 Interpretation and recommendations should not be assumed valid for adjacent areas of land, or for alternate land uses. Where the proposed site usage changes, the findings of this report should be re-assessed to accommodate the change in proposed end-use.
- 9.1.8 The limitations of liability of Alan Wood & Partners for the contents of this document have been agreed with the Client, as set out in the terms and conditions of offer and related contract documentation.

## FIGURES



DO NOT SCALE

Approximate Site Location



Approximate Red Line Site Boundary



Client.		
<b>Smartbuild Harpham Limited</b>		
Project.		
<b>Manor Farm, Crossgates, Harpham</b>		
Drawing.		
<b>Site Location Plan</b>		
Date.	<b>17.12.21</b>	Scale.
		<b>NTS</b>
Drawn by.	Check by.	Approved by.
<b>AC</b>	<b>JMS</b>	<b>JMS</b>
Status:		
<b>FINAL</b>		
Job no.	Fig. no.	Rev.
<b>46605</b>	<b>001</b>	

DO NOT SCALE



Approximate Red Line Site Boundary

# AWP Photograph Number



Client. <b>Smartbuild Harpham Limited</b>		
Project. <b>Manor Farm, Crossgates, Harpham</b>		
Drawing. <b>Key Site Features Plan</b>		
Date. <b>17.12.21</b>	Scale. <b>NTS</b>	
Drawn by. <b>AC</b>	Check by. <b>JMS</b>	Approved by. <b>JMS</b>
Status: <b>FINAL</b>		
Job no. <b>46605</b>	Fig. no. <b>002</b>	Rev.

## PLATES



**Photograph No. 1**

View to the east along the southern boundary of the site.



**Photograph No. 2**

View to the north along the western boundary of the site.



### Photograph No. 3

Building located on the western boundary of the site near the large tree.



### Photograph No. 4

View to the south on the eastern boundary of the site. Above ground tank present.





**Photograph No. 5**

View to the west along the northern boundary of the site.



**Photograph No. 6**

View to the south through the centre of the site.



**Photograph No. 7**

View to the north in the eastern portion of the site.



**Photograph No. 8**

View to the south in the eastern portion of the site.



**Photograph No. 9**

Building located in the southern half of the site, perpendicular to southern boundary. A hole was noted to be present in the floor slab full of water.



**Photograph No. 10**

View to the north-west from the south-eastern corner of the site.

**Photograph No. 11**

View to the west along the southern boundary of the site.



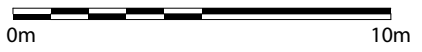
**Photograph No. 12**

View to the east along the southern boundary of the site.





SITE PLAN (1:200)



Rev	Date	Drawn	CHK'd	Description
P2	17/06/17	JH	MB	Site boundary changed in order that the Manor House and farmstead are part of a single application as recommended by the planning officer.
P1	16/03/16	JH	MB	First issue

**bramhall blenkham**

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 w www.brable.com

Project  
**Manor Farm**  
 Address  
 Manor Farm, Harpham, E. Riding, YO25 4QS  
 Client  
 Sir Charles Legard

Drawing  
**PROPOSED SITE PLAN**

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Sheet Size	Drawn	First Issue Date D/M/Y
A1	JH	22/12/2015
Scale	Checked	Drawing No.
1:200	MB	1116_AR10_04_P2



## APPENDIX A

EMAPSITE: GROUNDSURE ENVIRO AND GEOINSIGHT REPORT

509278 461548

## Order Details

**Date:** 30/11/2021  
**Your ref:** EMS\_741383\_965084  
**Our Ref:** EMS-741383\_965084  
**Client:** emapsite

## Site Details

**Location:** 509278 461548  
**Area:** 0.84 ha  
**Authority:** [East Riding of Yorkshire Council](#)



**Summary of findings**

p. 2

**Aerial image**

p. 8

**OS MasterMap site plan**

p.11

[groundsure.com/insightuserguide](https://groundsure.com/insightuserguide)

## Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
<b>12</b>	<b>1.1</b>	<b><u>Historical industrial land uses</u></b>	1	0	1	0	-
<b>13</b>	<b>1.2</b>	<b><u>Historical tanks</u></b>	1	0	0	0	-
13	1.3	Historical energy features	0	0	0	0	-
13	1.4	Historical petrol stations	0	0	0	0	-
14	1.5	Historical garages	0	0	0	0	-
14	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
<b>15</b>	<b>2.1</b>	<b><u>Historical industrial land uses</u></b>	1	0	1	0	-
<b>16</b>	<b>2.2</b>	<b><u>Historical tanks</u></b>	1	0	0	0	-
16	2.3	Historical energy features	0	0	0	0	-
16	2.4	Historical petrol stations	0	0	0	0	-
16	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
17	3.1	Active or recent landfill	0	0	0	0	-
17	3.2	Historical landfill (BGS records)	0	0	0	0	-
18	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
18	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
18	3.5	Historical waste sites	0	0	0	0	-
18	3.6	Licensed waste sites	0	0	0	0	-
<b>18</b>	<b>3.7</b>	<b><u>Waste exemptions</u></b>	0	15	16	23	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
<b>24</b>	<b>4.1</b>	<b><u>Recent industrial land uses</u></b>	1	0	0	-	-
25	4.2	Current or recent petrol stations	0	0	0	0	-
25	4.3	Electricity cables	0	0	0	0	-
25	4.4	Gas pipelines	0	0	0	0	-
25	4.5	Sites determined as Contaminated Land	0	0	0	0	-





25	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
26	4.7	Regulated explosive sites	0	0	0	0	-
26	4.8	Hazardous substance storage/usage	0	0	0	0	-
26	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
26	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
26	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
27	4.12	Radioactive Substance Authorisations	0	0	0	0	-
<b>27</b>	<b>4.13</b>	<b><u>Licensed Discharges to controlled waters</u></b>	0	0	<b>1</b>	0	-
27	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
27	4.15	Pollutant release to public sewer	0	0	0	0	-
28	4.16	List 1 Dangerous Substances	0	0	0	0	-
28	4.17	List 2 Dangerous Substances	0	0	0	0	-
28	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
28	4.19	Pollution inventory substances	0	0	0	0	-
28	4.20	Pollution inventory waste transfers	0	0	0	0	-
29	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
<b>30</b>	<b>5.1</b>	<b><u>Superficial aquifer</u></b>	Identified (within 500m)				
<b>32</b>	<b>5.2</b>	<b><u>Bedrock aquifer</u></b>	Identified (within 500m)				
<b>33</b>	<b>5.3</b>	<b><u>Groundwater vulnerability</u></b>	Identified (within 50m)				
<b>34</b>	<b>5.4</b>	<b><u>Groundwater vulnerability- soluble rock risk</u></b>	Identified (within 0m)				
34	5.5	Groundwater vulnerability- local information	None (within 0m)				
<b>35</b>	<b>5.6</b>	<b><u>Groundwater abstractions</u></b>	0	0	2	8	4
<b>38</b>	<b>5.7</b>	<b><u>Surface water abstractions</u></b>	0	0	0	0	1
39	5.8	Potable abstractions	0	0	0	0	0
39	5.9	Source Protection Zones	0	0	0	0	-
39	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
<b>40</b>	<b>6.1</b>	<b><u>Water Network (OS MasterMap)</u></b>	0	0	5	-	-



<b>41</b>	<b>6.2</b>	<b><u>Surface water features</u></b>	0	0	4	-	-
<b>41</b>	<b>6.3</b>	<b><u>WFD Surface water body catchments</u></b>	1	-	-	-	-
<b>42</b>	<b>6.4</b>	<b><u>WFD Surface water bodies</u></b>	0	0	0	-	-
<b>42</b>	<b>6.5</b>	<b><u>WFD Groundwater bodies</u></b>	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					
<b>46</b>	<b>8.1</b>	<b><u>Surface water flooding</u></b>	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding					
<b>48</b>	<b>9.1</b>	<b><u>Groundwater flooding</u></b>	High (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
<b>49</b>	<b>10.1</b>	<b><u>Sites of Special Scientific Interest (SSSI)</u></b>	0	0	0	0	2
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	0
51	10.8	Biosphere Reserves	0	0	0	0	0
51	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	0	0
52	10.12	Proposed Ramsar sites	0	0	0	0	0



52	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
52	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
53	10.15	Nitrate Sensitive Areas	0	0	0	0	0
<b>53</b>	<b>10.16</b>	<b><u>Nitrate Vulnerable Zones</u></b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>54</b>	<b>10.17</b>	<b><u>SSSI Impact Risk Zones</u></b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>55</b>	<b>10.18</b>	<b><u>SSSI Units</u></b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
58	11.1	World Heritage Sites	0	0	0	-	-
59	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
59	11.3	National Parks	0	0	0	-	-
<b>59</b>	<b>11.4</b>	<b><u>Listed Buildings</u></b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>-</b>	<b>-</b>
60	11.5	Conservation Areas	0	0	0	-	-
<b>60</b>	<b>11.6</b>	<b><u>Scheduled Ancient Monuments</u></b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>-</b>	<b>-</b>
60	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
<b>61</b>	<b>12.1</b>	<b><u>Agricultural Land Classification</u></b>	<b>Grade 3 (within 250m)</b>				
62	12.2	Open Access Land	0	0	0	-	-
62	12.3	Tree Felling Licences	0	0	0	-	-
<b>62</b>	<b>12.4</b>	<b><u>Environmental Stewardship Schemes</u></b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>-</b>	<b>-</b>
62	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
63	13.1	Priority Habitat Inventory	0	0	0	-	-
63	13.2	Habitat Networks	0	0	0	-	-
63	13.3	Open Mosaic Habitat	0	0	0	-	-
63	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
<b>64</b>	<b>14.1</b>	<b><u>10k Availability</u></b>	<b>Identified (within 500m)</b>				
65	14.2	Artificial and made ground (10k)	0	0	0	0	-
66	14.3	Superficial geology (10k)	0	0	0	0	-



66	14.4	Landslip (10k)	0	0	0	0	-
67	14.5	Bedrock geology (10k)	0	0	0	0	-
67	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
<b>68</b>	<b>15.1</b>	<b><u>50k Availability</u></b>	Identified (within 500m)				
69	15.2	Artificial and made ground (50k)	0	0	0	0	-
69	15.3	Artificial ground permeability (50k)	0	0	-	-	-
<b>70</b>	<b>15.4</b>	<b><u>Superficial geology (50k)</u></b>	1	0	2	2	-
<b>71</b>	<b>15.5</b>	<b><u>Superficial permeability (50k)</u></b>	Identified (within 50m)				
71	15.6	Landslip (50k)	0	0	0	0	-
71	15.7	Landslip permeability (50k)	None (within 50m)				
<b>72</b>	<b>15.8</b>	<b><u>Bedrock geology (50k)</u></b>	1	0	0	0	-
<b>73</b>	<b>15.9</b>	<b><u>Bedrock permeability (50k)</u></b>	Identified (within 50m)				
<b>73</b>	<b>15.10</b>	<b><u>Bedrock faults and other linear features (50k)</u></b>	0	0	0	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					
<b>75</b>	<b>17.1</b>	<b><u>Shrink swell clays</u></b>	Negligible (within 50m)				
<b>76</b>	<b>17.2</b>	<b><u>Running sands</u></b>	Very low (within 50m)				
<b>77</b>	<b>17.3</b>	<b><u>Compressible deposits</u></b>	Negligible (within 50m)				
<b>78</b>	<b>17.4</b>	<b><u>Collapsible deposits</u></b>	Very low (within 50m)				
<b>79</b>	<b>17.5</b>	<b><u>Landslides</u></b>	Very low (within 50m)				
<b>80</b>	<b>17.6</b>	<b><u>Ground dissolution of soluble rocks</u></b>	Very low (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
82	18.1	Natural cavities	0	0	0	0	-
83	18.2	BritPits	0	0	0	0	-
<b>83</b>	<b>18.3</b>	<b><u>Surface ground workings</u></b>	0	0	1	-	-
83	18.4	Underground workings	0	0	0	0	0
83	18.5	Historical Mineral Planning Areas	0	0	0	0	-



84	18.6	Non-coal mining	0	0	0	0	0
84	18.7	Mining cavities	0	0	0	0	0
84	18.8	JPB mining areas	None (within 0m)				
84	18.9	Coal mining	None (within 0m)				
84	18.10	Brine areas	None (within 0m)				
85	18.11	Gypsum areas	None (within 0m)				
85	18.12	Tin mining	None (within 0m)				
85	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
<b>86</b>	<b>19.1</b>	<b>Radon</b>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
<b>87</b>	<b>20.1</b>	<b>BGS Estimated Background Soil Chemistry</b>	2	0	-	-	-
87	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
87	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
88	21.1	Underground railways (London)	0	0	0	-	-
88	21.2	Underground railways (Non-London)	0	0	0	-	-
88	21.3	Railway tunnels	0	0	0	-	-
88	21.4	Historical railway and tunnel features	0	0	0	-	-
88	21.5	Royal Mail tunnels	0	0	0	-	-
89	21.6	Historical railways	0	0	0	-	-
89	21.7	Railways	0	0	0	-	-
89	21.8	Crossrail 1	0	0	0	0	-
89	21.9	Crossrail 2	0	0	0	0	-
89	21.10	HS2	0	0	0	0	-



## Recent aerial photograph



Capture Date: 10/10/2018

Site Area: 0.84ha



## Recent site history - 2015 aerial photograph



Capture Date: 23/09/2015

Site Area: 0.84ha



## Recent site history - 1999 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2021. All Rights Reserved.

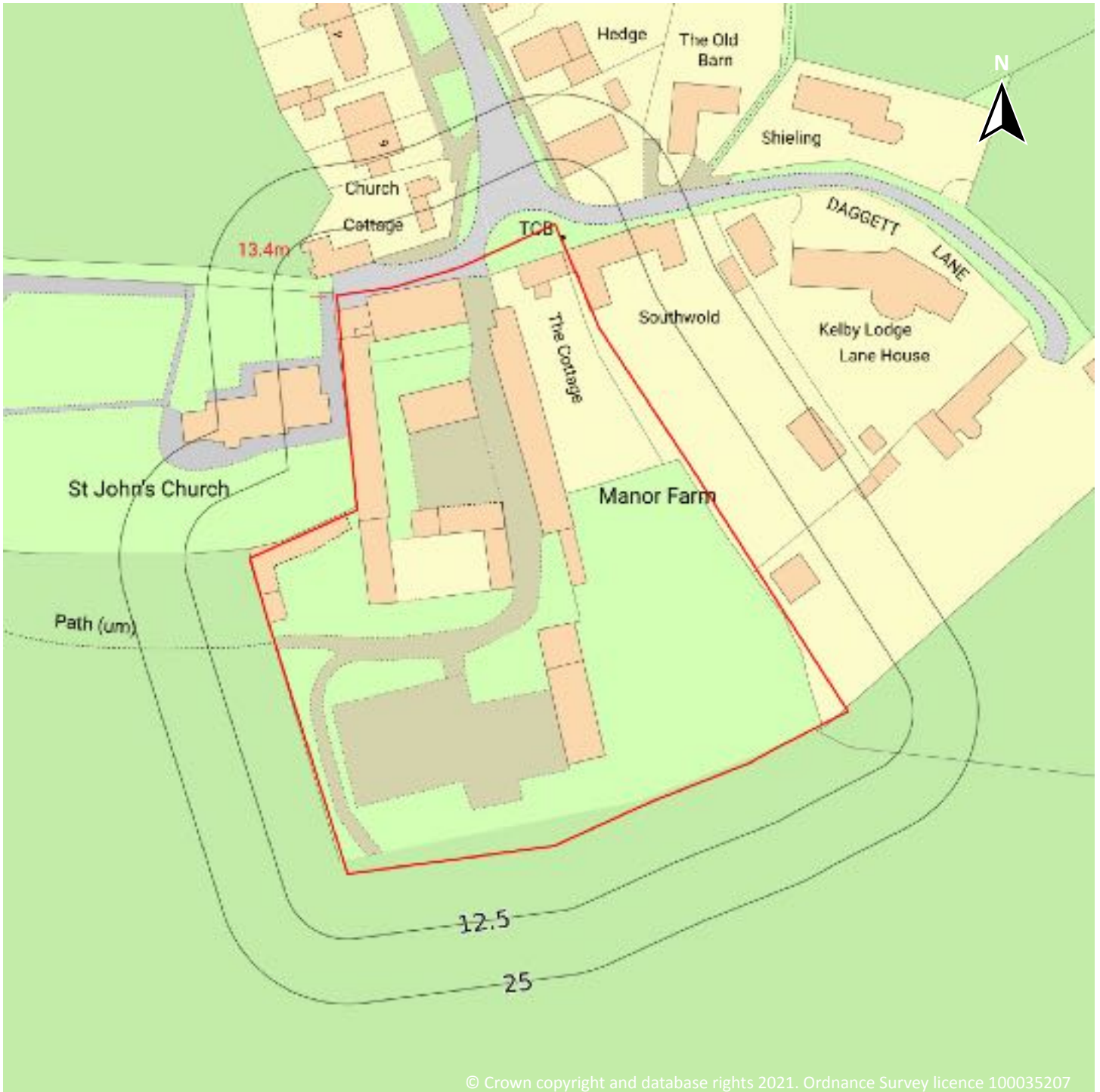
Capture Date: 27/04/1999

Site Area: 0.84ha





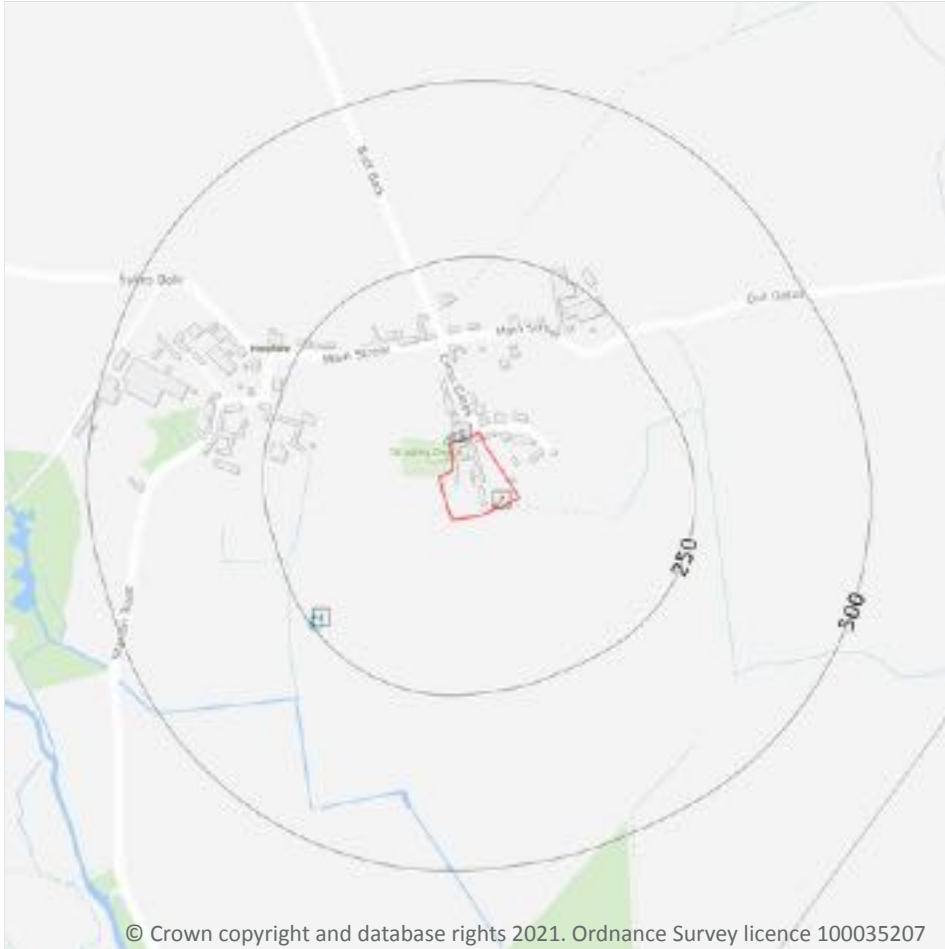
## OS MasterMap site plan



Site Area: 0.84ha



# 1 Past land use



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

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## 1.1 Historical industrial land uses

**Records within 500m** **2**

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 12**

ID	Location	Land use	Dates present	Group ID
1	On site	Smithy	1909	1987103

ID	Location	Land use	Dates present	Group ID
3	234m SW	Unspecified Heap	1982	1989487

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.2 Historical tanks

### Records within 500m

**1**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original 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 12**

ID	Location	Land use	Dates present	Group ID
2	On site	Unspecified Tank	1976	333087

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.3 Historical energy features

### Records within 500m

**0**

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

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.4 Historical petrol stations

### Records within 500m

**0**

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

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.6 Historical military land

Records within 500m

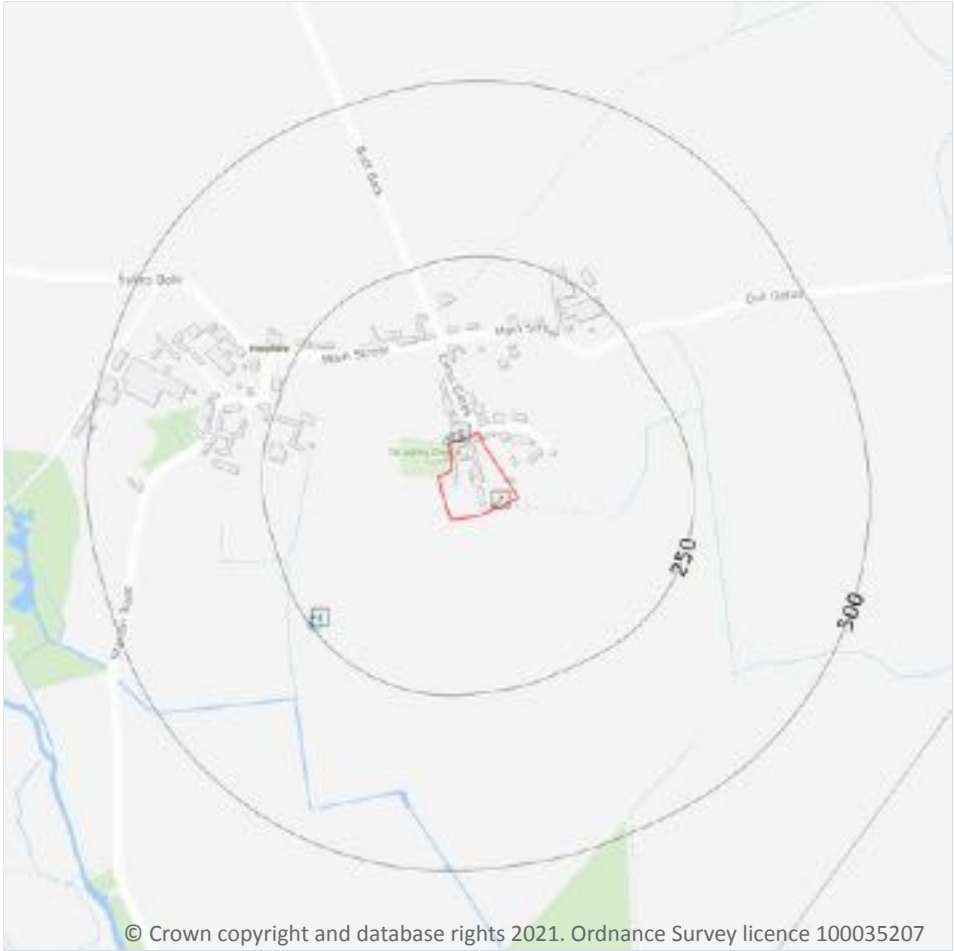
0

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

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



## 2 Past land use - un-grouped



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

### 2.1 Historical industrial land uses

**Records within 500m** **2**

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 15**

ID	Location	Land Use	Date	Group ID
1	On site	Smithy	1909	1987103
3	234m SW	Unspecified Heap	1982	1989487

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.2 Historical tanks

**Records within 500m** **1**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. 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 15**

