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Alan Wood & Partners

**PHASE I GEO-ENVIRONMENTAL
ASSESSMENT, LINC LAKES,
SCUNTHORPE**

46069

7th February 2023

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PHASE I GEO-ENVIRONMENTAL APPRAISAL, LAND NORTHWEST OF JUNCTION 3 OF THE M180, LINC LAKES, SCUNTHORPE

for

Keepmoat Homes Ltd

Project Reference: JS/SLR/AC/46069-Rp-002

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Date: 7th February 2023

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Date: 7th February 2023

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

Site Location	The site is located to the north of Burringham Road and east of the M181 motorway and is centred at National Grid Reference (NGR) 486176mE, 408593mN.
Site Size and Shape	The site is roughly square in shape and covers an area of approximately 30.58ha.
Current Site Use	The site is generally flat and comprises two agricultural fields that have recently been seeded, separated by an east-west drainage ditch and overhead powerlines. The wider site is bounded by drainage ditches to the north and west with a 2m high embankment up to the M181 motorway. The east of the site is bounded by a hedgerow separating the site from a north-south road with a care home and residential buildings, and to the south by Burringham Road.
Site History	The site has never been developed and has remained as open land used for agricultural purposes throughout the historical period reviewed.
Geology	Superficial Soils - Predominantly Warp (clay, silt, sand and gravel), with an area of Blown Sand present in the south-eastern corner of the site. Solid Geology - Mudstone of the Mercia Mudstone Group
Hydrogeology	Aquifer within Superficial Deposits: Secondary A Aquifer within Bedrock: Secondary B Source Protection Zones: There are no source protection zones within 500m of the site.
Hydrology	There are eighteen reported surface water features within 250m of the site. Several of these are located within the site and along the site boundaries thought to comprise drainage ditches.
Mining	On the basis of available information risk associated with shallow coal mining subsidence is considered to be negligible.
Anticipated Ground Conditions	No made ground identified in previous investigations. Superficial deposits of predominantly sand with some clays. Localised deposits of organic material.
Groundwater	Previous investigation has identified shallow groundwater (<2.50mbegl) across the majority of the site.
Unexploded Ordnance (UXO)	Low
ENVIRONMENTAL APPRAISAL	
Sources of Potential Contamination	Potentially contaminated localised made ground soils, underlying natural strata / perched groundwater
Radon	Radon protection measures are not required in new construction.
Ground Gases	It is considered possible that ground gas may pose a risk to the development given the potential for organic material below the site.
Invasive Plant Species	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.
Risk to End Users and Site Workers	Low to Moderate
Protection of Potable Water Supplies	Not anticipated to be required.
GEOTECHNICAL APPRAISAL	
Principal Bearing Strata	It is assumed in the production of this report that site levels are to be lifted to facilitate development. On this basis, subject to approval, foundations are likely to be within the engineered fill.

Influence from Trees and Volume Change Potential	There are some trees on the southern boundary of the site, so precautions may be required should structures lie within influencing distance when in clay. 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).
Likely Foundation Types	Shallow foundation solution, reinforced stirps or raft, within the engineered fill.
Likely Ground Slab	In situ suspended floor slabs are likely to be the most suitable for use at the site, should in excess of 600mm of unsuitable material be 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.
Buried Concrete	Previous investigation on the site indicates that a Design Sulphate classification of DS-1 may be adopted along with an ACEC class of AC-1 for buried structures within the natural ground below the site. Engineered fill will need to be tested prior to import to site to ensure this classification is still suitable.
Soakaways	Given the shallow groundwater below the site, and the intention to raise levels, soakaways are not considered to be suitable.
Obstruction & Excavations	Obstructions to excavations are not anticipated, as historical information indicates no recorded development has taken place within the site boundary. Based on historical borehole information, shallow bedrock is not anticipated.
Roads	A preliminary CBR value of <2.5% is currently considered suitable 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.
FURTHER WORKS	
	Ground investigation as outlined in Section 7.

1 INTRODUCTION

1.1 Details of Commission

- 1.1.1 Alan Wood & Partners were appointed by the Keepmoat Homes Ltd (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 the site is to be redeveloped with a number of residential properties and associated soft landscaping and infrastructure, and that ground levels will be raised to facilitate a development platform. 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 have previously carried out ground investigation at the site. The following reports have been used to assist in the preparation of this report:
- Alan Wood and Partners, Phase II Geo-Environmental Assessment Report, Land Northwest of Junction 3 of the M180, report ref. JS/ST/46069-Rp-001, dated November 2021;
 - Alan Wood and Partners, Factual Report on Ground Investigation, Land East of the M181, report ref. JS/LF/41059-Rp003, dated November 2021.

1.2.2 A summary of the findings from each investigation is presented in Section 2 of this report.

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);
- A review of Environment Agency information; 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.

2 SUMMARY OF PREVIOUS INVESTIGATION

2.1 Alan Wood and Partners, Phase II Geo-Environmental Assessment Report, Land Northwest of Junction 3 of the M180

2.1.1 An investigation was undertaken across the full site area comprising the completion of 25no. machine excavated trial pits.

2.1.2 The ground conditions encountered during the investigation are summarised in Table 2.1.

Lithology	Exploration Location	Approximate proven depth (m) to base from existing ground level	Approximate Thickness (m)	Approximate Allowable Safe Bearing Capacity (kN/m ²)
Topsoil	All Locations	0.15 - 0.40		N/A
Loose Orange Brown Sand	TP1 to TP25	0.40 – 2.70	0.20 – 1.10	75 Reducing to 37 below groundwater
Organic Silt	TP1	1.40	0.50	Nil
Organic Sand	TP2, TP3, TP7 to TP13, TP14, TP18, TP19, TP20, TP21	0.55 – 2.85	0.05 - 0.50	Nil
Peat Lenses within Sand	TP10 and TP23	2.70	0.30	Nil
Soft Brown Clay	TP14	0.90	0.15	Nil
Brown Sandy Clay	TP17	0.55m	0.20m	75
Medium Dense Pale Brown/Grey Sand	TP1 to TP14, and TP16 to TP25	1.60 - 3.50	0.65 – 2.30	75 Reducing to 37 below groundwater
Groundwater	Groundwater seepage was encountered in TP1 at 1.70m and 3.40m bgl, TP2 at 3.30m bgl, TP3 at 2.20m bgl, TP4 at 2.20m bgl, TP5 at 1.60m bgl, TP6 at 1.80m bgl, TP7 at 2.10m and 3.40m bgl, TP8 at 2.80m bgl, TP9 at 2.60m bgl, TP10 at 2.00m bgl, TP11 at 2.20m bgl, TP13 at 2.30m bgl, TP14 at 1.50m bgl, TP15 at 1.40m bgl, TP17 at 1.50m and 2.60m, TP18 at 3.20m, TP19 at 2.10m, TP20 at 2.00m, TP21 at 2.20m and 2.90m, TP22 at 1.60m, TP23 at 2.40m, TP24 at 2.40m, TP25 at 1.60m			

2.2 Alan Wood and Partners, Factual Report on Ground Investigation, Land East of the M181

2.2.1 A targeted investigation was undertaken on the southern boundary of the site, with exploratory hole positions based on a proposed road layout and the results of previous investigation to carry out a targeted investigation to establish the lateral and vertical extents of peat deposits and their potential effect on the proposed highway network.

2.2.2 Ground conditions typically comprised granular material, which was often described as organic, or containing pockets of peat. Cohesive deposits were also recorded, typically below the topsoil to a maximum depth of 1.50m bgl. Lenses of peat were also found typically between 0.10m and 0.30m in thickness. Groundwater was recorded at depths of between 0.70m and 2.50m bgl.

3 ENVIRONMENTAL SETTING

3.1 Introduction

3.1.1 Published environmental, geological and historical data relating to the site area has been reviewed, in conjunction with a walkover survey undertaken on the 1st of February 2023, the findings of which are presented below. The principal considerations of immediate relevance are presented in the following sections.

3.2 Site Location & Description

3.2.1 The site is located to the north of Burringham Road and east of the M181 motorway and is centred at National Grid Reference (NGR) 486176mE, 408593mN. A site location plan is presented as Figure 46069/001.

3.2.2 The site is square in shape and covers an area of approximately 30.58ha. A photographic record of the walkover is presented as Plates 1-18.

3.2.3 The site is generally flat and comprises two agricultural fields that have recently been seeded, separated by an east-west central drainage ditch and overhead powerlines. The wider site is bounded by drainage ditches to the north and west with a 2m high embankment up to the M181 motorway. The east of the site is bounded by a hedgerow separating the site from a north-south road with a care home and residential buildings and to the south by Burringham Road.

3.2.4 To the north, west and south of the site are further agricultural fields. A golf course is located to the southeast of the site.

3.2.5 A culvert was located at the western edge of the ditch running through the centre of the site, connecting the central ditch to a further ditch on the western boundary. A culvert is also located at the southwest corner of the site running underneath the road bridge to the south.

3.2.6 Powerlines also cross the site from the central drainage ditch northwards to the northern boundary of the site.

3.2.7 Mature trees are located towards the northeast boundary of the site and also the southwest next to the road bridge over the M181.

3.2.8 At the southwest corner of the site there is an area where topsoil has been removed.

3.2.9 A mains water stop valve and wash out are located towards the southeast corner of the site. A drain was located at the southern end of the site, within the verge of Burringham road. The drain appears to runs parallel to the road.

3.2.10 No evidence of invasive plant species, including Japanese Knotweed and Giant Hogweed were recorded during the site walkover.

3.2.11 No evidence of fly tipping was observed on site, however, a number of vehicle tracks were shown to cross the field.

4 GEO-ENVIRONMENTAL DATA

4.1 Anticipated Geology, Hydrogeology & Mining

4.1.1 A summary of the available published geological and hydrogeological information is provided in Table 4.1. A review of the following information was undertaken:

- British Geological Survey 1:50,000 scale series, Sheet No. 89 Brigg, Solid & Drift Edition;
- Coal Authority online ground stability database;
- Emapsite Groundsure Enviro + GeoInsight Data Report Ref. EMS_839368_1037320 (Appendix A) dated 24th January 2023.

Table 4.1 - Geological Information

Made Ground and Surface Ground Workings	<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 are no recorded entries in the Groundsure report that refer to historical surface ground working features within 250m of the site.</p>
Geology	<p>There site is shown to be underlain by superficial soils of predominantly Warp (clay, silt, sand and gravel), with an area of Blown Sand present in the south-eastern corner of the site. The area of Blown Sand is further present adjacent to the eastern boundary and north-eastern corner of the site.</p> <p>The solid geology underlying the site area is recorded as being mudstone of the Mercia Mudstone Group.</p> <p>There is one available historical BGS borehole on the eastern boundary of the site. The borehole log shows topsoil over made ground to 0.60m bgl. Below this, Blown Sand is recorded to 6.80mbgl, with laminated silty clay present below to 8.00mbgl. Clayey sand is recorded to 13.10m, below which mudstone bedrock is present.</p>
Discontinuities	<p>Information presented in the Groundsure report indicates that there are no bedrock faults within 500m of the site. A number of landforms are recorded within the vicinity of the site, described as Dunes, the nearest being located 69m north-east of the site.</p>
Hydrogeology	<p>Aquifer within Superficial Deposits: 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>Aquifer within Bedrock: Secondary B - Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.</p> <p>Source Protection Zones: There are no source protection zones within 500m of the site.</p> <p>Vulnerability & Leaching Potential: Superficial soils are recorded as having an intermediate to high leaching potential with high vulnerability. The bedrock geology is recoded as having a low to medium vulnerability.</p>
Hydrology	<p>There are eighteen reported surface water features within 250m of the site. Several of these are located within the site and along the site boundaries thought to comprise drainage ditches.</p>

Mining & Ground Stability	<p><u>Historic Underground Working Features</u> Information presented in the Groundsure report indicates that there are no historical underground working features within 1km of the site boundary.</p> <p><u>Coal Mining</u> Information presented on the Coal Authority website (www.coal.decc.gov.uk) indicates that the site does not lie within a Coal Mining Reporting area.</p> <p>There are no known mine entries within, or within 20m of, the boundary of the site and there are no reported areas of potential shallow mine workings on the Coal Authority database.</p> <p>On the basis of available information risk associated with shallow coal mining subsidence is considered to be negligible.</p>
Non-coal Mining	Historical information indicates that there are no non-coal mining areas within 1km of the site.
Natural Cavities	The GroundSure data indicates that there are no natural cavities recorded within 1km of the study site.
Radon and Mine Gas	<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>
Unexploded Ordnance (UXO)	Using Zetica online UXO risk maps, there is a low risk of encountering UXO on site, therefore no further action is required.

4.2 Environmental Records

4.2.1 A summary of the available environmental information is presented in Table 4.2.

Table 4.2 - Environmental Data

Potentially Harmful Discharges (Red List) to Controlled Waters	There are no records of red list discharge consents reported to be within 500m of the site.
Licensed Discharge Consents	There are no records of licensed discharge consents reported to be within 500m of the site.
EA Recorded Pollution Incidents to Controlled Waters	There are no recorded EA pollution incidents within 500m of the site.
Landfill and Other Waste Sites	There are no active or recent landfill sites within 500m of the site. There is one historical landfill site located 98m to the north-east which received inert industrial waste between 1977 and 1993, when the license is recorded as surrendered.
Flooding	<p>The majority of the site is at a low risk of flooding from rivers and the sea, however, there is a medium risk recorded on the western boundary of the site.</p> <p>There are three recorded historical flood events on the site, all dated 1947, referring to the same flood event where both tidal and fluvial flooding took place.</p> <p>The site does not benefit from flood defences.</p> <p>The majority of the site lies within an Environment Agency Flood Zone 3, with the eastern third of the site within an Environment Agency Flood Zone 2.</p>

Abstractions	There is one groundwater abstraction located within 244m to the south-east of the site, while the nearest active surface water abstraction lies 641m west of the site, both being for spray irrigation. There are no potable water abstractions within 2km of the site.
Invasive Plant Species	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.
Public Register of Contaminated Land: Part 2A (EPA 1990)	There are no sites designated as contaminated land under, Section 78R of the EPA 1990, within 500m of the site.
Dangerous or Hazardous Sites	There are no NIHHS or COMAH sites or high pressure underground pipelines within 500m of the site. There are no current or recent petrol stations within 500m of the site.
Potentially Contaminative Current Land Uses	There are no potentially contaminative industrial sites located within 250m of the site.

4.3 Historical Land Use

- 4.3.1 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.
- 4.3.2 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.
- 4.3.3 A summary of the historical land use and surrounding area is presented in Table 4.3 and Table 4.4.

Table 4.3 - Summary of Principal Historical Features (On Site)

Year	Scale(s)	Principal Features
1885	1:10,560	The site comprises a series of open fields with a road adjacent to the southern boundary of the site.
1886	1:10,560	No significant changes
1887	1:2,500	
1907	1:2,500	
1905-1907	1:10,560	
1938	1:10,560	
1948	1:10,560	Mapping incomplete – site not shown
1949	1:10,560	
1951-1955	1:10,560	No significant changes
1965-1968	1:2,500	A number of drains are now labelled crossing the site in an east to west direction.
1975	1:10,000	No significant changes

Year	Scale(s)	Principal Features
1979-1980	1:2,500	
1982	1:10,000	Drains across the site have been reduced to one through the centre.
1990-1994	1:2,500	No significant changes
2001	1:10,000	
2003	1:1,250	
2010	1:10,000	
2023	1:10,000	

Table 4.4 - Summary of Principal Historical Features (Off Site)

Year	Scale	Direction	Principal Features
1885	1:10,560	North, West	Open Fields in excess of 250m from the site boundary
		East	Warren House – adjacent to site boundary
		South	Warp Farm and Ashby Decoy Farm – south of the road adjacent to the site boundary
1886	1:10,560	All Directions	No significant changes
1887	1:2,500	North	Areas of marshland recorded 100m and 220m from site boundary.
		East, South, West	No significant changes
1907	1:2,500	All Directions	No significant changes
1905-1907	1:10,560	North	Area of marshland no longer present – 100m
		East	Well – 220m
		South, West	No significant changes
1938	1:10,560	All Directions	No significant changes
1948	1:10,560	All Directions	Mapping incomplete – surrounding area not shown
1949	1:10,560	All Directions	Mapping incomplete – surrounding area not shown
1951-1955	1:10,560	All Directions	No significant changes
1965-1968	1:2,500	North, South, West	No significant changes
		East	Warren House now labelled as Manor Cottage and The Manor.
1975	1:10,000	North, South, West	No significant changes
		East	Pond – 95m
1979-1980	1:2,500	North, East, South	No significant changes
		West	Construction of the M181 adjacent to the western boundary of the site. Ashby Decoy Farm no longer present.
1981-1982	1:10,000	All Directions	No significant changes
1990-1994	1:2,500	North	No significant changes
		East	Construction of a number of properties adjacent to the site boundary. The Manor is now labelled as Carisbrooke Manor. Construction of a hospice – 140m
		South, West	No significant changes
2001	1:10,000	All Directions	No significant changes

Year	Scale	Direction	Principal Features
2003	1:1,250	-	Drains are labelled on the northern, western and the western end of the southern boundary.
2010	1:10,000	All Directions	No significant changes
2023	1:10,000	All Directions	No significant changes

4.3.4 In summary, the site has never been developed and has remained as open land used for agricultural purposes throughout the historical period reviewed.

4.3.5 Some development has taken place more recently to the east of the site, with the construction of a number of buildings during the 1990s. The M181 was also constructed immediately west of the site in the late 1970s.

5 PHASE I GEOTECHNICAL APPRAISAL

5.1 Made Ground

- 5.1.1 It is not anticipated that significant made ground will be present on the site. Previous investigation across the site has not identified made ground to be present, however localised deposits may be present associated with development to the east and west of the site and infilling of field drains previously present within the site.
- 5.1.2 The presence, type and extent of any on-site made ground soils will need to be established through ground investigation.

5.2 Natural Strata

- 5.2.1 There site is shown to be underlain by superficial soils of predominantly Warp (clay, silt, sand and gravel), with an area of Blown Sand present in the south-eastern corner of the site. The area of Blown Sand is further present adjacent to the eastern boundary and north-eastern corner of the site.
- 5.2.2 The solid geology underlying the site area is recorded as being mudstone of the Mercia Mudstone Group.

5.3 Groundwater

- 5.3.1 Groundwater has been recorded in previous investigations between 0.70m and 3.40m begl.

5.4 Foundations

- 5.4.1 It is understood that the land will be raised in order to facilitate the development and it is envisaged that shallow foundations, such as reinforced strips or rafts, will be founded in the engineered fill following NHBC approval. The uplift will need to be carried out in accordance with an approved earthworks specification and potential settlements assessed in relation to foundation loads and load imposed by the placed fill.
- 5.4.2 There are some trees on the southern boundary of the site, so precautions may be required should structures lie within influencing distance when in clay. 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).

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- 5.4.3 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 or where soft and/or where locally unstable ground is encountered at founding depth.
- 5.4.4 With respect to buried sub-structures, although not anticipated to be present, 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).
- 5.4.5 Specific information with respect to foundation design and any earthworks required to facilitate construction will need to be given in a Earthworks Strategy.
- 5.4.6 Although not anticipated to be required, where a piled foundation solution is adopted, a detailed pile design should be carried out by a specialist piling contractor using information obtained by appropriate intrusive investigation and laboratory testing.

5.5 Coal Mining Induced Subsidence

- 5.5.1 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.

5.6 Floor Slabs

- 5.6.1 *In situ* suspended floor slabs are likely to be the most suitable for use at the site, should in excess of 600mm of unsuitable material be 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.
- 5.6.2 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.

5.7 Non-Coal Mining

5.7.1 There is no evidence to suggest that mineral extraction has occurred on or within the immediate vicinity of the 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).

5.8 Excavation Conditions

5.8.1 Obstructions to excavations are not anticipated, as historical information indicates no recorded development has taken place within the site boundary. Based on historical borehole information, shallow bedrock is not anticipated.

5.8.2 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.

5.8.3 Previous investigation has identified that excavations are unstable in the short term. Granular soils and made ground, where present, 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.

5.8.4 It is considered possible 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.

5.9 Stability Issues & Retaining Structures

5.9.1 The site is relatively flat and level, however an embankment is present on the eastern boundary of the site. No particular risk in relation to slope instability should occur on site, but consideration will need to be given to this boundary, particularly as the material type in the embankment is unknown.

- 5.9.2 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.
- 5.9.3 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; if this changes, further advice may be required when more information is available.
- 5.9.4 With respect to natural ground subsidence, the site has been classified as having a 'Negligible' risk rating for ground dissolution hazards and collapsible deposits, a 'Very Low' risk rating for shrink/swell clay, a 'Low' risk rating for running sand hazards and landslides, and a 'Moderate' risk rating for compressible deposits.

5.10 Surface Water Drainage

- 5.10.1 It is considered that soakaways are likely to be unsuitable given the shallow groundwater encountered in previous investigation. Surface water will therefore need to be disposed of to a suitable drainage system (possibly to any existing drains that cross/exit the site), subject to obtaining approvals from regulatory authorities.

5.11 Roads and Pavement

- 5.11.1 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.
- 5.11.2 All road design should be discussed with the local authority if highways are to be subject to a Section 38 agreement.

5.12 Concrete

- 5.12.1 Previous investigation on the site indicates that a Design Sulphate classification of DS-1 may be adopted along with an ACEC class of AC-1 for buried structures within the

natural ground below the site. Engineered fill will need to be tested prior to import to site to ensure this classification is still suitable.

6 PHASE I ENVIRONMENTAL APPRAISAL

6.1 Introduction

6.1.1 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.

6.2 Initial Conceptual Site Model & Risk Assessment

6.2.1 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.

6.2.2 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.**

6.3 Site Summary & Environmental Sensitivity

6.3.1 A review of available desk study information indicates that the proposed site area has not undergone any previous development. Some development has taken place to the east of the site, with a number of structures having been built more recently, and also adjacent to the western boundary where the construction of the M181 took place. A number of field boundaries, with potential drains have crossed the site, which appear to have been filled in.

6.3.2 No considerable amounts of made ground soils are expected on site, although the extent of such material is likely to be localised and would need to be confirmed through ground investigation.

6.3.3 The underlying geology is indicated to comprise predominantly Warp (clay, silt, sand and gravel), with an area of Blown Sand present in the south-eastern corner of the

site. The area of Blown Sand is further present adjacent to the eastern boundary and north-eastern corner of the site.

6.3.4 The solid geology underlying the site area is recorded as being mudstone of the Mercia Mudstone Group.

6.3.5 Shallow groundwater has been shown to be present within the near surface deposits.

6.3.6 It is considered possible that elevated concentrations of CO₂ and CH₄ may be present as a result of organic material within the superficial deposits (see BS 8576:2013, 'Guidance on Investigations for Ground Gas - Permanent Gases and Volatile Organic Compounds').

6.3.7 Although the likely sources of significant contamination are expected to be limited, there remains the potential for on-site soils to contain elevated concentrations of metals and metalloids (e.g. arsenic), non-metal inorganics and organic contamination (e.g. PAH). There is considered to be a low likelihood of asbestos containing materials and fuel contaminants being present on site.

6.3.8 The potential leaching of mobile contaminants of concern to the underlying Secondary A aquifer is considered to be moderate given the reported intermediate to high leaching potential of soils within the vicinity to the site.

6.3.9 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 **low to moderate**. The nature and concentration of any contamination will need to be confirmed through testing.

6.4 Potential Sources

6.4.1 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'.

6.4.2 The following potential contaminants that may be associated with the site are summarised in Table 6.1.

Table 6.1 - 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	PAHs, Pesticides
Ground Gases associated with organic material in superficial deposits	CO ₂ and CH ₄	

* Invasive plant species to be assessed separately if encountered.

6.5 Potential Receptors

6.5.1 A receptor is the potential target of the source pollutant, to which either significant harm or deterioration in quality may be caused.

6.5.2 The potential sensitive receptors with respect to the potential contamination hazards identified above are considered in Table 6.2.

Table 6.2 - 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 Secondary A Aquifer

6.6 Plausible Pathways

6.6.1 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 6.3.

Table 6.3 - 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

6.7 Risk Assessment

6.7.1 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.

6.7.2 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.

6.7.3 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.

6.7.4 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

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.

6.7.5 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.

6.7.6 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.

6.7.7 The risk categories which can be assigned are presented in Table 6.4 and range between 'very high risk' to 'very low risk'. *NB - it is not possible to classify an identified risk as 'no-risk'.*

Table 6.4 - 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.

6.7.8 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 6.5.

Table 6.5 - 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> Site end-users, inc. maintenance and site workers (short term risk during construction)	Direct ingestion or dermal contact with soil, dust and/or vapour inhalation	Low likelihood	Medium	Moderate/Low	Soil capping or removal of contaminated soils where necessary
		Direct ingestion and/or dermal contact with liquid contaminants	Unlikely	Mild	Very Low	
		Inhalation of asbestos fibres	Low likelihood	Severe	Moderate	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	Low	Upgraded water pipes/clean backfill material where necessary
	<u>Construction</u> (Foundations)	Direct contact/leaching	Low likelihood	Mild	Low	Appropriate concrete specification
	Controlled Waters	Surface run-off / lateral migration	Likely	Mild	Moderate/Low	Low to moderate risk anticipated due to intermediate to high soil leaching potential recorded on site. Soakaways not to be adopted for drainage.
Ground Gases associated with organic material in superficial deposits	<u>Human Health</u>	Inhalation (via ingress and accumulation)	Low likelihood	Medium	Moderate/Low	Gas monitoring with necessary precautions appropriate to proposed site end use

-
- 6.7.9 The preliminary conceptual site model (CSM) presented above has indicated that several potential contaminant linkages may exist on-site.
- 6.7.10 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.
- 6.7.11 It is understood there is an intention to raise site levels, and as such, depending on the thickness of engineered fill, it is anticipated that all potential contaminant linkages in relation to end-users will be broken. This would need to be confirmed following submission of an approved earthworks specification and remediation strategy.
- 6.7.12 However, should previously unidentified contamination be recorded, and the thickness of placed fill be less than 600mm, it is possible that a soil capping layer would be required in gardens and soft landscaped areas. 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.
- 6.7.13 Fugitive ground gases associated with the potential for organic material within the underlying strata 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. 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.
- 6.7.14 Radon precautions are not required in construction.
- 6.7.15 It is considered, based on previous investigation, unlikely that protective measures may be required where potable water supply pipes are to be laid. 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 be contacted however to determine its exact requirements in respect of the levels of contamination encountered.

6.7.16 Sulphate protection is not expected to be required in buried structures in natural ground but should be adopted 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.

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

6.7.18 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.

7 RATIONALE FOR PHASE II GROUND INVESTIGATION

7.1 Introduction

- 7.1.1 The overall objective of this study is to contribute towards the understanding of the ground conditions underlying the proposed residential development at the site to the east of the M181 at Linc Lakes, Scunthorpe. 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.
- 7.1.2 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.
- 7.1.3 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.
- 7.1.4 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.

7.2 Scope of Works

- 7.2.1 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 cable percussive borehole to facilitate the collection of samples from within the on-site made ground (where present) and the underlying near surface natural strata for chemical and geotechnical laboratory testing;

- Ground investigation through Cone Penetration Testing to obtain site wide information into presence of organic material, site wide groundwater levels, and ground strength properties;
- Assess the risk to human health from the identified levels of contamination;
- Assessment of the thickness and nature of the made ground soils (where present);
- 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;
- 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).

7.2.2 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).

7.3 Analytical Strategy

7.3.1 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.

7.3.2 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;

-
- Cyanide (Free and Total);
 - Total phenol;
 - Sulphates (Total and Water Soluble);
 - Sulphide;
 - pH;
 - TOC;
 - Asbestos fibres.

7.3.3 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.

8 REGULATORY APPROVAL

- 8.1.1 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.
- 8.1.2 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.

9 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_839368_1037320, dated 24th January 2023;
- 2 British Geological Survey Sheet, Sheet No. 89 Brigg (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;
- 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 (2022), *Building near trees*, NHBC Publication, 2022.
- 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 20th March 2000;
- 14 Environment Agency, www.environment-agency.org.uk;

10 LIMITATIONS OF STUDY

10.1.1 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.

10.1.2 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.

10.1.3 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.

10.1.4 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.

10.1.5 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.

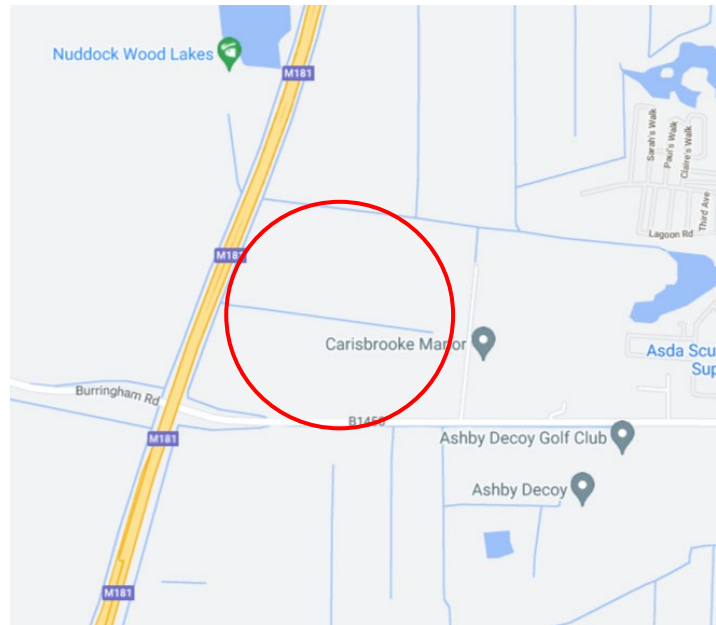
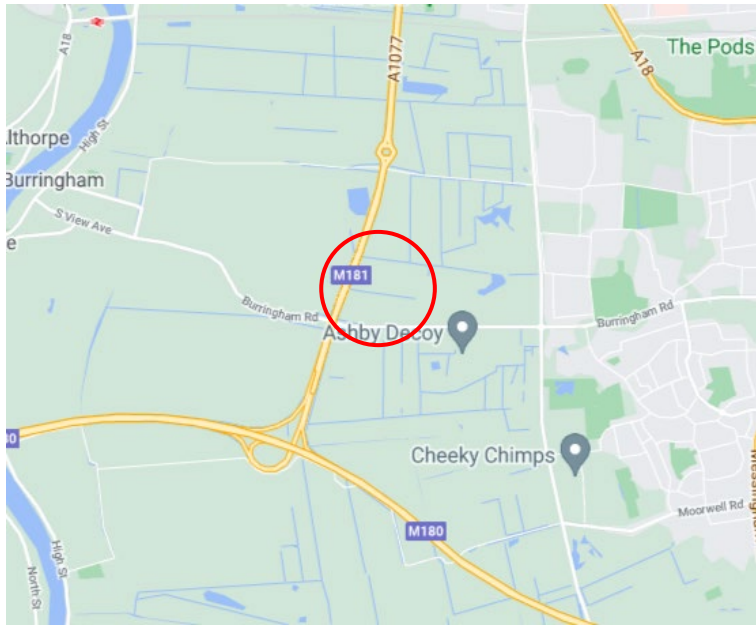
10.1.6 Whilst every effort has been made to carry out an assessment that enables a realistic initial characterisation of the geotechnical and environmental parameters to be identified, the possibility of significant variation in actual ground and groundwater conditions existing cannot be discounted. 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.



10.1.7 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.