ID	Location	Land Use	Date	Group ID
2	On site	Unspecified Tank	1976	333087

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.3 Historical energy features

**Records within 500m** **0**

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

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.4 Historical petrol stations

**Records within 500m** **0**

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

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.5 Historical garages

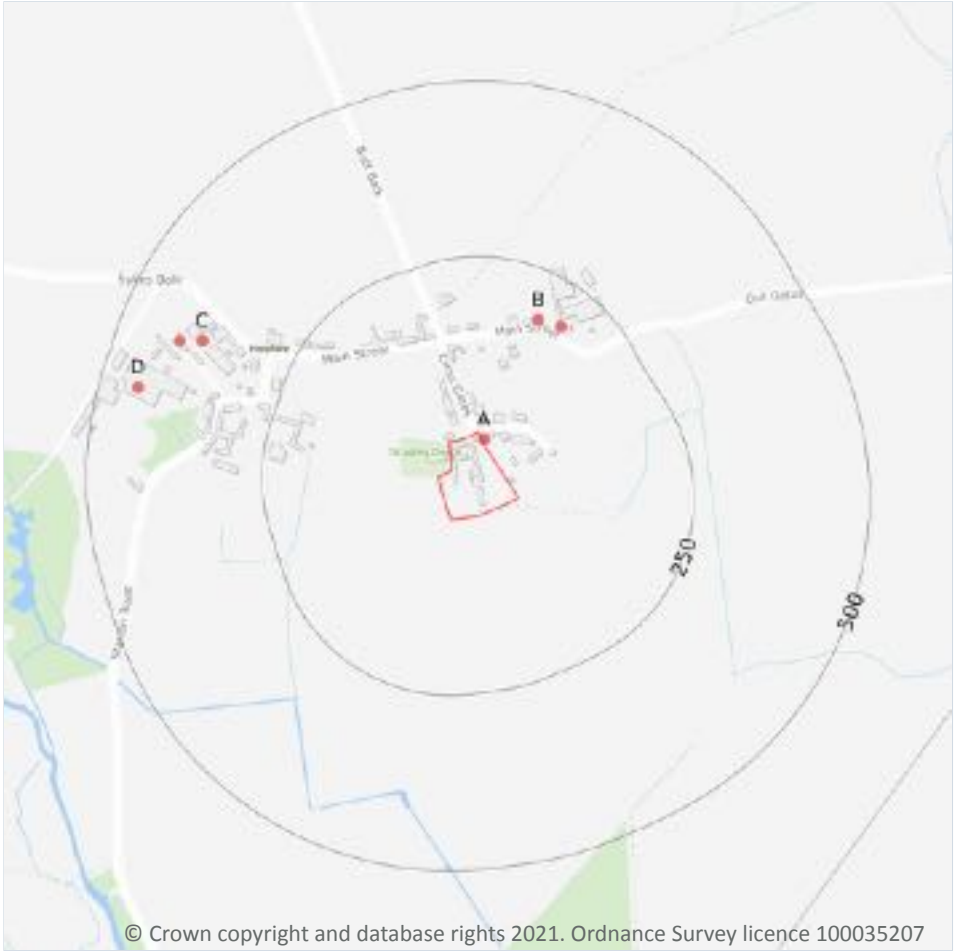
**Records within 500m** **0**

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

*This data is sourced from Ordnance Survey / Groundsure.*



## 3 Waste and landfill



— Site Outline

Search buffers in metres (m)

● Waste exemptions

### 3.1 Active or recent landfill

**Records within 500m** **0**

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.  
*This data is sourced from the Environment Agency and Natural Resources Wales.*

### 3.2 Historical landfill (BGS records)

**Records within 500m** **0**

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.  
*This data is sourced from the British Geological Survey.*

### 3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

### 3.4 Historical landfill (EA/NRW records)

Records within 500m

0

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

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

### 3.5 Historical waste sites

Records within 500m

0

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

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

### 3.6 Licensed waste sites

Records within 500m

0

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

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

### 3.7 Waste exemptions

Records within 500m

54

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 17**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	3m NE	Manor Farm DRIFFIELD North Humberside YO25 4QS	EPR/TH0575K A/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters





ID	Location	Site	Reference	Category	Sub-Category	Description
A	3m NE	Manor Farm DRIFFIELD North Humberside YO25 4QS	EPR/TH0575K A/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from a portable sanitary convenience
A	3m NE	Manor Farm DRIFFIELD North Humberside YO25 4QS	EPR/TH0575K A/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
A	3m NE	Manor Farm DRIFFIELD North Humberside YO25 4QS	EPR/TH0575K A/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
A	3m NE	Manor Farm DRIFFIELD North Humberside YO25 4QS	EPR/TH0575K A/A001	Treating waste exemption	Agricultural Waste Only	Cleaning, washing, spraying or coating relevant waste
A	3m NE	Manor Farm DRIFFIELD North Humberside YO25 4QS	EPR/TH0575K A/A001	Treating waste exemption	Agricultural Waste Only	Aerobic composting and associated prior treatment
A	3m NE	Manor Farm DRIFFIELD North Humberside YO25 4QS	EPR/TH0575K A/A001	Treating waste exemption	Agricultural Waste Only	Screening and blending of waste
A	3m NE	Manor Farm DRIFFIELD North Humberside YO25 4QS	EPR/TH0575K A/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	3m NE	Manor Farm DRIFFIELD North Humberside YO25 4QS	EPR/TH0575K A/A001	Treating waste exemption	Agricultural Waste Only	Recovery of scrap metal
A	3m NE	Manor Farm DRIFFIELD North Humberside YO25 4QS	EPR/TH0575K A/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
A	3m NE	Manor Farm DRIFFIELD North Humberside YO25 4QS	EPR/TH0575K A/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
A	3m NE	Manor Farm DRIFFIELD North Humberside YO25 4QS	EPR/TH0575K A/A001	Using waste exemption	Agricultural Waste Only	Use of mulch
A	3m NE	Manor Farm DRIFFIELD North Humberside YO25 4QS	EPR/TH0575K A/A001	Using waste exemption	Agricultural Waste Only	Spreading of plant matter to confer benefit
A	3m NE	Manor Farm DRIFFIELD North Humberside YO25 4QS	EPR/TH0575K A/A001	Using waste exemption	Agricultural Waste Only	Incorporation of ash into soil



ID	Location	Site	Reference	Category	Sub-Category	Description
A	3m NE	Manor Farm DRIFFIELD North Humberside YO25 4QS	EPR/TH0575K A/A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose
B	180m NE	EAST END FARM, HARPHAM, DRIFFIELD, YO25 4QU	WEX069621	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
B	180m NE	EAST END FARM, HARPHAM, DRIFFIELD, YO25 4QU	WEX069621	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
B	180m NE	EAST END FARM, HARPHAM, DRIFFIELD, YO25 4QU	WEX069621	Disposing of waste exemption	On a farm	Burning waste in the open
B	180m NE	EAST END FARM, HARPHAM, DRIFFIELD, YO25 4QU	WEX069621	Storing waste exemption	On a farm	Storage of waste in secure containers
B	180m NE	EAST END FARM, HARPHAM, DRIFFIELD, YO25 4QU	WEX069621	Storing waste exemption	On a farm	Storage of waste in a secure place
B	180m NE	EAST END FARM, HARPHAM, DRIFFIELD, YO25 4QU	WEX069621	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste
B	180m NE	EAST END FARM, HARPHAM, DRIFFIELD, YO25 4QU	WEX069621	Using waste exemption	On a farm	Use of waste in construction
B	180m NE	EAST END FARM, HARPHAM, DRIFFIELD, YO25 4QU	WEX069621	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
B	189m NE	East End Farm DRIFFIELD North Humberside YO25 4QU	EPR/DE5681C C/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
B	189m NE	East End Farm DRIFFIELD North Humberside YO25 4QU	EPR/DE5681C C/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
B	189m NE	East End Farm DRIFFIELD North Humberside YO25 4QU	EPR/DE5681C C/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
B	189m NE	East End Farm DRIFFIELD North Humberside YO25 4QU	EPR/DE5681C C/A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in secure containers



ID	Location	Site	Reference	Category	Sub-Category	Description
B	189m NE	East End Farm DRIFFIELD North Humberside YO25 4QU	EPR/DE5681C C/A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in a secure place
B	189m NE	East End Farm DRIFFIELD North Humberside YO25 4QU	EPR/DE5681C C/A001	Treating waste exemption	Agricultural Waste Only	Cleaning, washing, spraying or coating relevant waste
B	189m NE	East End Farm DRIFFIELD North Humberside YO25 4QU	EPR/DE5681C C/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
B	189m NE	East End Farm DRIFFIELD North Humberside YO25 4QU	EPR/DE5681C C/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
C	380m W	Sykes Farm DRIFFIELD North Humberside YO25 4QZ	EPR/MF0430L V/A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Deposit of waste from dredging of inland waters
C	380m W	Sykes Farm DRIFFIELD North Humberside YO25 4QZ	EPR/MF0430L V/A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Deposit of waste from a portable sanitary convenience
C	380m W	Sykes Farm DRIFFIELD North Humberside YO25 4QZ	EPR/MF0430L V/A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Disposal by incineration
C	380m W	Sykes Farm DRIFFIELD North Humberside YO25 4QZ	EPR/MF0430L V/A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Burning waste in the open
C	380m W	Sykes Farm DRIFFIELD North Humberside YO25 4QZ	EPR/MF0430L V/A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste in construction
C	380m W	Sykes Farm DRIFFIELD North Humberside YO25 4QZ	EPR/MF0430L V/A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of mulch



ID	Location	Site	Reference	Category	Sub-Category	Description
C	380m W	Sykes Farm DRIFFIELD North Humberside YO25 4QZ	EPR/MF0430L V/A001	Using waste exemption	Both agricultural and non- agricultural waste	Spreading of plant matter to confer benefit
C	380m W	Sykes Farm DRIFFIELD North Humberside YO25 4QZ	EPR/MF0430L V/A001	Using waste exemption	Both agricultural and non- agricultural waste	Burning of waste as a fuel in a small appliance
C	380m W	Sykes Farm DRIFFIELD North Humberside YO25 4QZ	EPR/MF0430L V/A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste for a specified purpose
C	411m W	SYKES FARM, HARPHAM, DRIFFIELD, YO25 4QZ	WEX214475	Storing waste exemption	On a Farm	Storage of waste in secure containers
C	411m W	SYKES FARM, HARPHAM, DRIFFIELD, YO25 4QZ	WEX214475	Disposing of waste exemption	On a Farm	Burning waste in the open
C	411m W	SYKES FARM, HARPHAM, DRIFFIELD, YO25 4QZ	WEX214475	Using waste exemption	On a Farm	Spreading of plant matter to confer benefit
C	411m W	SYKES FARM, HARPHAM, DRIFFIELD, YO25 4QZ	WEX214475	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
C	411m W	SYKES FARM, HARPHAM, DRIFFIELD, YO25 4QZ	WEX059196	Disposing of waste exemption	On a farm	Burning waste in the open
C	411m W	SYKES FARM, HARPHAM, DRIFFIELD, YO25 4QZ	WEX059196	Storing waste exemption	On a farm	Storage of waste in secure containers
C	411m W	SYKES FARM, HARPHAM, DRIFFIELD, YO25 4QZ	WEX059196	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
C	411m W	SYKES FARM, HARPHAM, DRIFFIELD, YO25 4QZ	WEX059196	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
D	446m W	West End Farm DRIFFIELD North Humberside YO25 4QZ	EPR/HF0739B B/A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Deposit of waste from dredging of inland waters

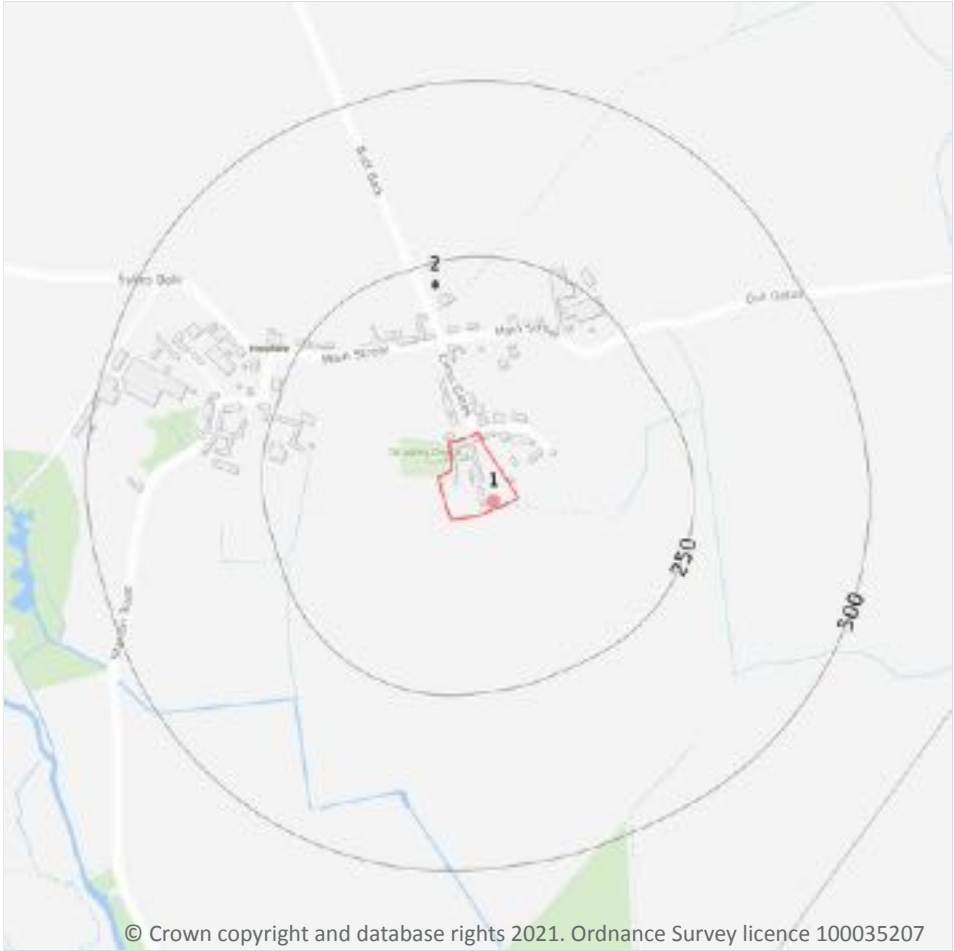


ID	Location	Site	Reference	Category	Sub-Category	Description
D	446m W	West End Farm DRIFFIELD North Humberside YO25 4QZ	EPR/HF0739B B/A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Burning waste in the open
D	446m W	West End Farm DRIFFIELD North Humberside YO25 4QZ	EPR/HF0739B B/A001	Storing waste exemption	Both agricultural and non- agricultural waste	Storage of waste in secure containers
D	446m W	West End Farm DRIFFIELD North Humberside YO25 4QZ	EPR/HF0739B B/A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste in construction
D	446m W	West End Farm DRIFFIELD North Humberside YO25 4QZ	EPR/HF0739B B/A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of mulch
D	446m W	West End Farm DRIFFIELD North Humberside YO25 4QZ	EPR/HF0739B B/A001	Using waste exemption	Both agricultural and non- agricultural waste	Spreading of plant matter to confer benefit

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



## 4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- ◆ Licensed Discharges to controlled waters

### 4.1 Recent industrial land uses

**Records within 250m** **1**

Current potentially contaminative industrial sites.

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

ID	Location	Company	Address	Activity	Category
1	On site	Tank	East Riding of Yorkshire, YO25	Tanks (Generic)	Industrial Features

*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

1

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

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

ID	Location	Address	Details	
2	219m N	THE OLD CHAPEL, MAIN STREET, HARPHAM, DRIFFIELD, YORKSHIRE, YO25 4QY	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRRB3898VK Permit Version: 1 Receiving Water: GROUNDWATER INFILTRATION SYS	Status: NEW ISSUED UNDER EPR 2010 Issue date: 17/07/2020 Effective Date: 17/07/2020 Revocation Date: -

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

## 4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

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

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

## 4.15 Pollutant release to public sewer

Records within 500m

0

Discharges of Special Category Effluents to the public sewer.

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



#### 4.16 List 1 Dangerous Substances

Records within 500m

0

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

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

#### 4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

#### 4.18 Pollution Incidents (EA/NRW)

Records within 500m

0

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

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

#### 4.19 Pollution inventory substances

Records within 500m

0

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

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

#### 4.20 Pollution inventory waste transfers

Records within 500m

0

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

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



## 4.21 Pollution inventory radioactive waste

Records within 500m

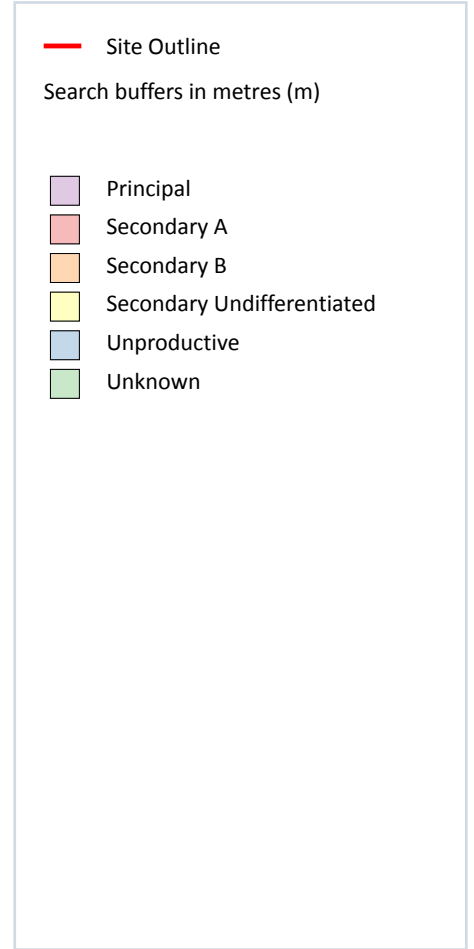
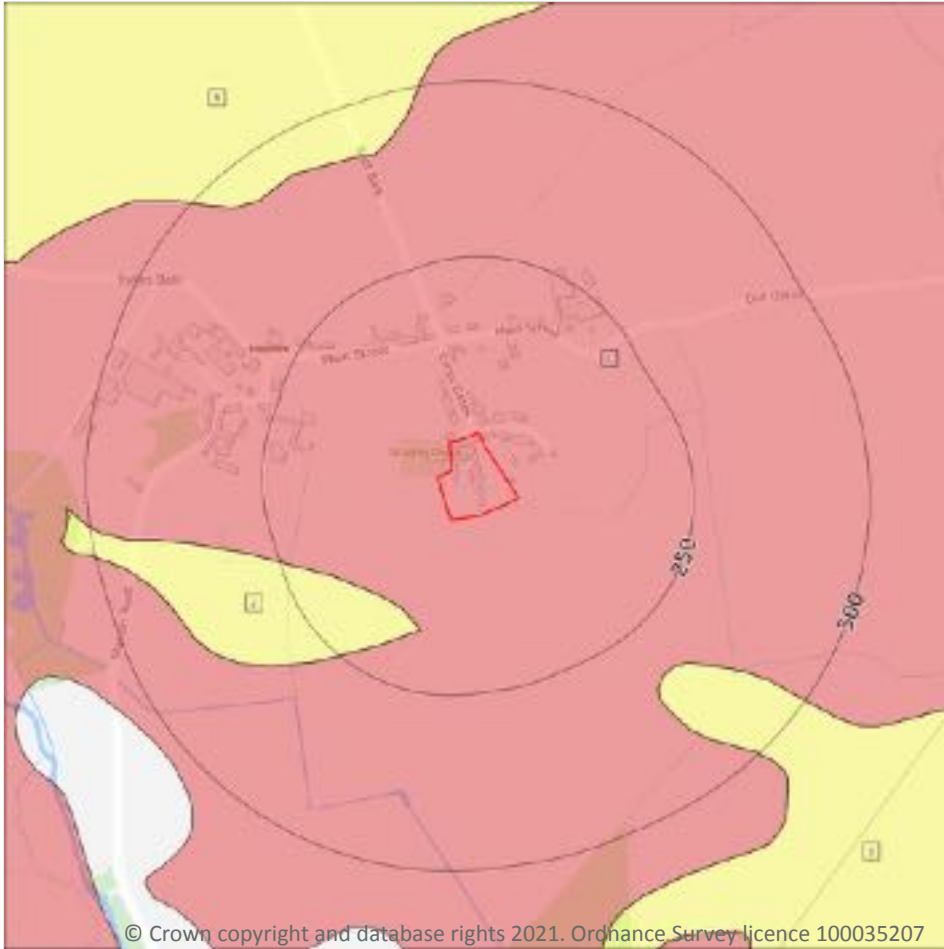
0

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

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



## 5 Hydrogeology - Superficial aquifer



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### 5.1 Superficial aquifer

Records within 500m

4

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 30**

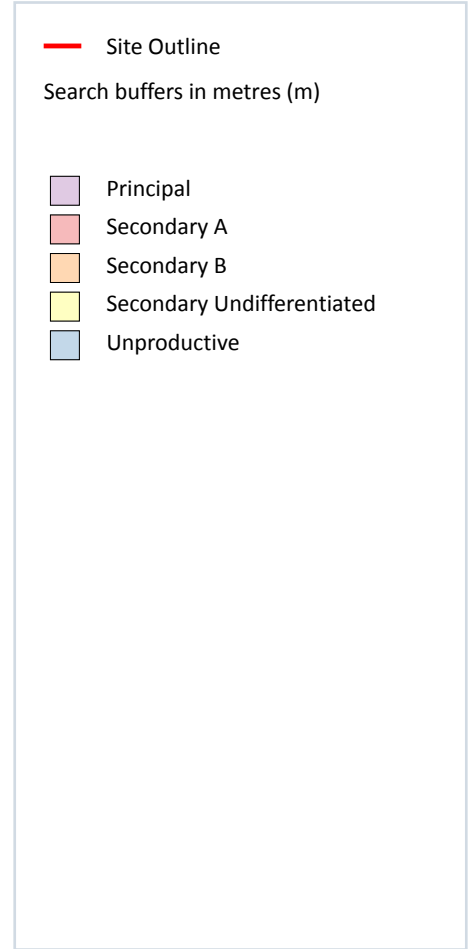
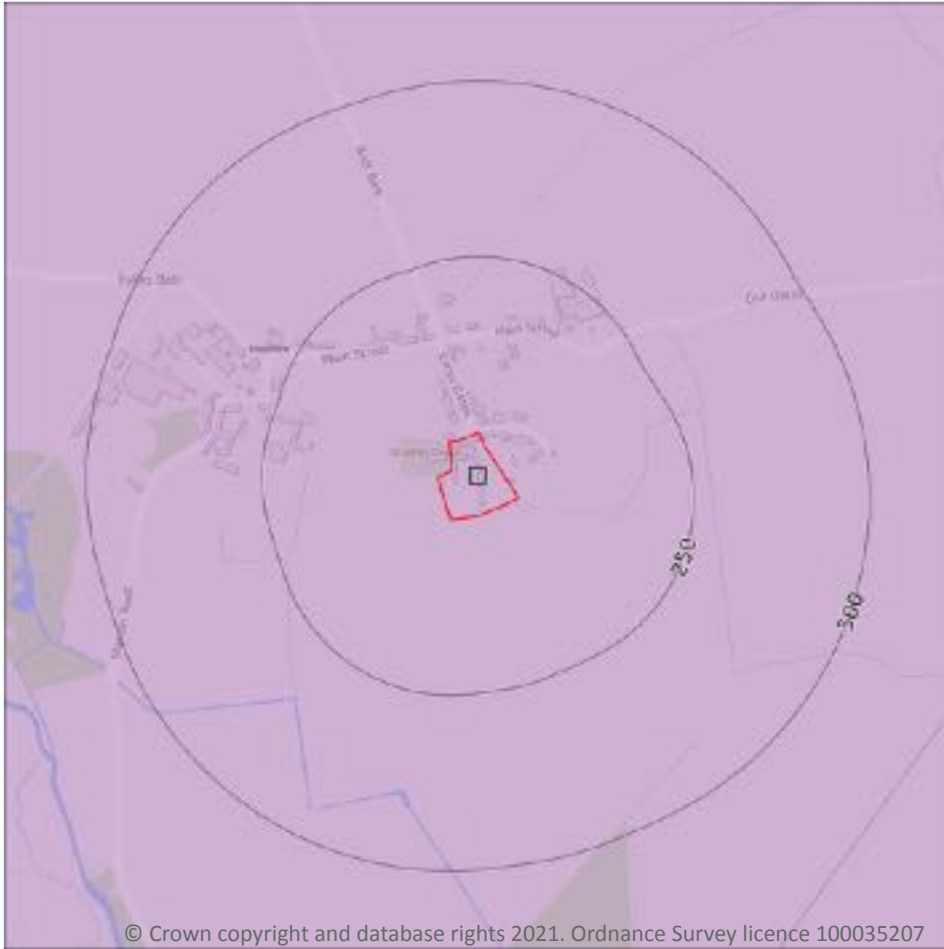
ID	Location	Designation	Description
1	On site	Secondary A	<b>Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers</b>
2	144m SW	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

ID	Location	Designation	Description
3	327m SE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	422m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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



## Bedrock aquifer



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### 5.2 Bedrock aquifer

Records within 500m

1

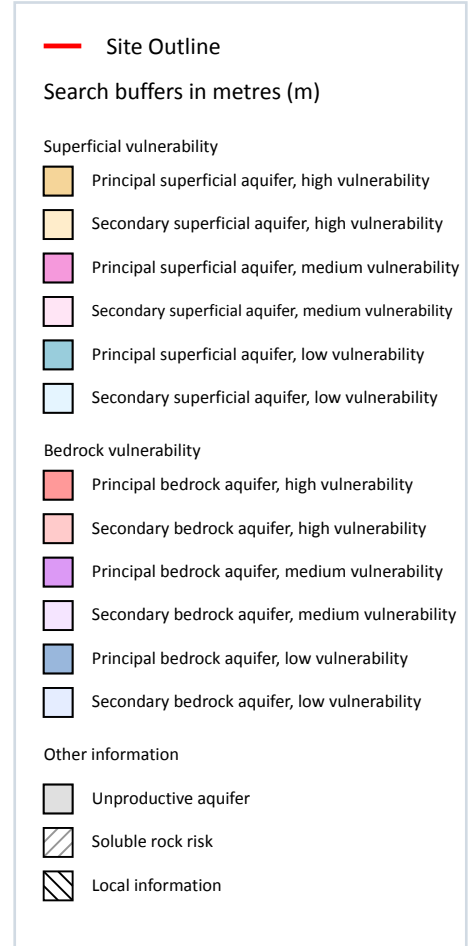
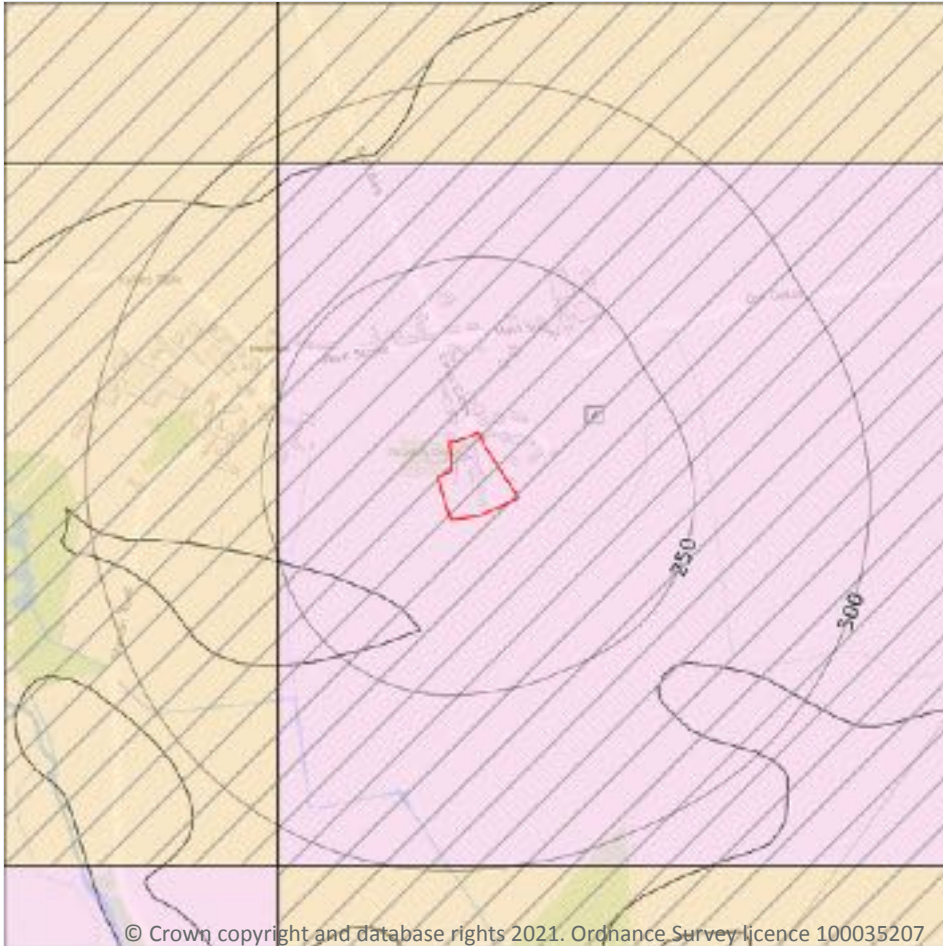
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 32**

ID	Location	Designation	Description
1	On site	Principal	<b>Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers</b>

*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
A	On site	<b>Summary Classification:</b> Secondary superficial aquifer - Medium Vulnerability <b>Combined classification:</b> Productive Bedrock Aquifer, Productive Superficial Aquifer	<b>Leaching class:</b> Intermediate <b>Infiltration value:</b> 40-70% <b>Dilution value:</b> <300mm/year	<b>Vulnerability:</b> Medium <b>Aquifer type:</b> Secondary <b>Thickness:</b> >10m <b>Patchiness value:</b> >90% <b>Recharge potential:</b> High	<b>Vulnerability:</b> Low <b>Aquifer type:</b> Principal <b>Flow mechanism:</b> 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

<b>Records on site</b>	<b>1</b>
------------------------	----------

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

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
A	<b>Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.</b>	<b>34.0%</b>

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

## 5.5 Groundwater vulnerability- local information

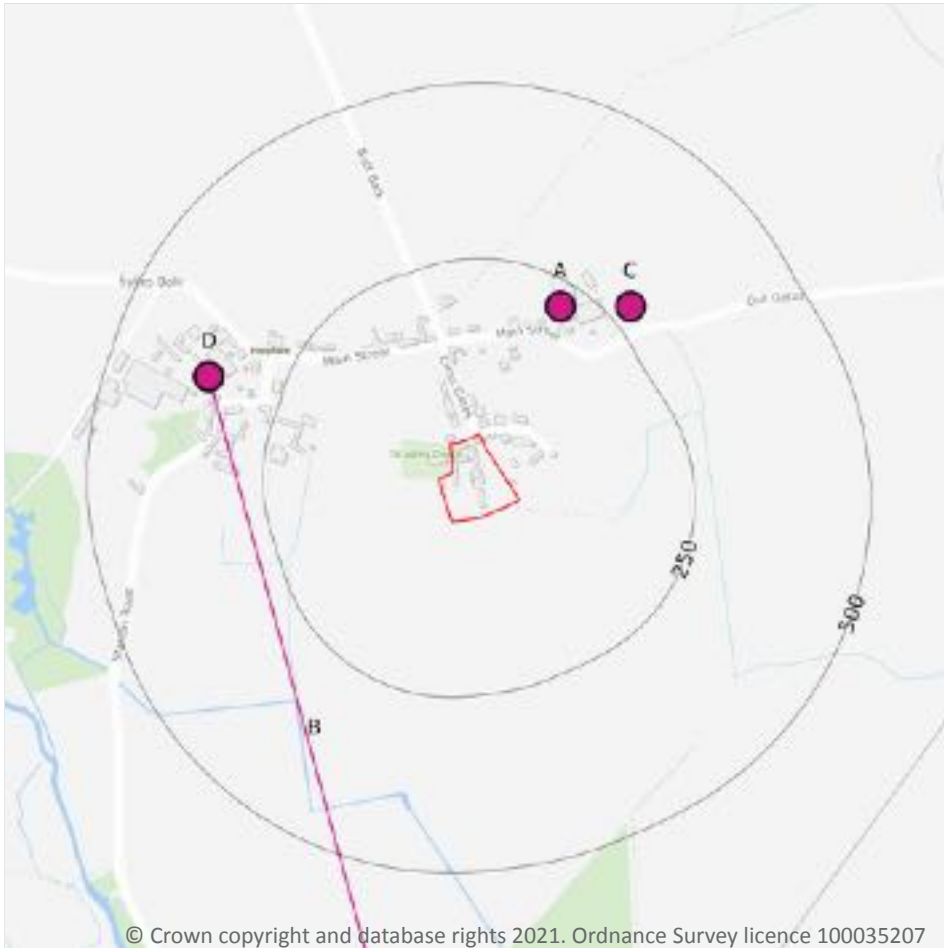
<b>Records on site</b>	<b>0</b>
------------------------	----------

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

14

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	215m NE	Status: Historical Licence No: 2/26/31/036 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE NO1 - CRETACEOUS CHALK - DRIFFIELD Data Type: Point Name: F S THOMPSON & SON Easting: 509400 Northing: 461800	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
A	215m NE	Status: Historical Licence No: 2/26/31/036 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE NO1 - CHALK - DRIFFIELD Data Type: Point Name: F S THOMPSON & SON Easting: 509400 Northing: 461800	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
B	277m W	Status: Historical Licence No: 2/26/31/113 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE X4 - CRETACEOUS CHALK - HARPHAM DRIFFIELD Data Type: Line Name: SLATER Easting: 509200 Northing: 460600	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/04/1966 Version End Date: -
B	277m W	Status: Historical Licence No: 2/26/31/113 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE X4 - CHALK - HARPHAM DRIFFIELD Data Type: Line Name: SLATER Easting: 509200 Northing: 460600	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/04/1966 Version End Date: -
C	281m NE	Status: Historical Licence No: 2/26/31/036 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE NO2 - CRETACEOUS CHALK - DRIFFIELD Data Type: Point Name: F S THOMPSON & SON Easting: 509500 Northing: 461800	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - 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	
C	281m NE	Status: Historical Licence No: 2/26/31/036 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE NO2 - CHALK - HARPMAN DRIFFIELD Data Type: Point Name: F S THOMPSON & SON Easting: 509500 Northing: 461800	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
D	357m W	Status: Historical Licence No: 2/26/31/022 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE X2 Data Type: Point Name: W BURDASS & SONS Easting: 508900 Northing: 461700	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
D	357m W	Status: Historical Licence No: 2/26/31/113 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: SLATER Easting: 508900 Northing: 461700	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/04/1966 Version End Date: -
D	357m W	Status: Historical Licence No: 2/26/31/022 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE X2 - CHALK - HARPHAM DRIFFIELD Data Type: Point Name: W BURDASS & SONS Easting: 508900 Northing: 461700	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
D	357m W	Status: Historical Licence No: 2/26/31/113 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE - CHALK - HARPHAM DRIFFIELD Data Type: Point Name: SLATER Easting: 508900 Northing: 461700	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/04/1966 Version End Date: -



ID	Location	Details	
-	1251m W	Status: Historical Licence No: 2/26/31/052 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: WINTER & BURNELL Easting: 508000 Northing: 461800	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1966 Version End Date: -
-	1251m W	Status: Historical Licence No: 2/26/31/052 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE - CHALK - HARPHAM Data Type: Point Name: WINTER & BURNELL Easting: 508000 Northing: 461800	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1966 Version End Date: -
-	1805m NE	Status: Historical Licence No: 2/26/30/054 Details: Make-Up or Top Up Water Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: BURTON AGNES ESTATE TRUST Easting: 510470 Northing: 462980	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 29/03/1995 Expiry Date: 31/12/2004 Issue No: 100 Version Start Date: 29/03/1995 Version End Date: -
-	1805m NE	Status: Historical Licence No: 2/26/30/054 Details: Make-Up or Top Up Water Direct Source: GROUNDWATERS Point: BOREHOLE - CHALK - BURTON AGNES Data Type: Point Name: BURTON AGNES ESTATE TRUST Easting: 510470 Northing: 462980	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 29/03/1995 Expiry Date: 31/12/2004 Issue No: 100 Version Start Date: 29/03/1995 Version End Date: -

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

## 5.7 Surface water abstractions

### Records within 2000m

1

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 35**



ID	Location	Details	
-	1822m SW	Status: Historical Licence No: 2/26/31/035 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER Point: UNNAMED DITCH - LOWTHORPE Data Type: Point Name: J C & J ROBINSON Easting: 508200 Northing: 460000	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 101 Version Start Date: 06/04/2001 Version End Date: -

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

## 5.8 Potable abstractions

**Records within 2000m**

**0**

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

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

## 5.9 Source Protection Zones

**Records within 500m**

**0**

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

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

## 5.10 Source Protection Zones (confined aquifer)

**Records within 500m**

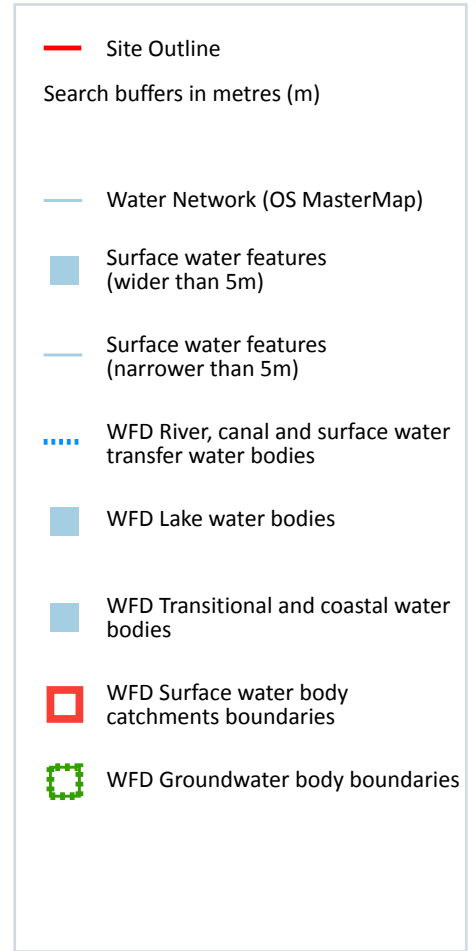
**0**

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

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



## 6 Hydrology



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### 6.1 Water Network (OS MasterMap)

Records within 250m

5

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

Features are displayed on the Hydrology map on **page 40**

ID	Location	Type of water feature	Ground level	Permanence	Name
C	143m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
D	183m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
2	233m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	239m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	239m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

*This data is sourced from the Ordnance Survey.*

## 6.2 Surface water features

### Records within 250m

4

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

Features are displayed on the Hydrology map on **page 40**

*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	Gransmoor Drain (Burton Agnes to Lissett Area)	GB104026066630	Barmston Sea Drain	Hull and East Riding

*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
-	921m SE	River	Gransmoor Drain (Burton Agnes to Lissett Area)	<a href="#">GB104026066630</a>	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
1	On site	Hull and East Riding Chalk	<a href="#">GB40401G700700</a>	Poor	Poor	Poor	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

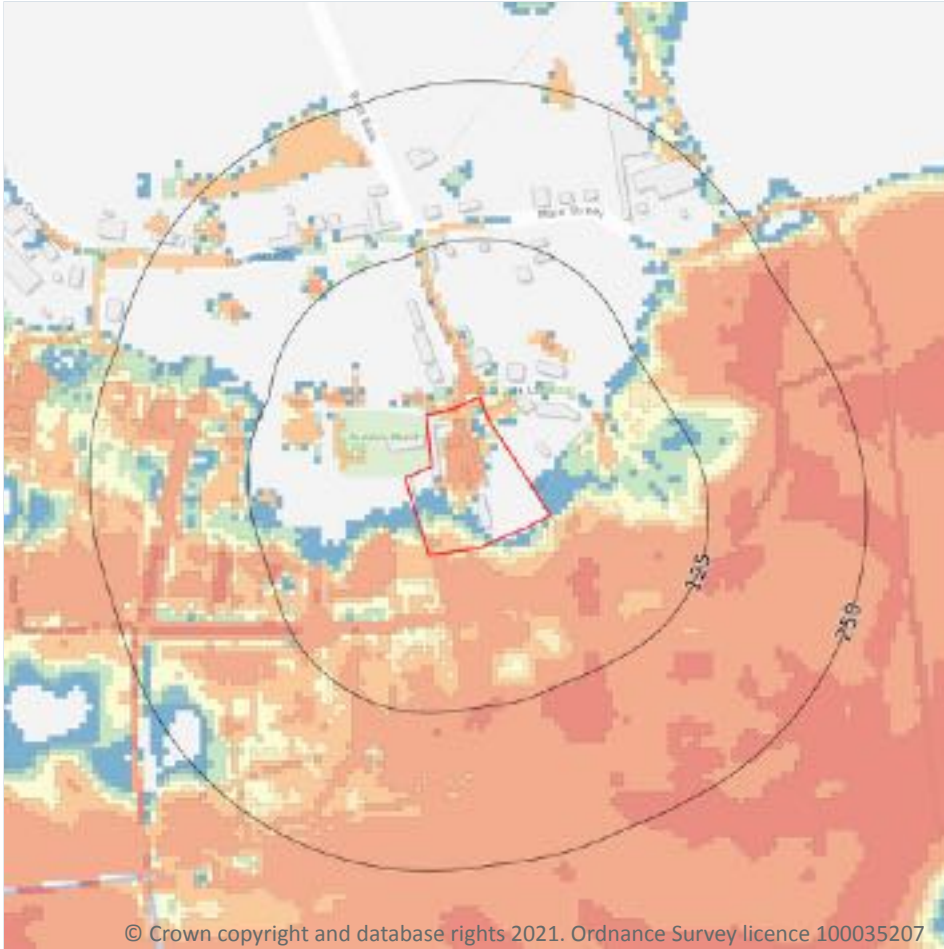
0

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.

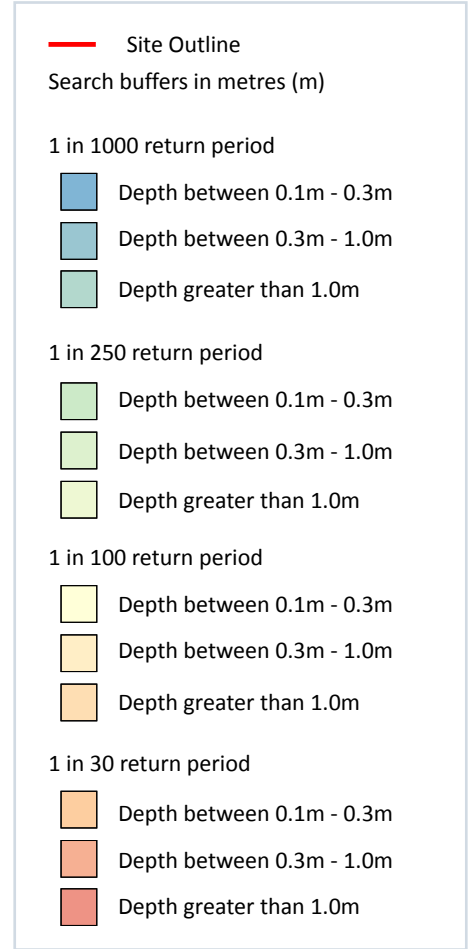
*This data is sourced from the Environment Agency and Natural Resources Wales.*



## 8 Surface water flooding



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### 8.1 Surface water flooding

Highest risk on site

**1 in 30 year, 0.3m - 1.0m**

Highest risk within 50m

**1 in 30 year, Greater than 1.0m**

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

Features are displayed on the Surface water flooding map on **page 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	Greater than 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.3m and 1.0m
1 in 30 year	Between 0.3m and 1.0m

*This data is sourced from Ambiental Risk Analytics.*



## 9 Groundwater flooding



### 9.1 Groundwater flooding

Highest risk on site

High

Highest risk within 50m

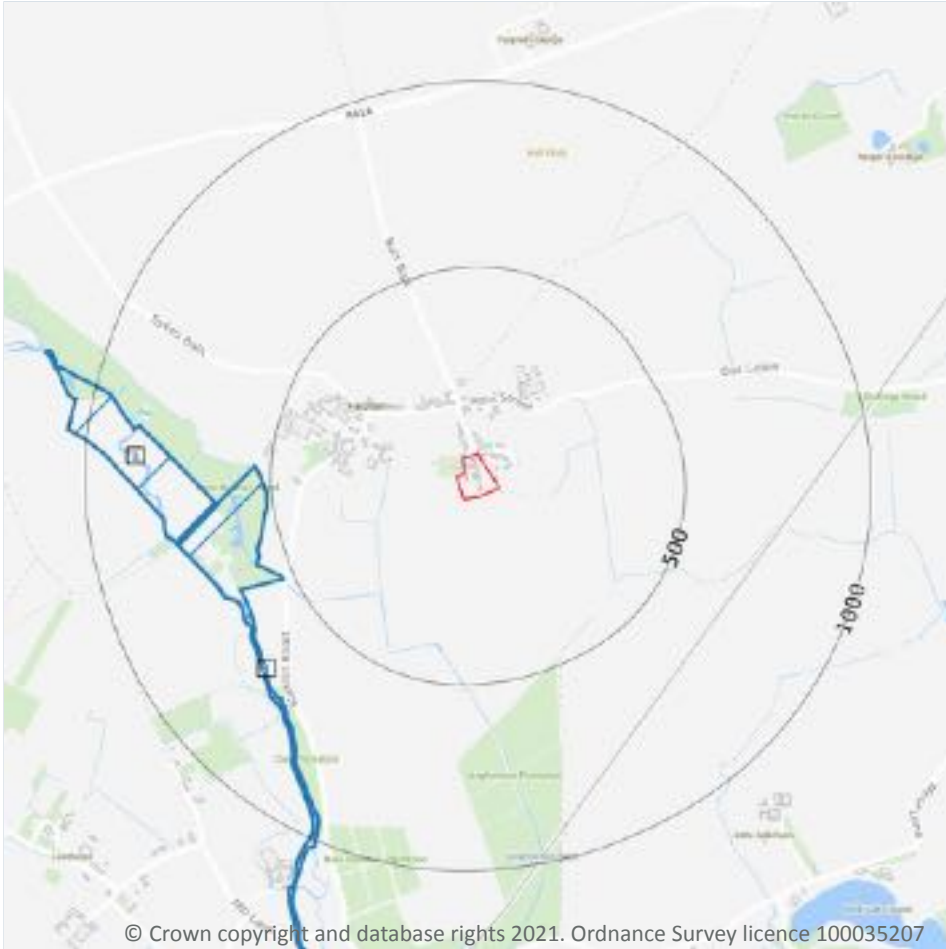
High

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



- Site Outline
- Search buffers in metres (m)
- Sites of Special Scientific Interest (SSSI)

### 10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

2

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.

Features are displayed on the Environmental designations map on **page 49**

ID	Location	Name	Data source
1	513m W	River Hull Headwaters	Natural England

ID	Location	Name	Data source
2	654m W	River Hull Headwaters	Natural England

*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

0

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.