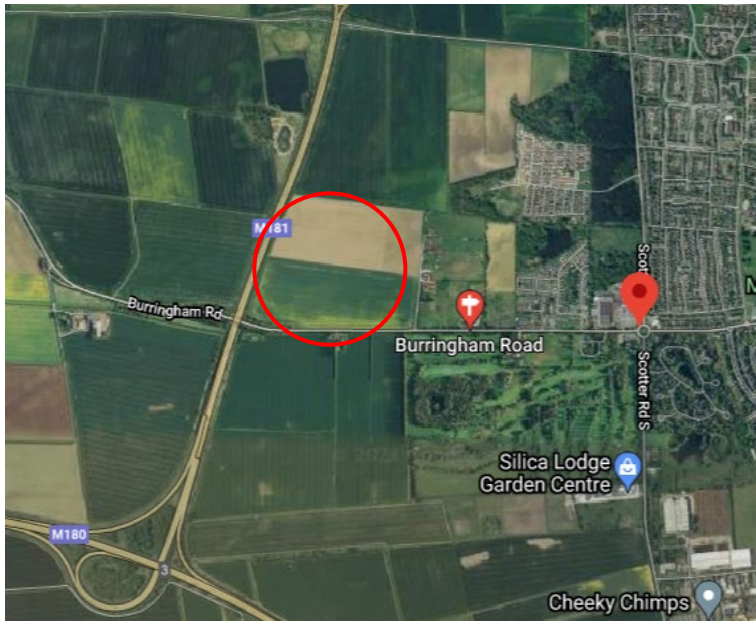
10.1.8 Interpretation and recommendations should not be assumed valid for adjacent areas of land, or for alternate land uses. Where the proposed site usage changes, the findings of this report should be re-assessed to accommodate the change in proposed end-use.

10.1.9 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. Keepmoat Homes Limited		
Project. Lincs lakes, Scunthorpe		
Drawing. Site Location Plan		
Date. 01.02.23	Scale. NTS	
Drawn by. AC	Check by. SLR	Approved by. SLR
Status: FINAL		
Job no. 46069	Fig. no. 001	Rev.

PHOTOGRAPHIC PLATES



Photograph No. 1

View north along the eastern boundary from the south-eastern corner of the site.



Photograph No. 2

View west along the southern boundary from the south-eastern corner of the site.



Photograph No. 3

View south towards the south-eastern corner of the site, along the eastern boundary.



Photograph No. 4

View west from the eastern boundary of the site.



Photograph No. 5

View west from the eastern boundary of the site.



Photograph No. 6

Development located off the eastern boundary of the site.



Photograph No. 7

Drainage ditch from
the northern boundary
View to the west.



Photograph No. 8

View to the east from
the north eastern
corner of the site.



Photograph No. 9

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



Photograph No. 10

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



Photograph No. 11

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



Photograph No. 12

View of the central
drainage ditch to the
east from the western
boundary of the site.



Photograph No. 13

View to the south from the western boundary of the site.



Photograph No. 14

View to the east from the western boundary of the site.



Photograph No. 15

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



Photograph No. 16

View to the south-west
from the south-western
corner of the site.



Photograph No. 17

Culvert in the south-western corner of the site.



Photograph No. 18

View to the east along the southern boundary from the south-western corner of the site.

APPENDIX A

EMAPSITE: GROUNDSURE ENVIRO + GEOINSIGHT REPORT

Order Details

Date: 24/01/2023
Your ref: EMS_839368_1037320
Our Ref: EMS-839368_1077830

Site Details

Location: 486176 408593
Area: 30.58 ha
Authority: [North Lincolnshire Council](#)



Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

N/A: >10ha

groundsure.com/insightuserguide

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
13	1.1	<u>Historical industrial land uses</u>	0	0	0	3	-
14	1.2	Historical tanks	0	0	0	0	-
14	1.3	Historical energy features	0	0	0	0	-
14	1.4	Historical petrol stations	0	0	0	0	-
15	1.5	Historical garages	0	0	0	0	-
15	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
16	2.1	<u>Historical industrial land uses</u>	0	0	0	7	-
17	2.2	Historical tanks	0	0	0	0	-
17	2.3	Historical energy features	0	0	0	0	-
17	2.4	Historical petrol stations	0	0	0	0	-
18	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
19	3.1	Active or recent landfill	0	0	0	0	-
19	3.2	Historical landfill (BGS records)	0	0	0	0	-
20	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
20	3.4	<u>Historical landfill (EA/NRW records)</u>	0	0	1	0	-
20	3.5	Historical waste sites	0	0	0	0	-
20	3.6	Licensed waste sites	0	0	0	0	-
21	3.7	<u>Waste exemptions</u>	0	0	4	6	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
23	4.1	Recent industrial land uses	0	0	0	-	-
23	4.2	Current or recent petrol stations	0	0	0	0	-
23	4.3	Electricity cables	0	0	0	0	-
23	4.4	Gas pipelines	0	0	0	0	-
23	4.5	Sites determined as Contaminated Land	0	0	0	0	-



24	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
24	4.7	Regulated explosive sites	0	0	0	0	-
24	4.8	Hazardous substance storage/usage	0	0	0	0	-
24	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
24	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
25	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
25	4.12	Radioactive Substance Authorisations	0	0	0	0	-
25	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
25	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
25	4.15	Pollutant release to public sewer	0	0	0	0	-
26	4.16	List 1 Dangerous Substances	0	0	0	0	-
26	4.17	List 2 Dangerous Substances	0	0	0	0	-
26	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
26	4.19	Pollution inventory substances	0	0	0	0	-
26	4.20	Pollution inventory waste transfers	0	0	0	0	-
27	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
28	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
29	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
30	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
31	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
31	5.5	Groundwater vulnerability- local information	None (within 0m)				
32	5.6	<u>Groundwater abstractions</u>	0	0	1	0	3
34	5.7	<u>Surface water abstractions</u>	1	0	0	0	30
40	5.8	Potable abstractions	0	0	0	0	0
40	5.9	Source Protection Zones	0	0	0	0	-
41	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
42	6.1	<u>Water Network (OS MasterMap)</u>	8	20	14	-	-



46	<u>6.2</u>	<u>Surface water features</u>	1	9	8	-	-
46	<u>6.3</u>	<u>WFD Surface water body catchments</u>	1	-	-	-	-
47	<u>6.4</u>	<u>WFD Surface water bodies</u>	0	0	0	-	-
47	<u>6.5</u>	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
48	<u>7.1</u>	<u>Risk of flooding from rivers and the sea</u>	Medium (within 50m)				
49	<u>7.2</u>	<u>Historical Flood Events</u>	3	0	0	-	-
49	7.3	Flood Defences	0	0	0	-	-
50	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
50	7.5	Flood Storage Areas	0	0	0	-	-
51	<u>7.6</u>	<u>Flood Zone 2</u>	Identified (within 50m)				
52	<u>7.7</u>	<u>Flood Zone 3</u>	Identified (within 50m)				
Page	Section	Surface water flooding					
53	<u>8.1</u>	<u>Surface water flooding</u>	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding					
55	<u>9.1</u>	<u>Groundwater flooding</u>	High (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
56	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
57	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
57	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
57	10.4	Special Protection Areas (SPA)	0	0	0	0	0
57	10.5	National Nature Reserves (NNR)	0	0	0	0	0
58	<u>10.6</u>	<u>Local Nature Reserves (LNR)</u>	0	0	0	0	2
58	<u>10.7</u>	<u>Designated Ancient Woodland</u>	0	0	0	0	2
58	10.8	Biosphere Reserves	0	0	0	0	0
59	10.9	Forest Parks	0	0	0	0	0
59	10.10	Marine Conservation Zones	0	0	0	0	0
59	10.11	Green Belt	0	0	0	0	0
59	10.12	Proposed Ramsar sites	0	0	0	0	0



59	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
60	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
60	10.15	Nitrate Sensitive Areas	0	0	0	0	0
60	10.16	<u>Nitrate Vulnerable Zones</u>	1	0	0	0	2
61	10.17	<u>SSSI Impact Risk Zones</u>	2	-	-	-	-
62	10.18	SSSI Units	0	0	0	0	0

Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
63	11.1	World Heritage Sites	0	0	0	-	-
63	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
63	11.3	National Parks	0	0	0	-	-
63	11.4	Listed Buildings	0	0	0	-	-
64	11.5	Conservation Areas	0	0	0	-	-
64	11.6	Scheduled Ancient Monuments	0	0	0	-	-
64	11.7	Registered Parks and Gardens	0	0	0	-	-

Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
65	12.1	<u>Agricultural Land Classification</u>	Grade 3 (within 250m)				
66	12.2	Open Access Land	0	0	0	-	-
66	12.3	<u>Tree Felling Licences</u>	2	5	6	-	-
67	12.4	<u>Environmental Stewardship Schemes</u>	1	0	0	-	-
67	12.5	Countryside Stewardship Schemes	0	0	0	-	-

Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
68	13.1	<u>Priority Habitat Inventory</u>	1	1	6	-	-
69	13.2	Habitat Networks	0	0	0	-	-
69	13.3	<u>Open Mosaic Habitat</u>	0	0	1	-	-
70	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
71	14.1	<u>10k Availability</u>	Identified (within 500m)				
72	14.2	Artificial and made ground (10k)	0	0	0	0	-
73	14.3	<u>Superficial geology (10k)</u>	2	0	2	3	-



74	14.4	Landslip (10k)	0	0	0	0	-
75	14.5	<u>Bedrock geology (10k)</u>	1	0	0	0	-
76	14.6	<u>Bedrock faults and other linear features (10k)</u>	0	0	3	3	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
77	15.1	<u>50k Availability</u>	Identified (within 500m)				
78	15.2	Artificial and made ground (50k)	0	0	0	0	-
78	15.3	Artificial ground permeability (50k)	0	0	-	-	-
79	15.4	<u>Superficial geology (50k)</u>	2	1	1	3	-
80	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
80	15.6	Landslip (50k)	0	0	0	0	-
80	15.7	Landslip permeability (50k)	None (within 50m)				
81	15.8	<u>Bedrock geology (50k)</u>	1	0	0	0	-
82	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
82	15.10	<u>Bedrock faults and other linear features (50k)</u>	0	0	2	4	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
83	16.1	<u>BGS Boreholes</u>	0	3	0	-	-
Page	Section	Natural ground subsidence					
85	17.1	<u>Shrink swell clays</u>	Very low (within 50m)				
87	17.2	<u>Running sands</u>	Low (within 50m)				
89	17.3	<u>Compressible deposits</u>	Moderate (within 50m)				
91	17.4	<u>Collapsible deposits</u>	Negligible (within 50m)				
92	17.5	<u>Landslides</u>	Low (within 50m)				
94	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
96	18.1	Natural cavities	0	0	0	0	-
97	18.2	BritPits	0	0	0	0	-
97	18.3	Surface ground workings	0	0	0	-	-
97	18.4	Underground workings	0	0	0	0	0
97	18.5	<u>Historical Mineral Planning Areas</u>	0	0	0	2	-



98	18.6	Non-coal mining	0	0	0	0	0
98	18.7	Mining cavities	0	0	0	0	0
98	18.8	<u>JPB mining areas</u>	Identified (within 0m)				
98	18.9	Coal mining	None (within 0m)				
99	18.10	Brine areas	None (within 0m)				
99	18.11	Gypsum areas	None (within 0m)				
99	18.12	Tin mining	None (within 0m)				
99	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
100	19.1	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
102	20.1	<u>BGS Estimated Background Soil Chemistry</u>	7	7	-	-	-
103	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
103	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
104	21.1	Underground railways (London)	0	0	0	-	-
104	21.2	Underground railways (Non-London)	0	0	0	-	-
104	21.3	Railway tunnels	0	0	0	-	-
104	21.4	Historical railway and tunnel features	0	0	0	-	-
104	21.5	Royal Mail tunnels	0	0	0	-	-
105	21.6	Historical railways	0	0	0	-	-
105	21.7	Railways	0	0	0	-	-
105	21.8	Crossrail 1	0	0	0	0	-
105	21.9	Crossrail 2	0	0	0	0	-
105	21.10	HS2	0	0	0	0	-



Recent aerial photograph



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

Capture Date: 04/04/2021

Site Area: 30.58ha



Contact us with any questions at:
info@groundsure.com
08444 159 000

Date: 24 January 2023



Recent site history - 2019 aerial photograph



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Capture Date: 20/10/2019

Site Area: 30.58ha



Recent site history - 2016 aerial photograph



Capture Date: 21/04/2016

Site Area: 30.58ha



Recent site history - 2013 aerial photograph



Capture Date: 07/06/2013

Site Area: 30.58ha



Recent site history - 1999 aerial photograph



Capture Date: 28/04/1999

Site Area: 30.58ha



1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

1.1 Historical industrial land uses

Records within 500m **3**

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 13**

ID	Location	Land use	Dates present	Group ID
1	277m SE	Boat House	1885 - 1886	1474352

ID	Location	Land use	Dates present	Group ID
2	387m E	Unspecified Depot	1968 - 1981	1460946
3	467m NE	Unspecified Heap	1905 - 1938	1492090

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m **0**

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

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m **0**

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

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m **0**

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

This data is sourced from Ordnance Survey / Groundsure.



1.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

0

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

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



2 Past land use - un-grouped



Site Outline

Search buffers in metres (m)

Historical industrial land uses

2.1 Historical industrial land uses

Records within 500m

7

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 16**

ID	Location	Land Use	Date	Group ID
A	277m SE	Boat House	1885	1474352
A	277m SE	Boat House	1886	1474352
B	387m E	Unspecified Depot	1968	1460946

ID	Location	Land Use	Date	Group ID
B	387m E	Unspecified Depot	1975	1460946
B	387m E	Unspecified Depot	1981	1460946
C	467m NE	Unspecified Heap	1938	1492090
C	467m NE	Unspecified Heap	1905	1492090

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

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

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

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	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

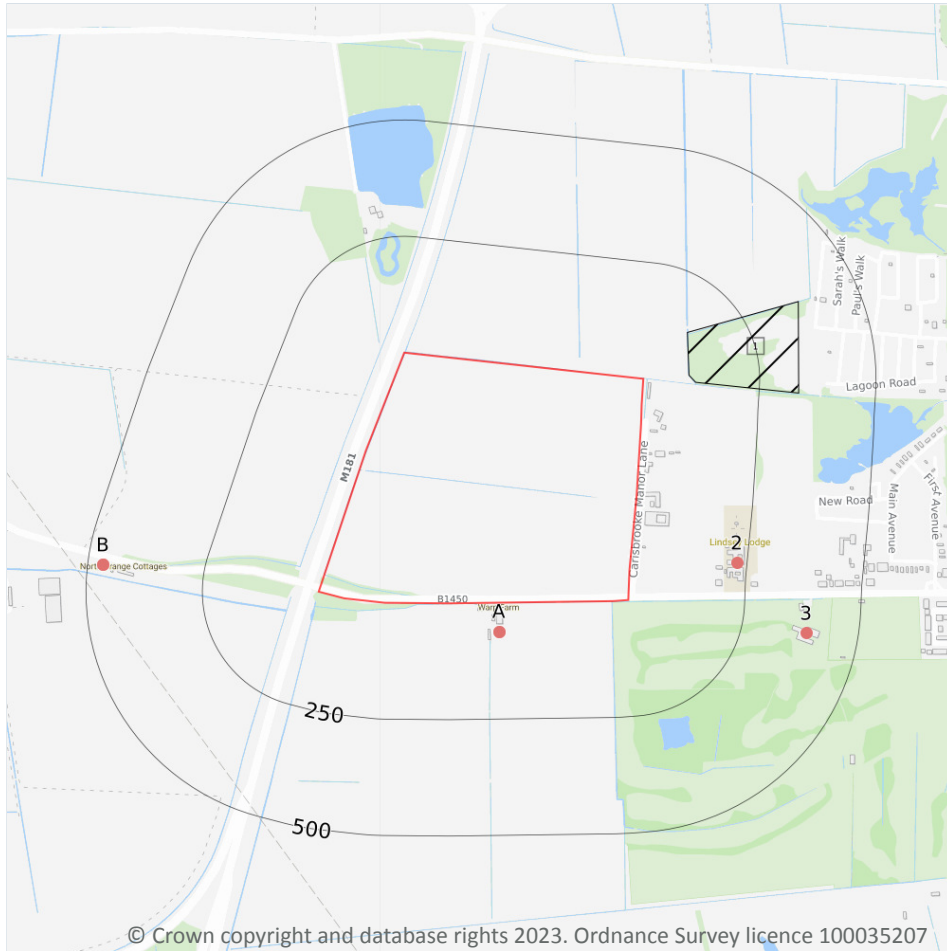
0

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



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

1

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.

Features are displayed on the Waste and landfill map on **page 19**

ID	Location	Details		
1	98m NE	Site Address: Scotter Road/Parklands, Parklands, Scunthorpe Licence Holder Address: -	Waste Licence: Yes Site Reference: 55/19/0129, A129 Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 18/05/1977 Licence Surrender: 29/05/1993	Operator: - Licence Holder: Mr M Waters First Recorded 31/12/1977 Last Recorded: 31/12/1993

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	10
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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 19**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	63m S	Warp Farm Burringham Road SCUNTHORPE South Humberside DN17 2AB	EPR/QF0532LS /A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
A	63m S	Warp Farm Burringham Road SCUNTHORPE South Humberside DN17 2AB	EPR/QF0532LS /A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
A	63m S	Warp Farm Burringham Road SCUNTHORPE South Humberside DN17 2AB	EPR/QF0532LS /A001	Using waste exemption	Agricultural Waste Only	Incorporation of ash into soil
2	228m E	BURRINGHAM ROAD, SCUNTHORPE, DN17 2AA	WEX284991	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
3	388m SE	Persimmon Homes, Ashby Decoy, Scunthorpe, DN17 2AB	WEX066369	Using waste exemption	Not on a farm	Use of waste in construction
B	468m W	NORTH GRANGE FARM, BURRINGHAM ROAD, BURRINGHAM, SCUNTHORPE, DN17 2AD	WEX051155	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
B	468m W	NORTH GRANGE FARM, BURRINGHAM ROAD, BURRINGHAM, SCUNTHORPE, DN17 2AD	WEX051155	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
B	468m W	NORTH GRANGE FARM, BURRINGHAM ROAD, BURRINGHAM, SCUNTHORPE, DN17 2AD	WEX051155	Disposing of waste exemption	On a farm	Burning waste in the open
B	468m W	NORTH GRANGE FARM, BURRINGHAM ROAD, BURRINGHAM, SCUNTHORPE, DN17 2AD	WEX051155	Using waste exemption	On a farm	Use of waste in construction



ID	Location	Site	Reference	Category	Sub-Category	Description
B	468m W	NORTH GRANGE FARM, BURRINGHAM ROAD, BURRINGHAM, SCUNTHORPE, DN17 2AD	WEX051155	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit

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



4 Current industrial land use

4.1 Recent industrial land uses

Records within 250m 0

Current potentially contaminative industrial sites.

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m 0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m 0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m 0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m 0

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

This data is sourced from Local Authority records.



4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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



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

Records within 500m **0**

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

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m **0**

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m **0**

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

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m **0**

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

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

4.15 Pollutant release to public sewer

Records within 500m **0**

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m

0

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

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

4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

0

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

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

4.19 Pollution inventory substances

Records within 500m

0

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

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

4.20 Pollution inventory waste transfers

Records within 500m

0

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

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



4.21 Pollution inventory radioactive waste

Records within 500m

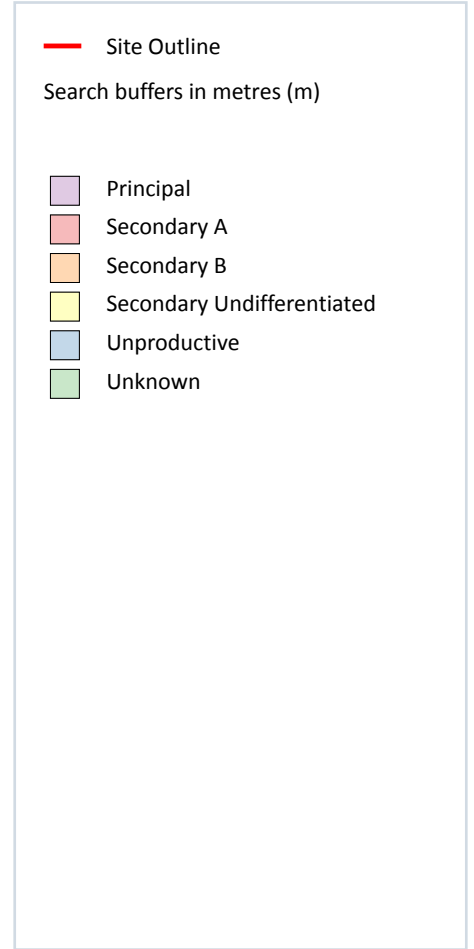
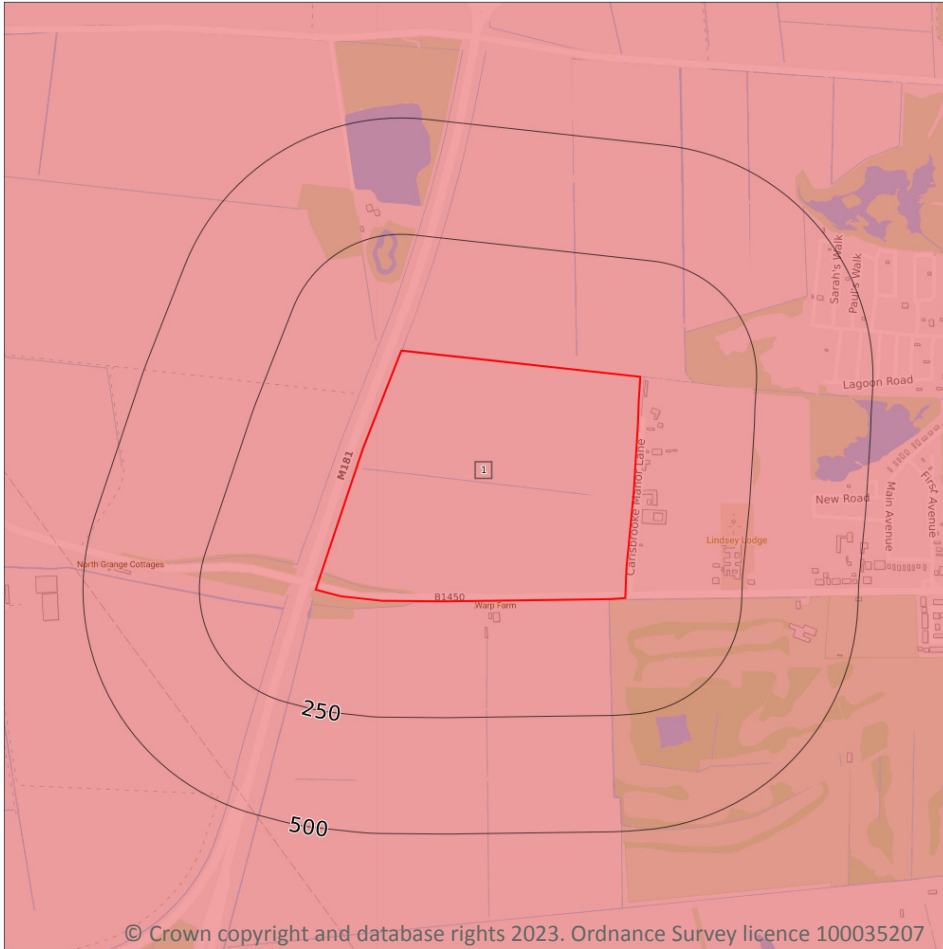
0

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

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



5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m

1

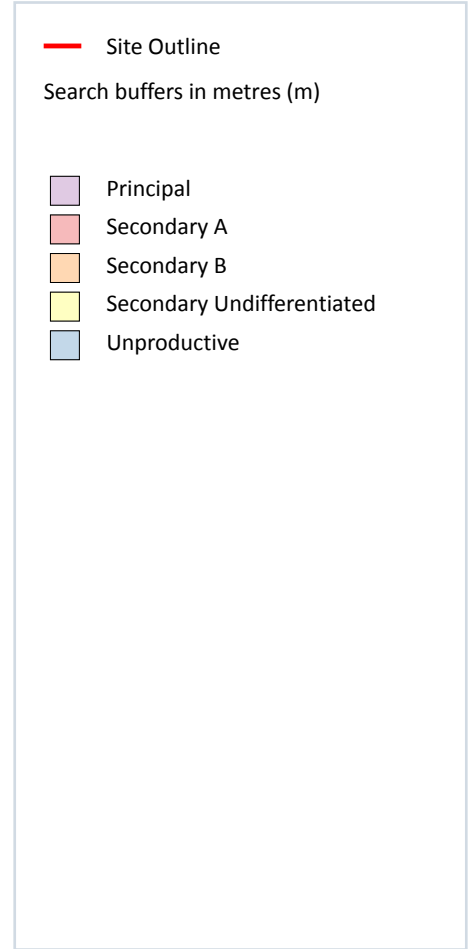
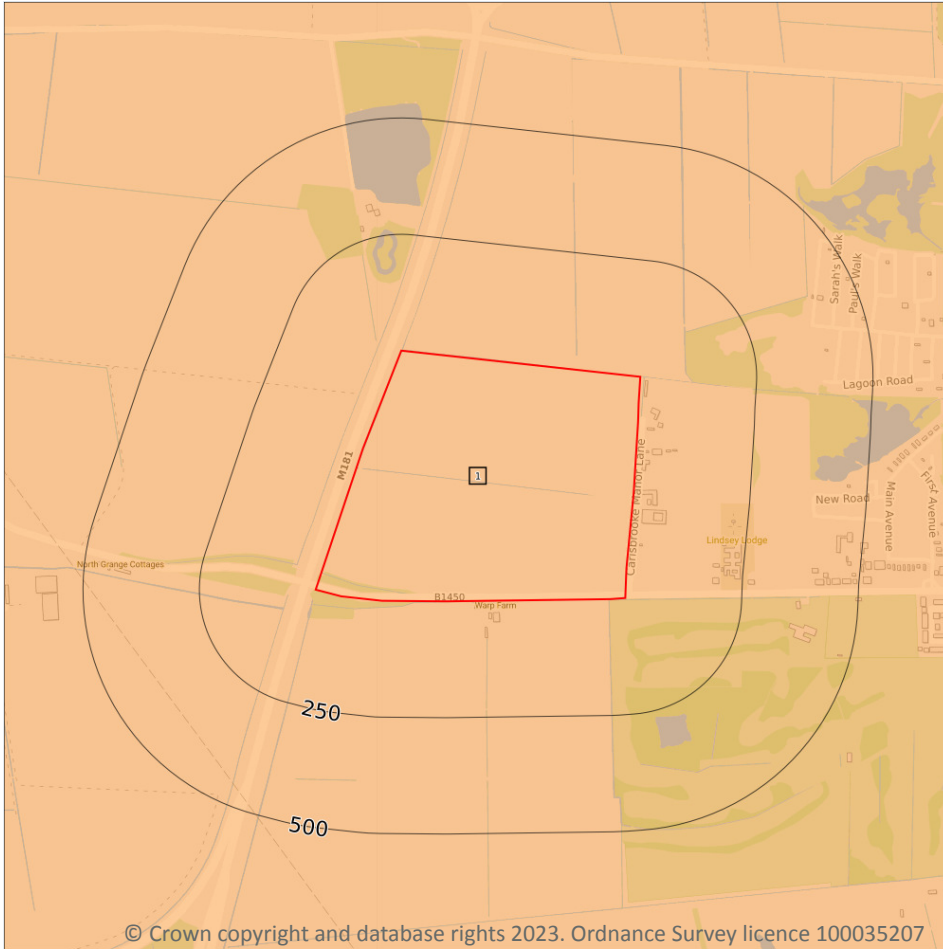
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 28**

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

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

Bedrock aquifer



5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

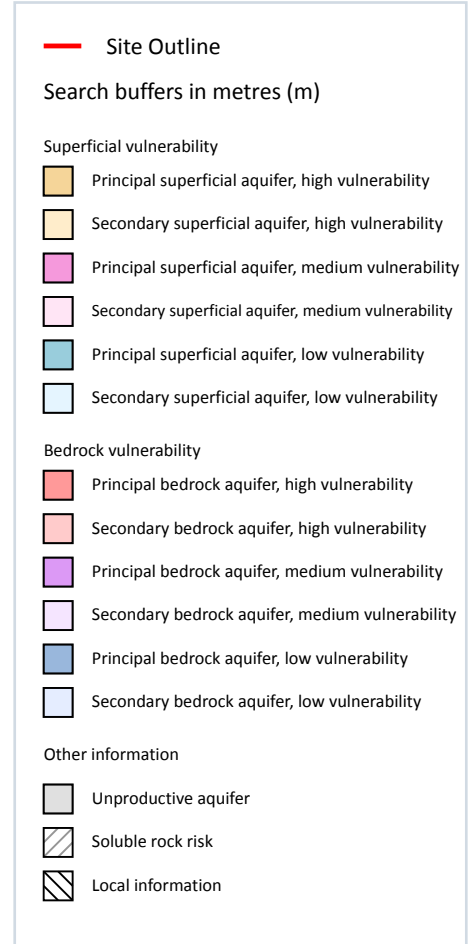
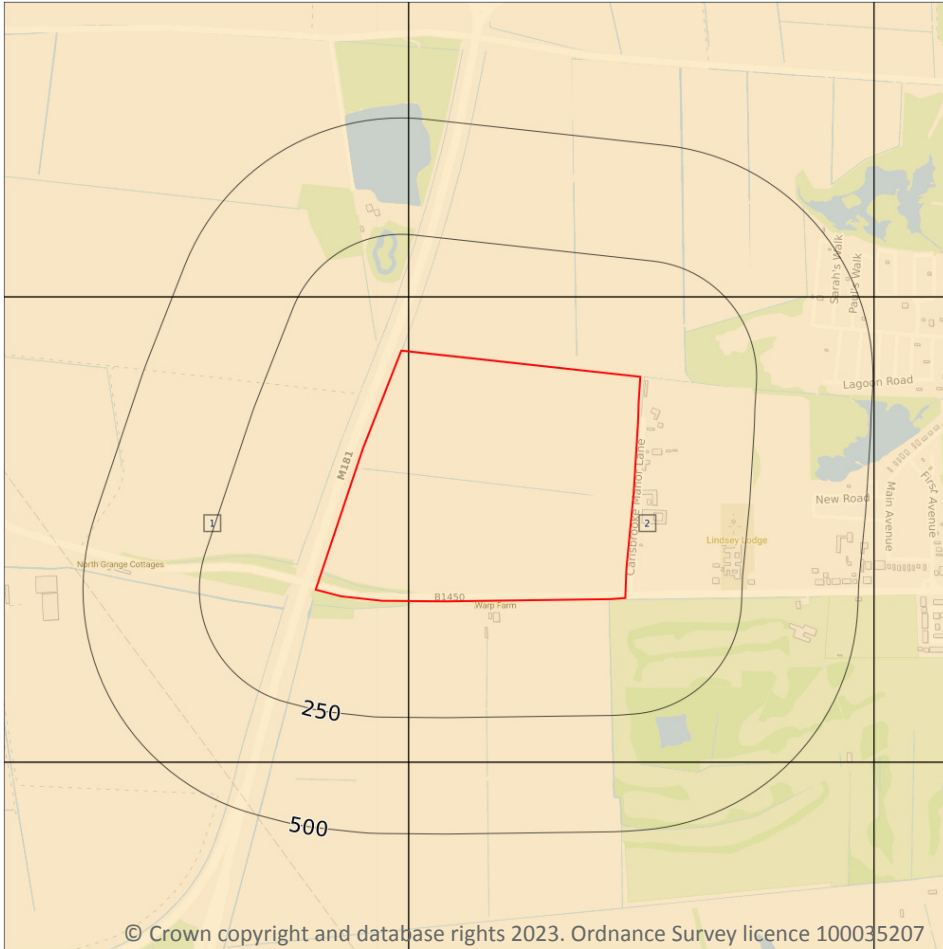
Features are displayed on the Bedrock aquifer map on **page 29**

ID	Location	Designation	Description
1	On site	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