*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

0

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

*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

4

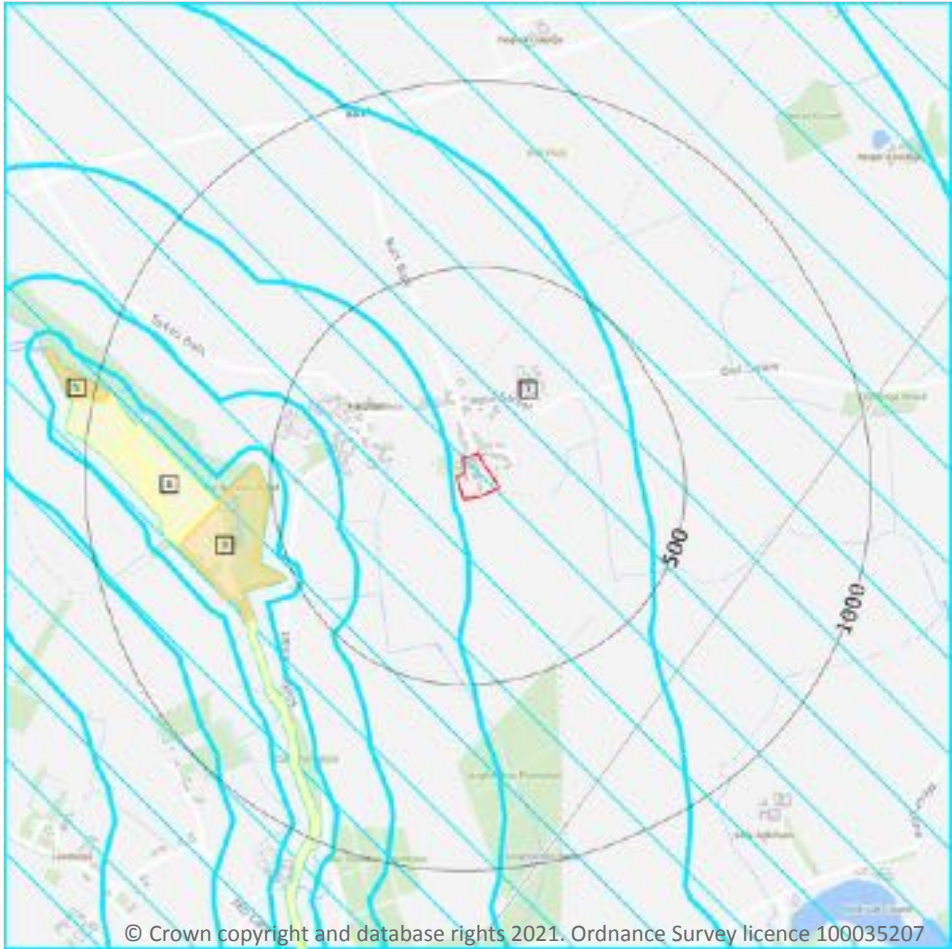
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
On site	Yorkshire Chalk	Groundwater	G106	Changed
On site	River Hull from Arram Beck to Humber NVZ	Surface Water	S254	Existing
5m SE	Barmston Sea Drain from Skipsea Drain to N Sea NVZ	Surface Water	S259	Existing
1666m NE	Earls Dyke from Source to North Sea NVZ	Surface Water	S825	New

*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 54**

ID	Location	Type of developments requiring consultation
1	On site	<p><b>Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals.</b></p> <p><b>Wind and Solar - Wind turbines.</b></p> <p><b>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil &amp; gas exploration/extraction.</b></p> <p><b>Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is &gt; 1,000m<sup>2</sup> or footprint exceeds 0.2ha.</b></p> <p><b>Residential - Residential development of 100 units or more.</b></p> <p><b>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</b></p> <p><b>Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock &amp; poultry units with floorspace &gt; 500m<sup>2</sup>, slurry lagoons &amp; digestate stores &gt; 200m<sup>2</sup>, manure stores &gt; 250t).</b></p> <p><b>Combustion - General combustion processes &gt;20mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</b></p> <p><b>Waste - Landfill. incl: inert landfill, non-hazardous landfill, hazardous landfill.</b></p> <p><b>Composting - Any composting proposal with more than 500 tonnes maximum annual operational throughput. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</b></p> <p><b>Discharges - Any discharge of water or liquid waste of more than 2m<sup>3</sup>/day to ground (ie to seep away) or to surface water, such as a beck or stream.</b></p> <p><b>Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is &gt; 1,000m<sup>2</sup> or any development needing its own water supply .</b></p>

*This data is sourced from Natural England.*

## 10.18 SSSI Units

Records within 2000m

6

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.

Features are displayed on the SSSI Impact Zones and Units map on **page 54**

ID: 3  
 Location: 513m W  
 SSSI name: River Hull Headwaters  
 Unit name: Legard - Harpham Marsh  
 Broad habitat: Fen, Marsh And Swamp - Lowland  
 Condition: Unfavourable - No change  
 Reportable features:



Feature name	Feature condition	Date of assessment
Lowland fens, including basin, flood-plain, open water transition and valley fens	Unfavourable - No change	24/10/2012
Wet woodland	Unfavourable - No change	24/10/2012

ID: B  
 Location: 654m W  
 SSSI name: River Hull Headwaters  
 Unit name: Burdass - Neat Holmes Marsh  
 Broad habitat: Neutral Grassland - Lowland  
 Condition: Unfavourable - Recovering  
 Reportable features:

Feature name	Feature condition	Date of assessment
Lowland fens, including basin, flood-plain, open water transition and valley fens	Unfavourable - Recovering	09/06/2010
Lowland mire grassland and rush pasture	Unfavourable - Recovering	09/06/2010

ID: 4  
 Location: 654m SW  
 SSSI name: River Hull Headwaters  
 Unit name: Kelk Beck And Foston Beck  
 Broad habitat: Rivers And Streams  
 Condition: Unfavourable - Recovering  
 Reportable features:

Feature name	Feature condition	Date of assessment
River supporting habitat	Unfavourable - Recovering	21/12/2010

ID: B  
 Location: 769m W  
 SSSI name: River Hull Headwaters  
 Unit name: Kelk Beck And Foston Beck  
 Broad habitat: Rivers And Streams  
 Condition: Unfavourable - Recovering  
 Reportable features:

Feature name	Feature condition	Date of assessment
River supporting habitat	Unfavourable - Recovering	21/12/2010



ID: B  
 Location: 807m W  
 SSSI name: River Hull Headwaters  
 Unit name: Burdass - Neat Holmes Marsh  
 Broad habitat: Neutral Grassland - Lowland  
 Condition: Unfavourable - Recovering  
 Reportable features:

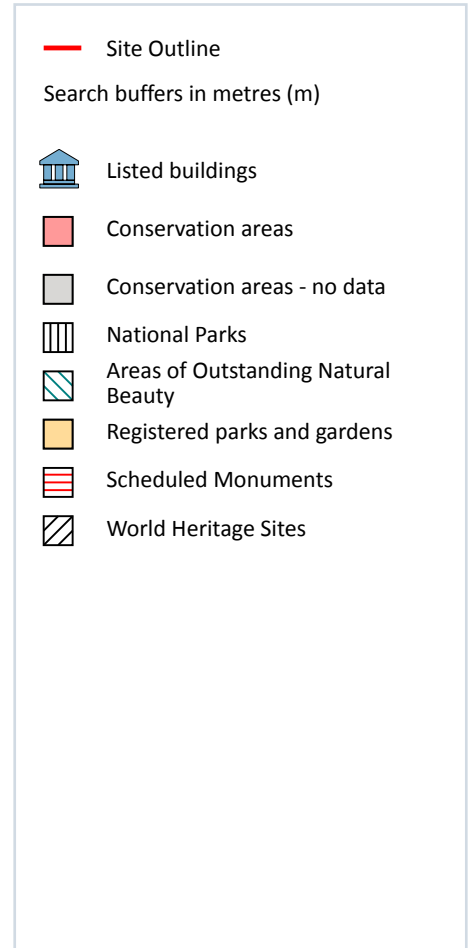
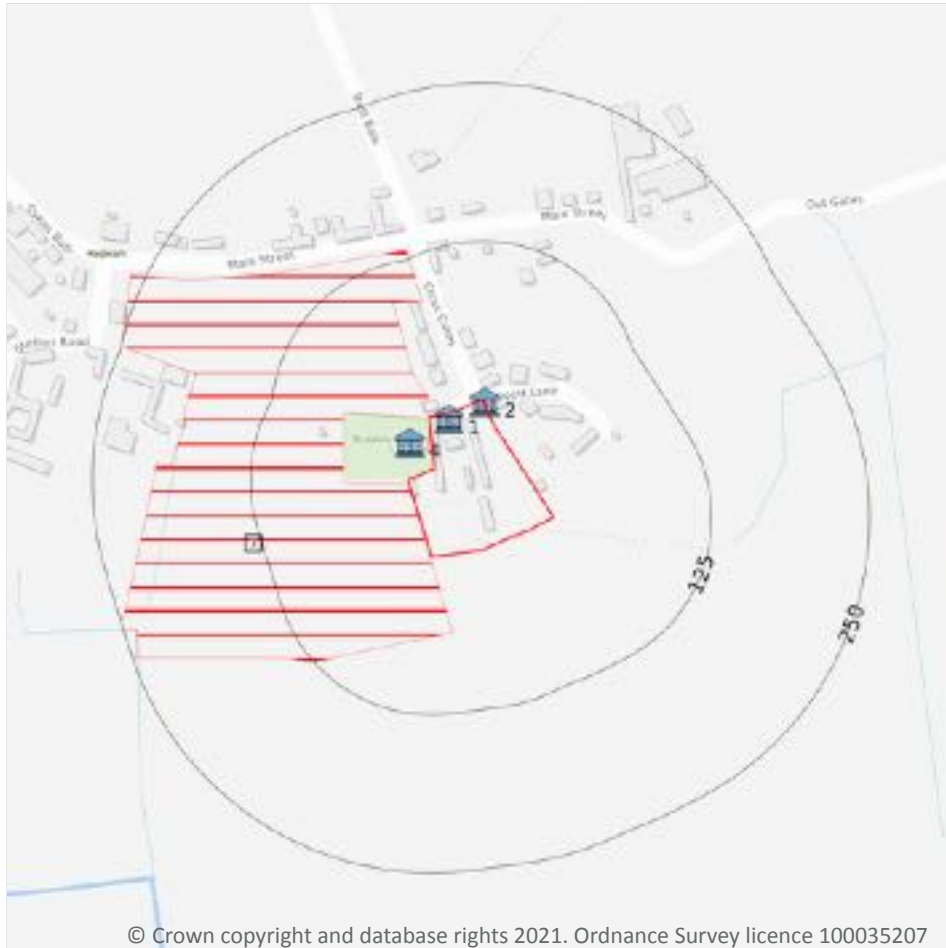
Feature name	Feature condition	Date of assessment
Lowland fens, including basin, flood-plain, open water transition and valley fens	Unfavourable - Recovering	09/06/2010
Lowland mire grassland and rush pasture	Unfavourable - Recovering	09/06/2010

ID: 5  
 Location: 961m W  
 SSSI name: River Hull Headwaters  
 Unit name: Legard - Harpham Marsh  
 Broad habitat: Fen, Marsh And Swamp - Lowland  
 Condition: Unfavourable - No change  
 Reportable features:

Feature name	Feature condition	Date of assessment
Lowland fens, including basin, flood-plain, open water transition and valley fens	Unfavourable - No change	24/10/2012
Wet woodland	Unfavourable - No change	24/10/2012

*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

3

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.

Features are displayed on the Visual and cultural designations map on **page 58**

ID	Location	Name	Grade	Reference Number	Listed date
1	On site	Manor Farmhouse, Harpham, East Riding Of Yorkshire, YO25	II	1346655	25/01/1985
2	1m NE	K6 Telephone Kiosk, Harpham, East Riding Of Yorkshire, YO25	II	1261817	17/02/1989
4	17m W	Church Of Saint John Of Beverley, Harpham, East Riding Of Yorkshire, YO25	I	1083345	20/09/1966

*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**

**1**

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.

Features are displayed on the Visual and cultural designations map on **page 58**

ID	Location	Ancient monument name	Reference number
3	1m W	Medieval hall and settlement remains immediately west of St John's Church	1017995

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

## 11.7 Registered Parks and Gardens

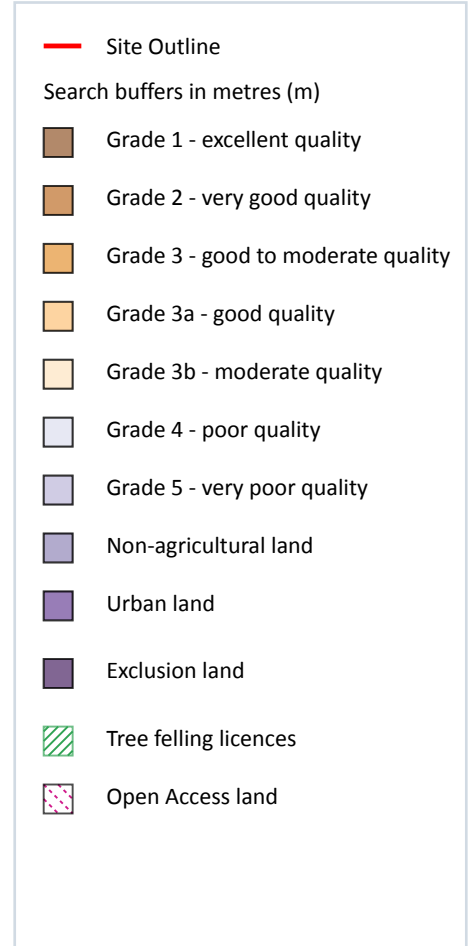
**Records within 250m**

**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



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### 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 61**

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

*This data is sourced from Natural England.*

## 12.2 Open Access Land

Records within 250m

0

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

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

## 12.3 Tree Felling Licences

Records within 250m

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

1

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.

Location	Reference	Scheme	Start Date	End date
72m SW	AG00435620	Entry Level plus Higher Level Stewardship	01/03/2013	28/02/2023

*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



**Site Outline**

Search buffers in metres (m)

---

Full coverage  
 Partial coverage  
 No coverage

### 14.1 10k Availability

Records within 500m

1

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme. Features are displayed on the Geology 1:10,000 scale - Availability map on **page 64**

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

*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

0

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.

*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

### 14.5 Bedrock geology (10k)

Records within 500m

0

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.

*This data is sourced from the British Geological Survey.*

### 14.6 Bedrock faults and other linear features (10k)

Records within 500m

0

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.

*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	No coverage	Full	Full	No coverage	EW064_great_driffield_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

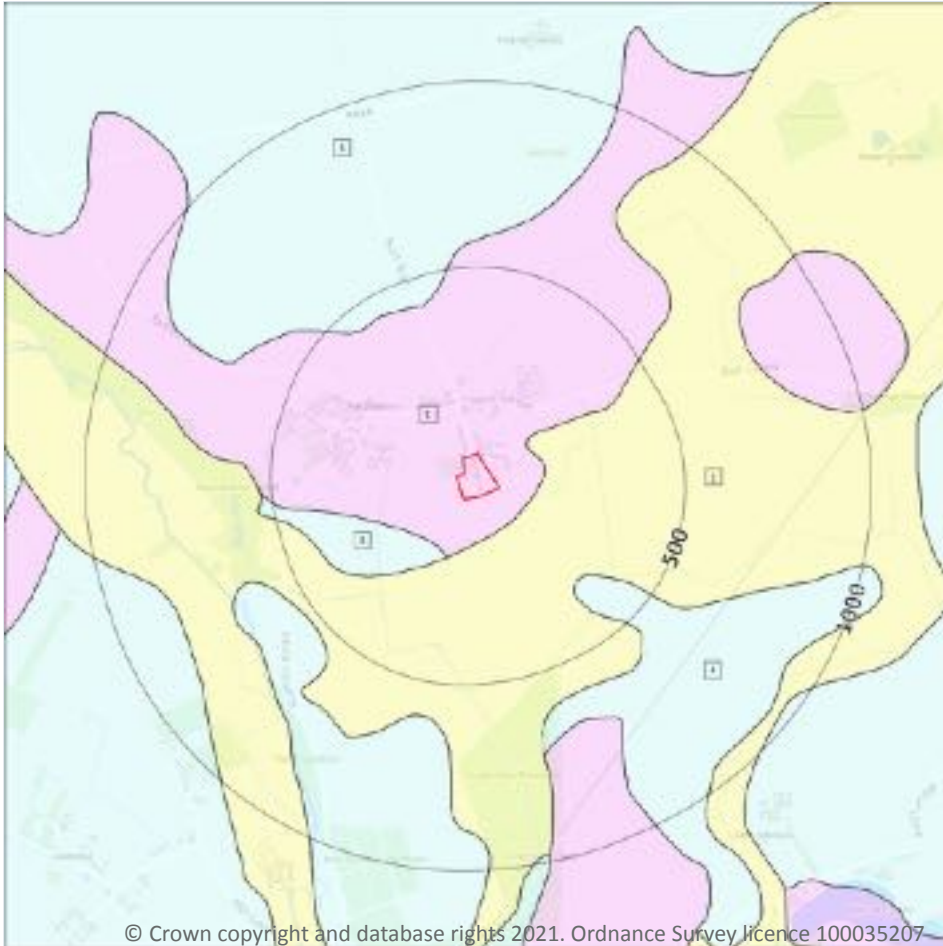
0

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



- Site Outline
- Search buffers in metres (m)
- Landslip (50k)
- Superficial geology (50k)  
Please see table for more details.

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### 15.4 Superficial geology (50k)

Records within 500m

5

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.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 70**

ID	Location	LEX Code	Description	Rock description
1	On site	SUPD-XSV	SUPERFICIAL DEPOSITS	SAND AND GRAVEL
2	86m SE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	144m SW	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
4	327m SE	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON



ID	Location	LEX Code	Description	Rock description
5	422m N	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

*This data is sourced from the British Geological Survey.*

## 15.5 Superficial permeability (50k)

**Records within 50m**

**1**

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	Very High	High

*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**

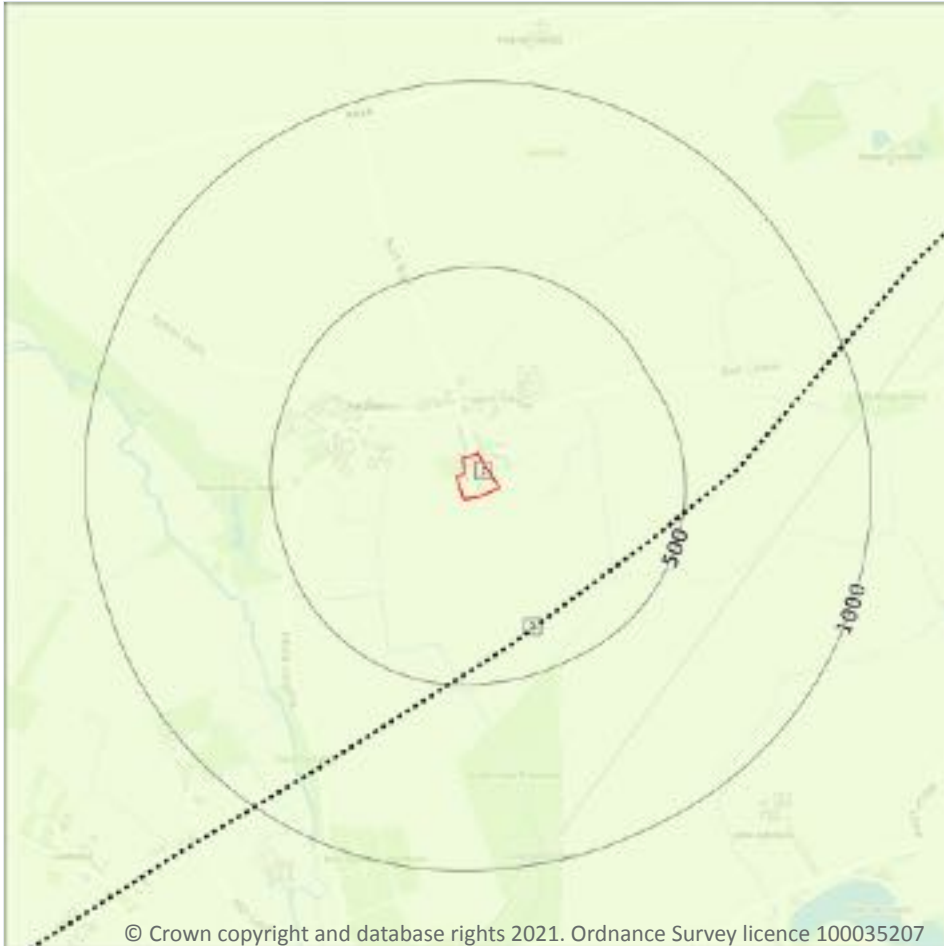
**0**

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.

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### 15.8 Bedrock geology (50k)

Records within 500m

1

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 72**

ID	Location	LEX Code	Description	Rock age
1	On site	FCK-CHLK	FLAMBOROUGH CHALK FORMATION - CHALK	SANTONIAN

*This data is sourced from the British Geological Survey.*

## 15.9 Bedrock permeability (50k)

<b>Records within 50m</b>	<b>1</b>
---------------------------	----------

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	Very High	Very High

*This data is sourced from the British Geological Survey.*

## 15.10 Bedrock faults and other linear features (50k)

<b>Records within 500m</b>	<b>1</b>
----------------------------	----------

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 72**

ID	Location	Category	Description
2	357m SE	LANDFORM	Back-feature marking former coastline

*This data is sourced from the British Geological Survey.*

## 16 Boreholes

### 16.1 BGS Boreholes

Records within 250m

0

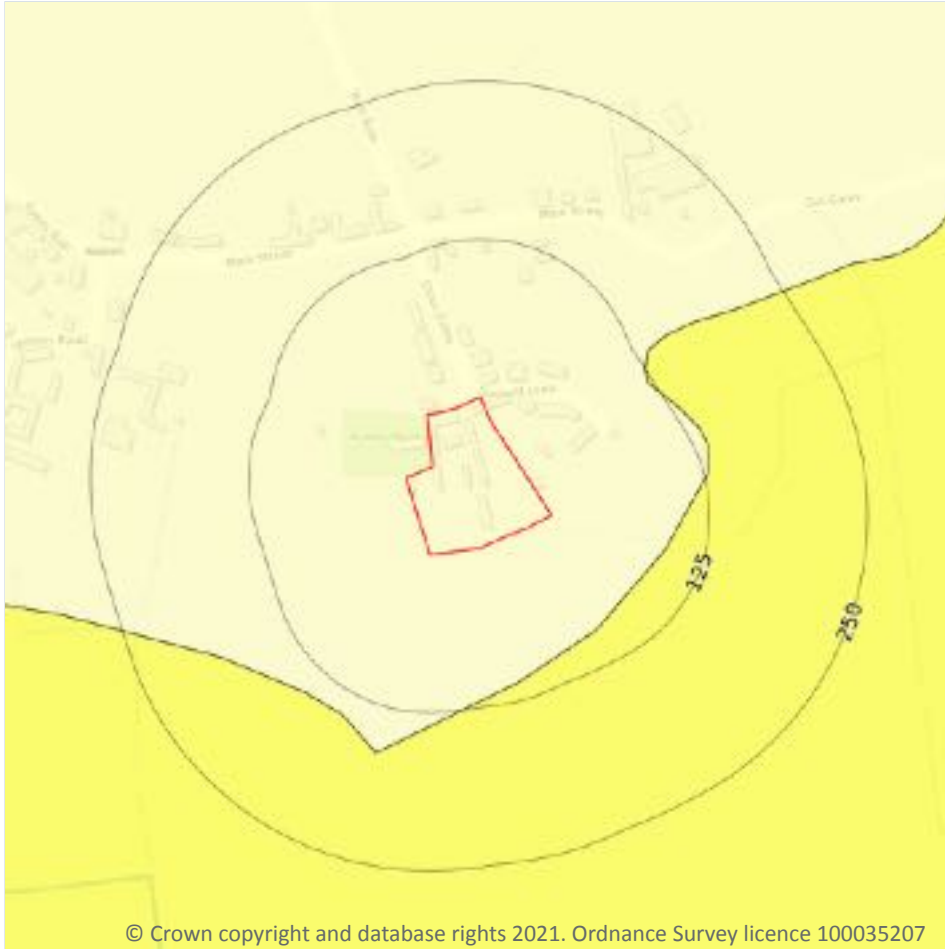
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several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

*This data is sourced from the British Geological Survey.*





## 17 Natural ground subsidence - Shrink swell clays



### 17.1 Shrink swell clays

Records within 50m

1

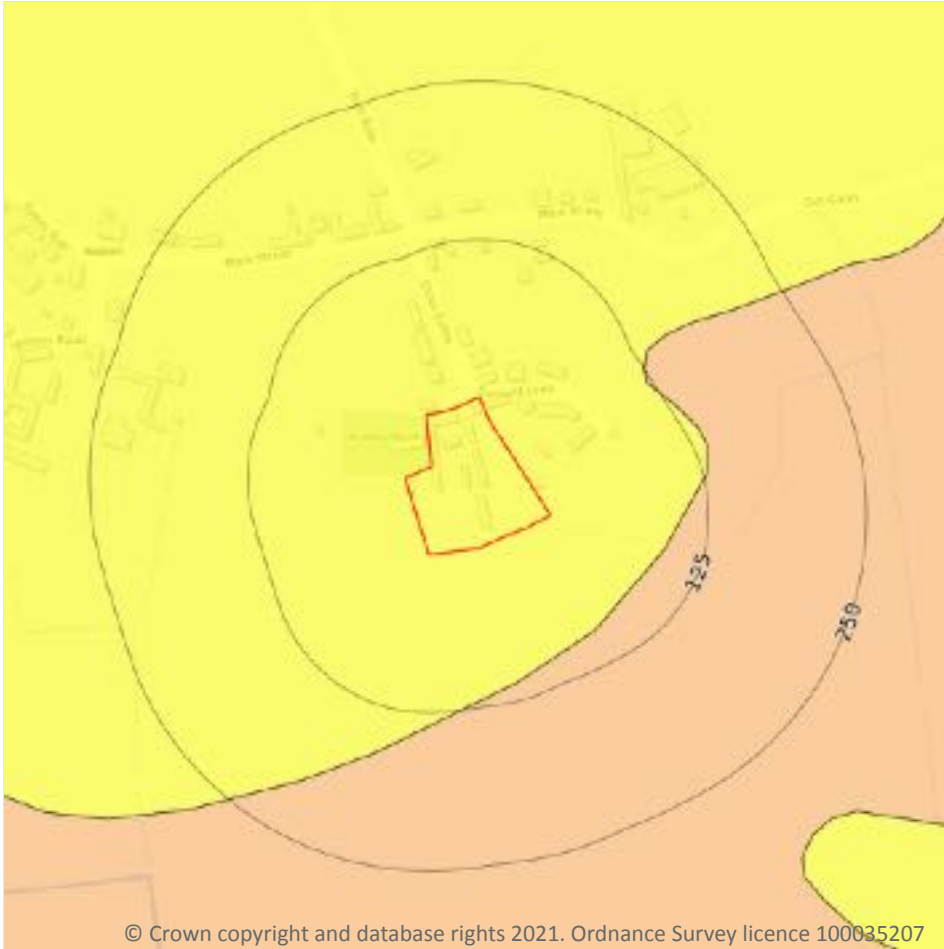
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

*This data is sourced from the British Geological Survey.*

## Natural ground subsidence - Running sands



— Site Outline

Search buffers in metres (m)

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

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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.