2

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

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

Features are displayed on the Groundwater vulnerability map on **page 30**



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

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

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

5.5 Groundwater vulnerability- local information

Records on site

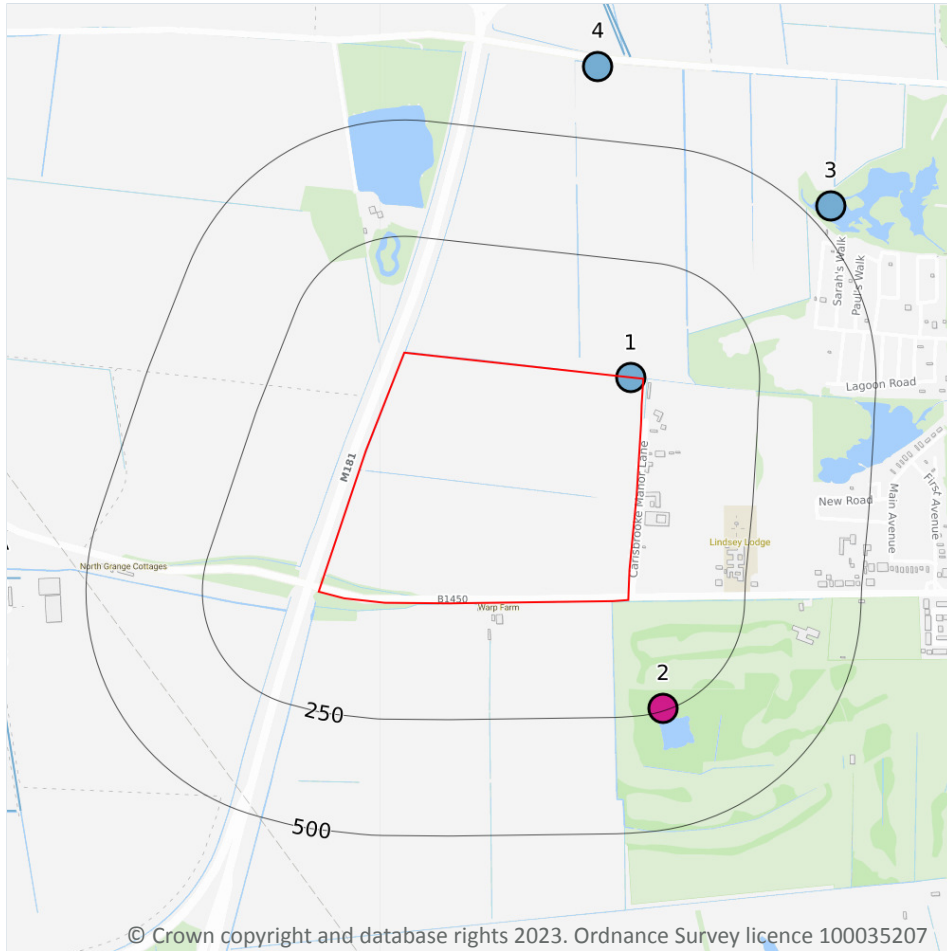
0

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

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



Abstractions and Source Protection Zones



5.6 Groundwater abstractions

Records within 2000m

4

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 32**

ID	Location	Details	
2	244m SE	Status: Active Licence No: 03/28/81/0039 Details: Spray Irrigation - Direct Direct Source: Groundwater Midlands Region Point: SCUNTHORPE GOLF CLUB - ASHBY DECOY Data Type: Point Name: ASHBY DECOY GOLF CLUB Easting: 486540 Northing: 408120	Annual Volume (m ³): 15,000 Max Daily Volume (m ³): 200 Original Application No: - Original Start Date: 20/01/1997 Expiry Date: - Issue No: 100 Version Start Date: 03/12/2018 Version End Date: -
-	1279m N	Status: Historical Licence No: 03/28/81/0045 Details: Spray Irrigation - Direct Direct Source: Groundwater Midlands Region Point: U/G STRATA (BLOWN SANDS) BRUMBY COMMON WEST, SCUNTHORPE Data Type: Line Name: W S CHAPMAN & SONS Easting: 486270 Northing: 410140	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 25/05/2001 Expiry Date: 31/03/2008 Issue No: 1 Version Start Date: 25/05/2001 Version End Date: -
-	1279m N	Status: Historical Licence No: 03/28/81/0045/1 Details: Spray Irrigation - Direct Direct Source: Groundwater Midlands Region Point: U/G STRATA (BLOWN SANDS) BRUMBY COMMON WEST, SCUNTHORPE Data Type: Line Name: Elsie Valerie Threadgold Easting: 486270 Northing: 410140	Annual Volume (m ³): 15000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 08/08/2003 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 17/05/2012 Version End Date: -
-	1279m N	Status: Historical Licence No: 03/28/81/0045/1/RO1 Details: Spray Irrigation - Direct Direct Source: Groundwater Midlands Region Point: U/G STRATA (BLOWN SANDS) BRUMBY COMMON WEST, SCUNTHORPE Data Type: Line Name: Elsie Valerie Threadgold Easting: 486270 Northing: 410140	Annual Volume (m ³): 15,000 Max Daily Volume (m ³): 2,500 Original Application No: - Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 03/12/2018 Version End Date: -

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



5.7 Surface water abstractions

Records within 2000m

31

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 32**

ID	Location	Details	
1	On site	Status: Historical Licence No: 03/28/81/0037 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: NORTH GRANGE FARM,BURRINGHAM - WARREN DRAIN Data Type: Point Name: J JACKSON LTD Easting: 486470 Northing: 408830	Annual Volume (m³): 20700 Max Daily Volume (m³): 2200 Original Application No: - Original Start Date: 06/09/1996 Expiry Date: - Issue No: 100 Version Start Date: 06/09/1996 Version End Date: -
3	547m NE	Status: Historical Licence No: 03/28/81/0012 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: BRUMBY - TRIBUTARY OF WARPING DRAIN (2) Data Type: Point Name: W S CHAPMAN & SONS Easting: 486900 Northing: 409200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 21/06/1966 Version End Date: -
A	641m W	Status: Active Licence No: 03/28/81/0026 Details: Transfer Between Sources (Pre Water Act 2003) Direct Source: Surface Water Midlands Region Point: HEALEYS DRAIN Data Type: Line Name: J JACKSON LTD Easting: 485160 Northing: 408400	Annual Volume (m ³): 158,000 Max Daily Volume (m ³): 6,400 Original Application No: NPS/WR/033887 Original Start Date: 16/09/1993 Expiry Date: - Issue No: 102 Version Start Date: 18/05/2020 Version End Date: -
4	657m N	Status: Historical Licence No: 03/28/81/0012 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: BRUMBY - TRIBUTARY OF WARPING DRAIN (1) Data Type: Point Name: W S CHAPMAN & SONS Easting: 486400 Northing: 409500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 21/06/1966 Version End Date: -



ID	Location	Details	
B	684m N	Status: Historical Licence No: 03/28/81/0046 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EARL BEAUCHAMPS WARPING DRAIN - REACH 1 Data Type: Line Name: W S CHAPMAN & SONS Easting: 486470 Northing: 409520	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: 31/03/2008 Issue No: 1 Version Start Date: 08/06/2001 Version End Date: -
B	684m N	Status: Historical Licence No: 03/28/81/0046/1 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EARL BEAUCHAMPS WARPING DRAIN - REACH 1 Data Type: Line Name: W S CHAPMAN & SONS Easting: 486470 Northing: 409520	Annual Volume (m ³): 48316 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 08/08/2003 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 08/08/2003 Version End Date: -
B	688m N	Status: Historical Licence No: 03/28/81/0046/1/R01 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EARL BEAUCHAMPS WARPING DRAIN - REACH 1 Data Type: Line Name: W S CHAPMAN & SONS LIMITED Easting: 486457 Northing: 409525	Annual Volume (m ³): 48316 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2015 Version End Date: -
5	706m W	Status: Active Licence No: 03/28/81/0026 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: UN-NAMED DRAIN IN BURRINGHAM Data Type: Line Name: J JACKSON LTD Easting: 485160 Northing: 407900	Annual Volume (m ³): 158,000 Max Daily Volume (m ³): 6,400 Original Application No: NPS/WR/033887 Original Start Date: 16/09/1993 Expiry Date: - Issue No: 102 Version Start Date: 18/05/2020 Version End Date: -
-	721m W	Status: Historical Licence No: 03/28/81/0026 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: NORTH GRANGE FARM, BURRINGHAM - HEALEYS DRAIN Data Type: Point Name: J JACKSON LTD Easting: 485080 Northing: 408410	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/09/1993 Expiry Date: - Issue No: 101 Version Start Date: 04/09/2002 Version End Date: -



ID	Location	Details	
-	721m W	Status: Active Licence No: 03/28/81/0026 Details: Spray Irrigation - Storage Direct Source: Surface Water Midlands Region Point: NORTH GRANGE FARM,BURRINGHAM - HEALEYS DRAIN Data Type: Point Name: J JACKSON LTD Easting: 485080 Northing: 408410	Annual Volume (m ³): 158,000 Max Daily Volume (m ³): 6,400 Original Application No: NPS/WR/033887 Original Start Date: 16/09/1993 Expiry Date: - Issue No: 102 Version Start Date: 18/05/2020 Version End Date: -
C	802m SW	Status: Active Licence No: 03/28/81/0026 Details: Transfer Between Sources (Pre Water Act 2003) Direct Source: Surface Water Midlands Region Point: HEALEYS DRAIN Data Type: Line Name: J JACKSON LTD Easting: 484530 Northing: 407900	Annual Volume (m ³): 158,000 Max Daily Volume (m ³): 6,400 Original Application No: NPS/WR/033887 Original Start Date: 16/09/1993 Expiry Date: - Issue No: 102 Version Start Date: 18/05/2020 Version End Date: -
C	802m SW	Status: Active Licence No: 03/28/81/0026 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: HEALEYS DRAIN Data Type: Line Name: J JACKSON LTD Easting: 484530 Northing: 407900	Annual Volume (m ³): 158,000 Max Daily Volume (m ³): 6,400 Original Application No: NPS/WR/033887 Original Start Date: 16/09/1993 Expiry Date: - Issue No: 102 Version Start Date: 18/05/2020 Version End Date: -
-	1147m S	Status: Active Licence No: 03/28/81/0028 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: BOTTESFORD MOOR FARM - UNNAMED DRAIN Data Type: Line Name: R J & A E GODFREY Easting: 486200 Northing: 405940	Annual Volume (m ³): 74,000 Max Daily Volume (m ³): 1,540 Original Application No: - Original Start Date: 22/09/1993 Expiry Date: - Issue No: 100 Version Start Date: 03/12/2018 Version End Date: -
-	1192m N	Status: Historical Licence No: 03/28/81/0046 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EARL BEAUCHAMPS WARPING DRAIN - REACH 2 Data Type: Line Name: W S CHAPMAN & SONS Easting: 486160 Northing: 410070	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: 31/03/2008 Issue No: 1 Version Start Date: 08/06/2001 Version End Date: -



ID	Location	Details	
-	1192m N	Status: Historical Licence No: 03/28/81/0046/1 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EARL BEAUCHAMPS WARPING DRAIN - REACH 2 Data Type: Line Name: W S CHAPMAN & SONS Easting: 486160 Northing: 410070	Annual Volume (m ³): 48316 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 08/08/2003 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 08/08/2003 Version End Date: -
-	1205m N	Status: Historical Licence No: 03/28/81/0046/1/R01 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EARL BEAUCHAMPS WARPING DRAIN - REACH 2 Data Type: Line Name: W S CHAPMAN & SONS LIMITED Easting: 486162 Northing: 410084	Annual Volume (m ³): 48316 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2015 Version End Date: -
-	1231m W	Status: Active Licence No: 03/28/81/0025 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: BURREINGHAM - HEALEYS DRAIN (B) Data Type: Point Name: THORNTON Easting: 484570 Northing: 408430	Annual Volume (m ³): 24,000 Max Daily Volume (m ³): 1,265 Original Application No: - Original Start Date: 29/01/1993 Expiry Date: - Issue No: 100 Version Start Date: 03/12/2018 Version End Date: -
-	1280m W	Status: Active Licence No: 03/28/81/0026 Details: Transfer Between Sources (Pre Water Act 2003) Direct Source: Surface Water Midlands Region Point: HEALEYS DRAIN Data Type: Line Name: J JACKSON LTD Easting: 484520 Northing: 408430	Annual Volume (m ³): 158,000 Max Daily Volume (m ³): 6,400 Original Application No: NPS/WR/033887 Original Start Date: 16/09/1993 Expiry Date: - Issue No: 102 Version Start Date: 18/05/2020 Version End Date: -
-	1280m W	Status: Active Licence No: 03/28/81/0026 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: HEALEYS DRAIN Data Type: Line Name: J JACKSON LTD Easting: 484520 Northing: 408430	Annual Volume (m ³): 158,000 Max Daily Volume (m ³): 6,400 Original Application No: NPS/WR/033887 Original Start Date: 16/09/1993 Expiry Date: - Issue No: 102 Version Start Date: 18/05/2020 Version End Date: -



ID	Location	Details	
-	1301m W	Status: Active Licence No: 03/28/81/0026 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: HEALEYS DRAIN Data Type: Point Name: J JACKSON LTD Easting: 484500 Northing: 408430	Annual Volume (m ³): 158,000 Max Daily Volume (m ³): 6,400 Original Application No: NPS/WR/033887 Original Start Date: 16/09/1993 Expiry Date: - Issue No: 102 Version Start Date: 18/05/2020 Version End Date: -
-	1676m W	Status: Active Licence No: 03/28/81/0025 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: BURREINGHAM - CARR DYKE NORTH (D) Data Type: Point Name: THORNTON Easting: 484210 Northing: 408900	Annual Volume (m ³): 24,000 Max Daily Volume (m ³): 1,265 Original Application No: - Original Start Date: 29/01/1993 Expiry Date: - Issue No: 100 Version Start Date: 03/12/2018 Version End Date: -
-	1705m NW	Status: Historical Licence No: 03/28/81/0046/1/R01 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: INGS DRAIN-BRUMBY COMMON-E TO F Data Type: Line Name: W S CHAPMAN & SONS LIMITED Easting: 484605 Northing: 410116	Annual Volume (m ³): 48316 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2015 Version End Date: -
-	1707m NW	Status: Historical Licence No: 03/28/81/0046 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: INGS DRAIN-BRUMBY COMMON Data Type: Line Name: W S CHAPMAN & SONS Easting: 484610 Northing: 410110	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: 31/03/2008 Issue No: 1 Version Start Date: 08/06/2001 Version End Date: -
-	1707m NW	Status: Historical Licence No: 03/28/81/0046/1 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: INGS DRAIN-BRUMBY COMMON Data Type: Line Name: W S CHAPMAN & SONS Easting: 484610 Northing: 410110	Annual Volume (m ³): 48316 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 08/08/2003 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 08/08/2003 Version End Date: -



ID	Location	Details	
-	1714m W	Status: Active Licence No: 03/28/81/0025 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: BURRINGHAM - CARR DYKE NORTH (C) Data Type: Point Name: THORNTON Easting: 484100 Northing: 408590	Annual Volume (m ³): 24,000 Max Daily Volume (m ³): 1,265 Original Application No: - Original Start Date: 29/01/1993 Expiry Date: - Issue No: 100 Version Start Date: 03/12/2018 Version End Date: -
-	1730m NW	Status: Active Licence No: 03/28/81/0025 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: BURRINGHAM - CARR DYKE NORTH (F) Data Type: Point Name: THORNTON Easting: 484340 Northing: 409430	Annual Volume (m ³): 24,000 Max Daily Volume (m ³): 1,265 Original Application No: - Original Start Date: 29/01/1993 Expiry Date: - Issue No: 100 Version Start Date: 03/12/2018 Version End Date: -
-	1730m W	Status: Active Licence No: 03/28/81/0025 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: BURRINGHAM - HEALEYS DRAIN (A) Data Type: Point Name: THORNTON Easting: 484070 Northing: 408410	Annual Volume (m ³): 24,000 Max Daily Volume (m ³): 1,265 Original Application No: - Original Start Date: 29/01/1993 Expiry Date: - Issue No: 100 Version Start Date: 03/12/2018 Version End Date: -
-	1738m NW	Status: Historical Licence No: 03/28/81/0046 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: CARR DYKE NORTH - BRUMBY COMMON Data Type: Line Name: W S CHAPMAN & SONS Easting: 484360 Northing: 409600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: 31/03/2008 Issue No: 1 Version Start Date: 08/06/2001 Version End Date: -
-	1738m NW	Status: Historical Licence No: 03/28/81/0046/1 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: CARR DYKE NORTH - BRUMBY COMMON Data Type: Line Name: W S CHAPMAN & SONS Easting: 484360 Northing: 409600	Annual Volume (m ³): 48316 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 08/08/2003 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 08/08/2003 Version End Date: -



ID	Location	Details	
-	1745m NW	Status: Historical Licence No: 03/28/81/0046/1/R01 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: CARR DYKE NORTH - BRUMBY COMMON - G TO H Data Type: Line Name: W S CHAPMAN & SONS LIMITED Easting: 484363 Northing: 409605	Annual Volume (m ³): 48316 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2015 Version End Date: -
-	1863m W	Status: Active Licence No: 03/28/81/0025 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: BURREINGHAM - CARR DYKE NORTH (E) Data Type: Point Name: THORNTON Easting: 484140 Northing: 409280	Annual Volume (m ³): 24,000 Max Daily Volume (m ³): 1,265 Original Application No: - Original Start Date: 29/01/1993 Expiry Date: - Issue No: 100 Version Start Date: 03/12/2018 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

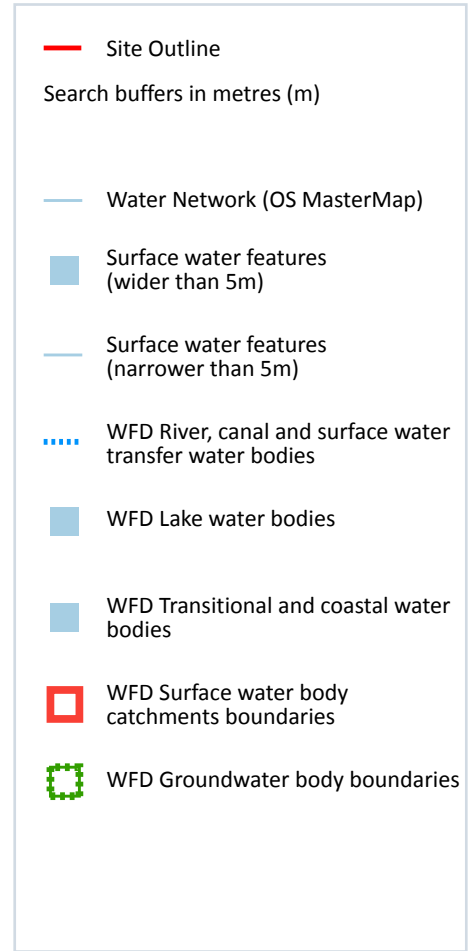
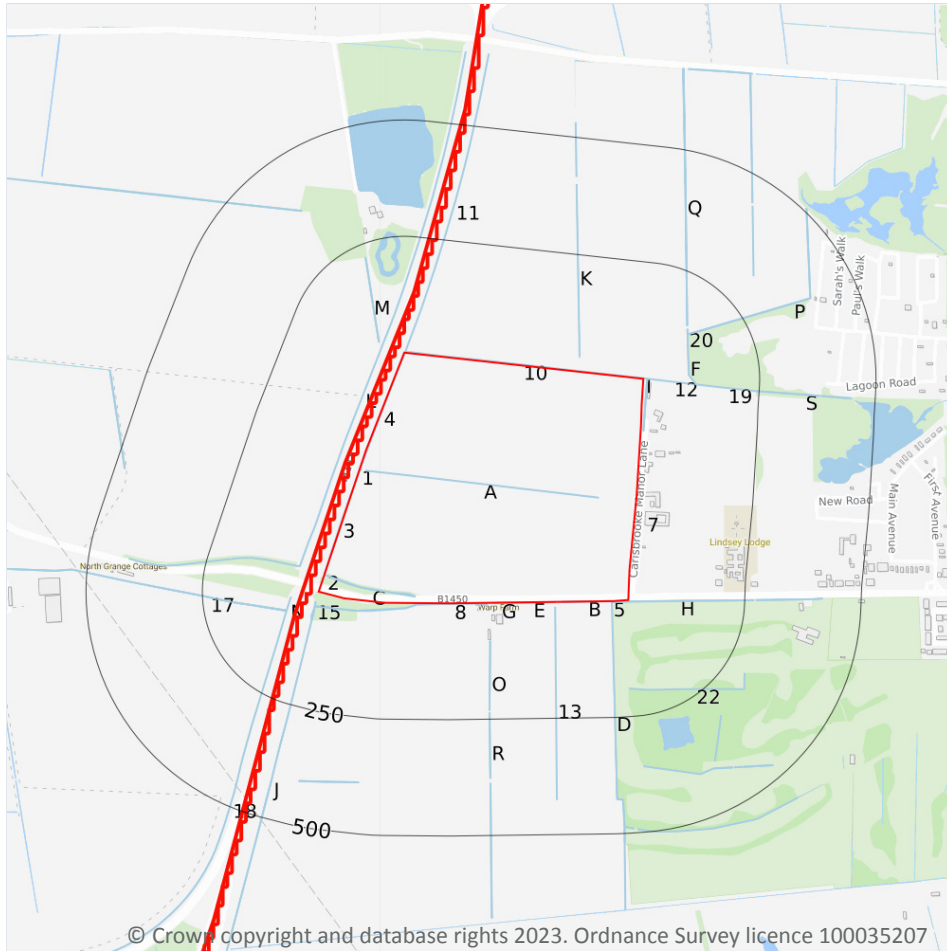
0

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



6.1 Water Network (OS MasterMap)

Records within 250m

42

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 42**

ID	Location	Type of water feature	Ground level	Permanence	Name
1	On site	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
2	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
3	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
5	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
8	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
10	1m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
I	1m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	1m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
11	1m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	3m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	3m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	3m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	5m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	7m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
12	10m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
13	10m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
15	21m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Midmoor Drain
K	32m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	33m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Midmoor Drain



ID	Location	Type of water feature	Ground level	Permanence	Name
L	49m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	58m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	60m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
17	80m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Healey's Drain
18	80m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	80m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	82m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	98m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
19	115m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
20	134m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	134m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	147m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
22	189m SE	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
R	235m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	243m E	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	18
----------------------------	-----------

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 42**

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 42**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
7	On site	River	Bottesford Beck Catchment (trib of Trent)	GB104028064290	Trent and Trib	Trent Lower and Erewash

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 42**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	2393m S	River	Bottesford Beck Catchment (trib of Trent)	GB104028064290	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.

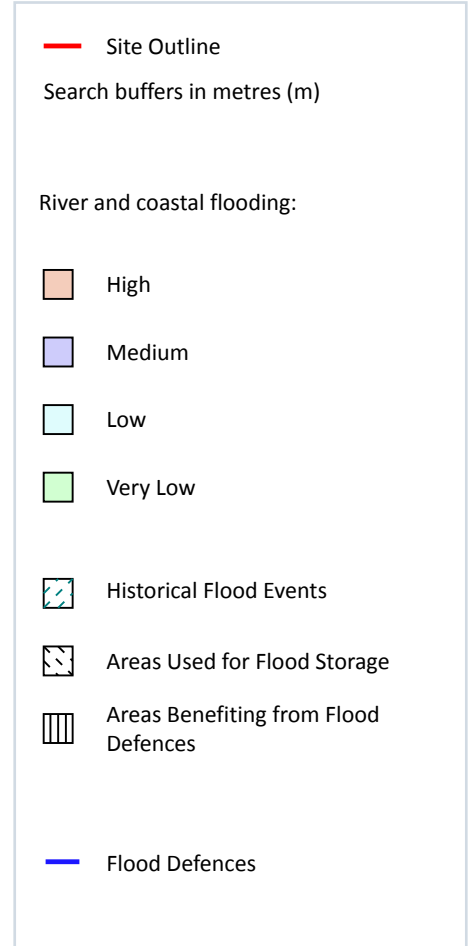
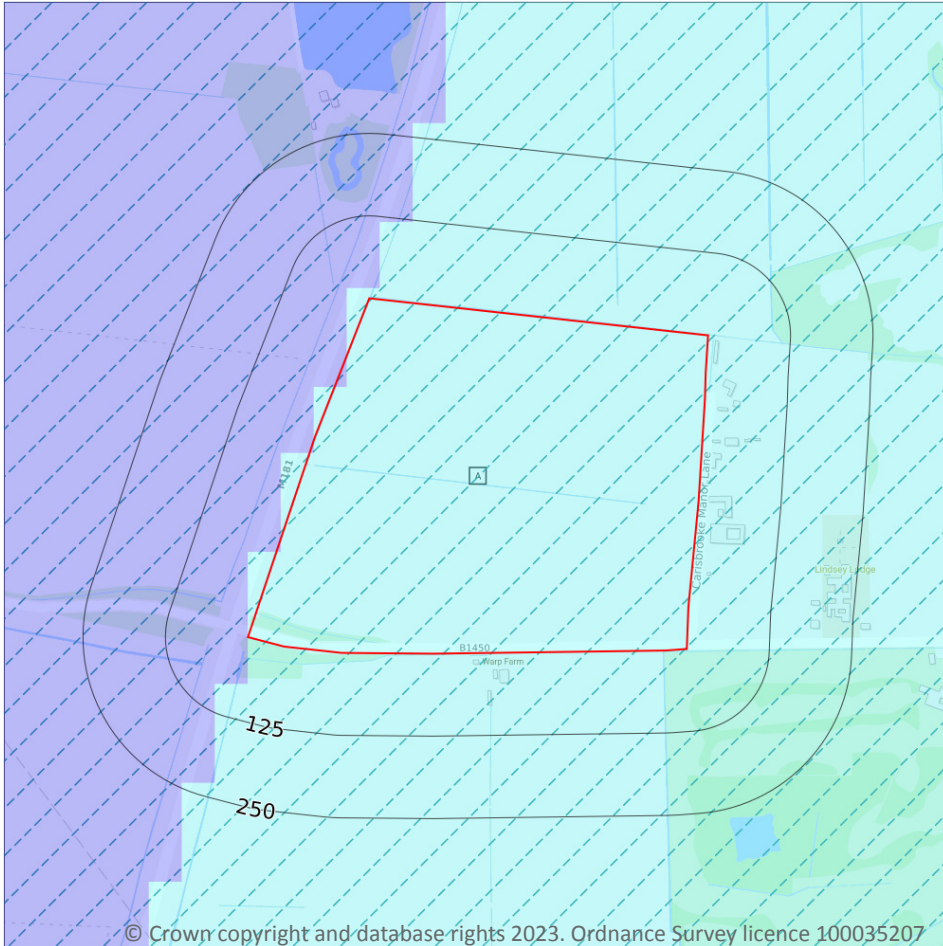
Features are displayed on the Hydrology map on **page 42**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Lower Trent Erewash - Secondary Combined	GB40402G990300	Good	Good	Good	2019

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



7 River and coastal flooding



7.1 Risk of flooding from rivers and the sea

Records within 50m

2

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).

Features are displayed on the River and coastal flooding map on **page 48**

Distance	Flood risk category
On site	Medium
0 - 50m	Medium

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

7.2 Historical Flood Events

Records within 250m	3
----------------------------	----------

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.

Features are displayed on the River and coastal flooding map on **page 48**

ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
A	On site	Tidal Trent 1947	1947-03-01 1947-03-01	Unknown	Channel capacity exceeded (no raised defences)	Fluvial
A	On site	Tidal Trent March 1947 Dnl	1947-03-01 1947-03-31	Main river	Channel capacity exceeded (no raised defences)	Tidal
A	On site	Tidal Trent March 1947	1947-03-01 1947-03-31	Main river	Channel capacity exceeded (no raised defences)	Tidal

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

7.3 Flood Defences

Records within 250m	0
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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

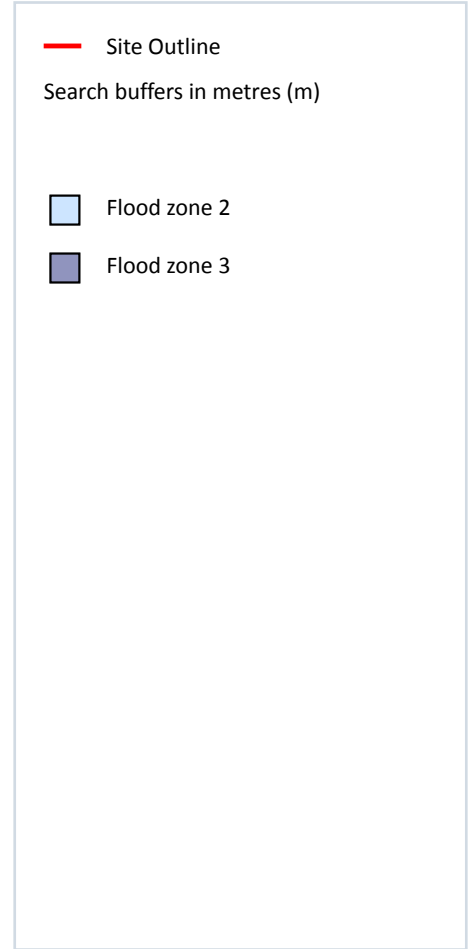
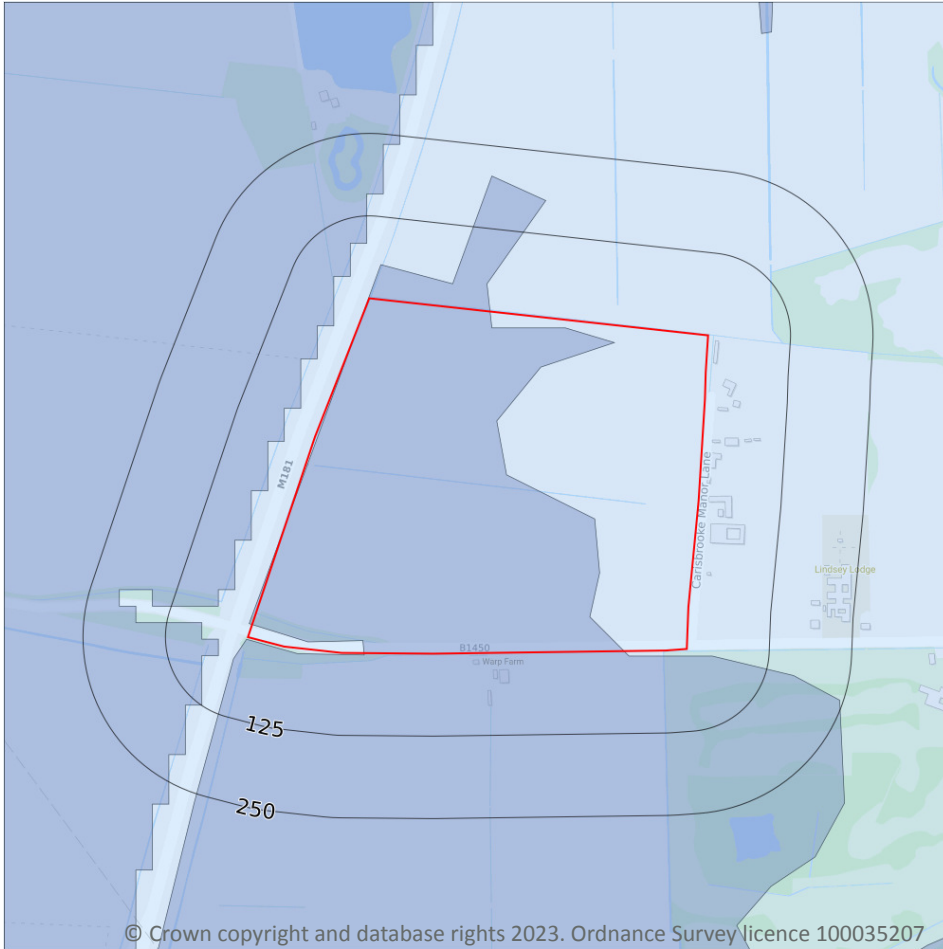
0

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

1

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.