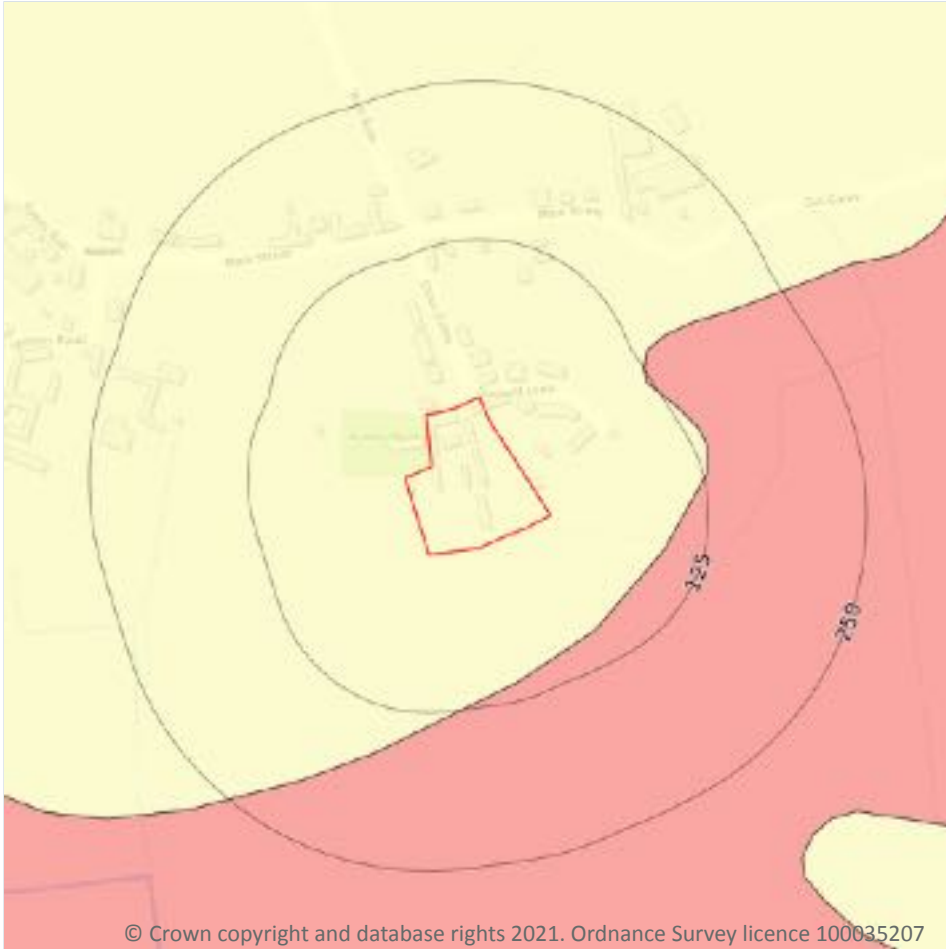
Features are displayed on the Natural ground subsidence - Running sands map on **page 76**

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

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Compressible deposits



— Site Outline

Search buffers in metres (m)

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

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### 17.3 Compressible deposits

Records within 50m

1

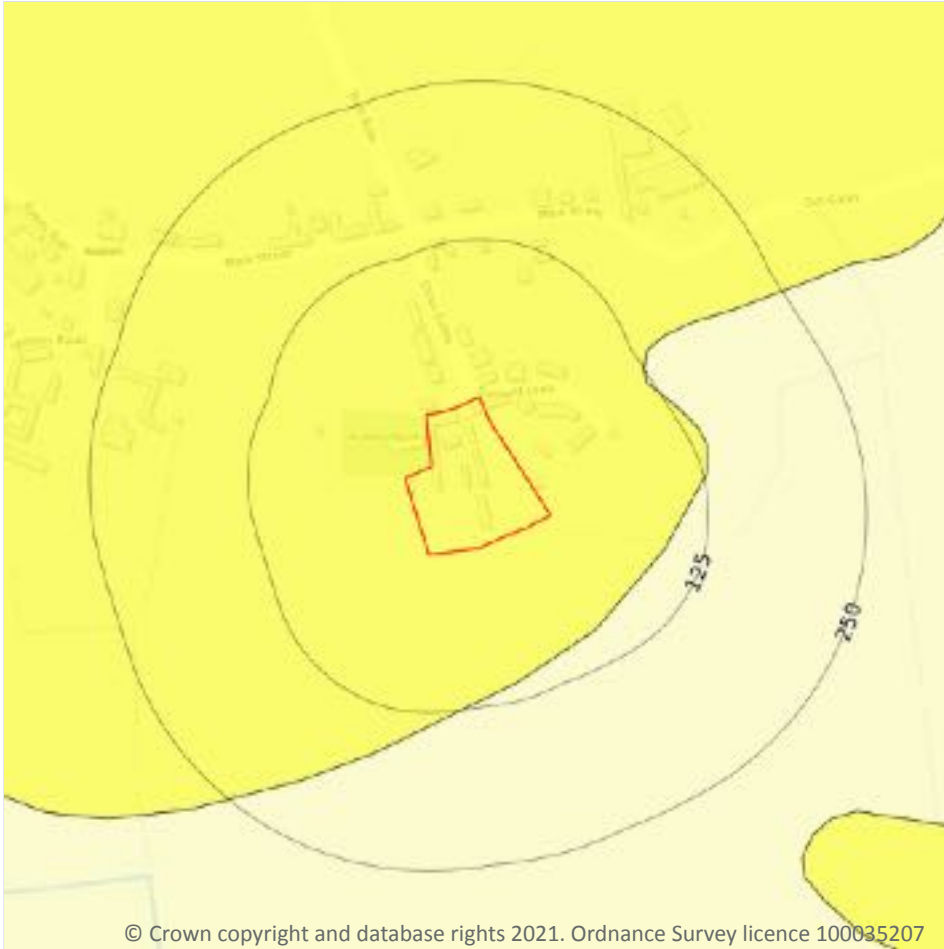
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 77**

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



### 17.4 Collapsible deposits

Records within 50m

1

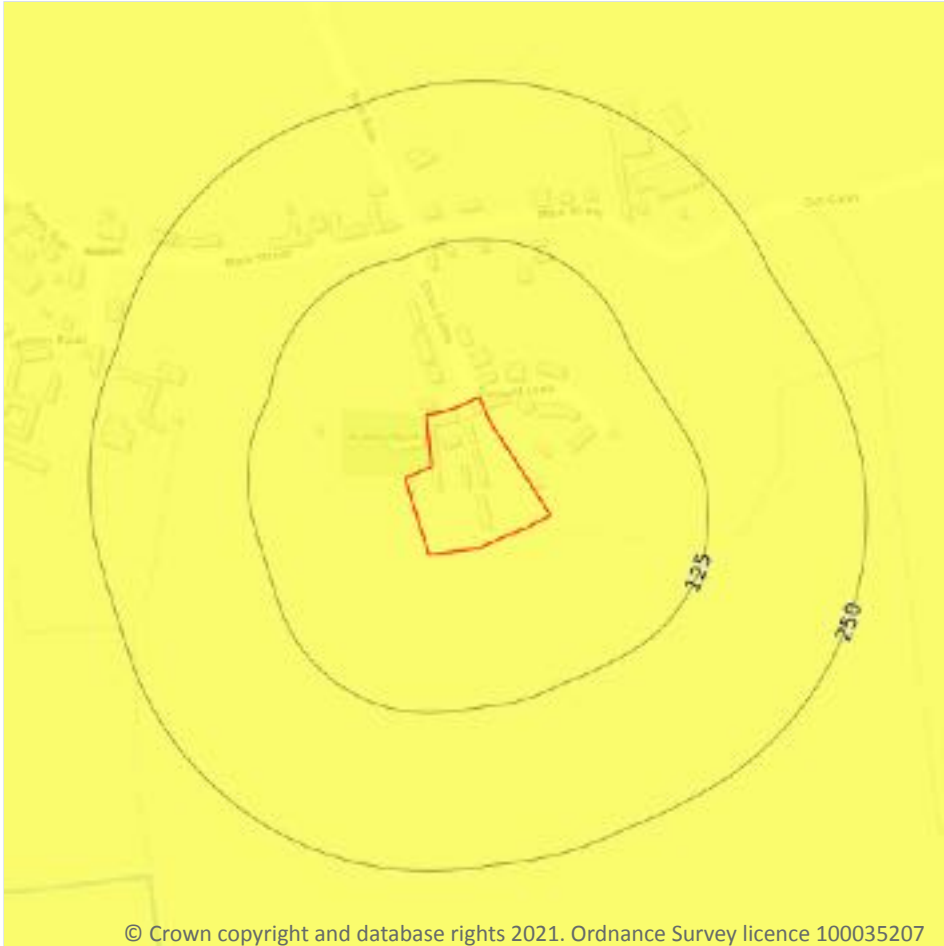
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 78**

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

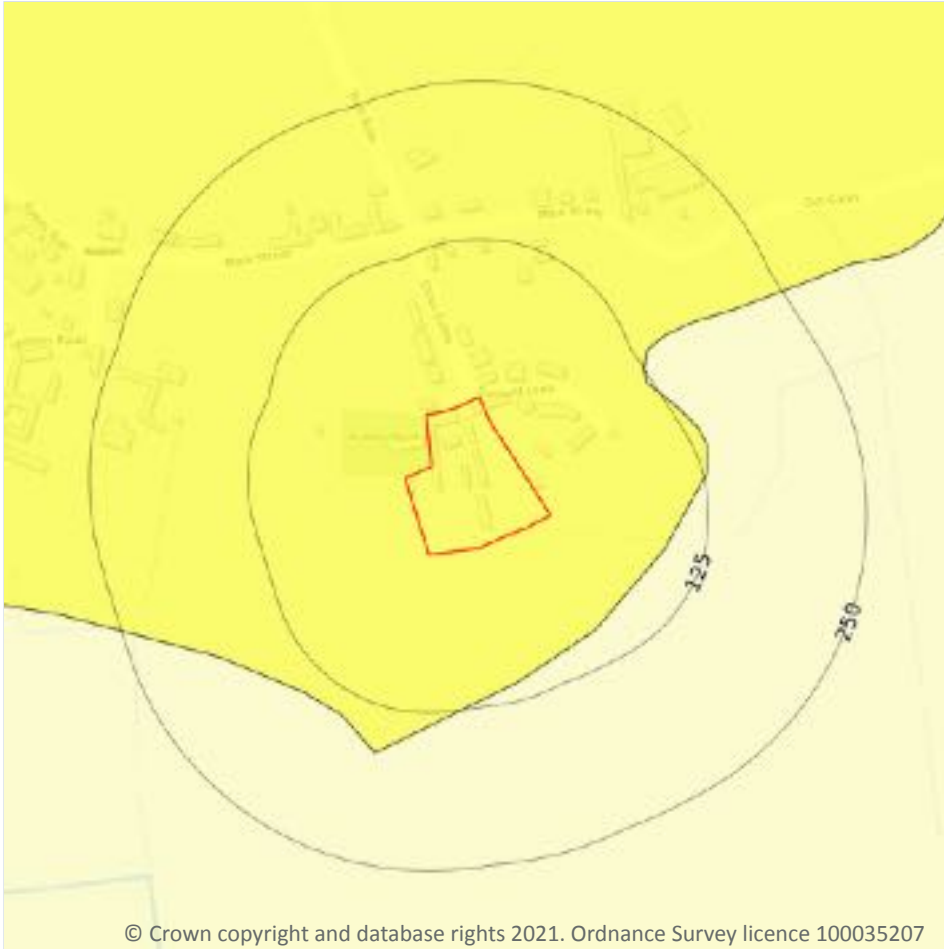
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 79**

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



**Site Outline**

Search buffers in metres (m)

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

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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.

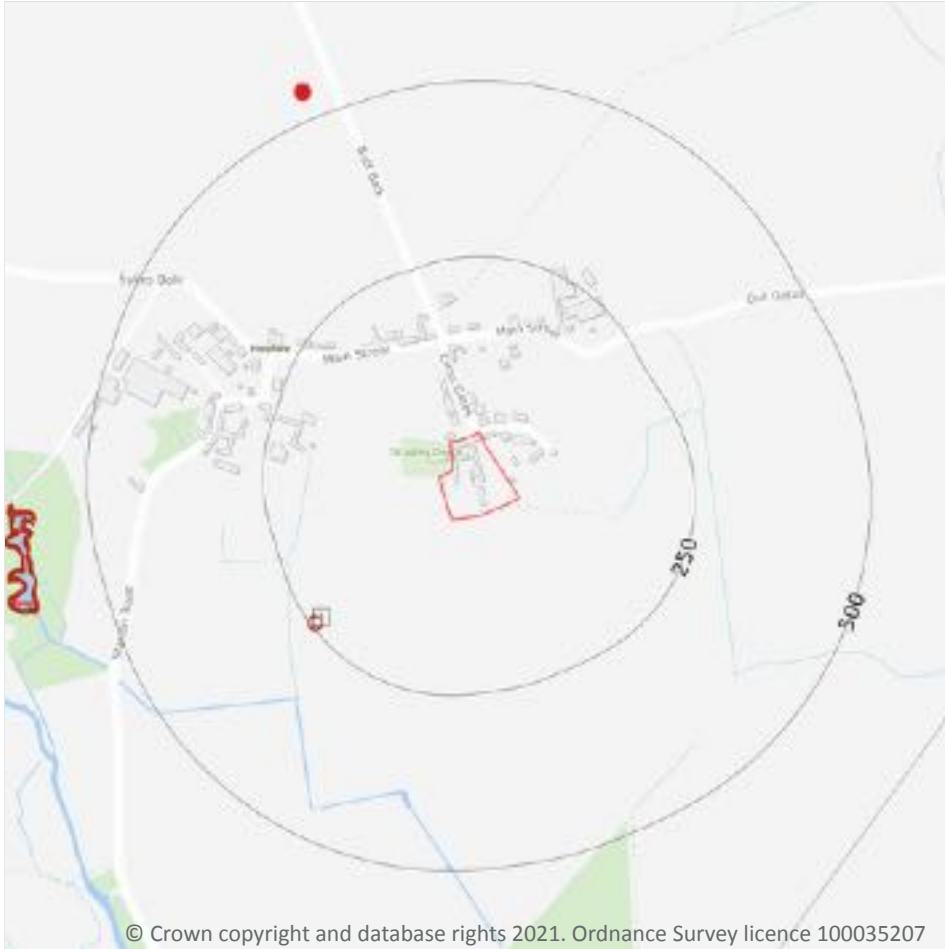
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 80**

Location	Hazard rating	Details
On site	Very low	Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.

*This data is sourced from the British Geological Survey.*



## 18 Mining, ground workings and natural cavities



### 18.1 Natural cavities

Records within 500m

0

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

*This data is sourced from Stantec UK Ltd.*



## 18.2 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.*

## 18.3 Surface ground workings

Records within 250m

1

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 82**

ID	Location	Land Use	Year of mapping	Mapping scale
1	234m SW	Unspecified Heap	1982	1:10000

*This data is sourced from Ordnance Survey/Groundsure.*

## 18.4 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 data is sourced from Ordnance Survey/Groundsure.*

## 18.5 Historical Mineral Planning Areas

Records within 500m

0

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

*This data is sourced from the British Geological Survey.*



## 18.6 Non-coal mining

Records within 1000m

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 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.*

## 18.8 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.*

## 18.9 Coal mining

Records on site

0

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

*This data is sourced from the Coal Authority.*

## 18.10 Brine areas

Records on site

0

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

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



### 18.11 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

*This data is sourced from British Gypsum.*

### 18.12 Tin mining

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

Generalised areas that may be affected by historical tin mining.

*This data is sourced from Groundsure.*

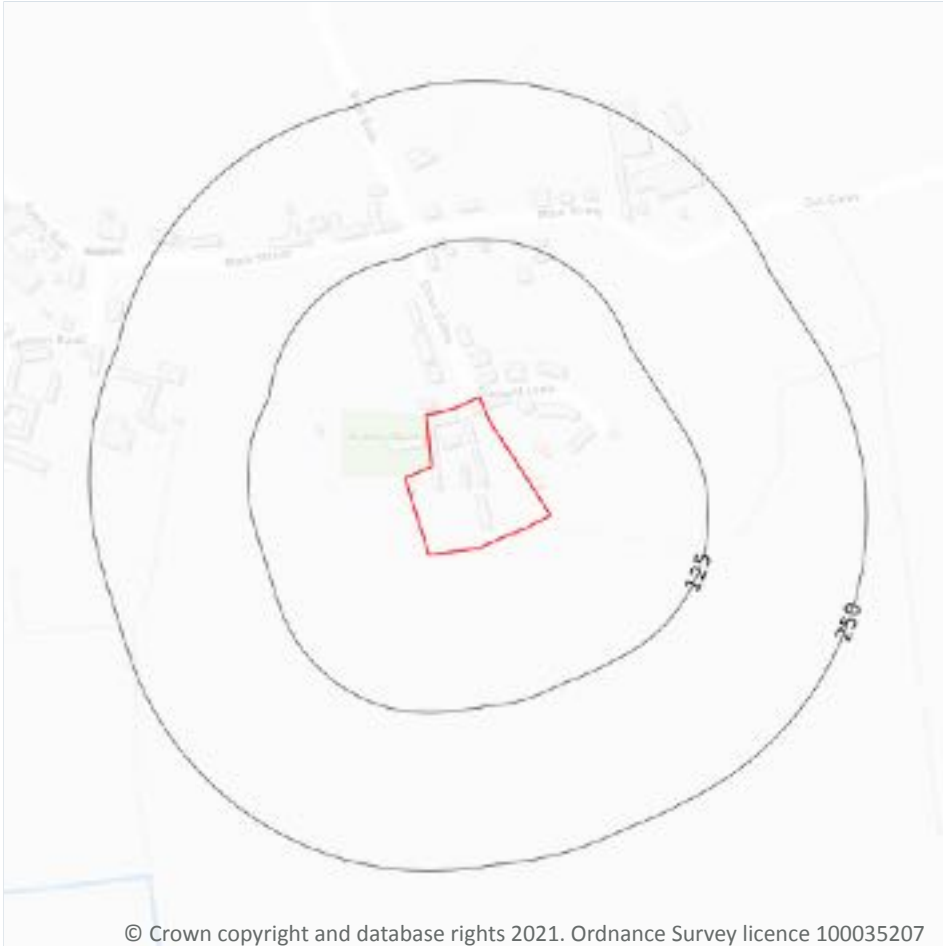
### 18.13 Clay mining

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

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

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

## 19 Radon



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— Site Outline  
Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

### 19.1 Radon

Records on site

1

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

Features are displayed on the Radon map on **page 86**

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

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



## 20 Soil chemistry

### 20.1 BGS Estimated Background Soil Chemistry

**Records within 50m**
**2**

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km<sup>2</sup>. 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 km<sup>2</sup>; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

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

*This data is sourced from the British Geological Survey.*

### 20.2 BGS Estimated Urban Soil Chemistry

**Records within 50m**
**0**

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km<sup>2</sup>).

*This data is sourced from the British Geological Survey.*

### 20.3 BGS Measured Urban Soil Chemistry

**Records within 50m**
**0**

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km<sup>2</sup>.

*This data is sourced from the British Geological Survey.*



## 21 Railway infrastructure and projects

### 21.1 Underground railways (London)

Records within 250m 0

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

*This data is sourced from publicly available information by Groundsure.*

### 21.2 Underground railways (Non-London)

Records within 250m 0

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

*This data is sourced from publicly available information by Groundsure.*

### 21.3 Railway tunnels

Records within 250m 0

Railway tunnels taken from contemporary Ordnance Survey mapping.

*This data is sourced from the Ordnance Survey.*

### 21.4 Historical railway and tunnel features

Records within 250m 0

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

*This data is sourced from Ordnance Survey/Groundsure.*

### 21.5 Royal Mail tunnels

Records within 250m 0

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



*This data is sourced from Groundsure/the Postal Museum.*

## 21.6 Historical railways

**Records within 250m**

**0**

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

*This data is sourced from OpenStreetMap.*

## 21.7 Railways

**Records within 250m**

**0**

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

*This data is sourced from Ordnance Survey and OpenStreetMap.*

## 21.8 Crossrail 1

**Records within 500m**

**0**

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

*This data is sourced from publicly available information by Groundsure.*

## 21.9 Crossrail 2

**Records within 500m**

**0**

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

*This data is sourced from publicly available information by Groundsure.*

## 21.10 HS2

**Records within 500m**

**0**

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



*This data is sourced from HS2 Ltd.*





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## 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>.

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## **APPENDIX B**

**EMAPSITE: HISTORICAL ORDNANCE SURVEY PLANS**

## County Series 1:10,560 scale

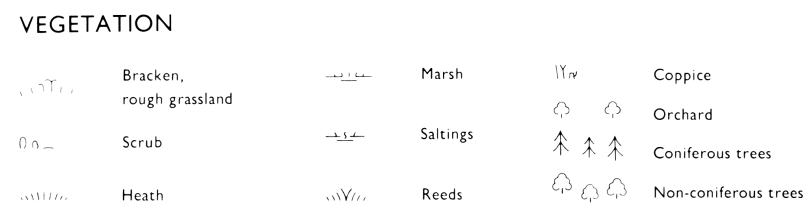
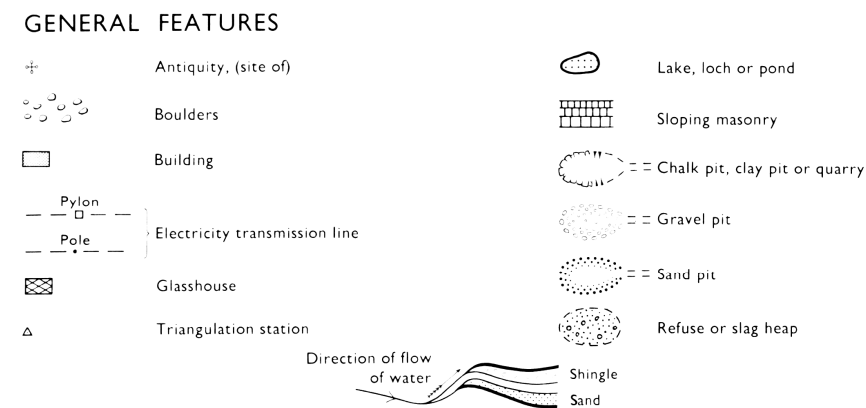
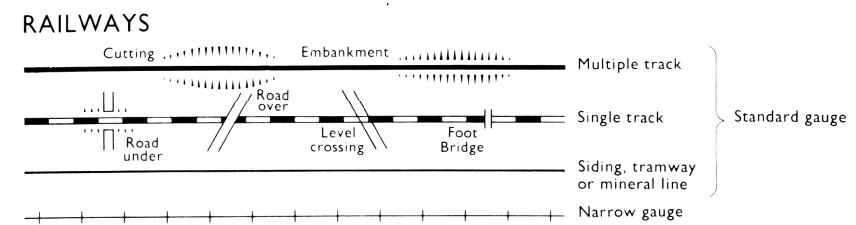
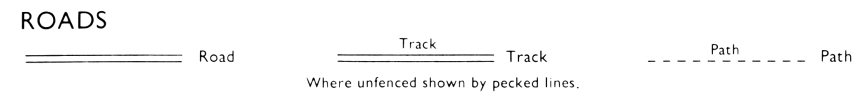
## National Grid 1:10,000 scale



## Historical Map Pack Legend

## County Series & National Grid

## 1:10,560 scale



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

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

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

Technical Helpline

Tel 08444159000

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

# County Series 1:2,500 scale

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



# Historical Map Pack Legend

**GENERAL FEATURES**

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

Trigonometrical Station  
 507 Δ Altitude at Trigonometrical Station  
 B.M. 325-9 ↑ Bench Mark  
 342 + Surface Level  
 Permanent Traverse Station  
 Antiquities (site of)  
 Arrow denotes flow of water

SL Sluice  
 Tr Trough  
 Sp Spring  
 W Well  
 MR Mooring Ring  
 MP Mooring Post  
 BS Boundary Stone  
 BP Boundary Post

**GENERAL FEATURES**

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

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

**ROADS**

Road over single stream

Road over River or Canal

Road crossing railway

**RAILWAYS**

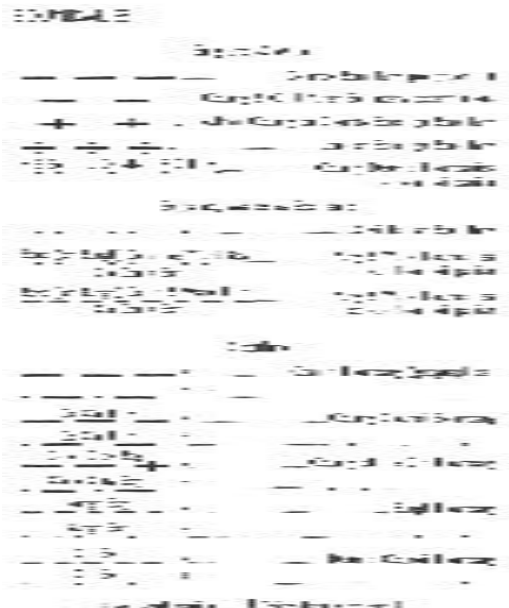
Railway crossing River or Canal

Railway crossing Road

Level Crossing

Embankment

Cutting



**ABBREVIATIONS**

B.H. Beer House	F.Sta. Fire Station	M.P.U. Mail Pick-up	S.L. Signal Light
B.M. Bench Mark	G.P. Guide Post	M.S. Mile Stone	Sl. Sluice
B.P. Boundary Post	G.V.C. Gas Valve Compound	N.T. National Trust	S.P. Signal Post
B.S. Boundary Stone	H. Hydrant or Hydraulic	N.T.L. Normal Tidal Limit	Spr. Spring
C. Crane	ha. Hectares	N.T.S. National Trust for Scotland	S.Sta. Signal Station
C.H. Club House	L.B. Letter Box	P. Pillar, Pole or Post	T.C.B. Telephone Call Box
Chy. Chimney	L.B.Sta. Lifeboat Station	P.C. Public Convenience	T.C.P. Telephone Call Post
Cn. Capstan	L.C. Level Crossing	P.C.B. Police Call Box	Tk. Tank or Track
Dk. Drinking Fountain	L.G. Loading Gauge	P.H. Public House	Tr. Trough
Dk. Dock	L.Ho. Lighthouse	P.O. Post Office	ts. Traverse Station
E.I.P. Electricity Pillar or Post	L.Twr. Lighting Tower	Pp. Pump	W. Well
E.T.L. Electricity Transmission Line	m. Metres	P.T.P. Police Telephone Pillar	W.B. Weighbridge
F.A. Fire Alarm	M.H.W. Mean High Water	Resr. Reservoir	Wd.Pp. Wind Pump
F.A.P. Fire Alarm Pillar	M.H.W.S. Mean High Water Springs	R.H. Road House	Wks. Works
F.B. Filter Bed, Foot Bridge	M.L.W. Mean Low Water	R.P. Revision Point	W.Pt. Water Point
F.B.M. Fundamental Bench Mark	M.L.W.S. Mean Low Water Springs	S. Stone	W.T. Water Tap
F.S. Flagstaff	M.P. Mile or Mooring Post	S.B. Signal Box	

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

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

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

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**Site Details:**

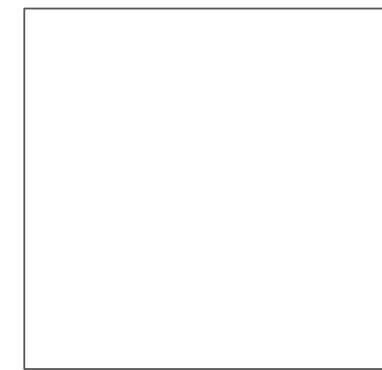
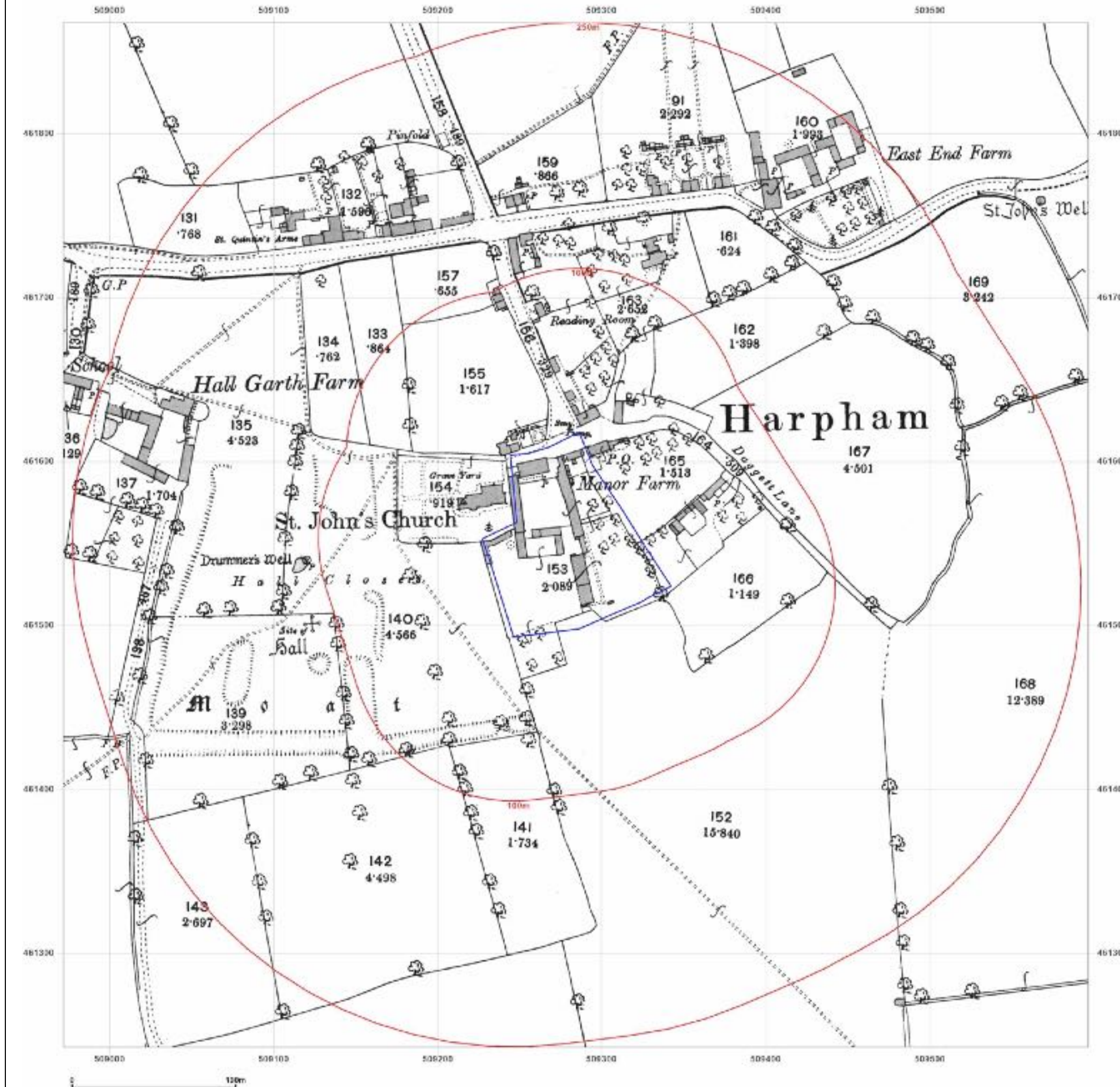
Client Ref: EMS\_741383\_965083  
 Report Ref: EMS-741383\_965083  
 Grid Ref: 509284, 461555

Map Name: County Series

Map date: 1892

Scale: 1:2,500

Printed at: 1:2,500



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



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Production date: 30 November 2021

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**Site Details:**

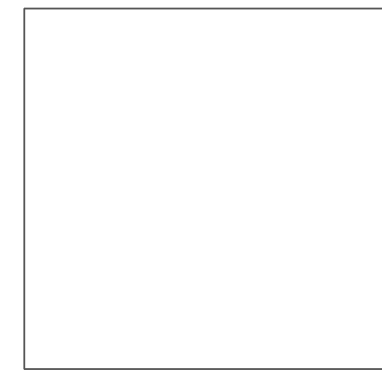
Client Ref: EMS\_741383\_965083  
 Report Ref: EMS-741383\_965083  
 Grid Ref: 509284, 461555

Map Name: County Series

Map date: 1910

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1910  
 Revised 1910  
 Edition N/A  
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**Site Details:**

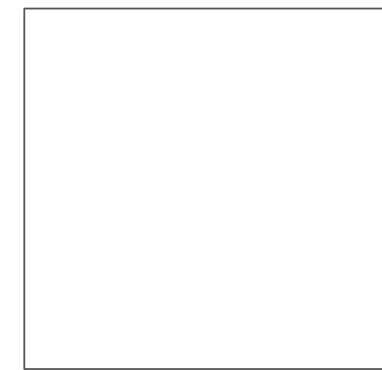
Client Ref: EMS\_741383\_965083  
 Report Ref: EMS-741383\_965083  
 Grid Ref: 509284, 461555

Map Name: County Series

Map date: 1927

Scale: 1:2,500

Printed at: 1:2,500



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## Site Details:

Client Ref: EMS\_741383\_965083  
 Report Ref: EMS-741383\_965083  
 Grid Ref: 509284, 461555

Map Name: National Grid

Map date: 1977

Scale: 1:2,500

Printed at: 1:2,500



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## Site Details:

Client Ref: EMS\_741383\_965083  
 Report Ref: EMS-741383\_965083  
 Grid Ref: 509284, 461555

Map Name: National Grid

Map date: 1977

Scale: 1:2,500

Printed at: 1:2,500



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## Site Details:

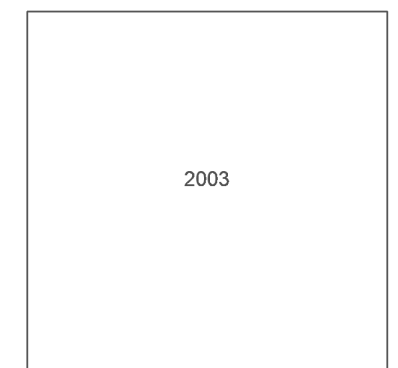
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**Report Ref:** EMS-741383\_965083  
**Grid Ref:** 509284, 461555

**Map Name:** LandLine

**Map date:** 2003

**Scale:** 1:1,250

**Printed at:** 1:1,250



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**Site Details:**

Client Ref: EMS\_741383\_965083  
 Report Ref: EMS-741383\_965083  
 Grid Ref: 509284, 461555

Map Name: County Series

Map date: 1850

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A  
 Revised N/A  
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 Edition N/A  
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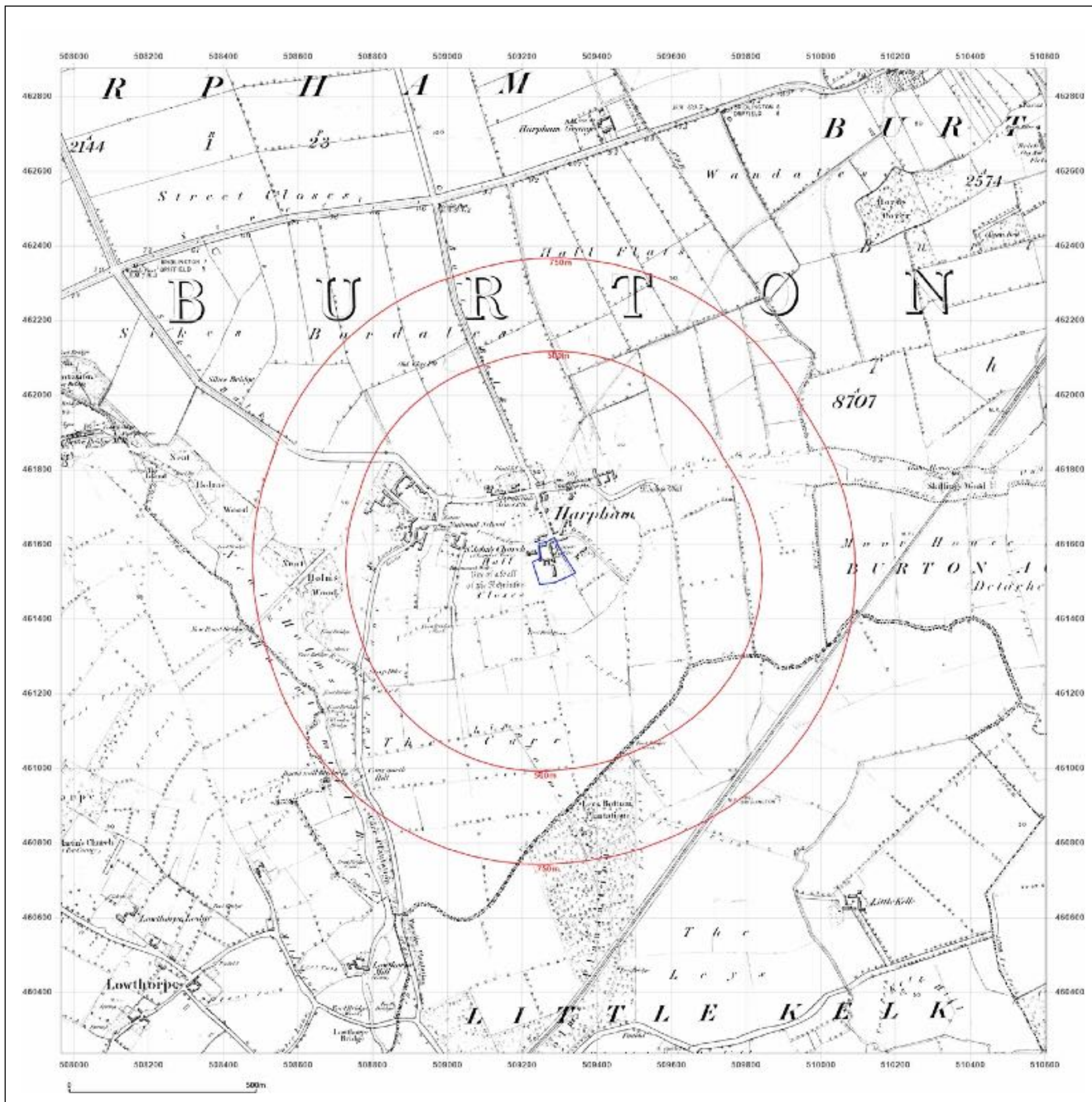


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## Site Details:

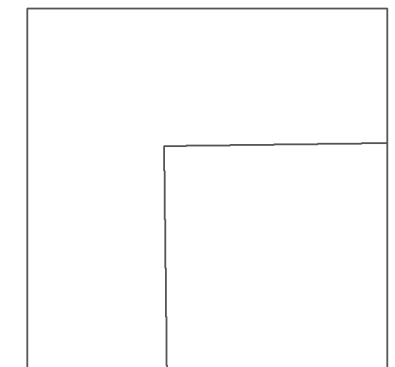
Client Ref: EMS\_741383\_965083  
Report Ref: EMS-741383\_965083  
Grid Ref: 509284, 461555

Map Name: County Series

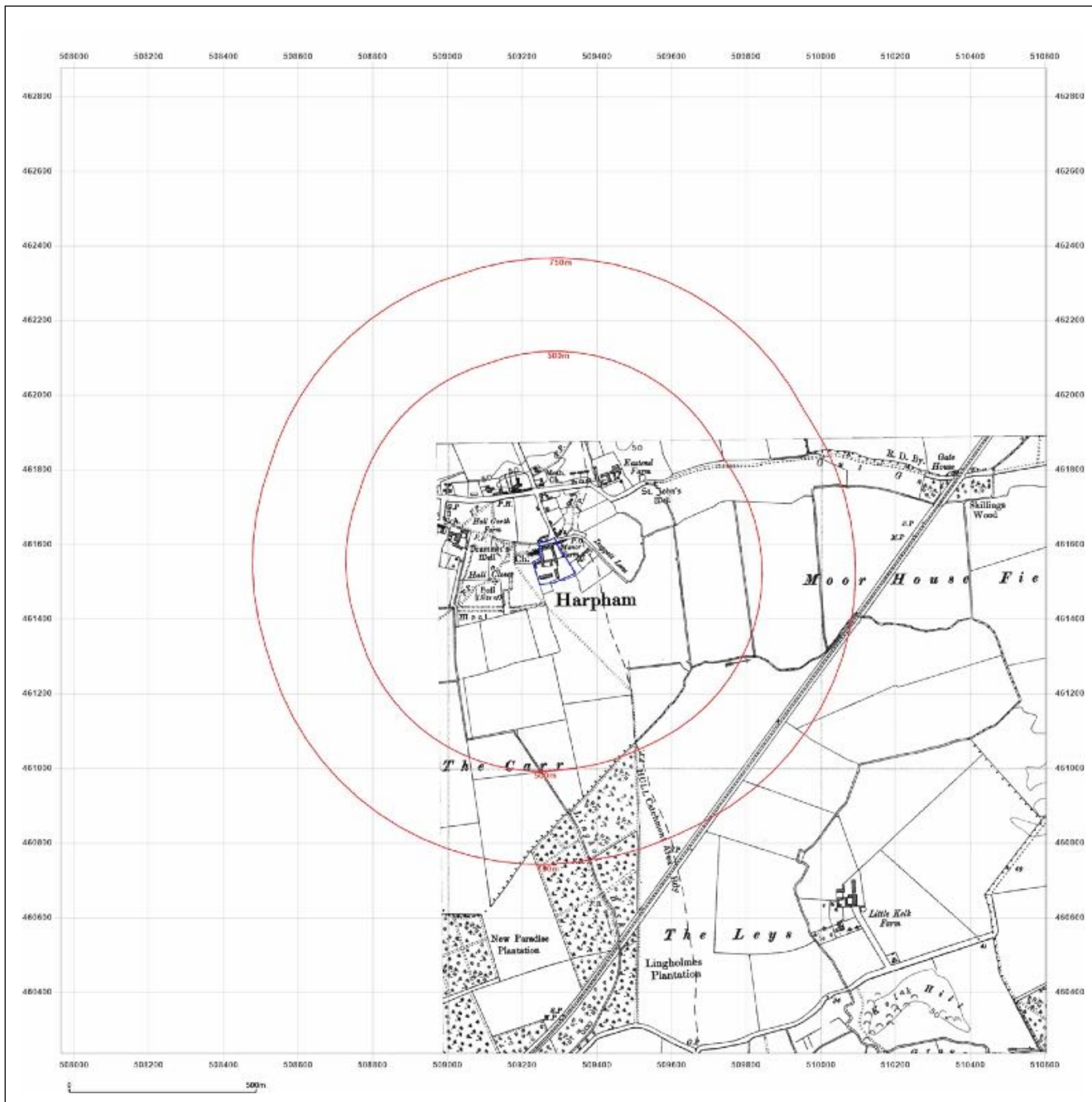
Map date: 1852

Scale: 1:10,560

Printed at: 1:10,560



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**Site Details:**

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**Report Ref:** EMS-741383\_965083  
**Grid Ref:** 509284, 461555