Features are displayed on the River and coastal flooding map on **page 48**

Location	Type
On site	Zone 2 - (Fluvial /Tidal Models)

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

7.7 Flood Zone 3

Records within 50m

1

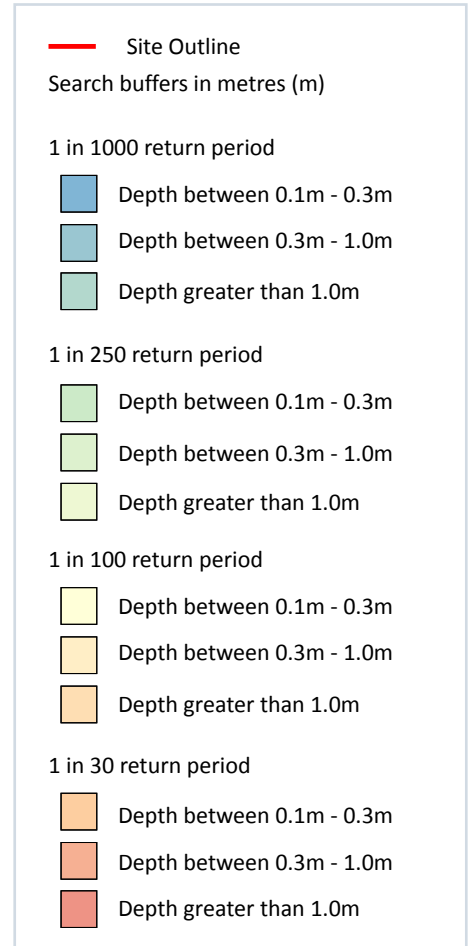
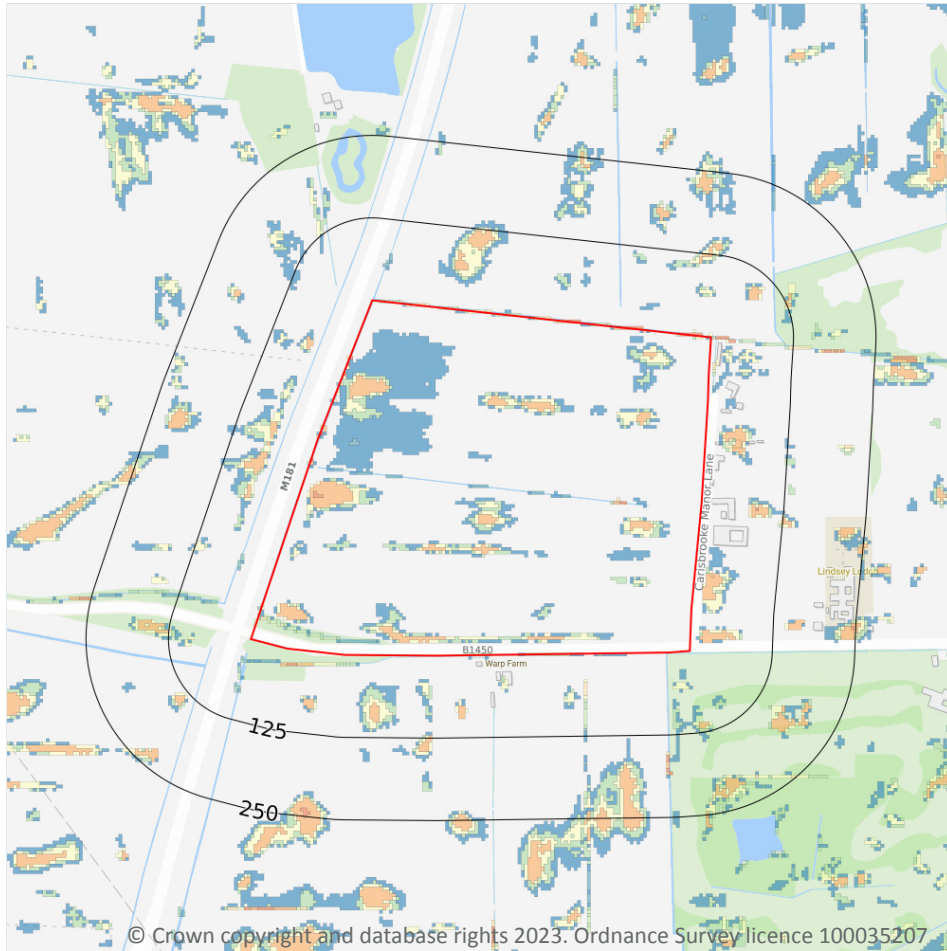
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 48**

Location	Type
On site	Zone 3 - (Fluvial /Tidal Models)

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

8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, Greater than 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 53**

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.

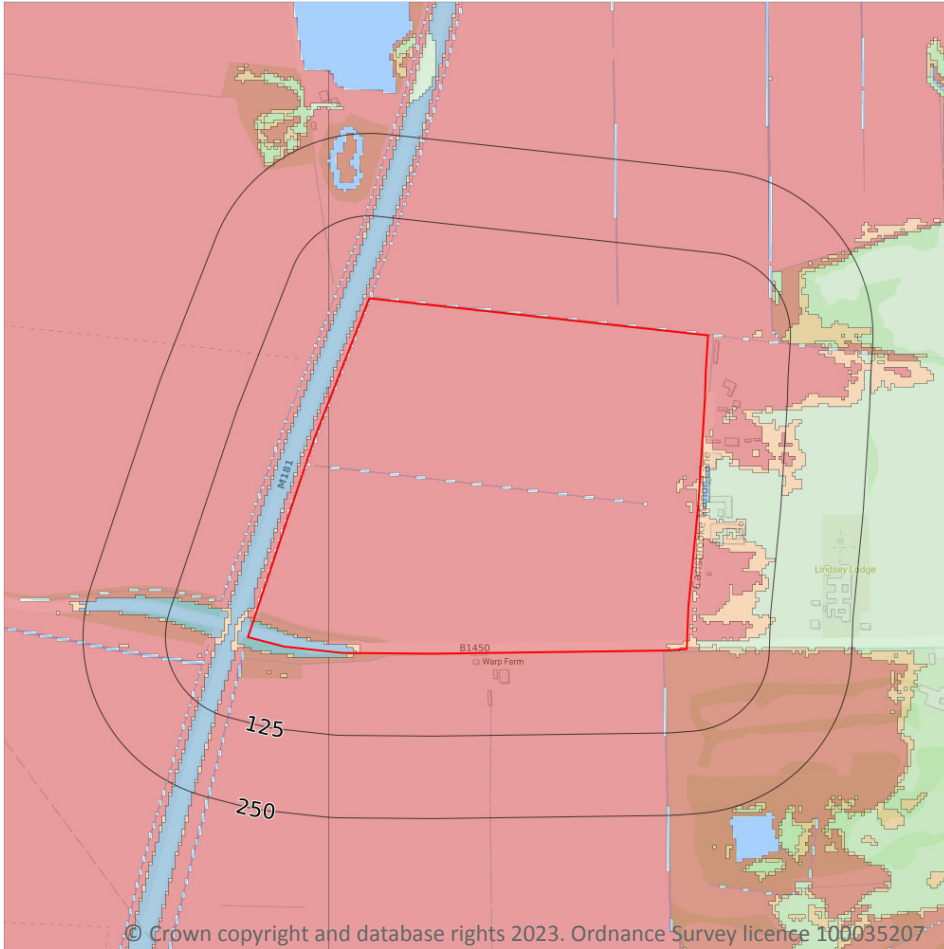
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Greater than 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

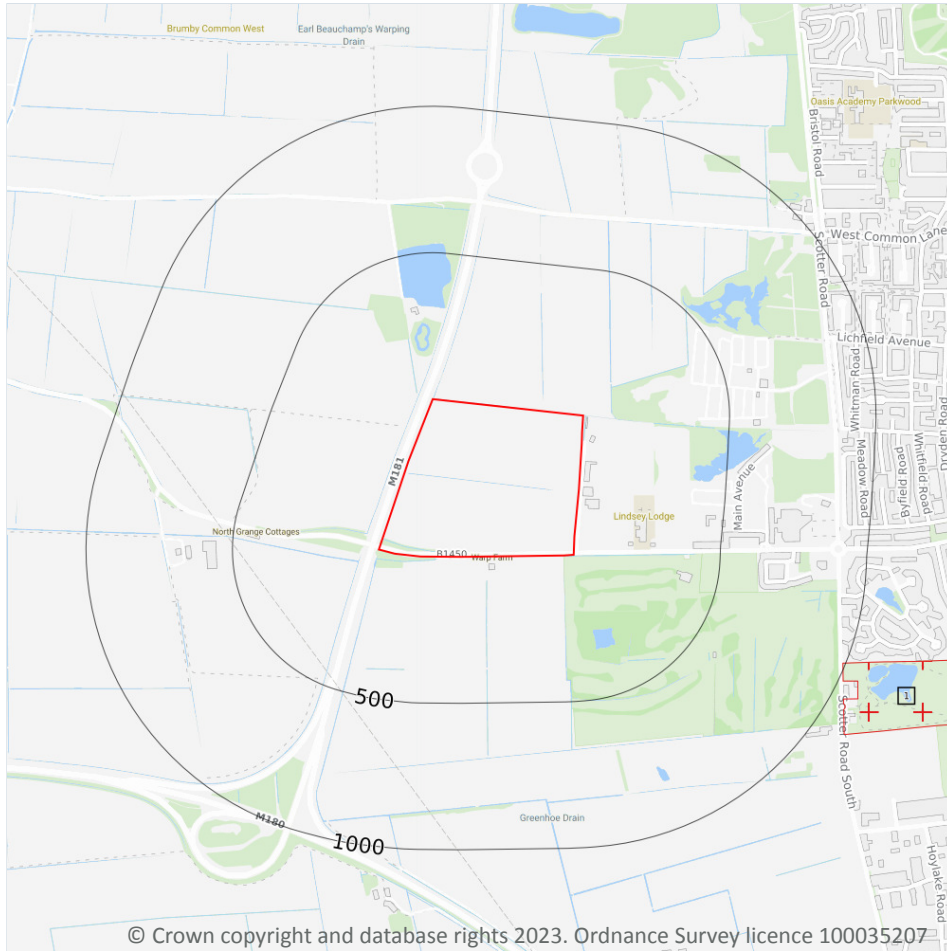
High

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 55**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m

0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m

0

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

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



10.6 Local Nature Reserves (LNR)

Records within 2000m

2

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.

Features are displayed on the Environmental designations map on **page 56**

ID	Location	Name	Data source
1	991m SE	Silica Lodge	Natural England
-	1893m NE	Brumby Wood	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m

2

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

Features are displayed on the Environmental designations map on **page 56**

ID	Location	Name	Woodland Type
-	1917m NE	Brumby Wood	Ancient & Semi-Natural Woodland
-	1990m NE	Brumby Wood	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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



10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

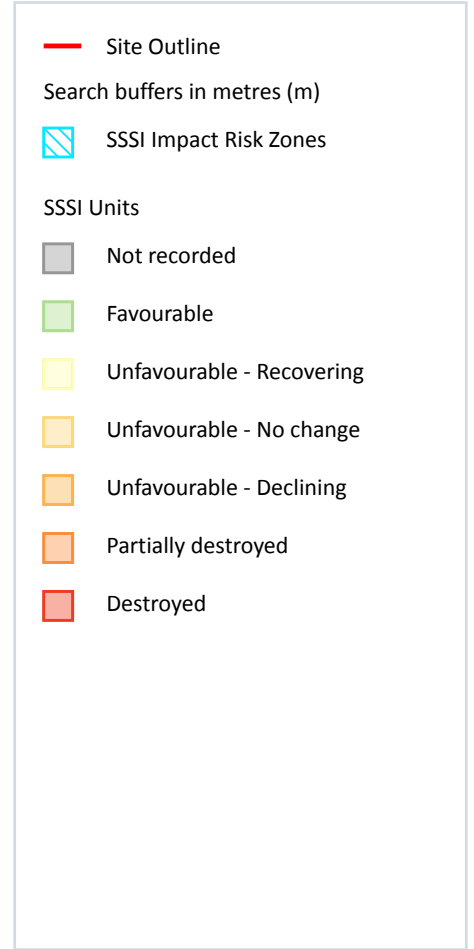
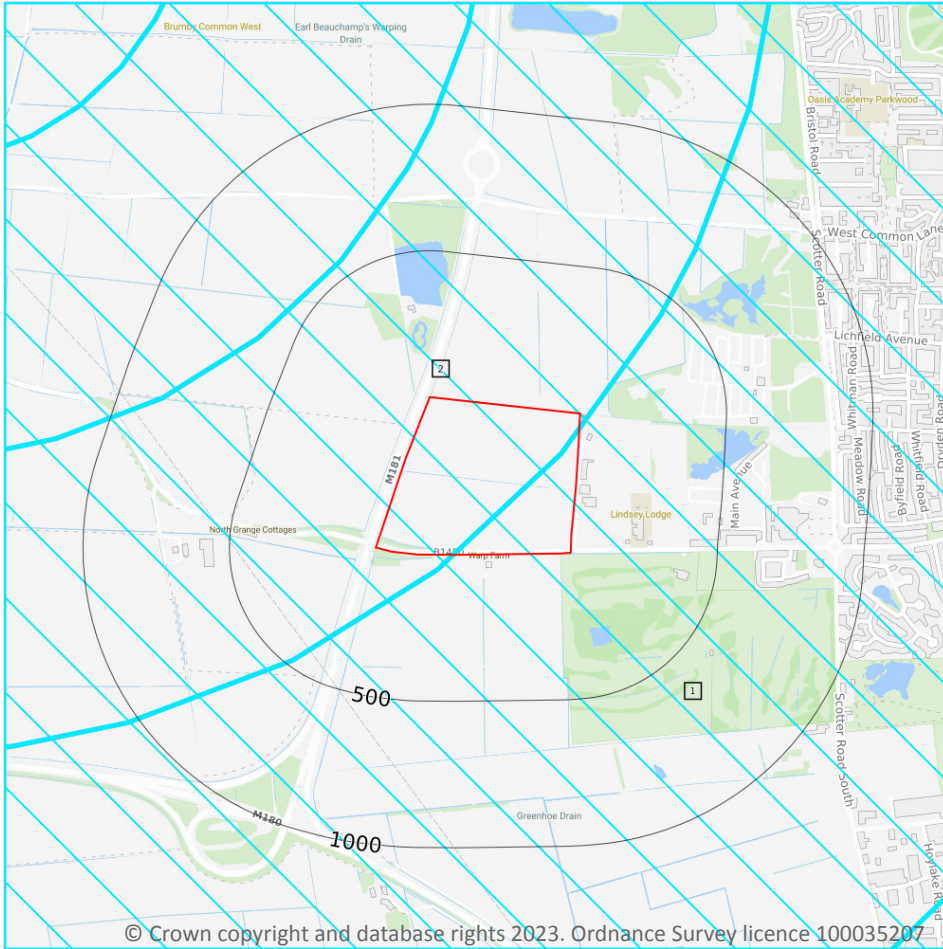
Records within 2000m	3
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Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
On site	Bottesford Beck Catchment (trib of R Trent) NVZ	Surface Water	348	Existing
707m N	BURTON STATHER DRAIN NVZ	Surface Water	653	Existing
1708m W	BURTON STATHER DRAIN NVZ	Surface Water	653	Existing

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

SSSI Impact Zones and Units



10.17 SSSI Impact Risk Zones

Records on site

2

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

Features are displayed on the SSSI Impact Zones and Units map on **page 61**

ID	Location	Type of developments requiring consultation
1	On site	<p>Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries: new proposals or extensions, outside or extending outside existing settlements/urban areas affecting greenspace, farmland or semi natural habitats. oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t).</p> <p>Combustion - General combustion processes >50mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Landfill. incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p>
2	On site	<p>Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t).</p> <p>Combustion - General combustion processes >50mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Landfill. incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p>

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

0

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

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



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

0

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



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

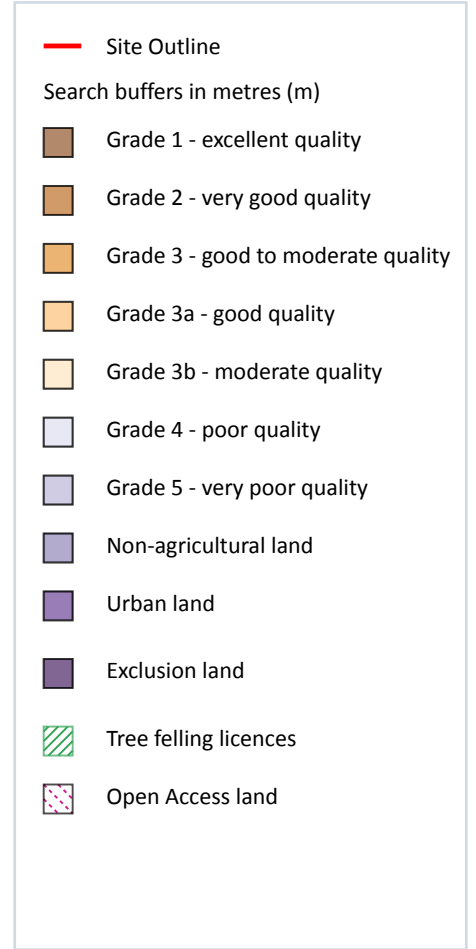
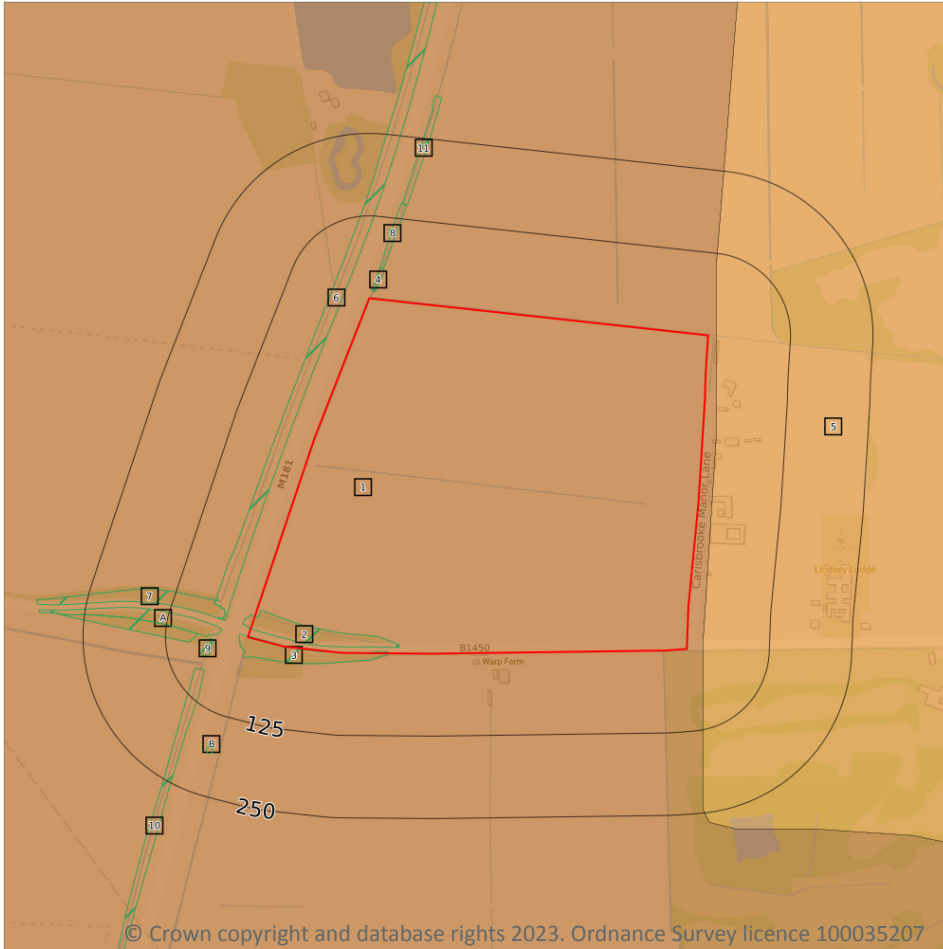
0

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

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



12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m

2

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

Features are displayed on the Agricultural designations map on **page 65**

ID	Location	Classification	Description
1	On site	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
5	12m NE	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

This data is sourced from Natural England.

12.2 Open Access Land

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

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

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

12.3 Tree Felling Licences

Records within 250m	13
----------------------------	-----------

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

Features are displayed on the Agricultural designations map on **page 65**

ID	Location	Description	Reference	Application date
2	On site	Selective Fell/Thin (Unconditional)	018/366/15-16	-
3	On site	Selective Fell/Thin (Unconditional)	018/366/15-16	-
4	10m NW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
6	38m W	Selective Fell/Thin (Unconditional)	018/366/15-16	-
A	41m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
7	43m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-



ID	Location	Description	Reference	Application date
8	47m NW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
9	54m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
A	78m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
10	83m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
11	146m N	Selective Fell/Thin (Unconditional)	018/366/15-16	-
B	166m SW	Single Tree	018/366/15-16	-
B	176m SW	Single Tree	018/366/15-16	-

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
On site	AG00398585	Entry Level plus Higher Level Stewardship	01/10/2012	30/09/2022

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

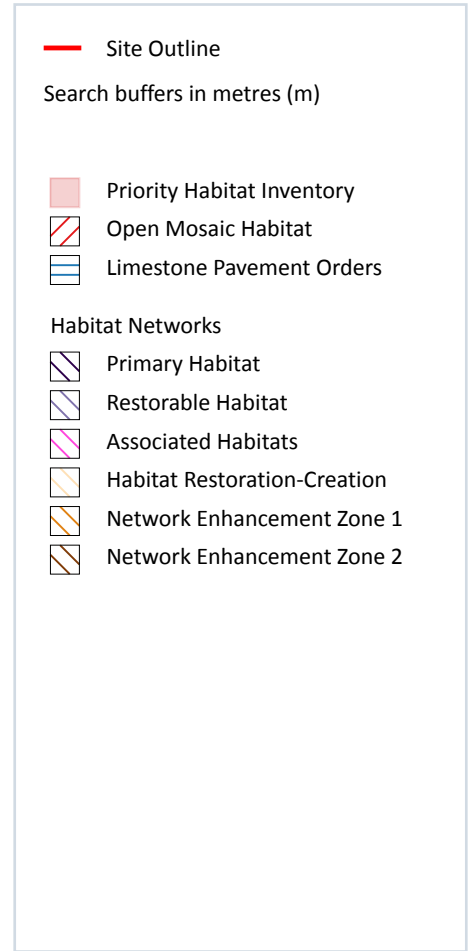
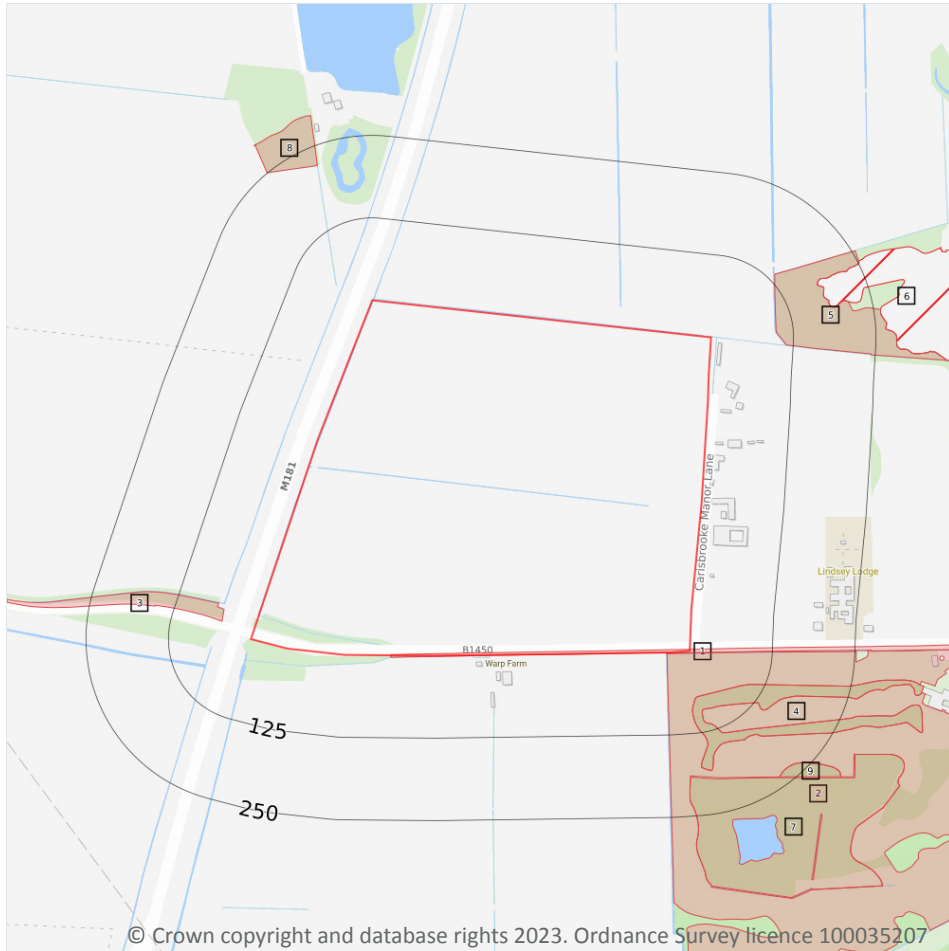
0

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

8

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

Features are displayed on the Habitat designations map on **page 68**

ID	Location	Main Habitat	Other habitats
1	On site	No main habitat but additional habitats present	Additional: LDAGR (FEP 50%)
2	2m SE	No main habitat but additional habitats present	Additional: LDAGR (FEP 50%)
3	50m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

ID	Location	Main Habitat	Other habitats
4	70m SE	No main habitat but additional habitats present	Additional: LDAGR (FEP 50%)
5	99m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	191m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%); Additional: LDAGR (FEP 50%)
8	221m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
9	231m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%); Additional: LDAGR (FEP 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

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

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	1
----------------------------	----------

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.

Features are displayed on the Habitat designations map on **page 68**

ID	Location	Site reference	Identification confidence	Primary source	Secondary source	Tertiary source
6	180m NE	HLD_refs: EAHLD3029 7	Low	Environment Agency Historic Landfill Sites	UK Perspectives Aerial Photography	-

This data is sourced from Natural England.



13.4 Limestone Pavement Orders

Records within 250m

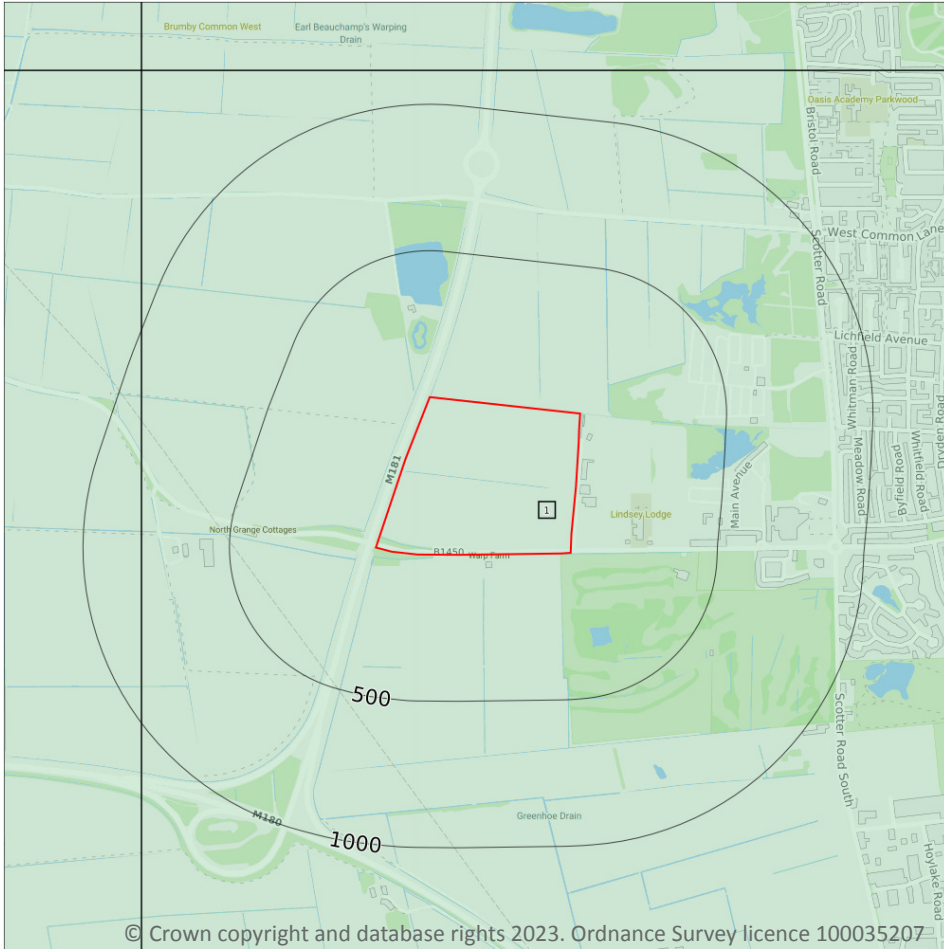
0

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 71**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SE80NE

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

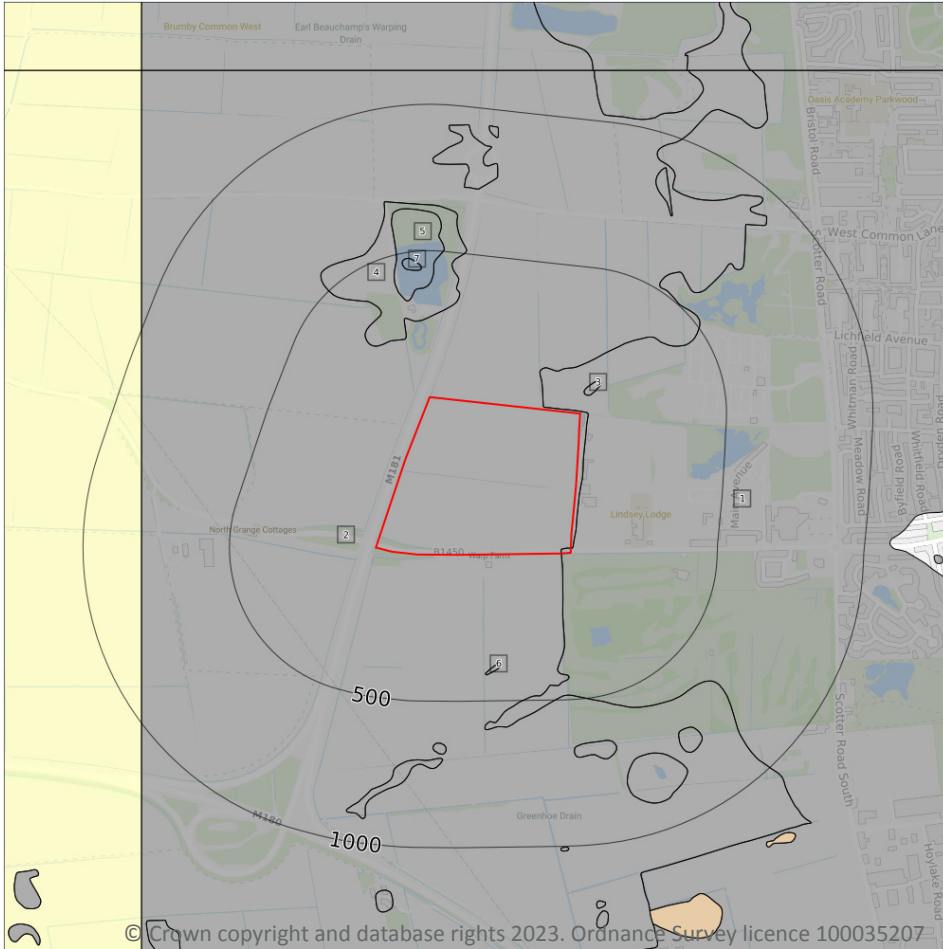
0


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



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

14.3 Superficial geology (10k)

Records within 500m

7

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 73**

ID	Location	LEX Code	Description	Rock description
1	On site	BSA1-S	Blown Sand, 1 - Sand	Sand
2	On site	WARP-XCZSV	Warp - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
3	67m NE	WARP-XCZSV	Warp - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel



ID	Location	LEX Code	Description	Rock description
4	215m NW	BSA1-S	Blown Sand, 1 - Sand	Sand
5	336m NW	WARP- XCZSV	Warp - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
6	376m S	BSA1-S	Blown Sand, 1 - Sand	Sand
7	435m N	BSA1-S	Blown Sand, 1 - Sand	Sand

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

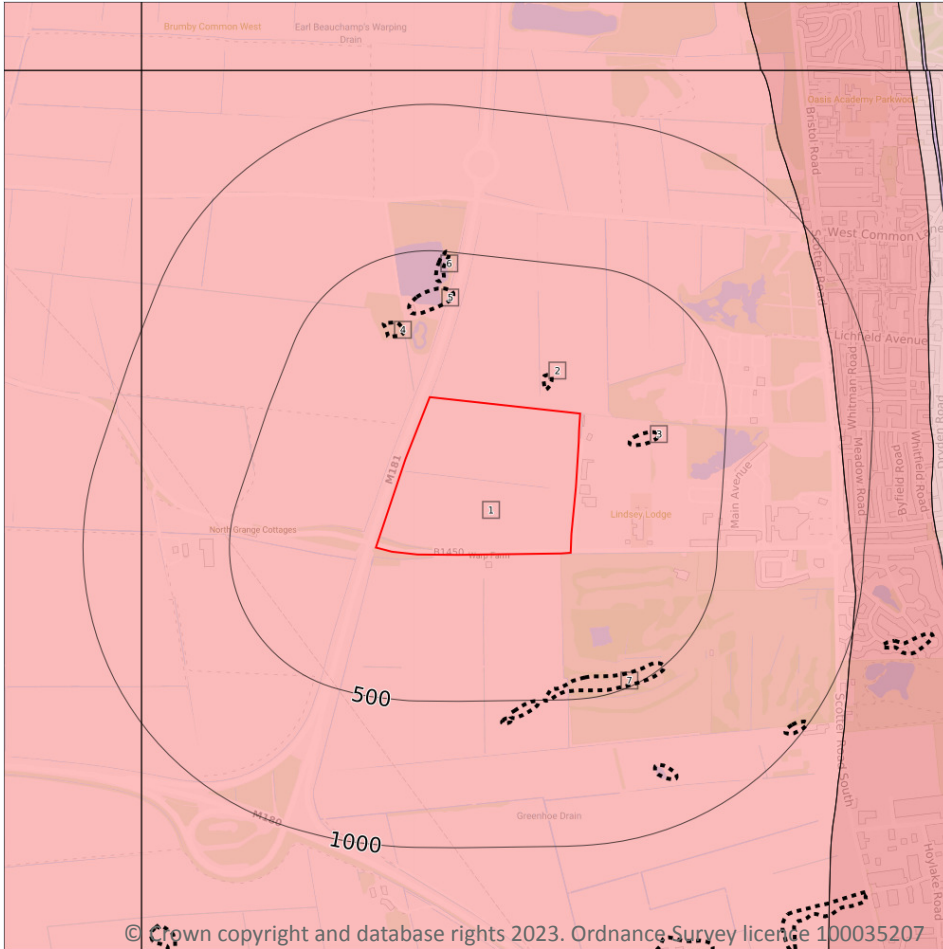
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



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

14.5 Bedrock geology (10k)

Records within 500m **1**

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 75**

ID	Location	LEX Code	Description	Rock age
1	On site	MMG-MDST	Mercia Mudstone Group - Mudstone	Rhaetian Age - Early Triassic Epoch

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

6

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

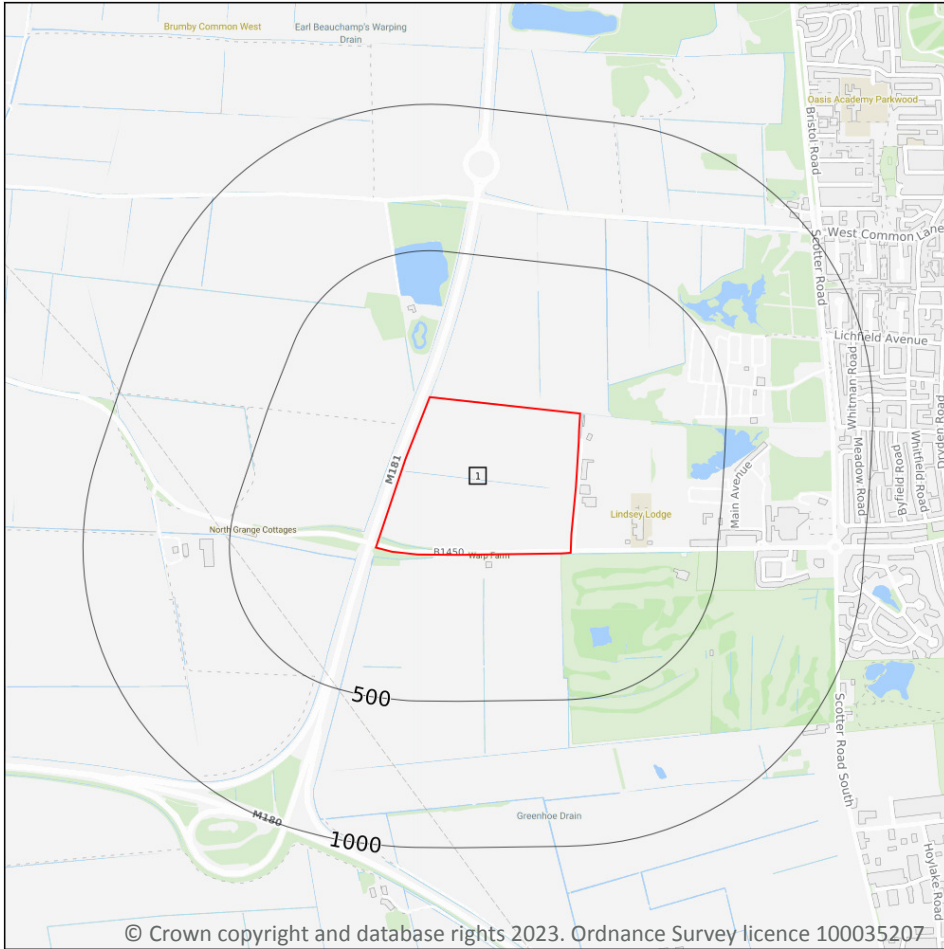
Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 75**

ID	Location	Category	Description
2	69m NE	LANDFORM	Dune, form-line at base of mound
3	174m E	LANDFORM	Dune, form-line at base of mound
4	233m NW	LANDFORM	Dune, form-line at base of mound
5	288m N	LANDFORM	Dune, form-line at base of mound
6	397m N	LANDFORM	Dune, form-line at base of mound
7	428m SE	LANDFORM	Dune, form-line at base of mound

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 77**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW089_brigg_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

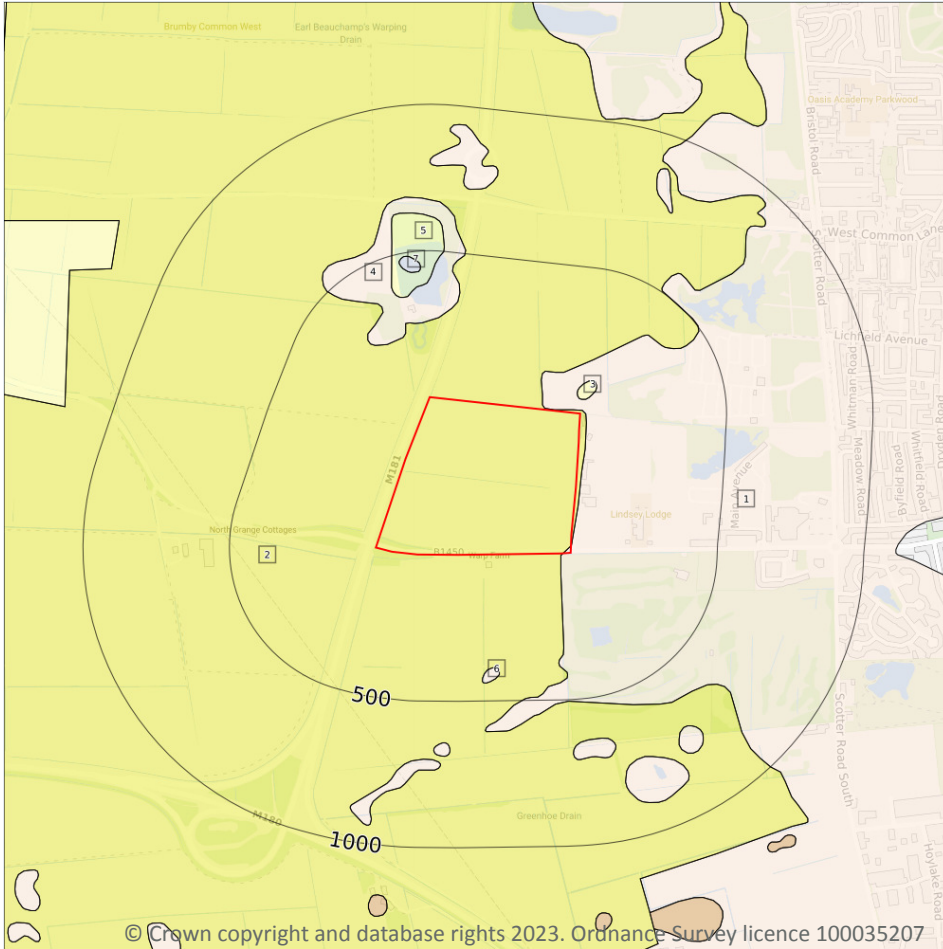
0


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.

15.4 Superficial geology (50k)

Records within 500m

7

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 79**

ID	Location	LEX Code	Description	Rock description
1	On site	SUTN-S	SUTTON SAND FORMATION	SAND
2	On site	WARP-XCZ	WARP	CLAY AND SILT
3	49m NE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
4	223m NW	SUTN-S	SUTTON SAND FORMATION	SAND



ID	Location	LEX Code	Description	Rock description
5	352m NW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
6	387m S	SUTN-S	SUTTON SAND FORMATION	SAND
7	430m N	SUTN-S	SUTTON SAND FORMATION	SAND

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	3
---------------------------	----------

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	High	High
On site	Intergranular	Low	Very Low
49m NE	Intergranular	High	Very Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

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

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

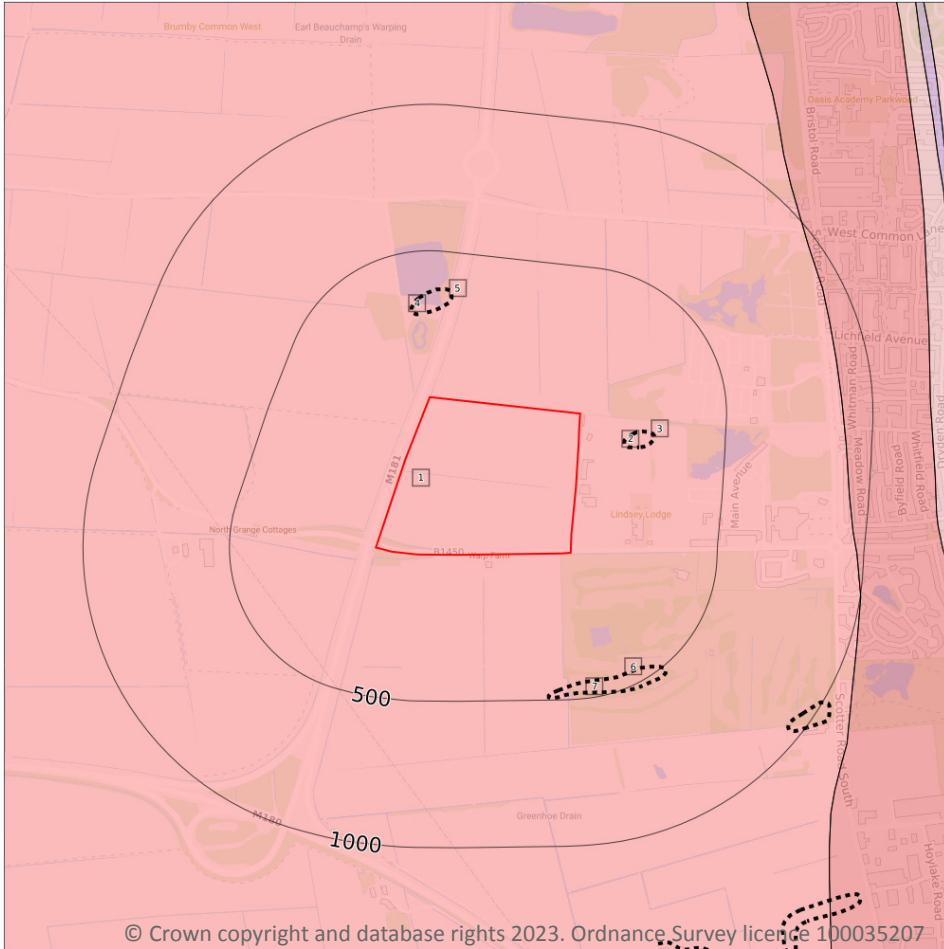
Records within 50m	0
---------------------------	----------

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



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

15.8 Bedrock geology (50k)

Records within 500m

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 81**

ID	Location	LEX Code	Description	Rock age
1	On site	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-

This data is sourced from the British Geological Survey.

15.9 Bedrock 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 bedrock (the zone between the land surface and the water table).

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

6

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.

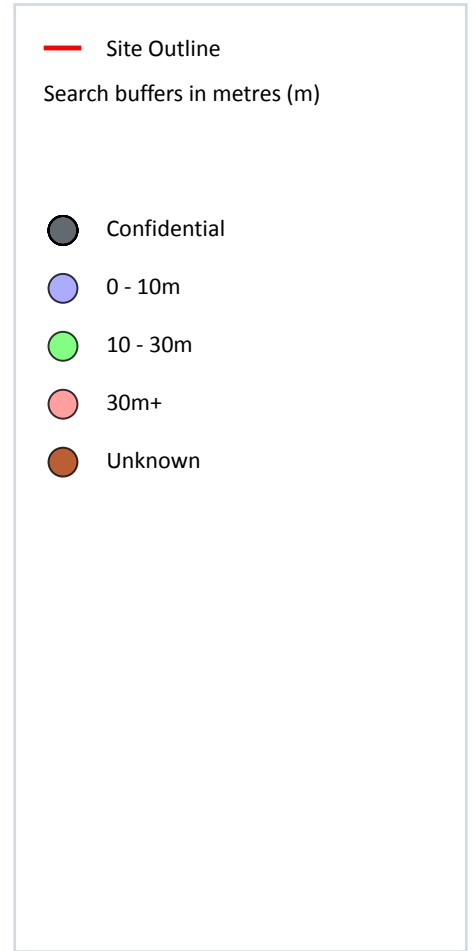
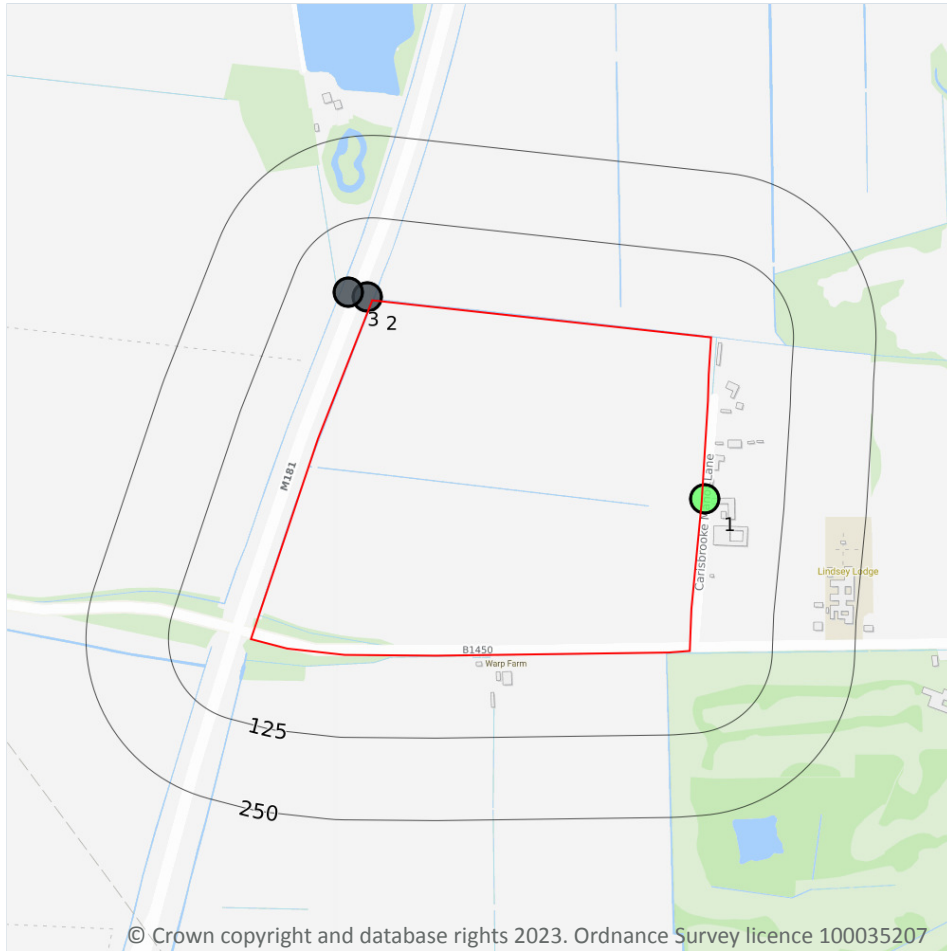
Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 81**

ID	Location	Category	Description
2	155m E	LANDFORM	Dune, form line at base
3	184m E	LANDFORM	Dune, form line at base
4	286m N	LANDFORM	Dune, form line at base
5	287m N	LANDFORM	Dune, form line at base
6	443m SE	LANDFORM	Dune, form line at base
7	467m S	LANDFORM	Dune, form line at base

This data is sourced from the British Geological Survey.



16 Boreholes



16.1 BGS Boreholes

Records within 250m

3

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

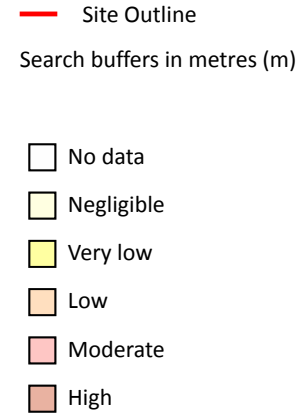
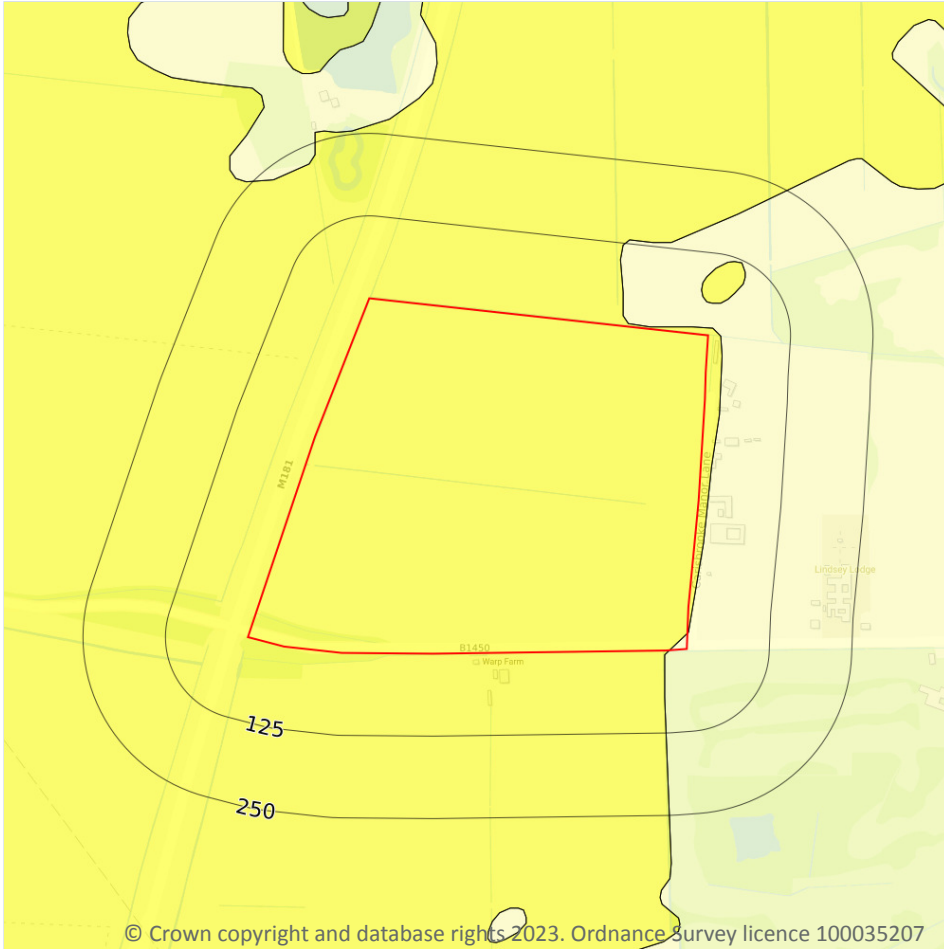
Features are displayed on the Boreholes map on **page 83**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	4m E	486488 408584	WARREN HOUSE	13.8	N	710733
2	10m NW	485976 408889	HUMBERSIDE NMCS2 UPGRADE WS67A	-	Y	N/A
3	38m NW	485948 408896	HUMBERSIDE NMCS2 UPGRADE WS67	-	Y	N/A

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

3

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

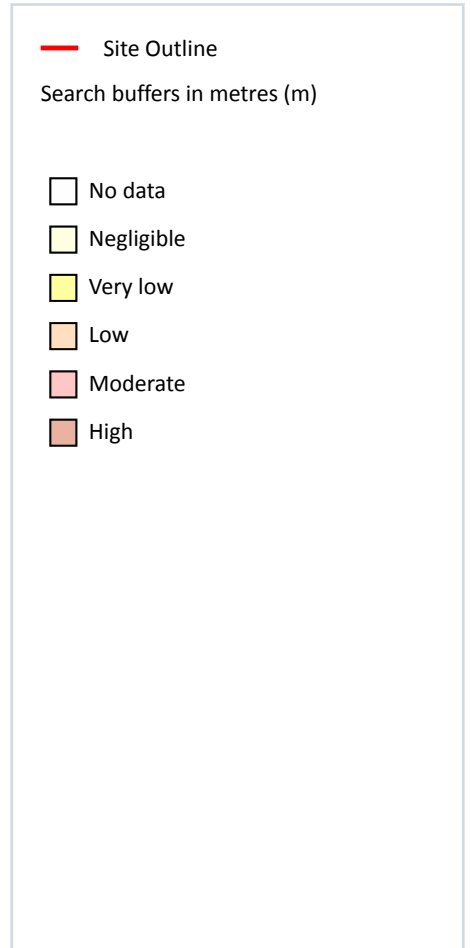
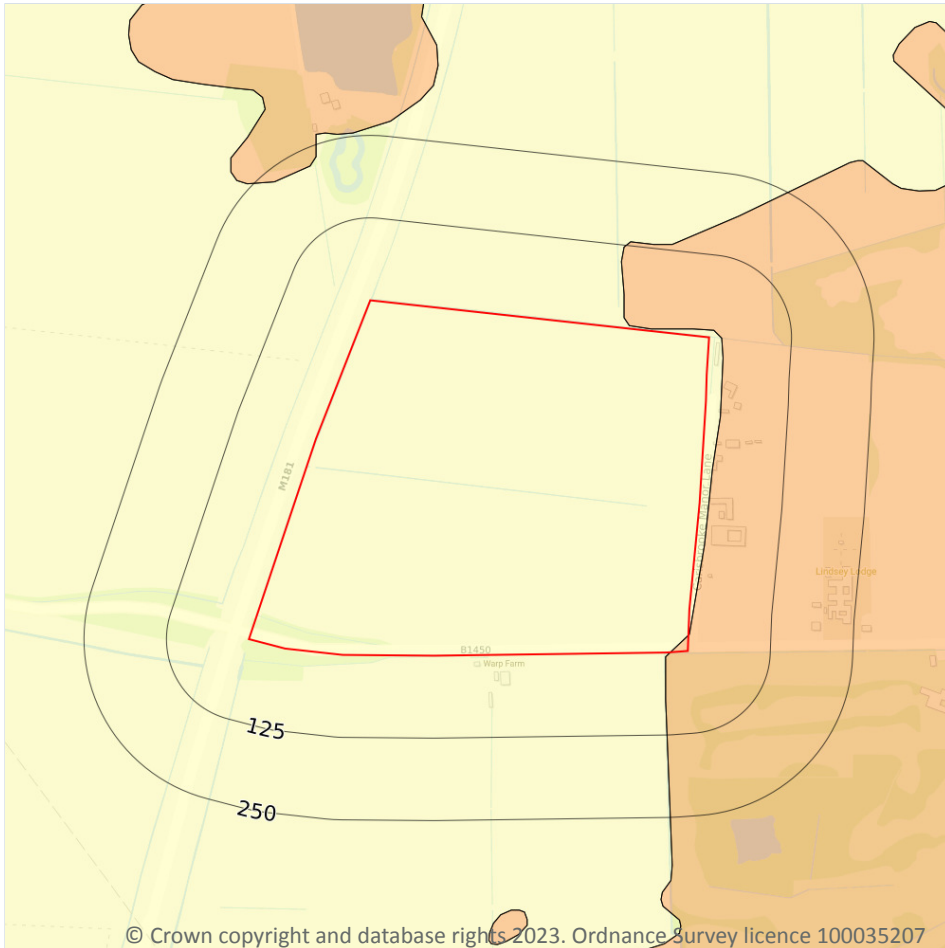
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 85**

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.
49m NE	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Running sands map on **page 87**

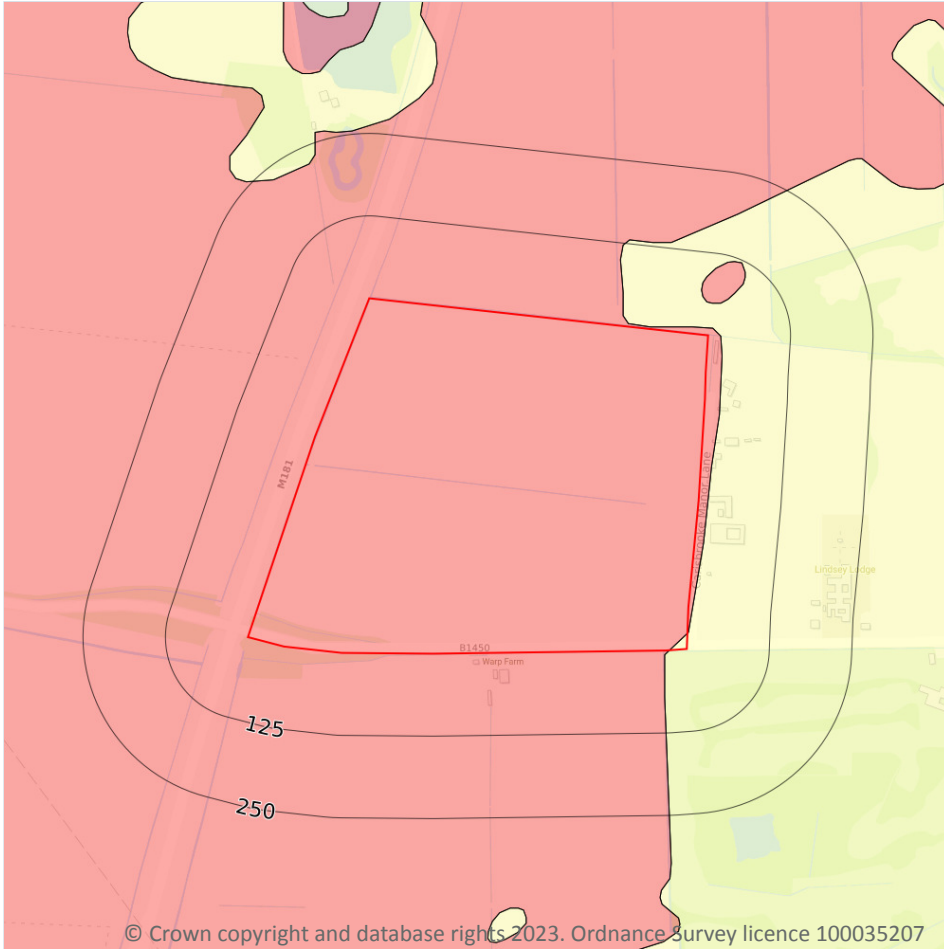
Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

Location	Hazard rating	Details
On site	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

3

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 89**

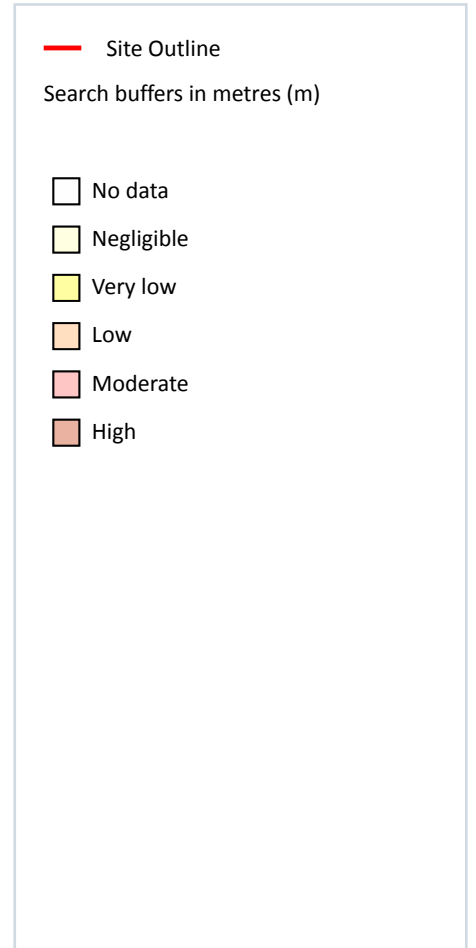
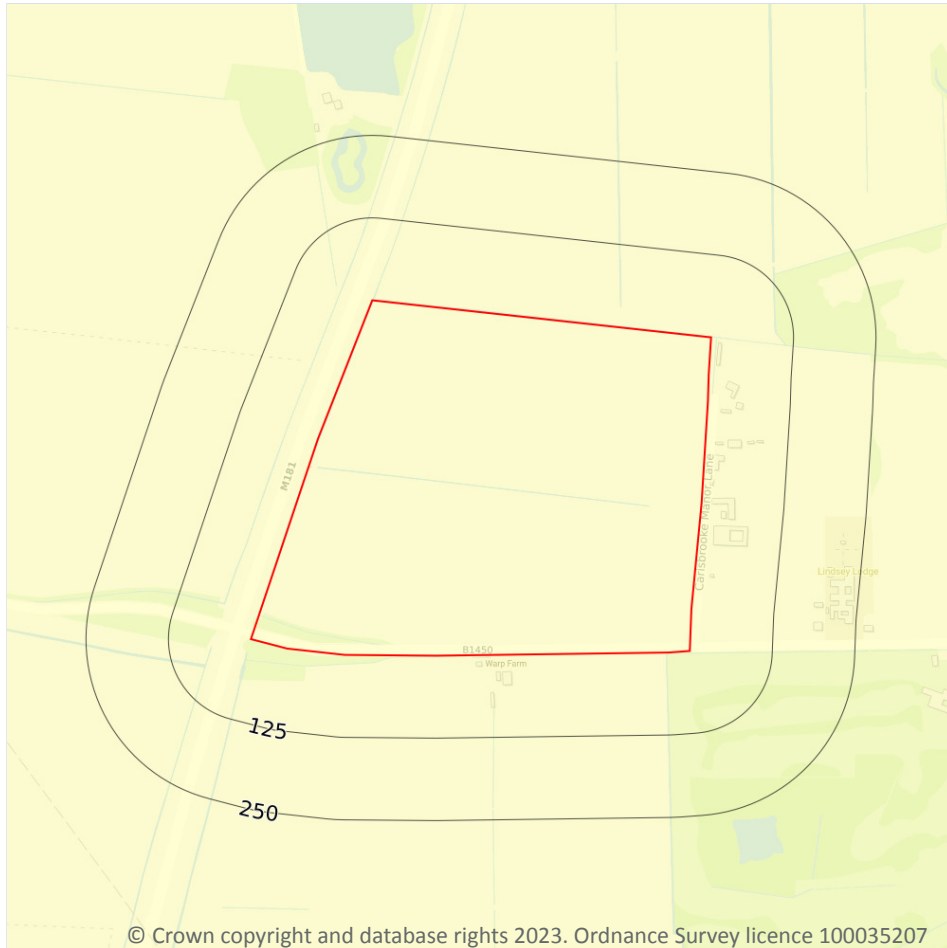
Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
On site	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

Location	Hazard rating	Details
49m NE	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