**Map Name:** County Series

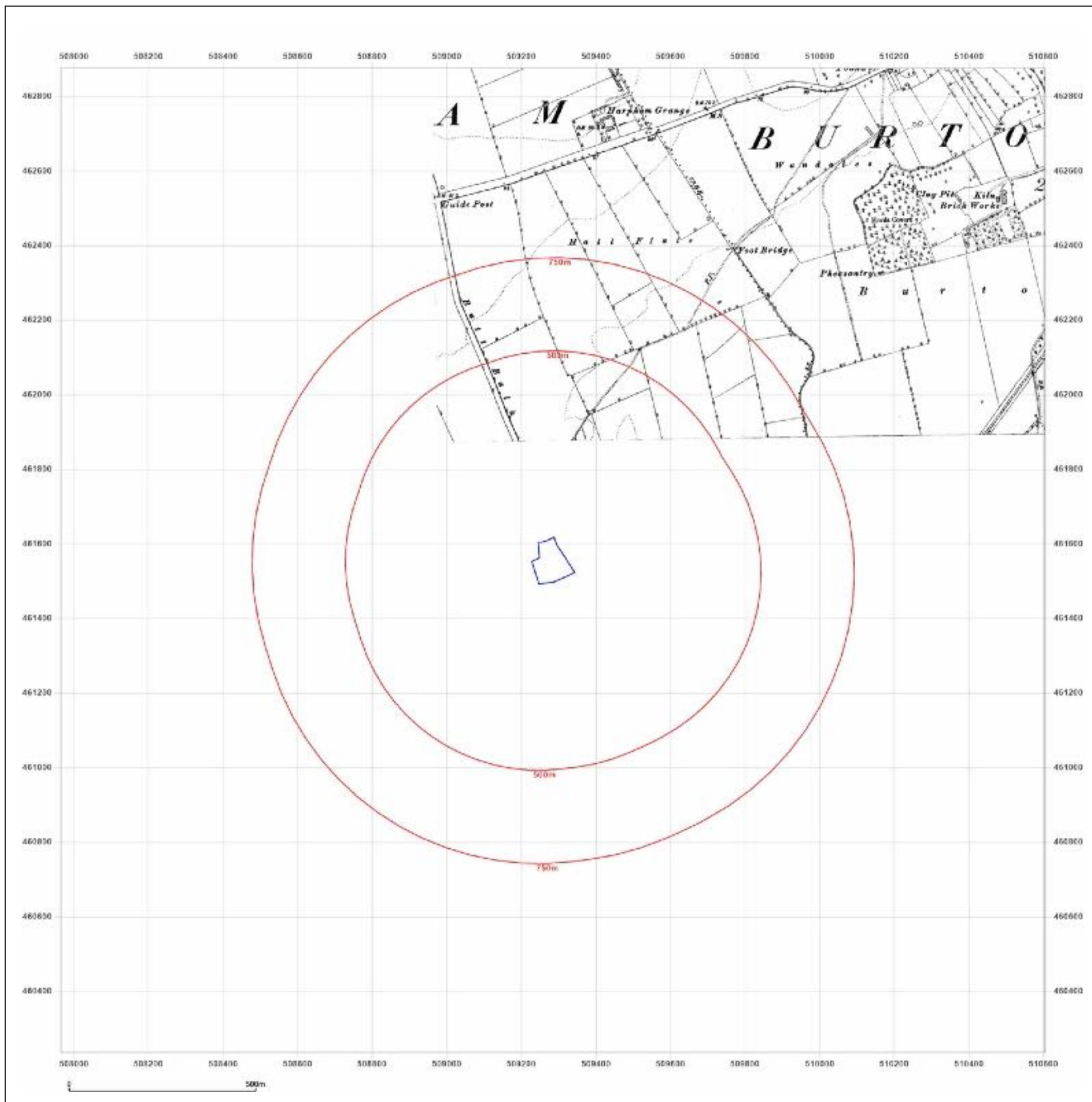
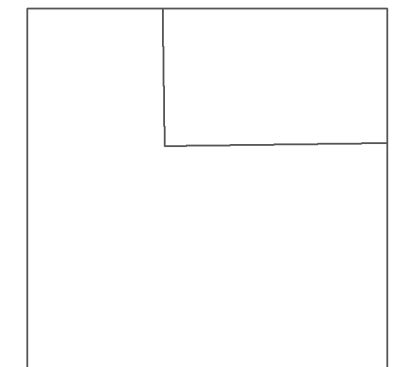
**Map date:** 1892

**Scale:** 1:10,560

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



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**Site Details:**

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**Grid Ref:** 509284, 461555

**Map Name:** County Series

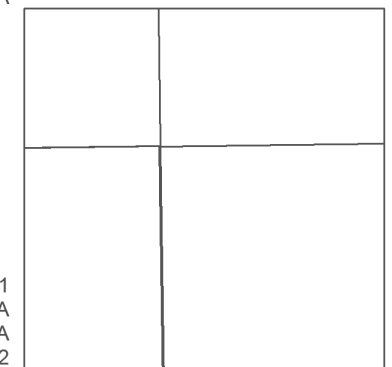
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**Scale:** 1:10,560

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

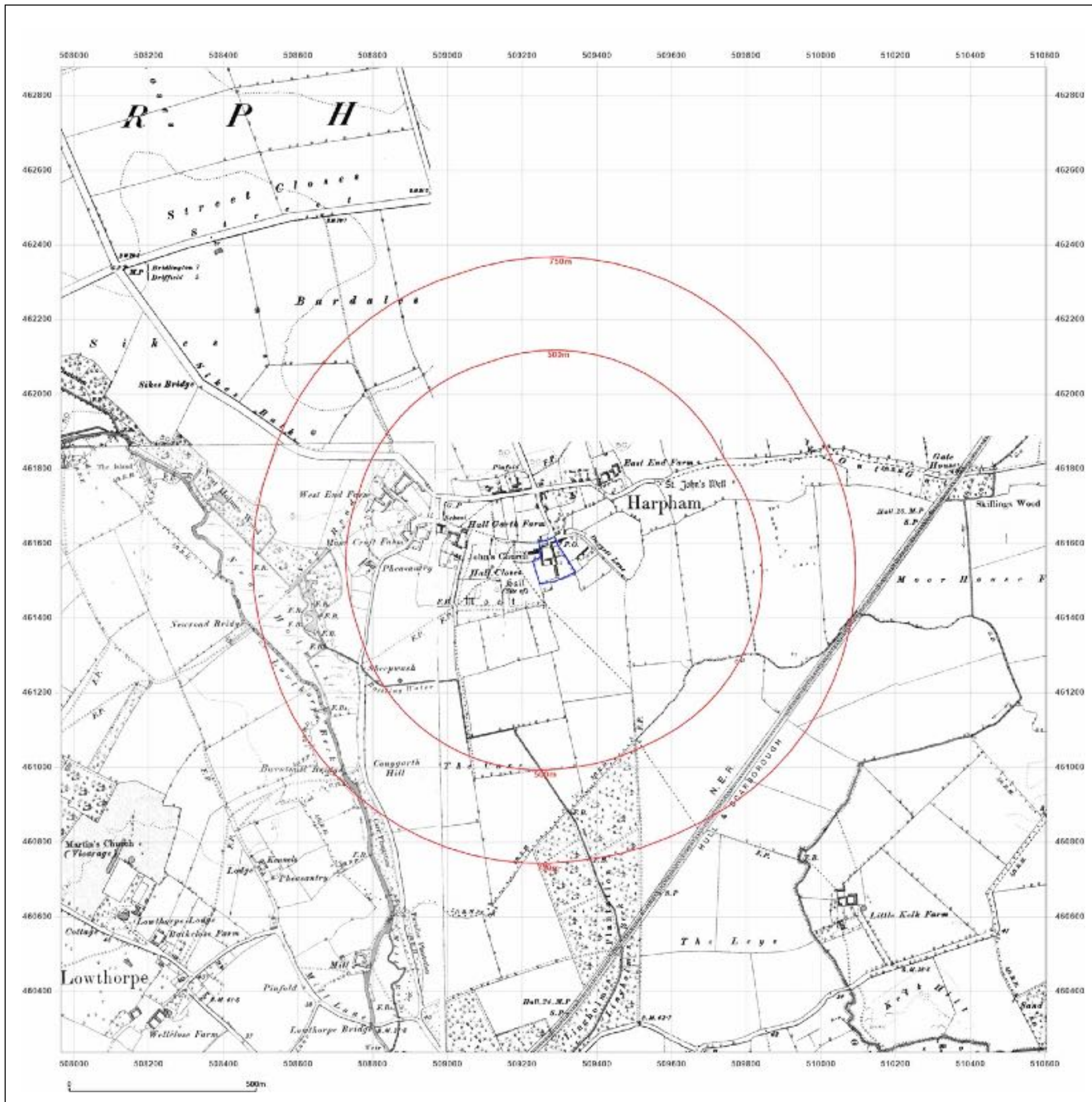


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 Edition N/A  
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Surveyed 1891  
 Revised N/A  
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**Client Ref:** EMS\_741383\_965083  
**Report Ref:** EMS-741383\_965083  
**Grid Ref:** 509284, 461555

**Map Name:** County Series

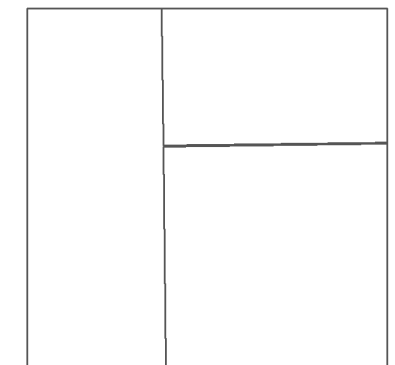
**Map date:** 1909

**Scale:** 1:10,560

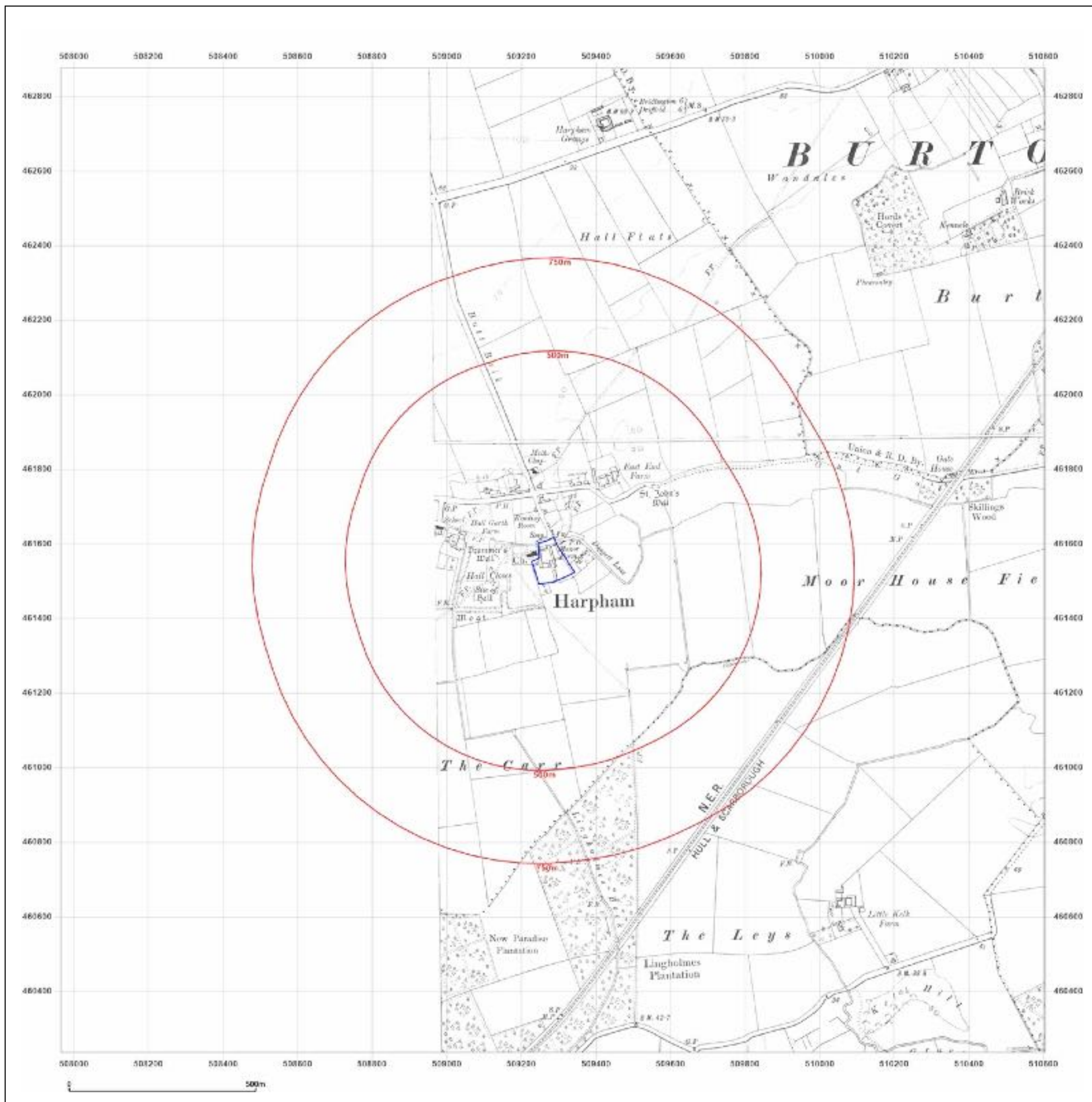
**Printed at:** 1:10,560



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**Site Details:**

**Client Ref:** EMS\_741383\_965083  
**Report Ref:** EMS-741383\_965083  
**Grid Ref:** 509284, 461555

**Map Name:** County Series

**Map date:** 1909-1912

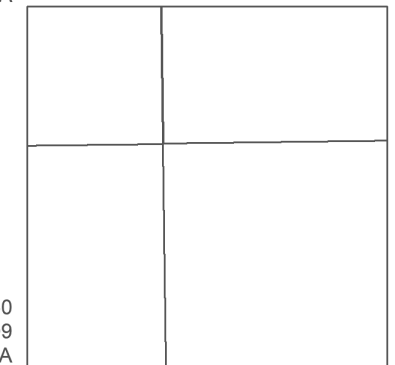
**Scale:** 1:10,560

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

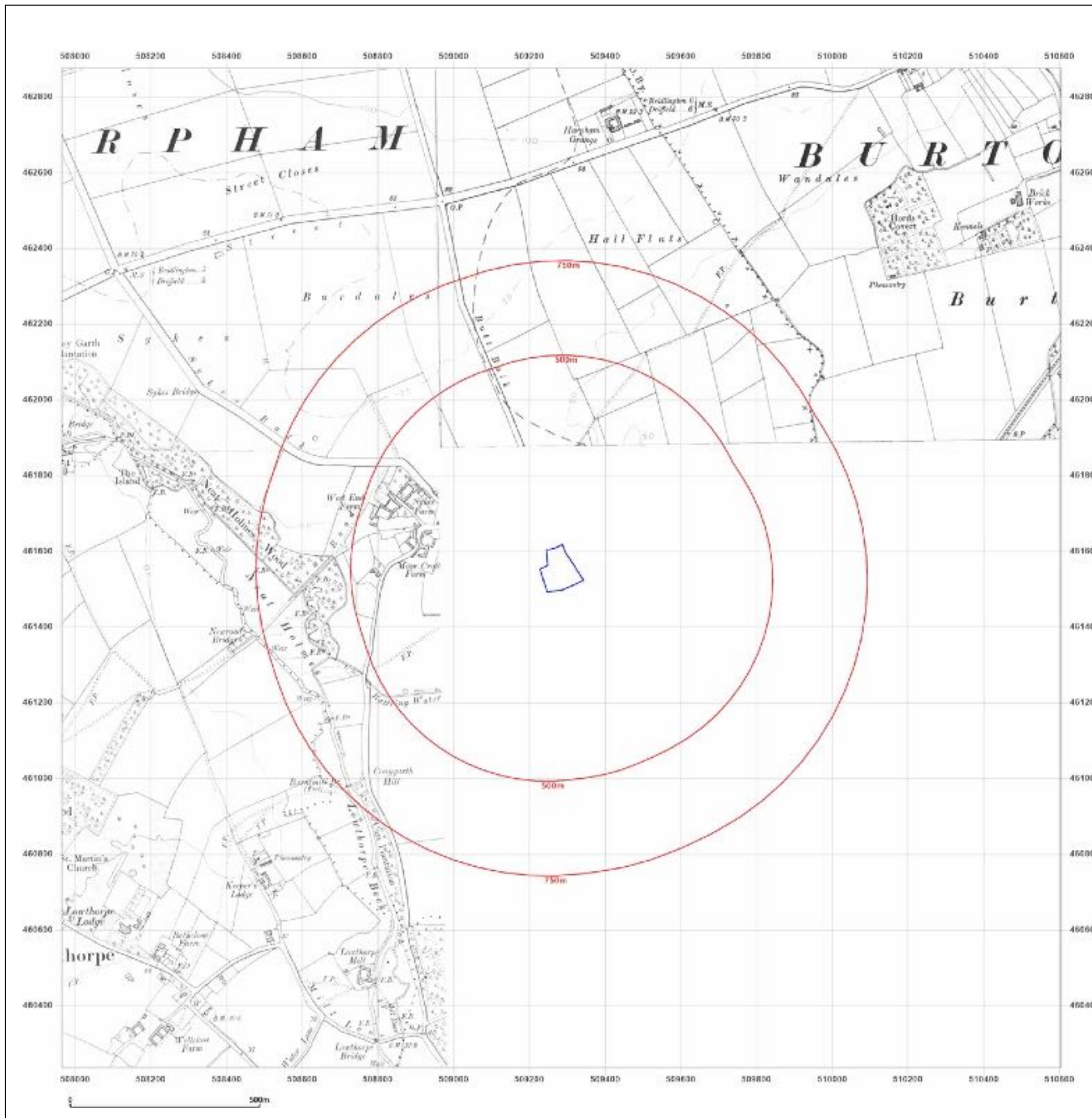


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 Edition 1911  
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 Levelled N/A

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 Edition 1912  
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 Levelled N/A



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**Site Details:**

**Client Ref:** EMS\_741383\_965083  
**Report Ref:** EMS-741383\_965083  
**Grid Ref:** 509284, 461555

**Map Name:** County Series

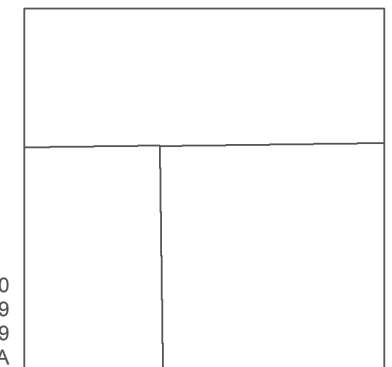
**Map date:** 1926-1929

**Scale:** 1:10,560

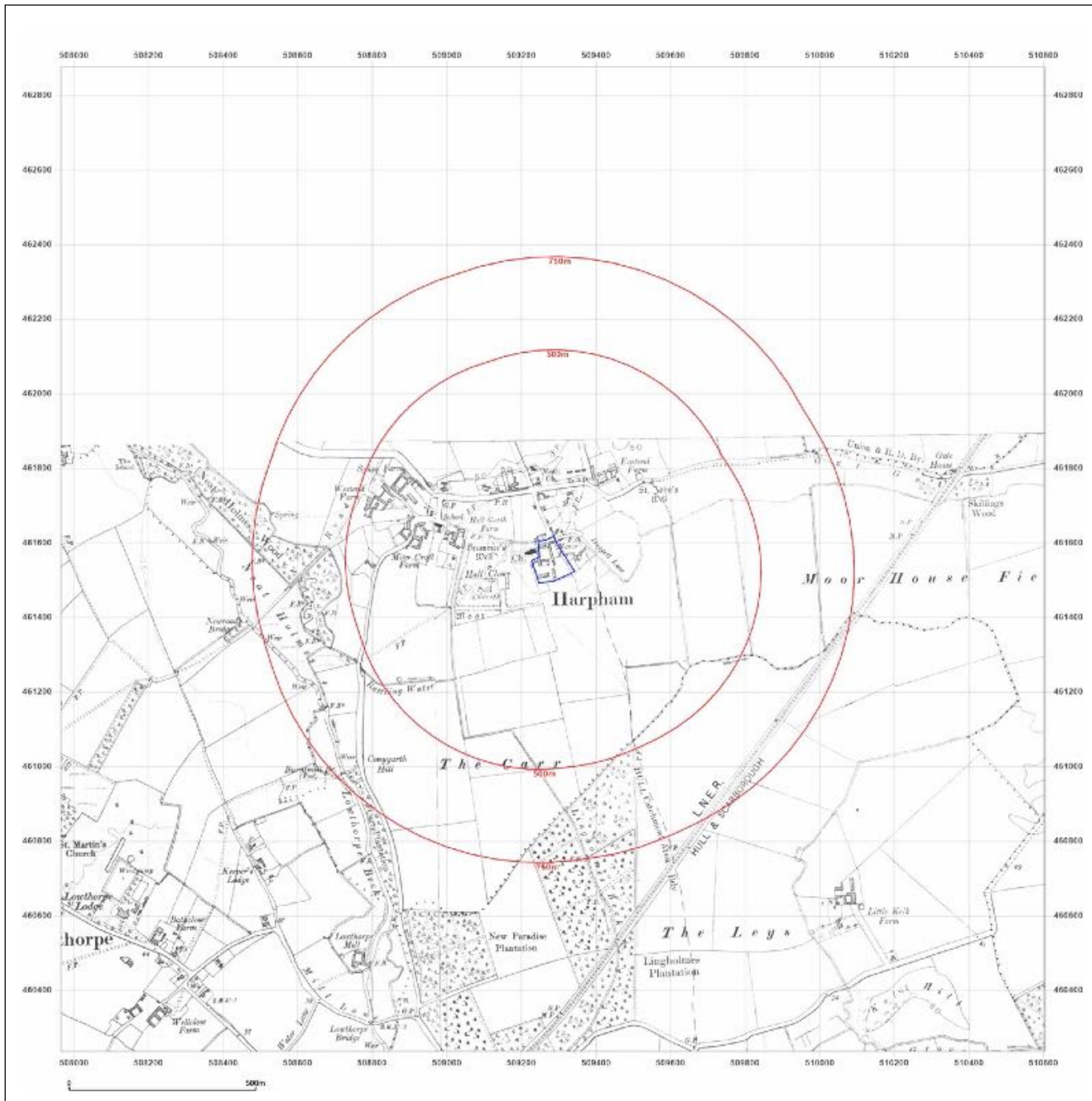
**Printed at:** 1:10,560



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**Site Details:**

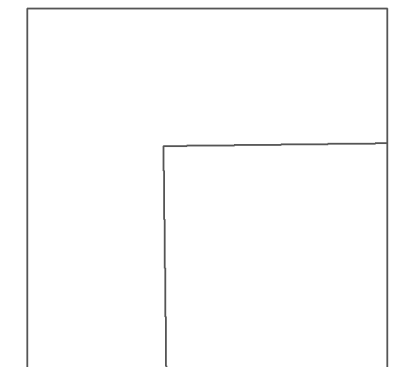
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**Report Ref:** EMS-741383\_965083  
**Grid Ref:** 509284, 461555

**Map Name:** County Series

**Map date:** 1929

**Scale:** 1:10,560

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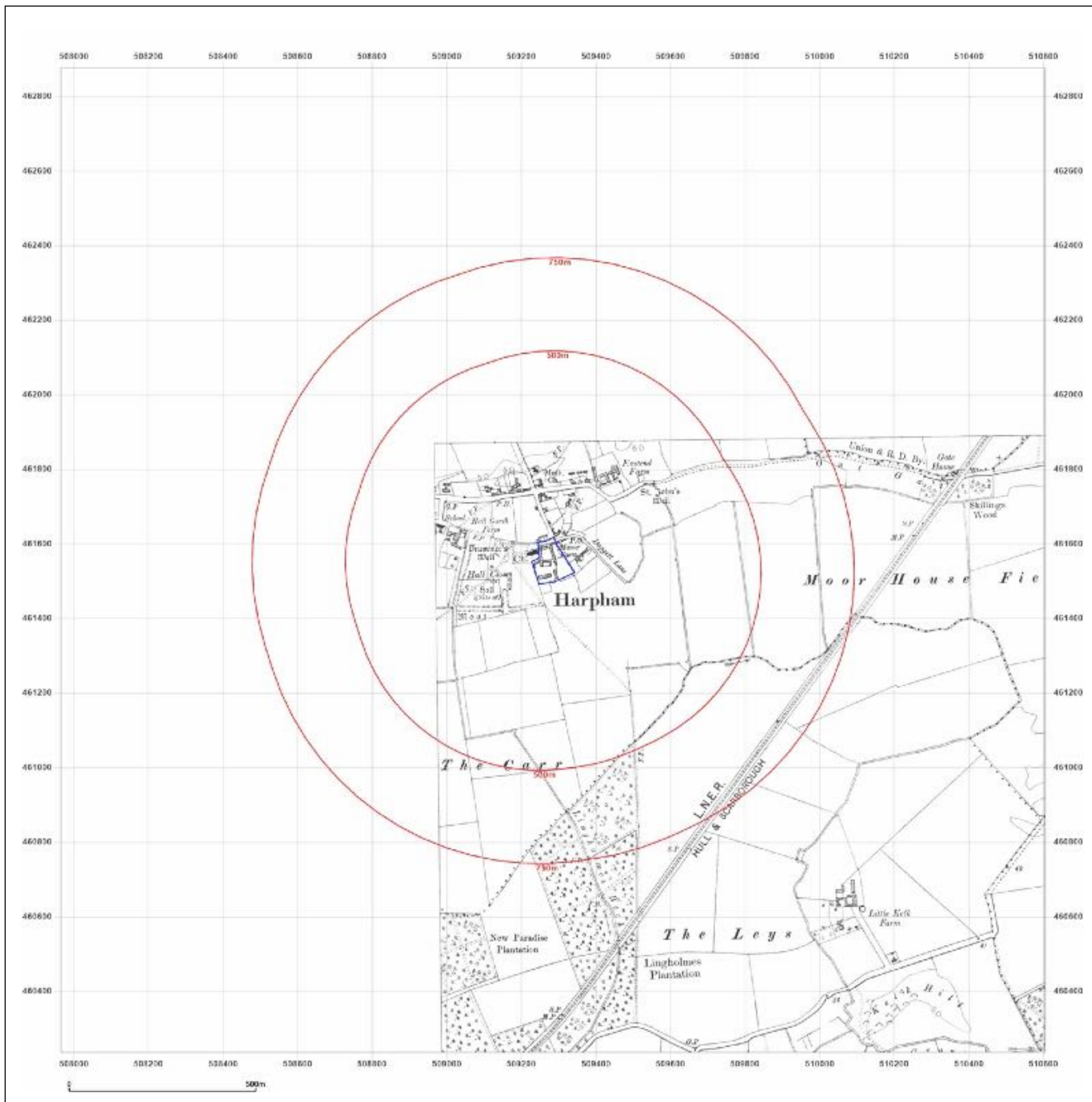