1

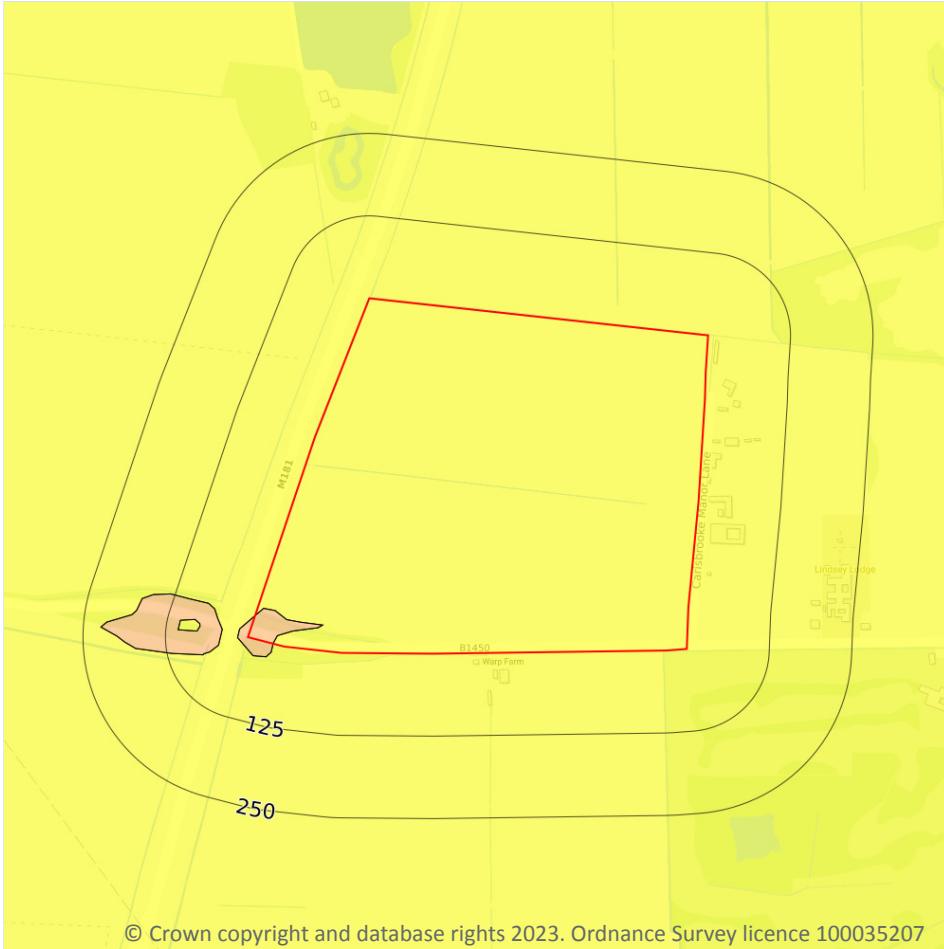
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 91**

Location	Hazard rating	Details
On site	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



17.5 Landslides

Records within 50m

3

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

Features are displayed on the Natural ground subsidence - Landslides map on **page 92**

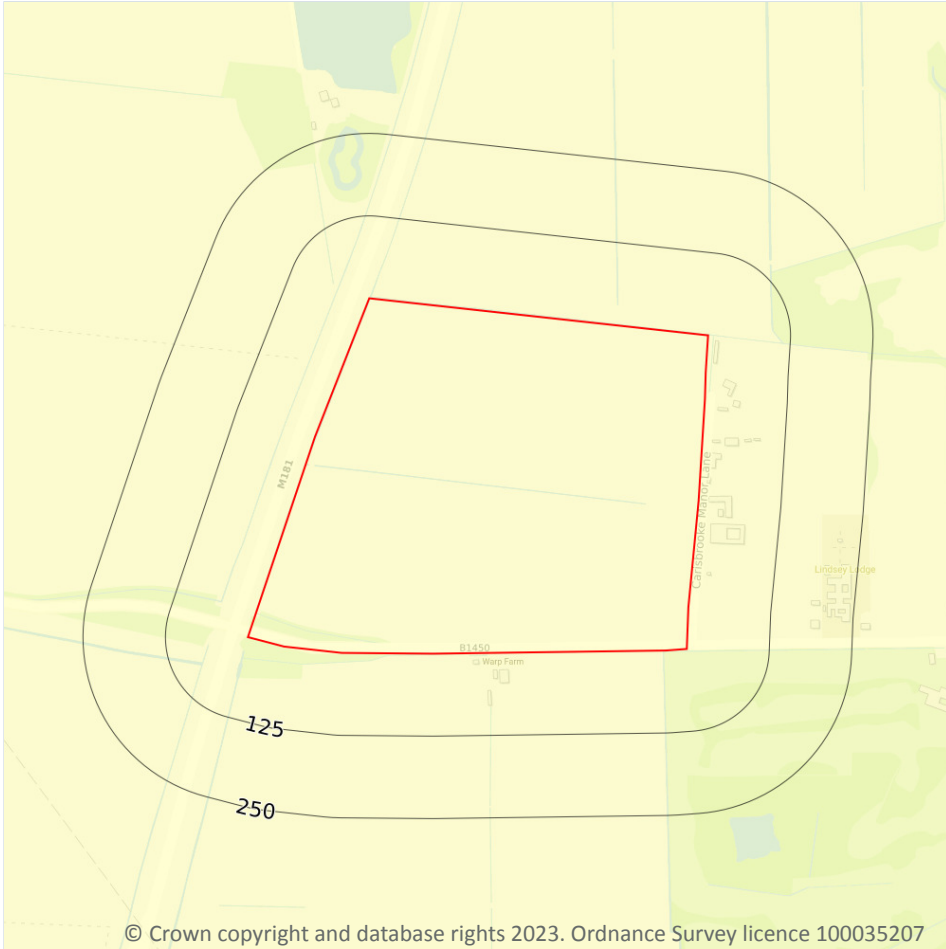
Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

Location	Hazard rating	Details
On site	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
41m SW	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

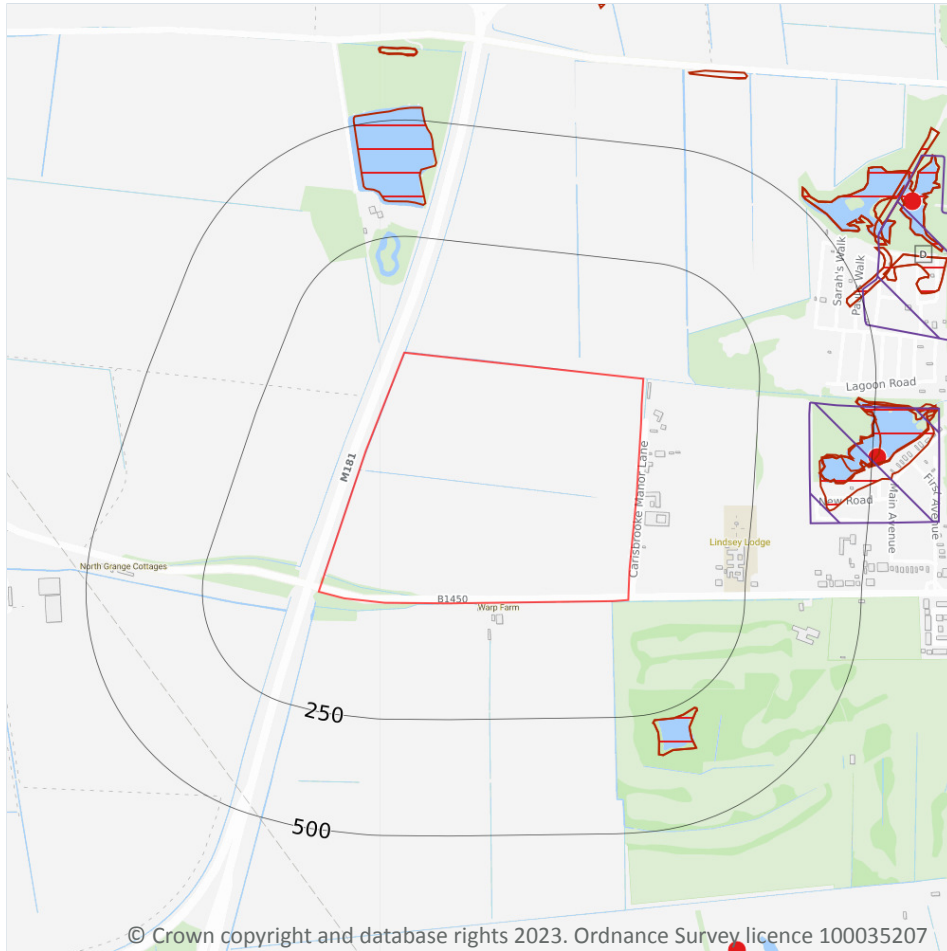
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 94**

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

This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



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

0

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.

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

2

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.

Features are displayed on the Mining, ground workings and natural cavities map on **page 96**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
B	361m E	Warren House	Sand	Surface mineral working	Valid	6/48
D	493m NE	Burringham Road	Sand	Surface mineral working	Valid	16/7/48

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 **1**

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

Location	Details
On site	Whilst outside of an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) may have information such as mining plans and maps held within their archive that have occurred within 1km of this property. Please note, the plans held by JPB may also relate to non-mining records. Further details and a quote for services (if appropriate) can be obtained by emailing this report to enquiries.gs@jpb.co.uk.

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.

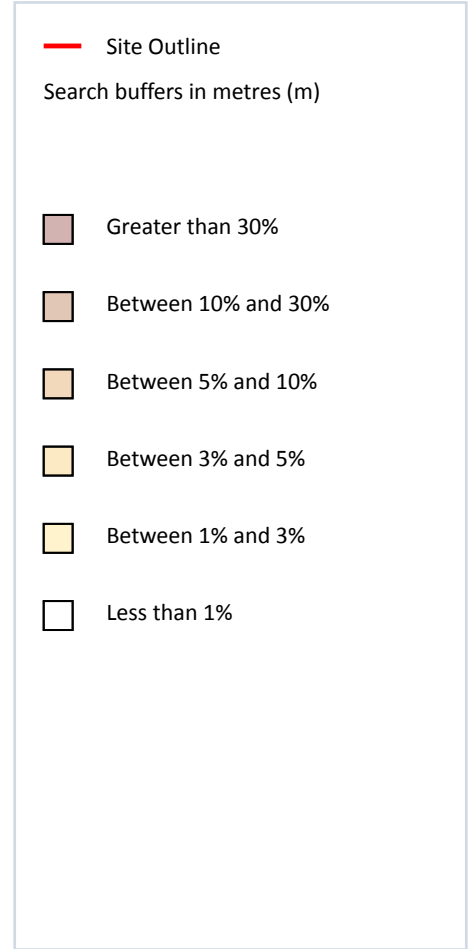
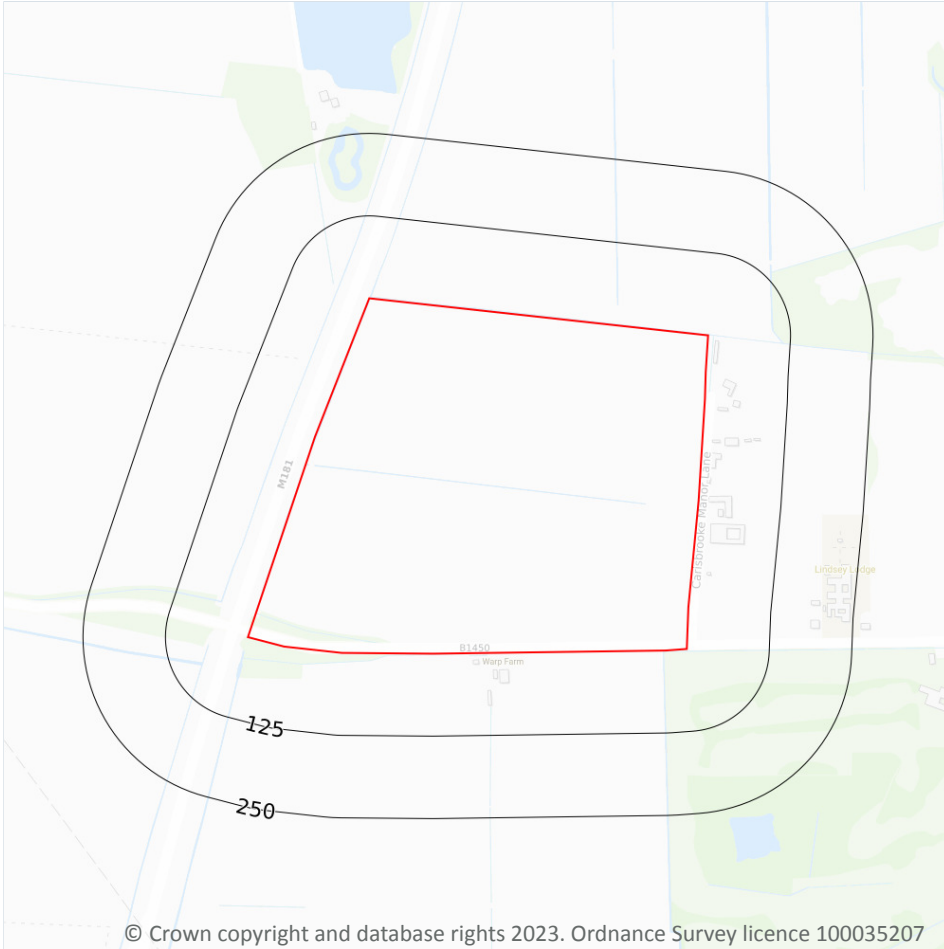
18.13 Clay mining

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



19.1 Radon

Records on site

1

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

Features are displayed on the Radon map on **page 100**

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

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



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

14

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg
2m NE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
3m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg
11m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg
13m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg
24m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg



Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
49m NE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
50m NE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m 0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m 0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m 0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m 0

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

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m 0

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



This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

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

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

This data is sourced from OpenStreetMap.

21.7 Railways

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

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

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

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

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

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

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

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

This data is sourced from HS2 Ltd.



Data providers

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

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APPENDIX B

EMAPSITE: HISTORICAL ORDNANCE SURVEY PLANS

County Series 1:10,560 scale

VEGETATION

	Fir Wood		Deciduous Wood
	Mixed Wood		Brushwood
	Orchard		Reeds
	Rough Pasture		Furze
	Marsh		Osiers

ROADS

	Railway over Road		Road over Railway
	Road over River or Canal		Level Crossing
	Railway over River		Road over Stream
	Road over Stream		Sunken Road
	Raised Road		

RAILWAYS

	Double Lines of Railway		Single Lines of Railway and Tramway
--	-------------------------	--	-------------------------------------

GENERAL FEATURES

	Gravel Pit		Sand Pit
	Quarry		Shingle
	Other Pits		Antiquities, Site of
			Arrow, showing direction of flow of water
			Trigonometrical Station

BOUNDARIES

	County Boundary		Parliamentary Division Boundary
	Parish Boundary		Union Boundary
	Contours		Rural District Boundary

National Grid 1:10,000 scale

HEIGHTS (METRES)

Values are given in metres above mean sea level at Newlyn.

Surface heights determined by ground survey $\pm 163m$
 air survey ± 100

Bench marks and their values are shown on large scale maps, and bench mark lists containing fuller and possibly later levelling information are obtainable from the Director General, Ordnance Survey.

Contours are at 5 metres vertical interval.

ABBREVIATIONS

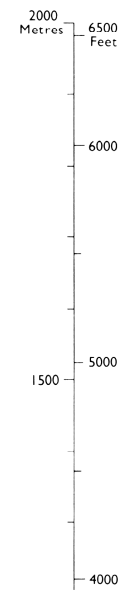
BP,BS	Boundary Post or Stone	PO	Post Office
Ch	Church	PC	Public Convenience
CH	Club House	PH	Public House
F Sta	Fire Station	S	Stone
FB	Foot Bridge	Spr	Spring
Fn	Fountain	TCB	Telephone Call Box
GP	Guide Post	TCP	Telephone Call Post
MP,MS	Mile Post or Stone	TH	Town Hall
P	Pole or Post	W	Well
Pol Sta	Police Station	Y	Youth hostel

ROCK FEATURES

	Loose rock		Vertical face
	Boulders		
	Outcrop		
	Scree		

CONVERSION SCALE

Metres - Feet



ROADS

	Road		Track		Path
--	------	--	-------	--	------

Where unfenced shown by pecked lines.

RAILWAYS

	Cutting		Embankment	} Standard gauge
	Multiple track		Single track	
	Road over		Level crossing	} Siding, tramway or mineral line
	Road under		Foot Bridge	
	Narrow gauge			

GENERAL FEATURES

	Antiquity, (site of)		Lake, loch or pond
	Boulders		Sloping masonry
	Building		Chalk pit, clay pit or quarry
	Pylon		Gravel pit
	Pole		Sand pit
	Glasshouse		Refuse or slag heap
	Triangulation station		



VEGETATION

	Bracken, rough grassland		Marsh		Coppice
	Scrub		Saltings		Orchard
	Heath		Reeds		Coniferous trees
					Non-coniferous trees

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



Historical Map Pack Legend

County Series & National Grid

1:10,560 scale

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Technical Helpline

Tel 08444159000

groundsureinsight@groundsure.com
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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	Orchard	Bush
Rough Pasture	Furze	Ford
Stepping Stones	Ferry	Sloping Masonry
Flat Rock	Lock	Waterfall
Quarry	Sand Pit	Refuse Heap
Clay Pit	Shingle	Gravel Pit

△ Trigonometrical Station	SL Sluice
507 △ Altitude at Trigonometrical Station	Tr Trough
B.M. 325-9 ↑ Bench Mark	Sp. Spring
342 + Surface Level	WF Well
△ Permanent Traverse Station	MR Mooring Ring
Antiquities (site of)	MP Mooring Post
←←←← Arrow denotes flow of water	BS Boundary Stone
	BP Boundary Post

ROADS

Road over single stream	Road crossing railway
Road over River or Canal	

RAILWAYS

Railway crossing River or Canal	Railway crossing Road
Level Crossing	Embankment
Cutting	

ABBREVIATIONS

△ Trigonometrical Station	SL Sluice
507 △ Altitude at Trigonometrical Station	Tr Trough
B.M. 325-9 ↑ Bench Mark	Sp. Spring
342 + Surface Level	WF Well
△ Permanent Traverse Station	MR Mooring Ring
Antiquities (site of)	MP Mooring Post
←←←← Arrow denotes flow of water	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	ts Traverse Station (permanent)
Heath	Glasshouse	↑ Bench Mark
Rough Grassland	Archway	↑ Surface Level
Marsh, Saltings	Change of boundary marking	rp 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

BOUNDARIES

England & Wales

- County Boundary (geographical)
- County & Civil Parish Boundary coterminous
- Admin County or County Borough Boundary
- London Borough Boundary
- M B Bdy, U D Bdy, R D Bdy County District Boundaries based on civil parish

England, Wales & Scotland

- Civil Parish Boundary
- Boro (or Burgh) Const & Ward Bdy Parly & Ward Boundaries based on civil parish
- Co Const Bdy
- Boro (or Burgh) Const & Ward Bdy Parly & Ward Boundaries not based on civil parish

Scotland

- County Boundary (geographical)
- Co Cnl Bdy County Council Boundary
- Co of City Bdy County of the City Boundary
- Co of City Bdy
- Burgh Bdy Burgh Boundary
- Burgh Bdy
- Dist Bdy District Council Boundary
- Dist Bdy

* Not with parish † Coincident with parish

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
Cn. Chimney	L.B.Sta. Lifeboat Station	P.C. Public Convenience	T.C.P. Telephone Call Post
Cp. Capstan	L.C. Level Crossing	P.C.B. Police Call Box	Tk. Tank or Track
D.Fn. Drinking Fountain	L.G. Loading Gauge	P.H. Public House	Tr. Trough
Dk. Dock	L.Ho. Lighthouse	P.O. Post Office	ts. Traverse Station
El.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	rp. 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	

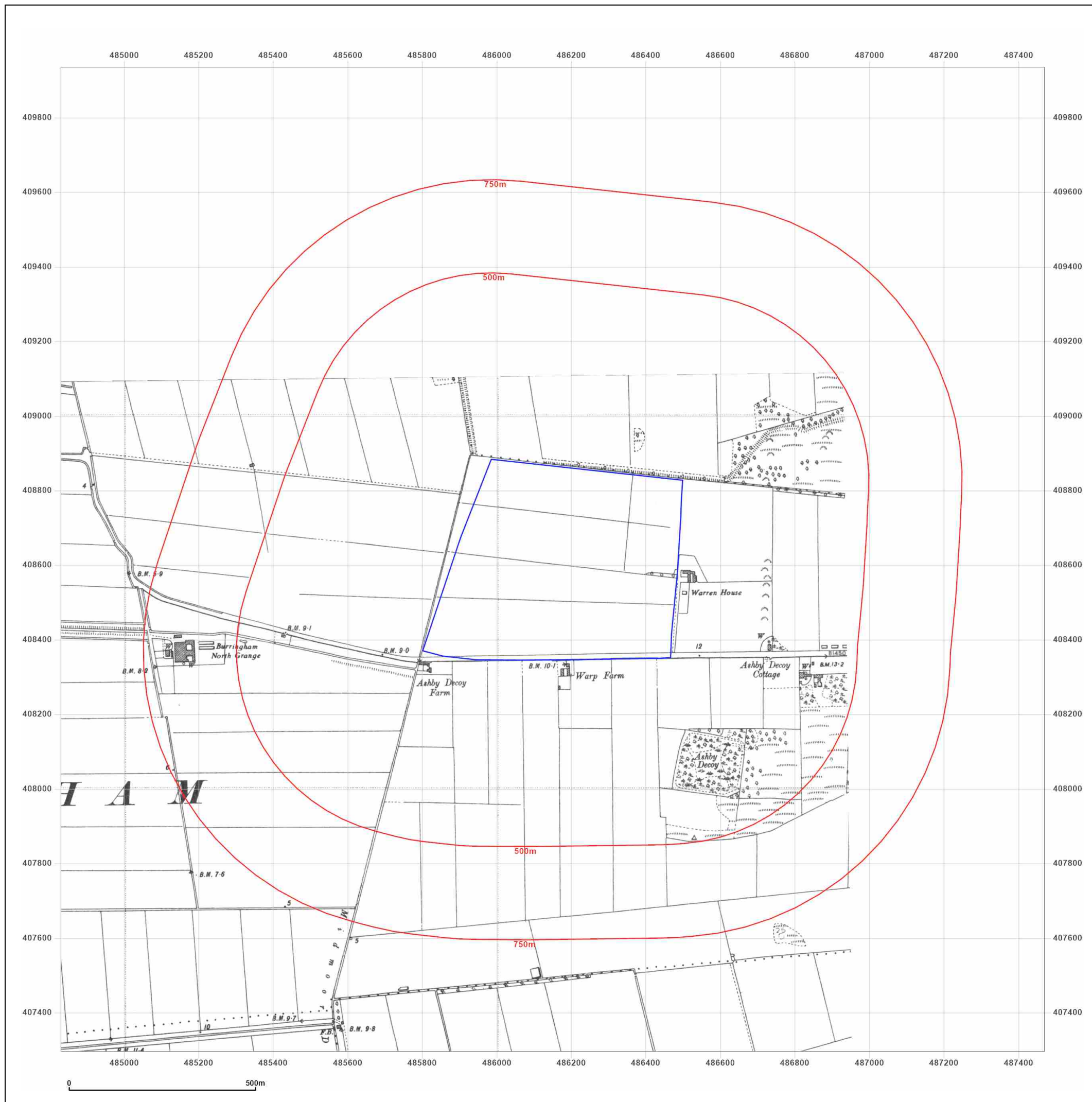
County Series 1:1,250 scale ~ County Series & National Grid 1:2,500 scale

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Report Ref: EMS-839368_1077829
Grid Ref: 486149, 408615

Map Name: County Series

Map date: 1885

Scale: 1:10,560

Printed at: 1:10,560



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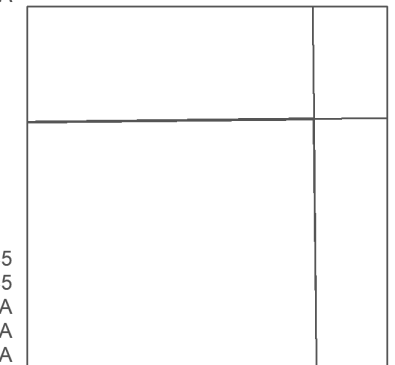
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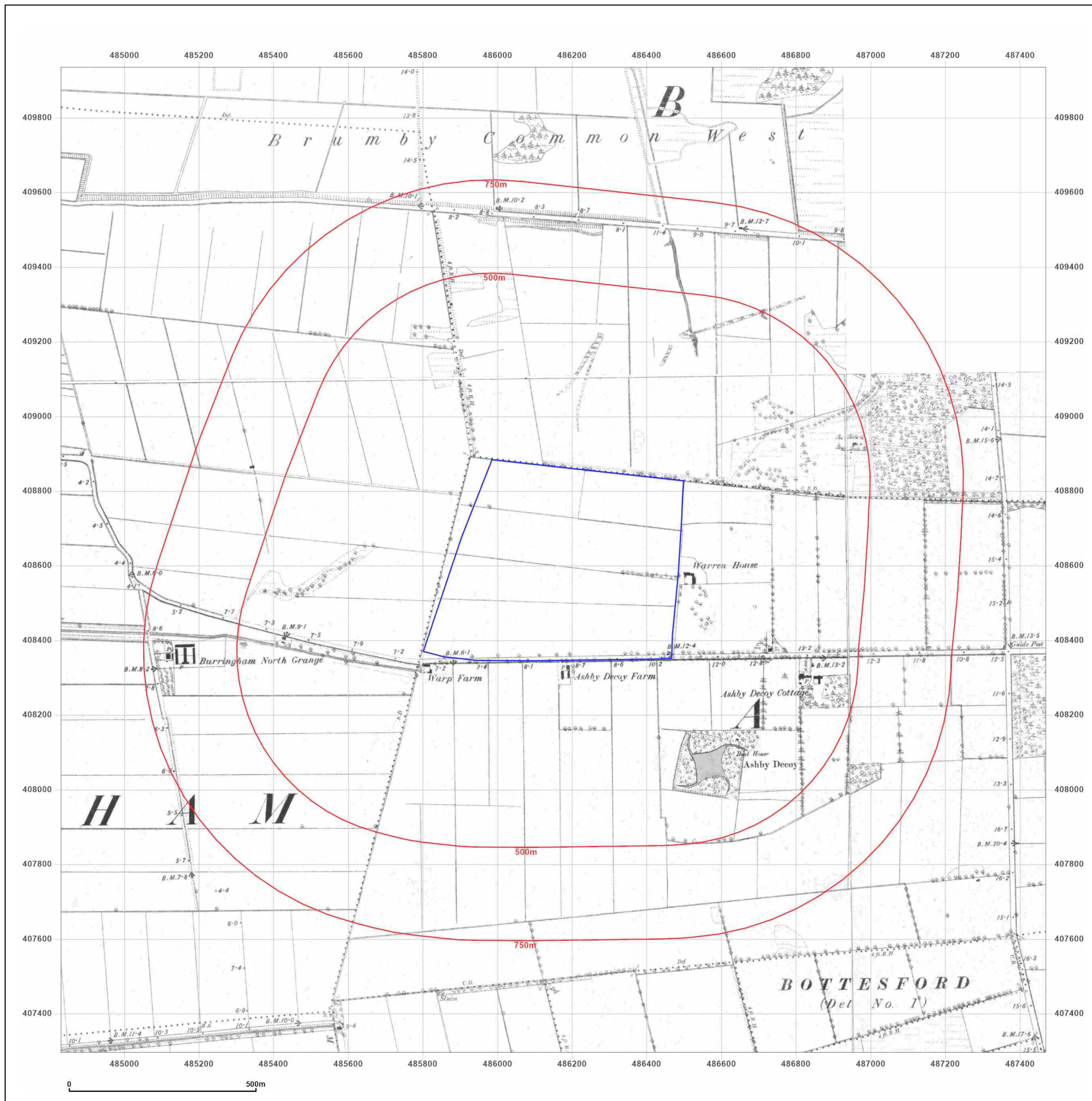


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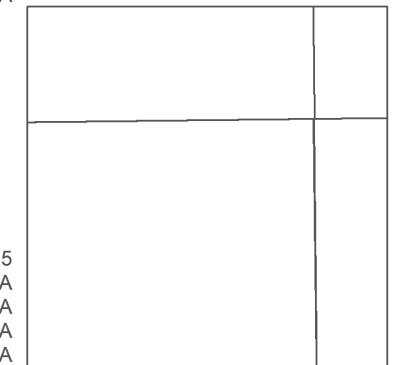
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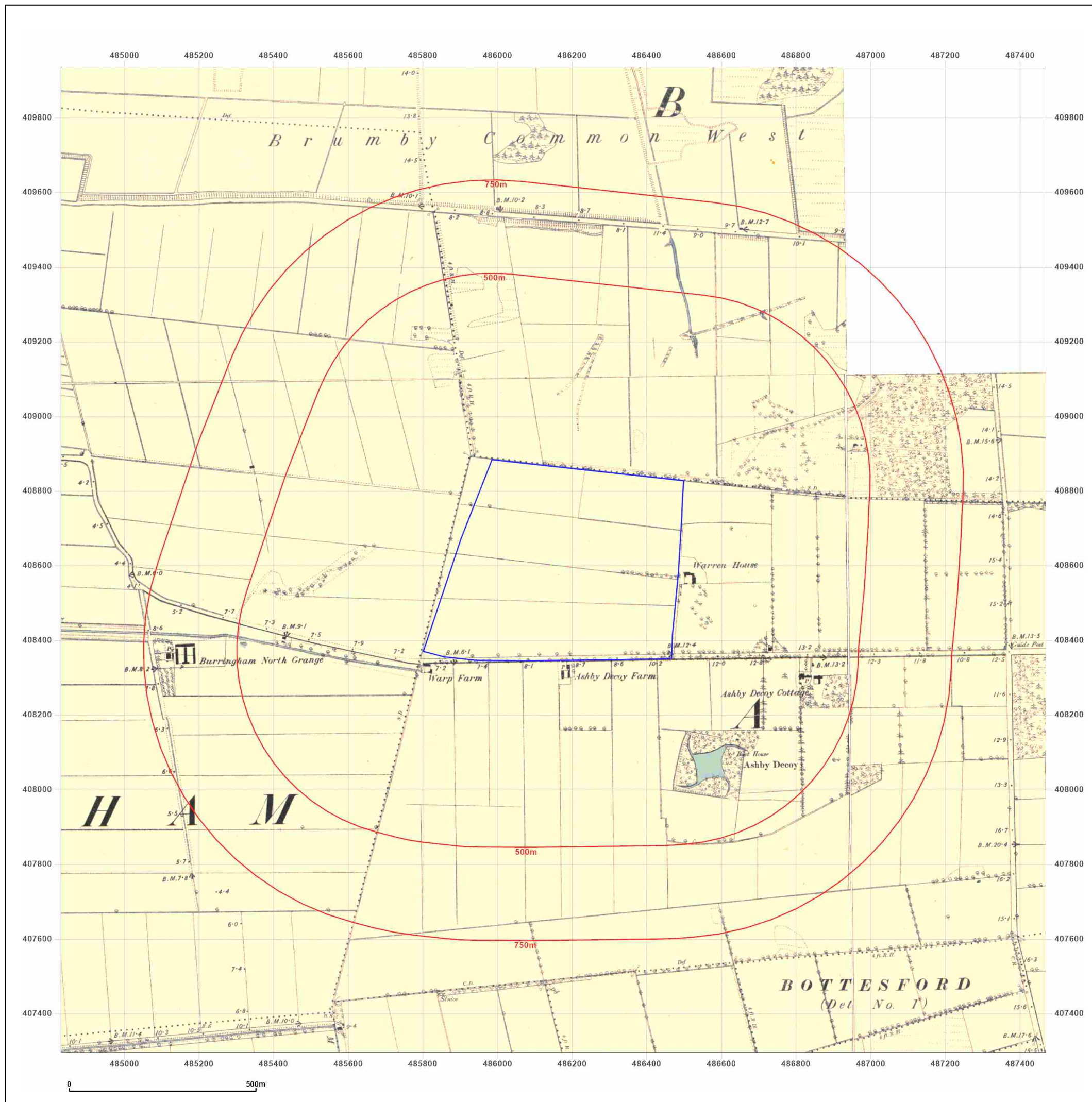


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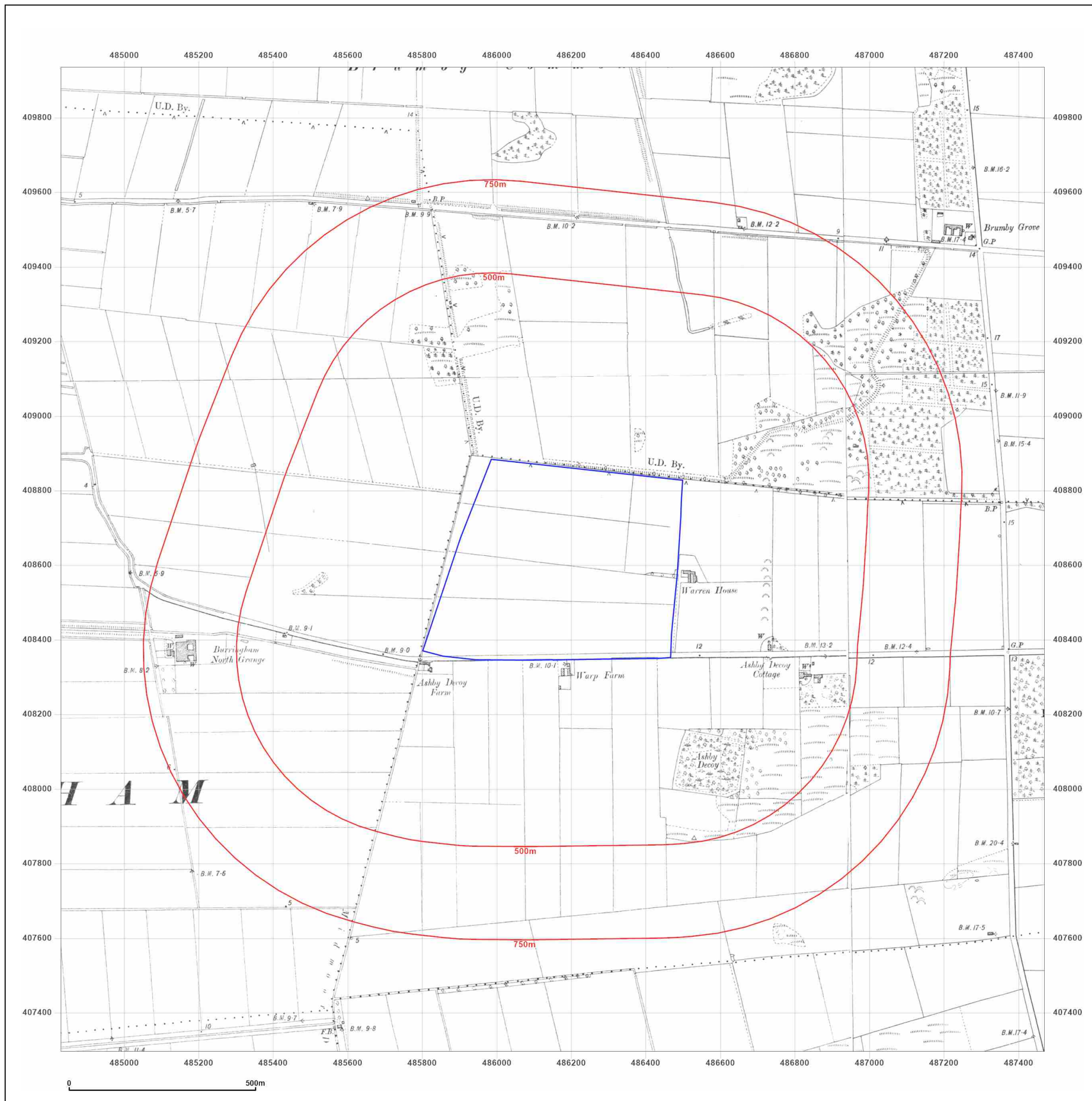


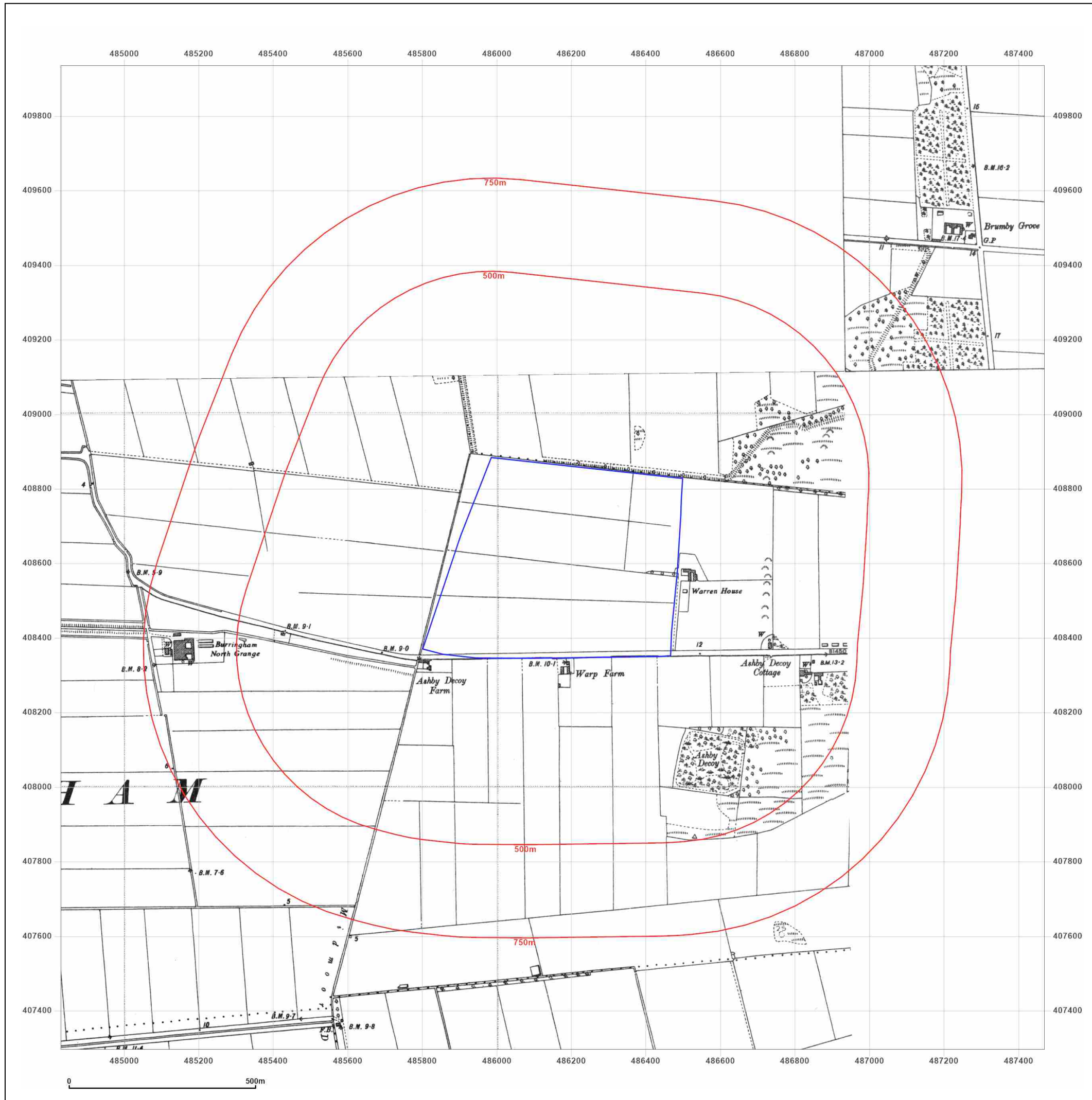
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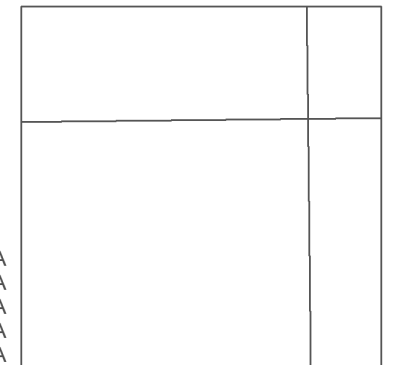
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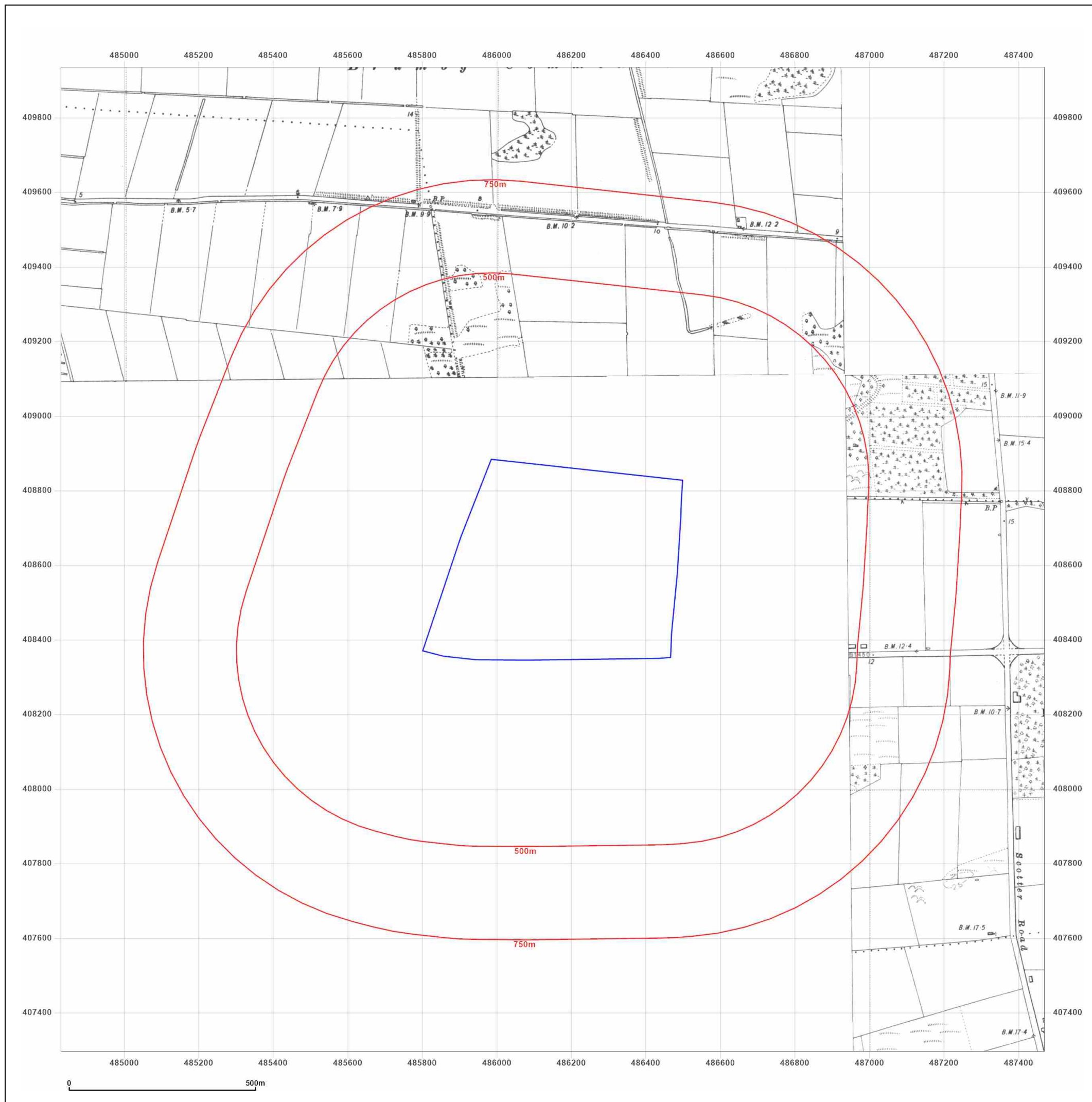


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Production date: 24 January 2023

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EMAPSITE™

Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829
Grid Ref: 486149, 408615

Map Name: County Series

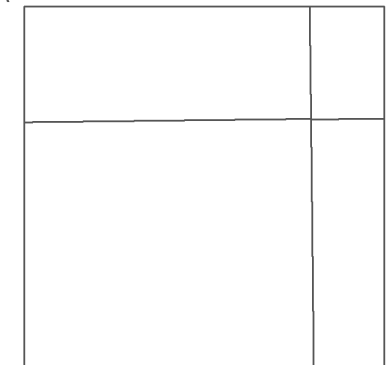
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Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1885
 Revised 1938
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1885
 Revised 1938
 Edition N/A
 Copyright N/A
 Levelled N/A



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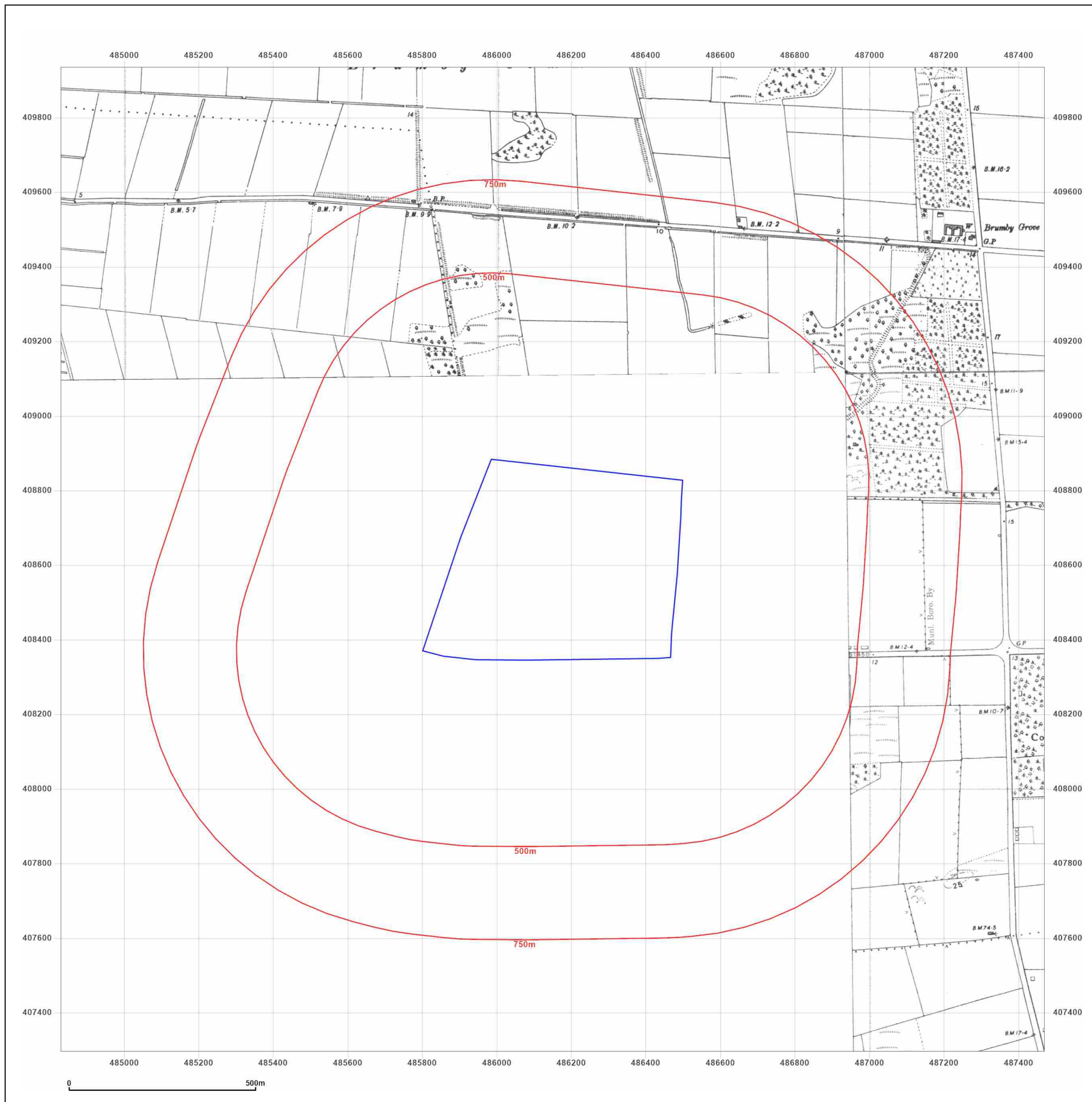


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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829
Grid Ref: 486149, 408615

Map Name: County Series

Map date: 1948

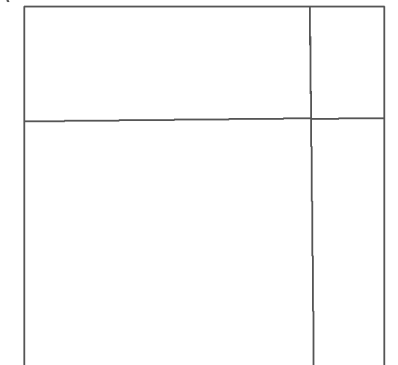
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Printed at: 1:10,560



Surveyed 1885
 Revised 1948
 Edition 1948
 Copyright N/A
 Levelled N/A

Surveyed 1885
 Revised 1948
 Edition 1948
 Copyright N/A
 Levelled N/A



Surveyed 1885
 Revised 1948
 Edition 1948
 Copyright N/A
 Levelled N/A



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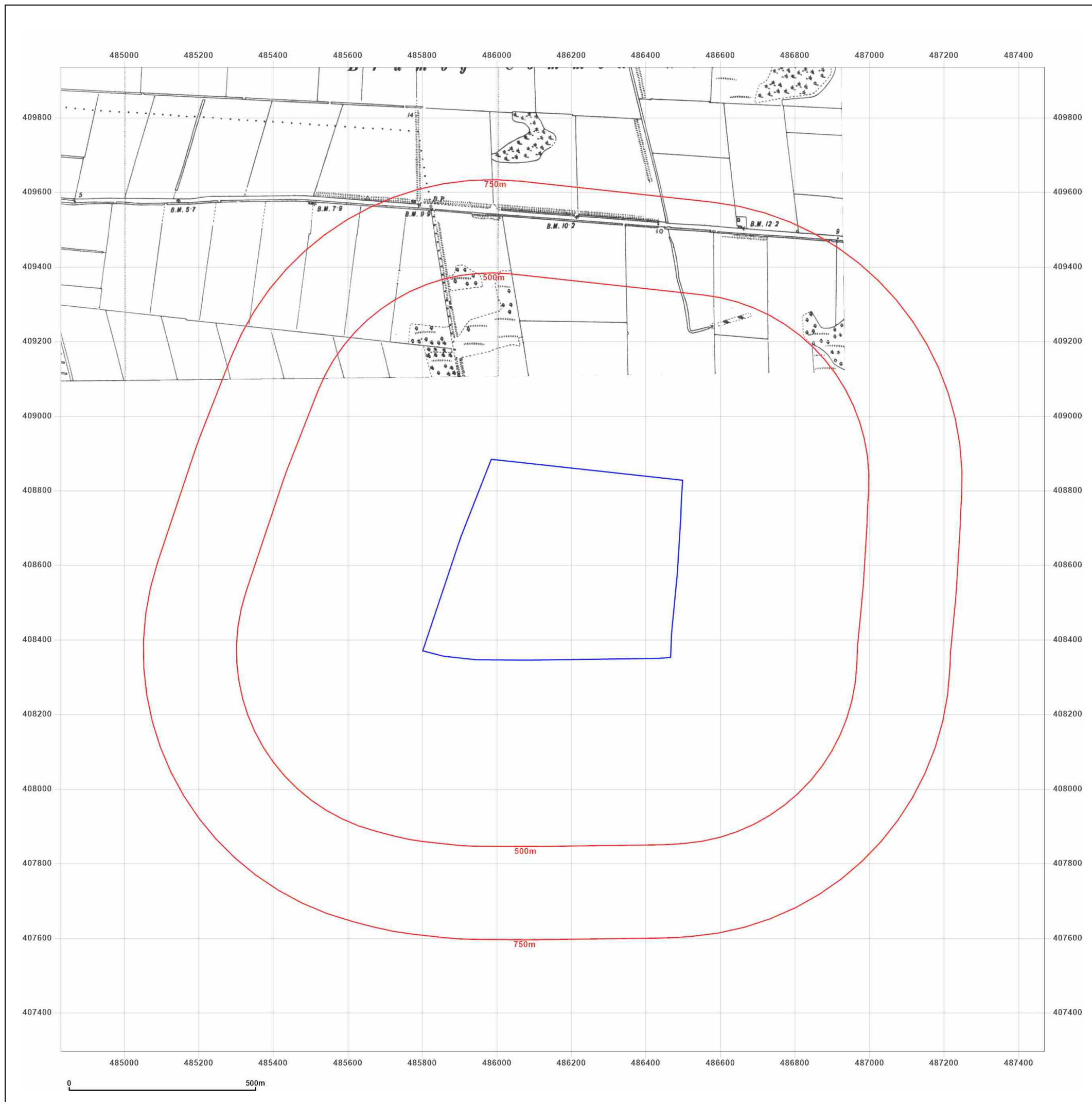


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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829
Grid Ref: 486149, 408615

Map Name: County Series

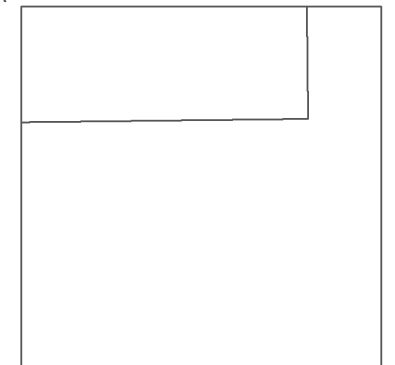
Map date: 1949

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1885
 Revised 1949
 Edition N/A
 Copyright N/A
 Levelled N/A



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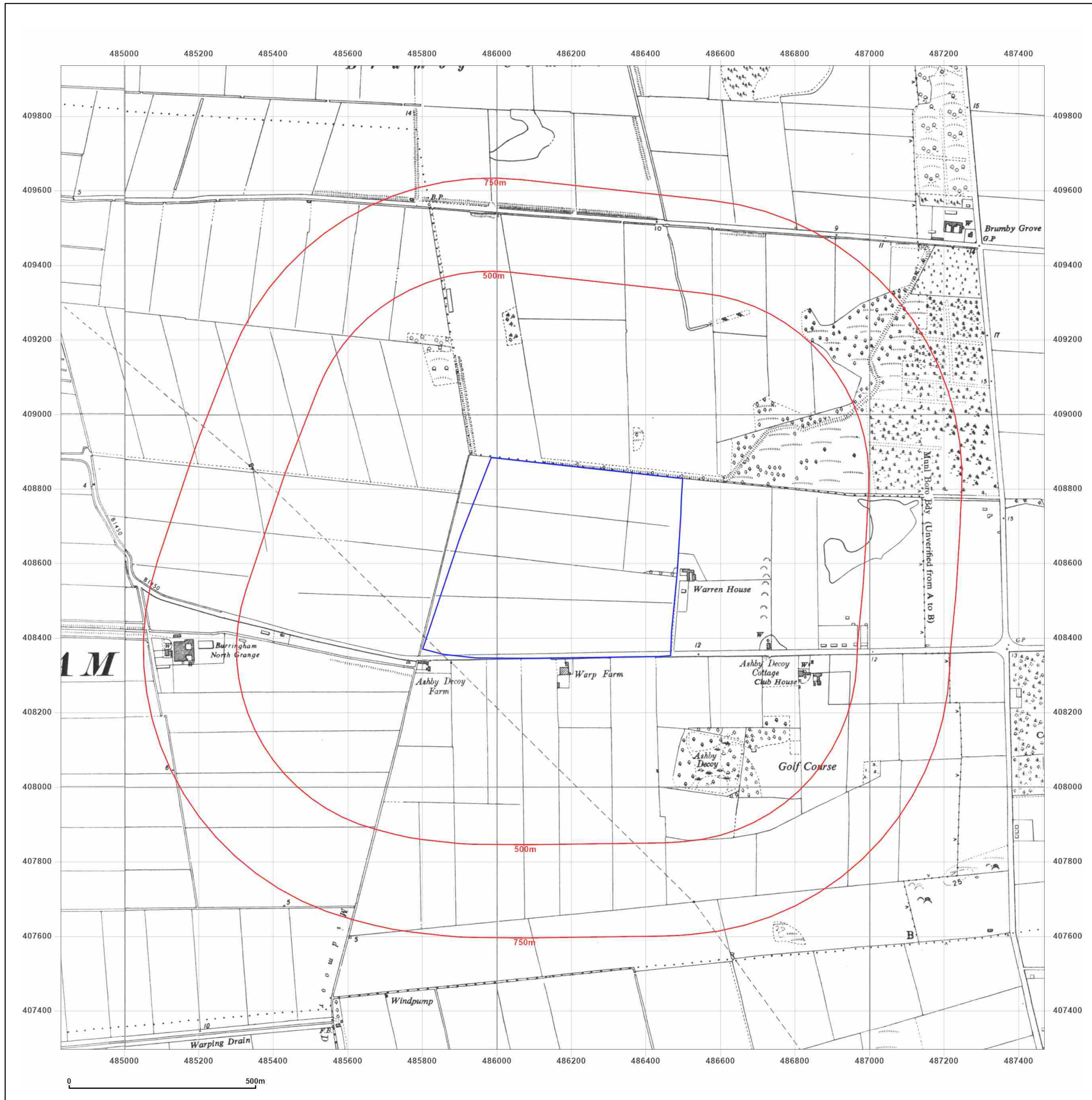


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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829
Grid Ref: 486149, 408615

Map Name: Provisional

Map date: 1951-1955

Scale: 1:10,560

Printed at: 1:10,560



<p>Surveyed 1951 Revised 1951 Edition N/A Copyright N/A Levelled N/A</p>	<p>Surveyed N/A Revised 1955 Edition N/A Copyright N/A Levelled N/A</p>
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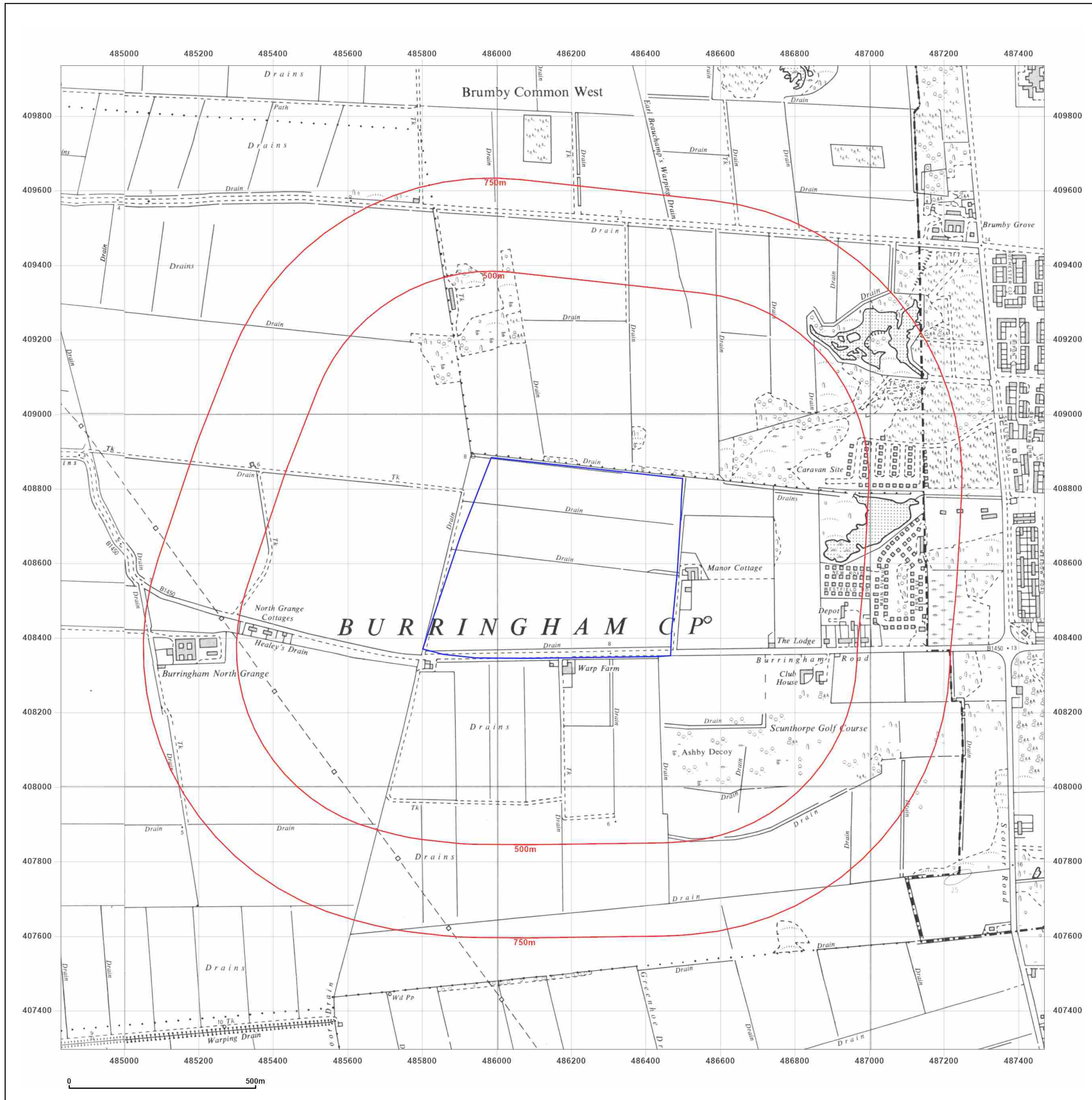


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Site Details:

Client Ref: EMS_839368_1037320
 Report Ref: EMS-839368_1077829
 Grid Ref: 486149, 408615

Map Name: Provisional

Map date: 1968

Scale: 1:10,560

Printed at: 1:10,560



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

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



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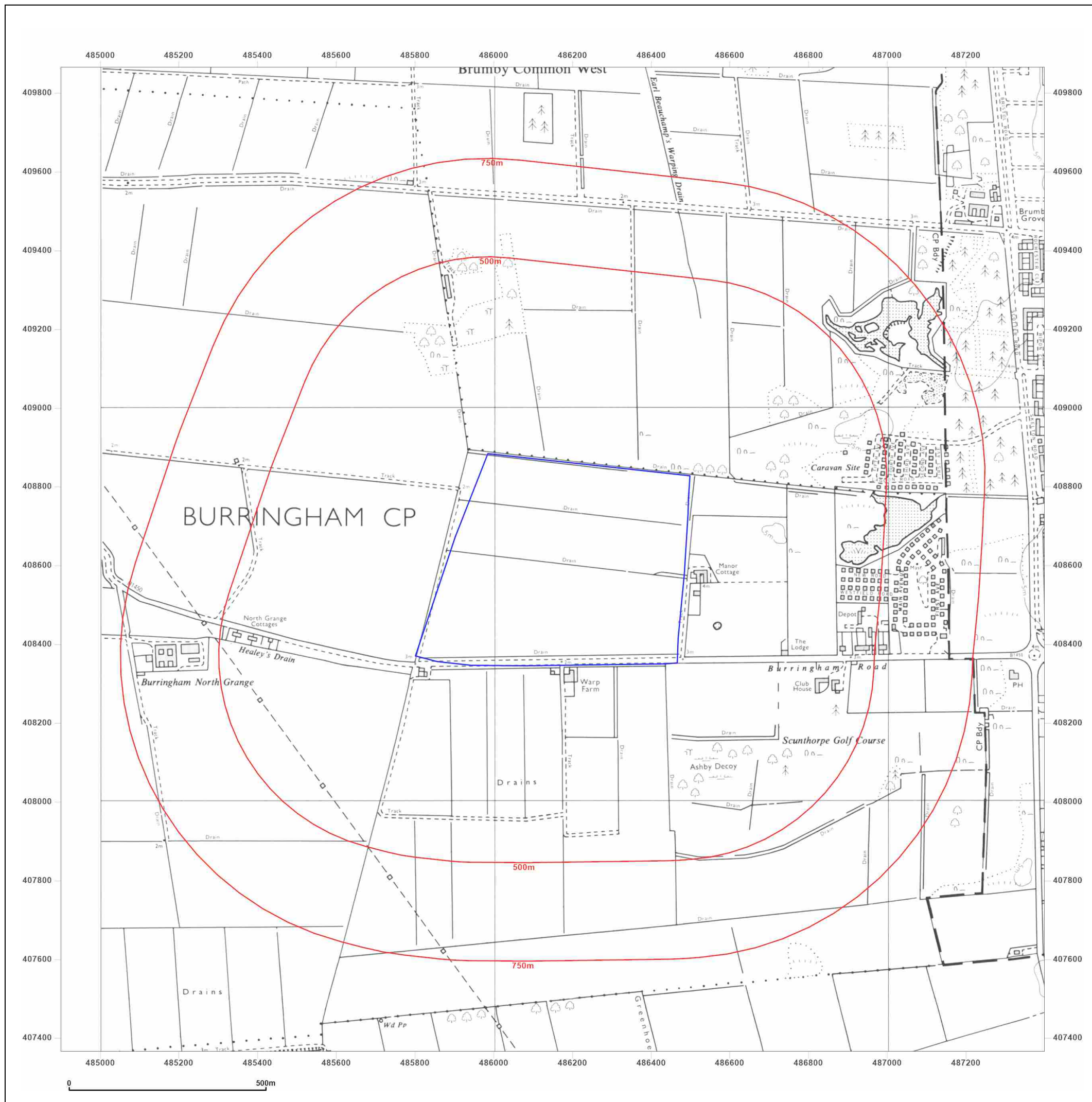