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**Site Details:**

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**Report Ref:** EMS-741383\_965083  
**Grid Ref:** 509284, 461555

**Map Name:** County Series

**Map date:** 1946

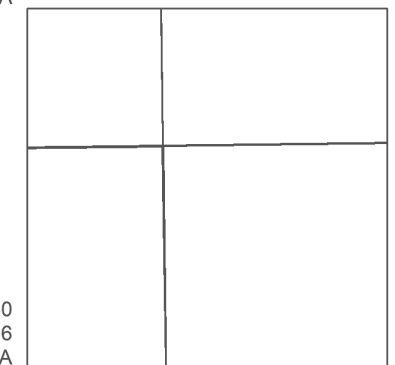
**Scale:** 1:10,560

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



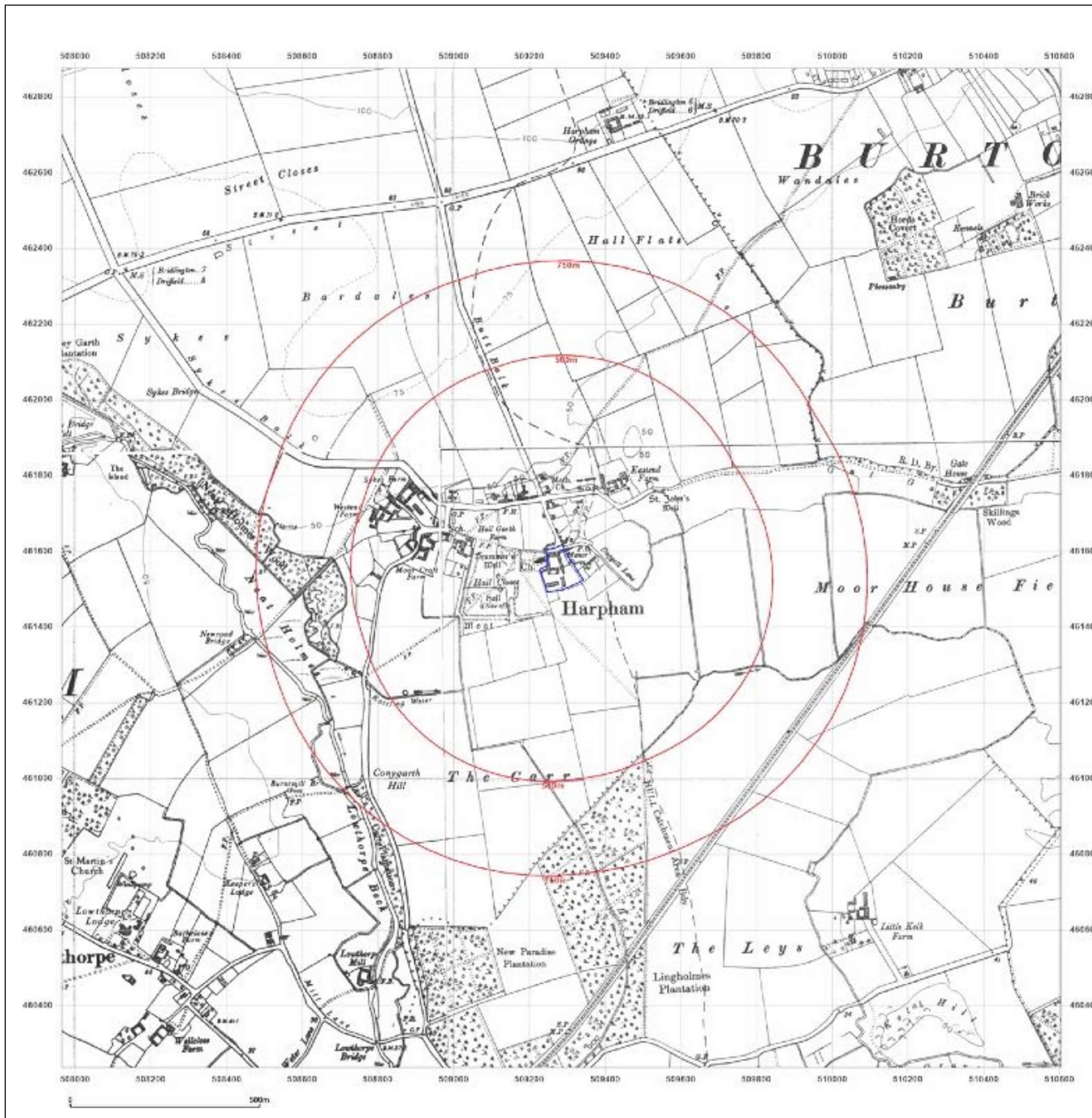
Surveyed 1850  
 Revised 1946  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

Surveyed 1850  
 Revised 1946  
 Edition N/A  
 Copyright N/A  
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**Site Details:**

**Client Ref:** EMS\_741383\_965083  
**Report Ref:** EMS-741383\_965083  
**Grid Ref:** 509284, 461555

**Map Name:** Provisional

**Map date:** 1952

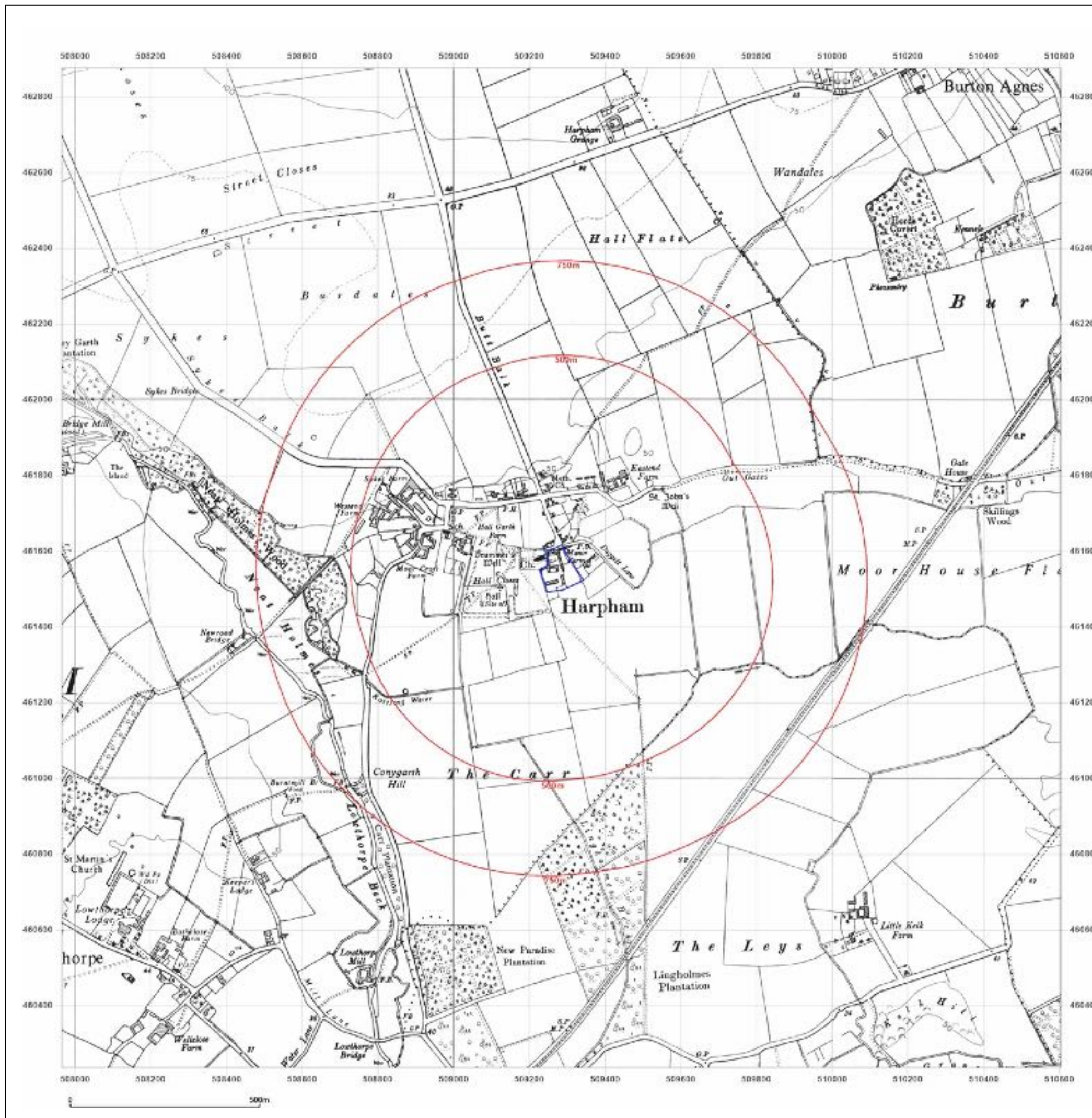
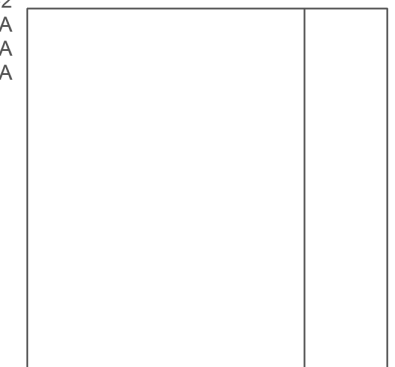
**Scale:** 1:10,560

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



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**Site Details:**

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**Report Ref:** EMS-741383\_965083  
**Grid Ref:** 509284, 461555

**Map Name:** National Grid

**Map date:** 1977-1982

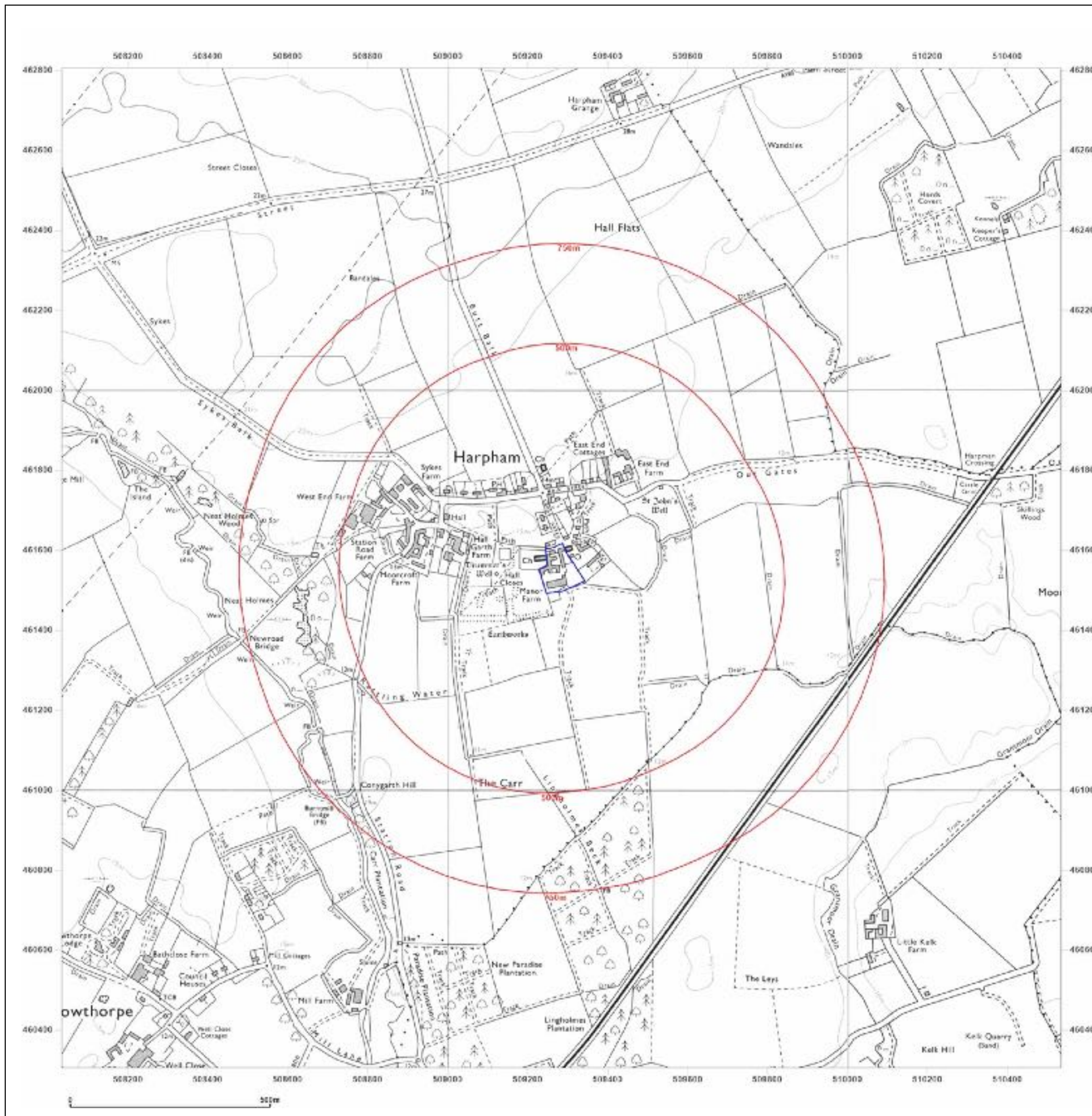
**Scale:** 1:10,000

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



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## Site Details:

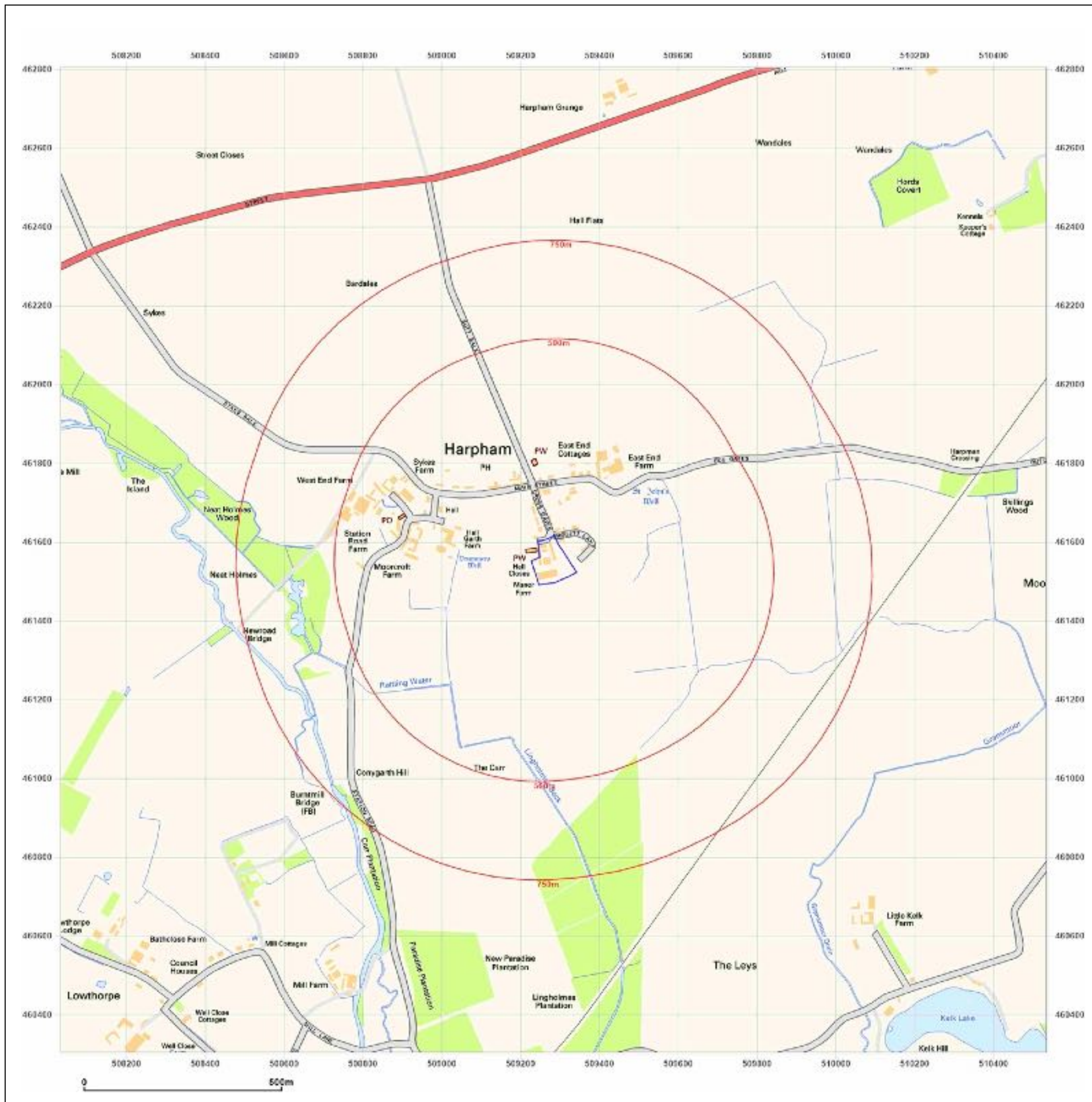
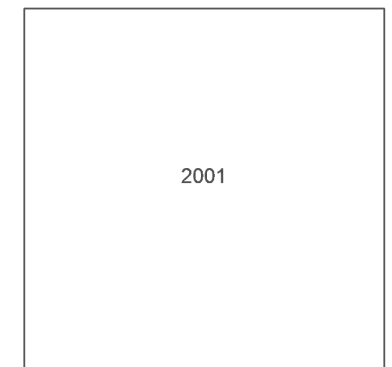
Client Ref: EMS\_741383\_965083  
 Report Ref: EMS-741383\_965083  
 Grid Ref: 509284, 461555

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



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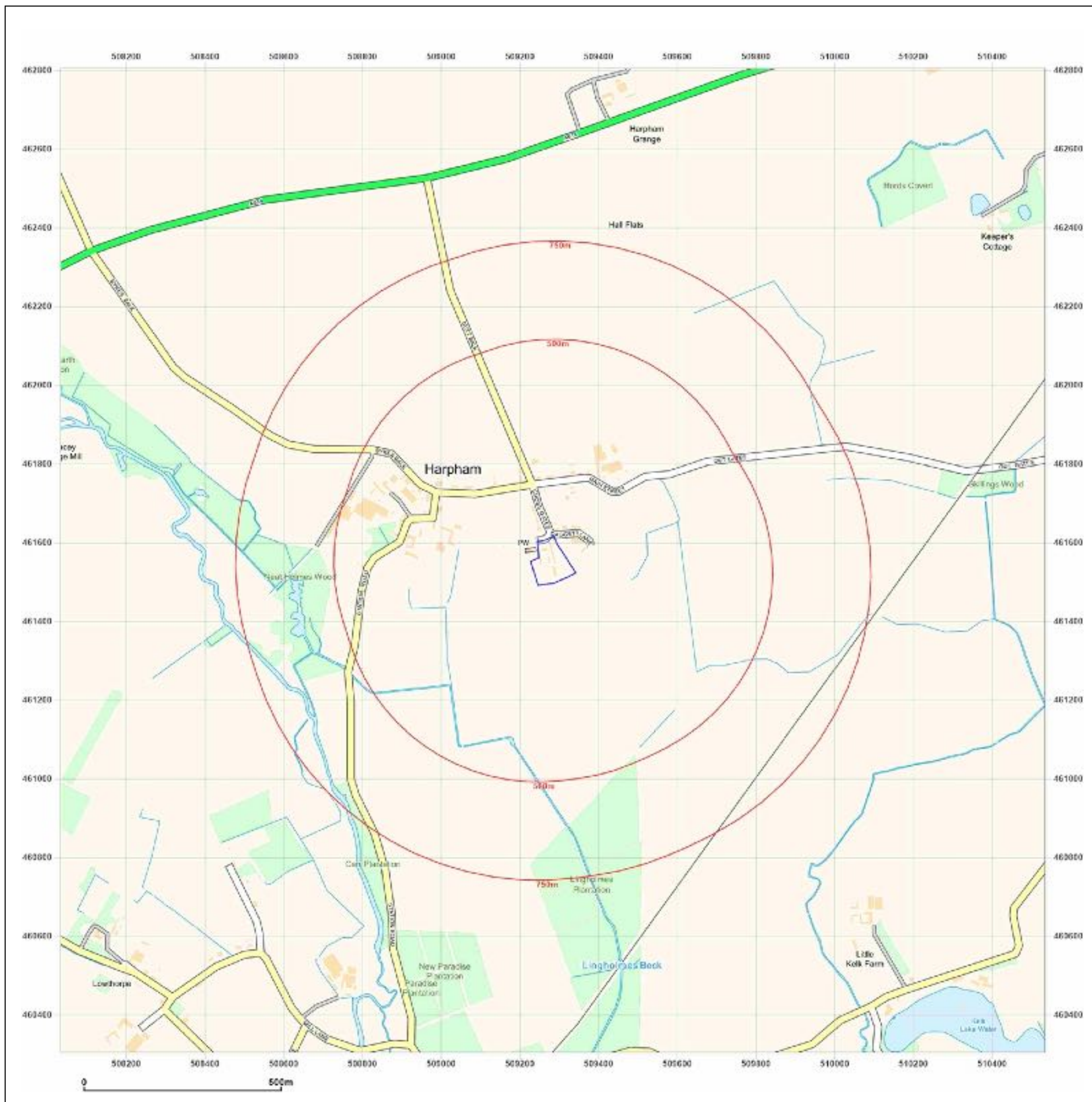
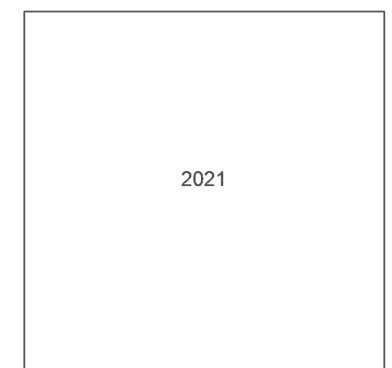
Client Ref: EMS\_741383\_965083  
 Report Ref: EMS-741383\_965083  
 Grid Ref: 509284, 461555

Map Name: National Grid

Map date: 2021

Scale: 1:10,000

Printed at: 1:10,000



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 Road & Drainage Design  
 Site Investigations  
 Site Supervision  
 Structural Engineering  
 Sulphate Attack Specialists  
 Temporary Works  
 Topographic & Measured Surveys  
 Traffic Assessments

### **Quality Assurance Accreditation**

ISO 9001 Registered firm  
 Certificate no. GB.02/07

### **Environmental Accreditation**

ISO 14001 Registered firm  
 Certificate no. GB.09/277b



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