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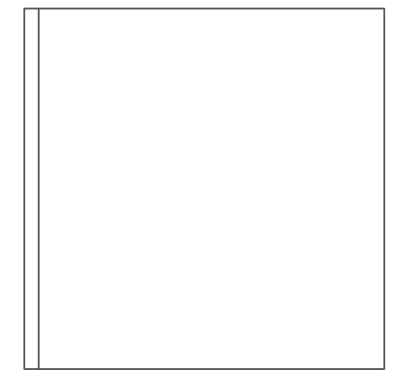
Client Ref: EMS_839368_1037320
 Report Ref: EMS-839368_1077829
 Grid Ref: 486149, 408615

Map Name: National Grid

Map date: 1975

Scale: 1:10,000

Printed at: 1:10,000



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



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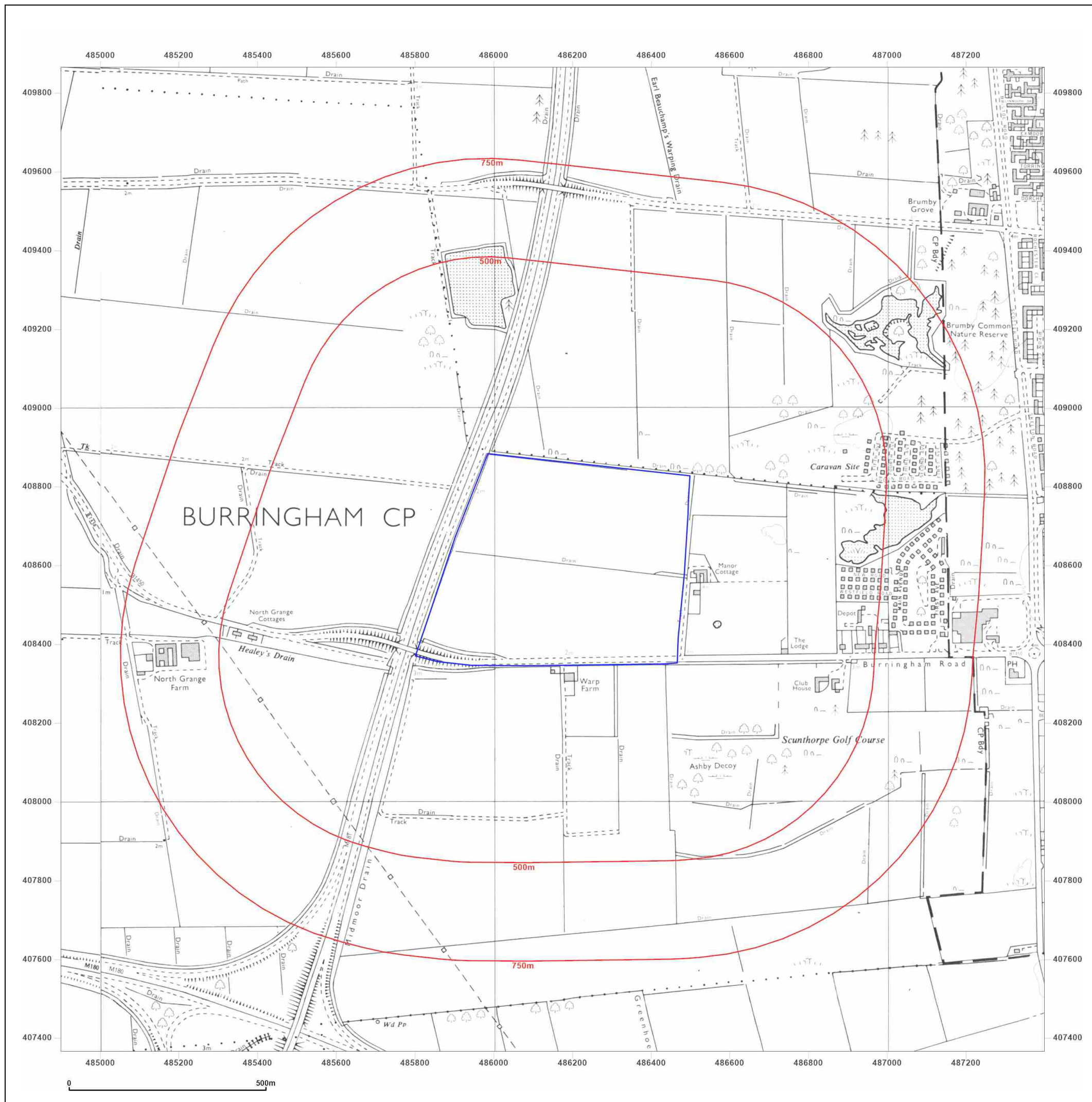


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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829
Grid Ref: 486149, 408615

Map Name: National Grid

Map date: 1981-1982

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1965
 Revised 1982
 Edition N/A
 Copyright N/A
 Levelled N/A

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



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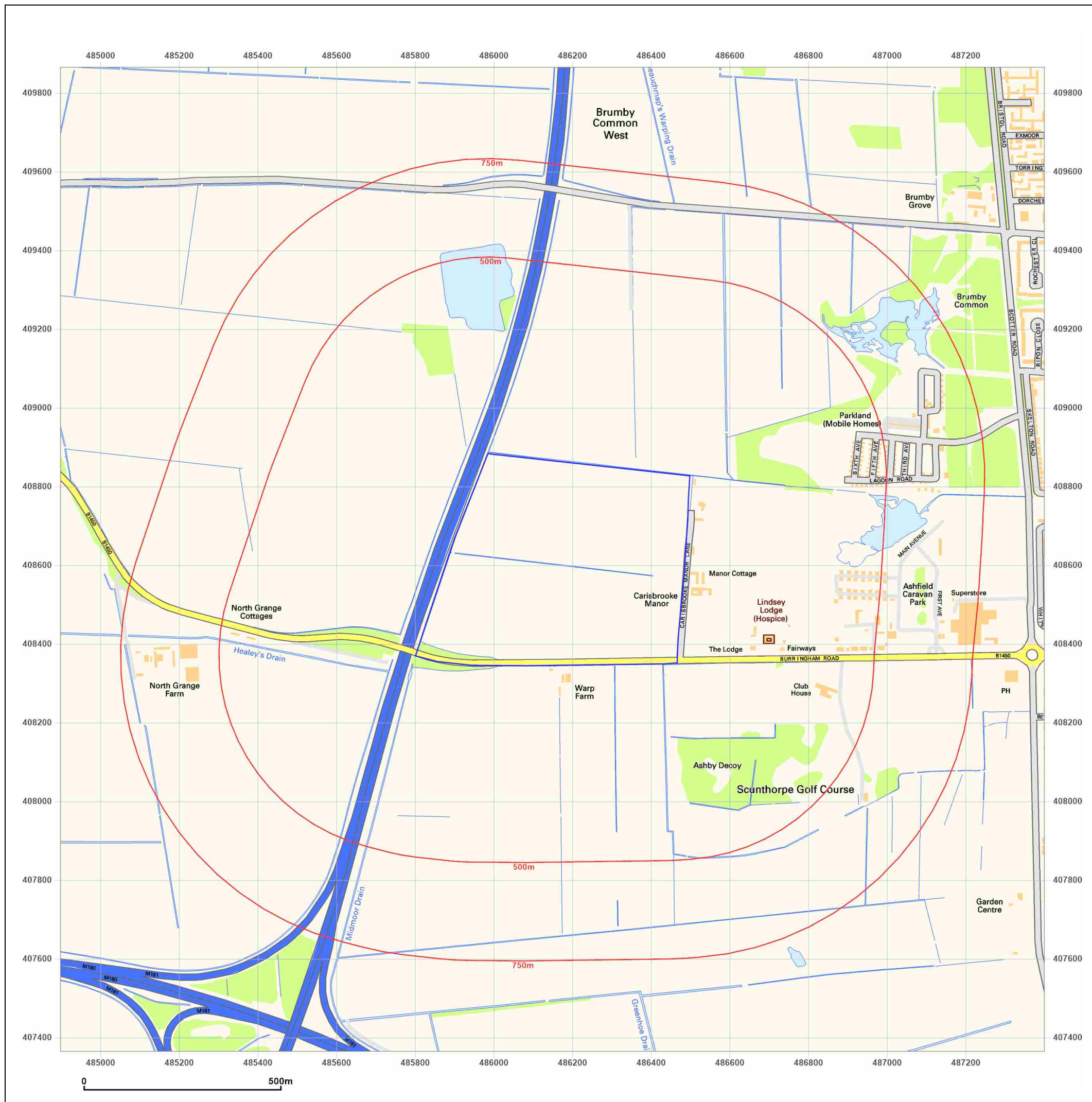


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Site Details:

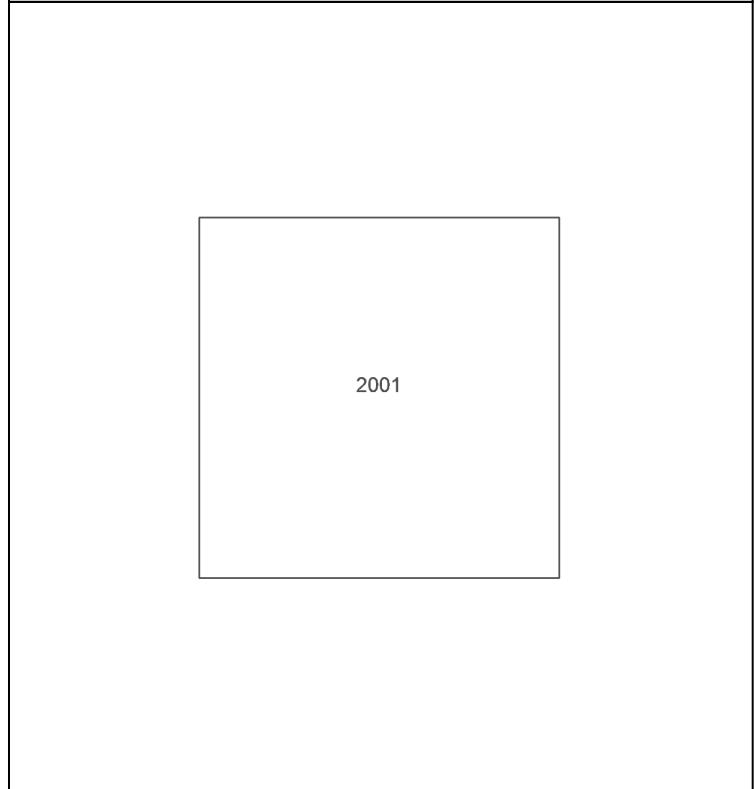
Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829
Grid Ref: 486149, 408615

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



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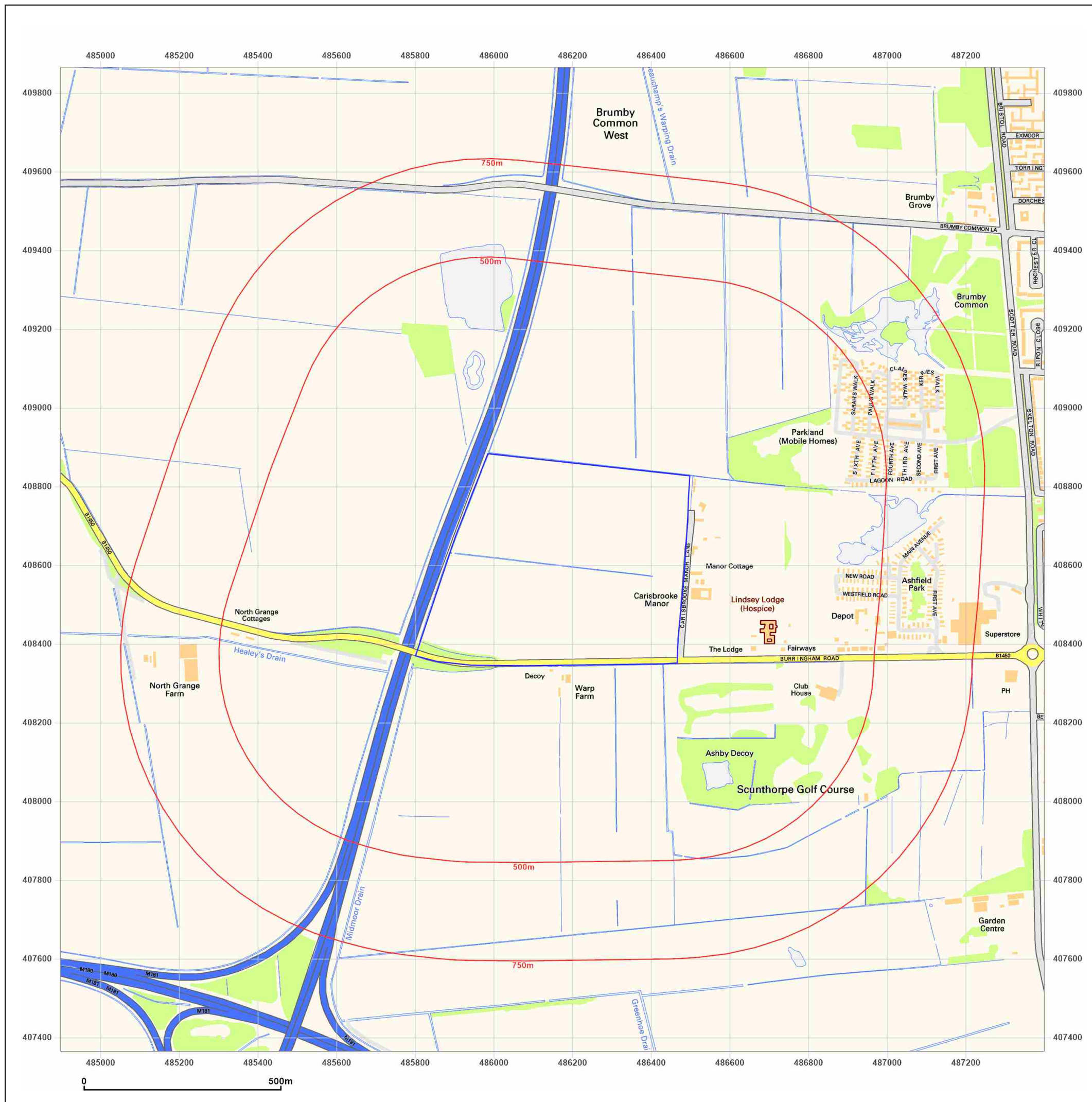


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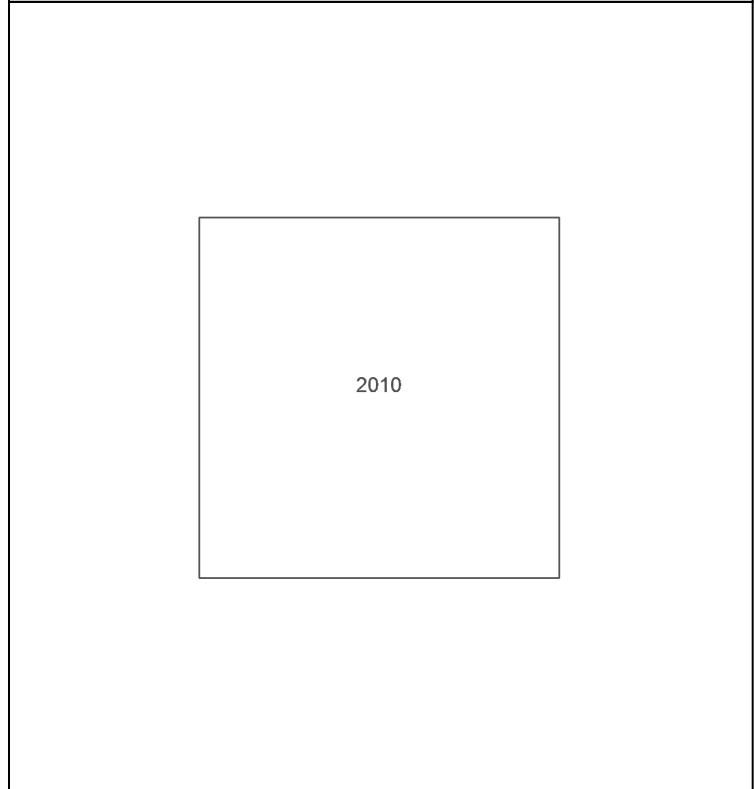
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 Report Ref: EMS-839368_1077829
 Grid Ref: 486149, 408615

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



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Site Details:

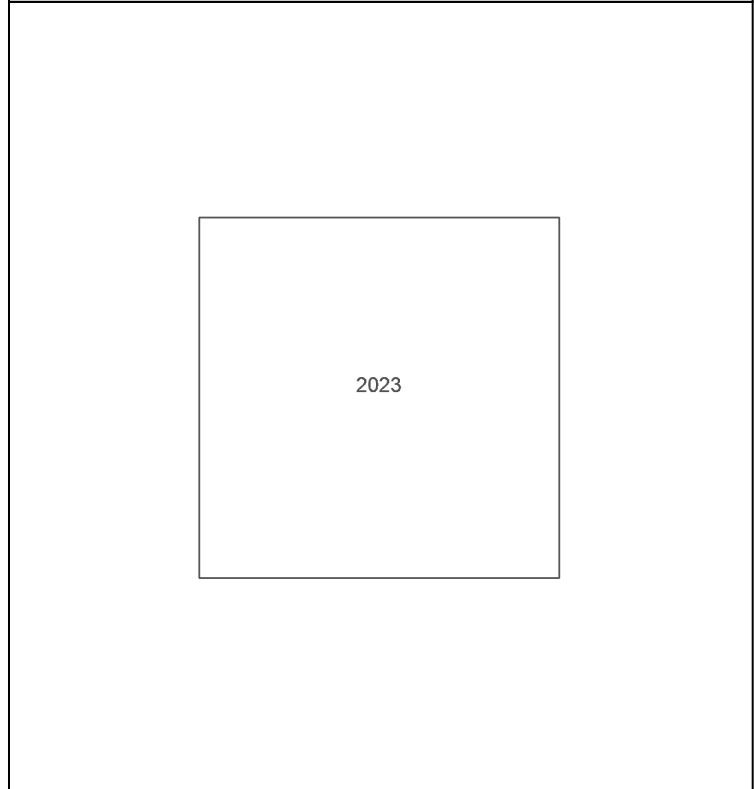
Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829
Grid Ref: 486149, 408615

Map Name: National Grid

Map date: 2023

Scale: 1:10,000

Printed at: 1:10,000



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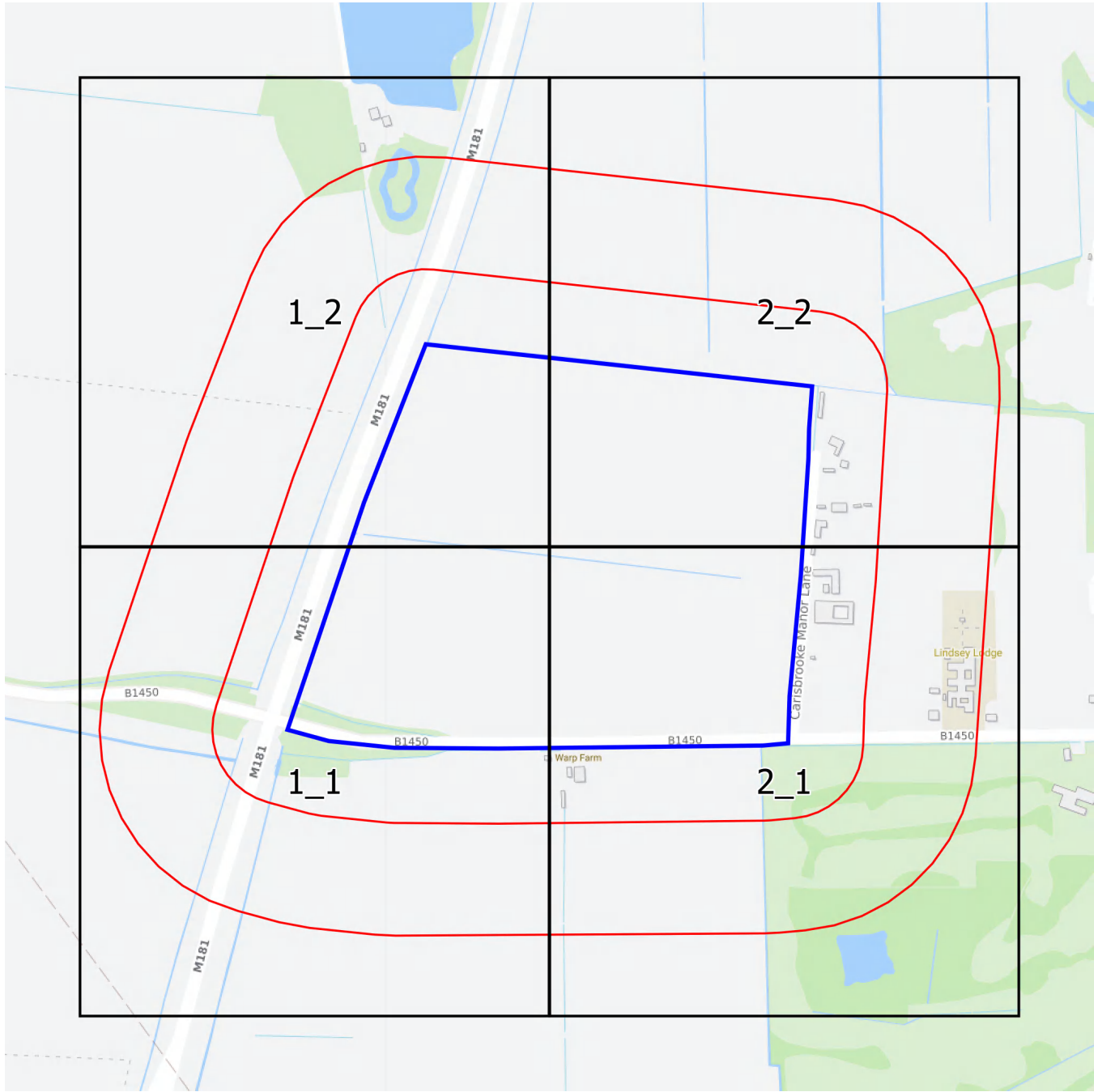


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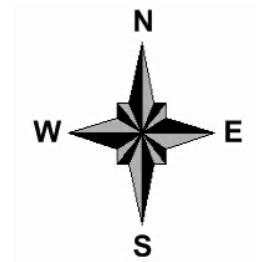
Production date: 24 January 2023

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



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INSIGHTS

1:2,500 Scale Grid Index



Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_1_1
Grid Ref: 485835, 408301

Map Name: County Series

Map date: 1887

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1887
 Revised 1887
 Edition N/A
 Copyright N/A
 Levelled N/A



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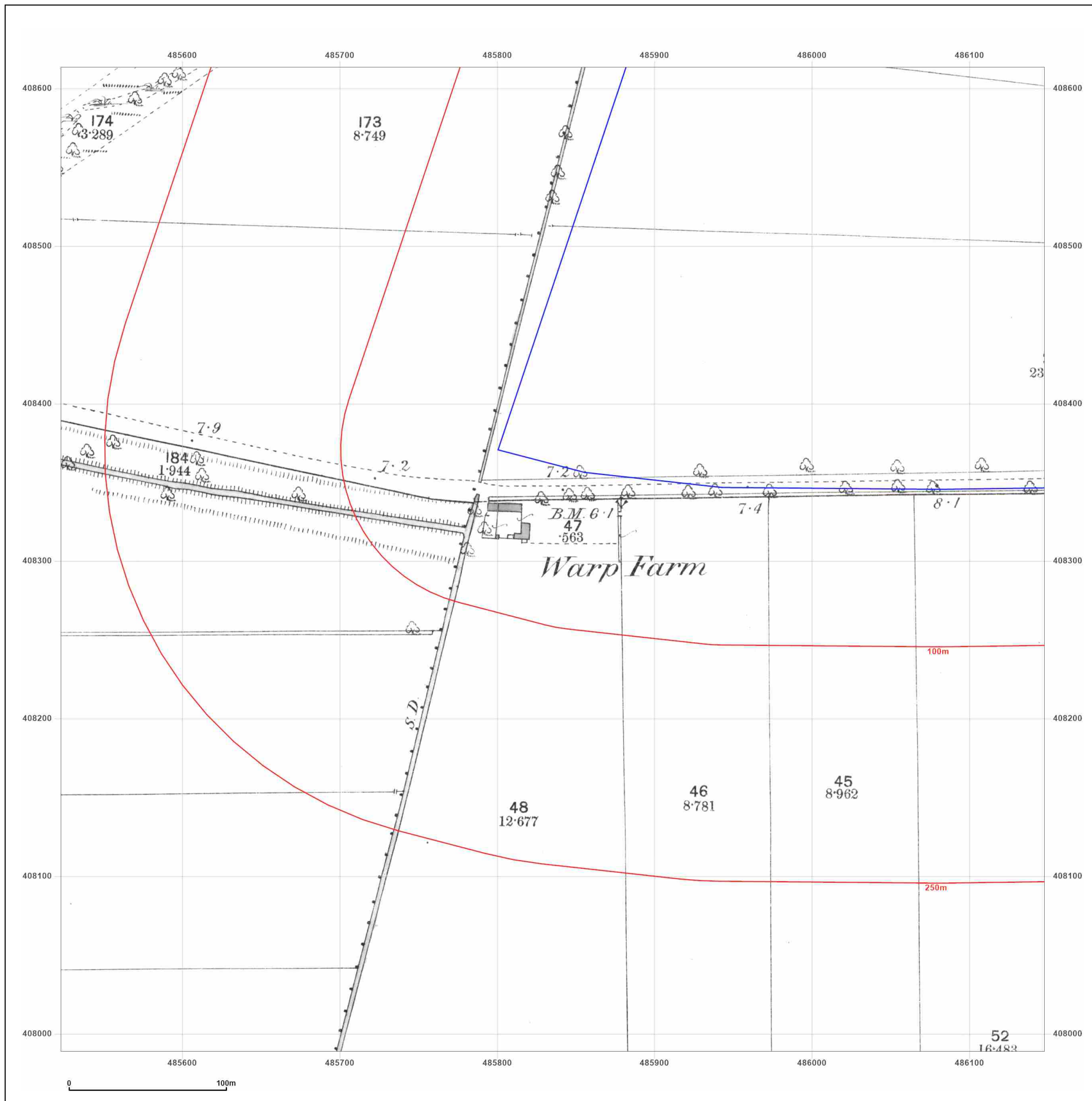


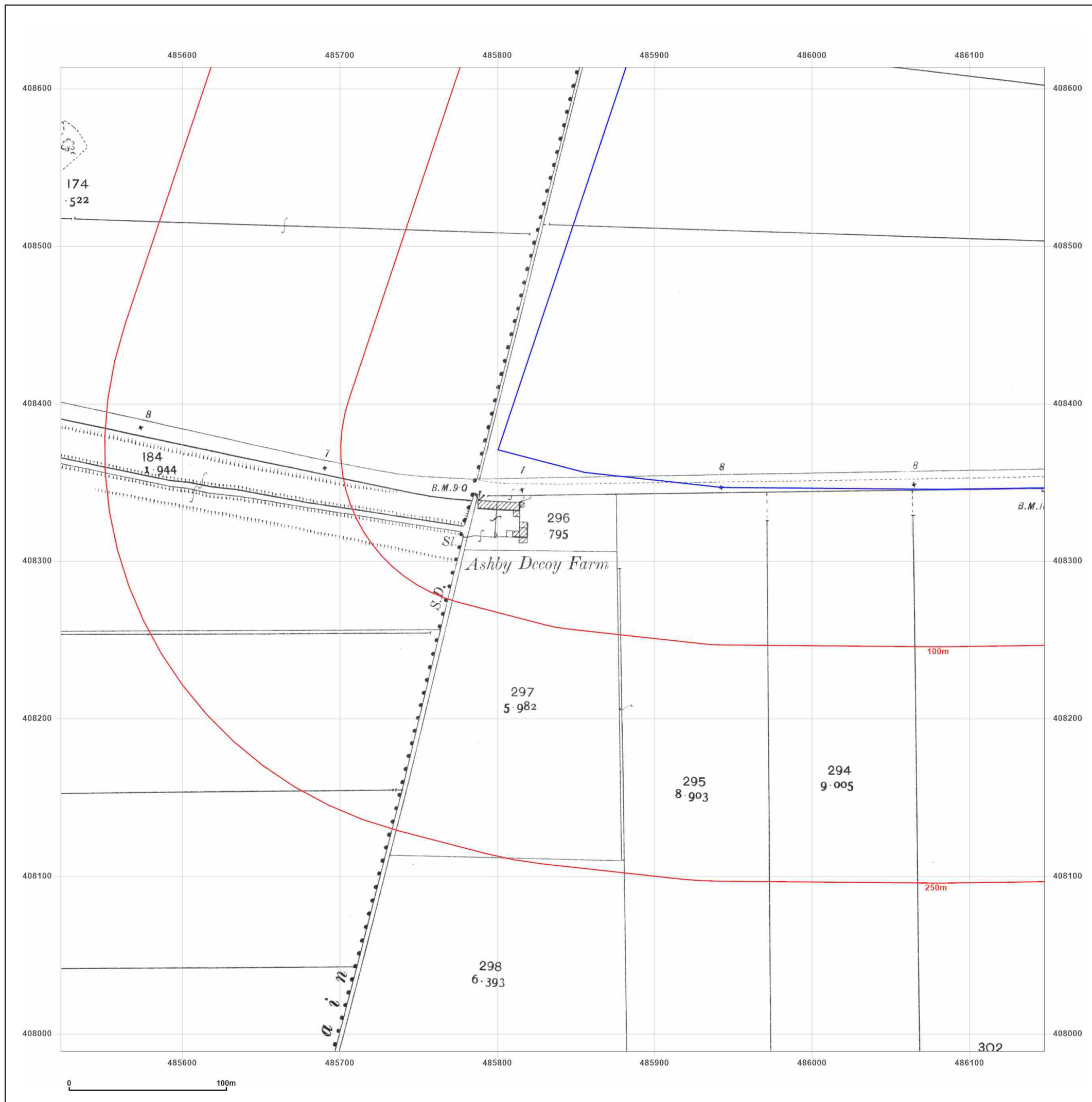
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Production date: 24 January 2023

Map legend available at:
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EMAPSITE™

Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_1_1
Grid Ref: 485835, 408301

Map Name: County Series

Map date: 1907

Scale: 1:2,500

Printed at: 1:2,500



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



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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_1_1
Grid Ref: 485835, 408301

Map Name: National Grid

Map date: 1965-1968

Scale: 1:2,500

Printed at: 1:2,500

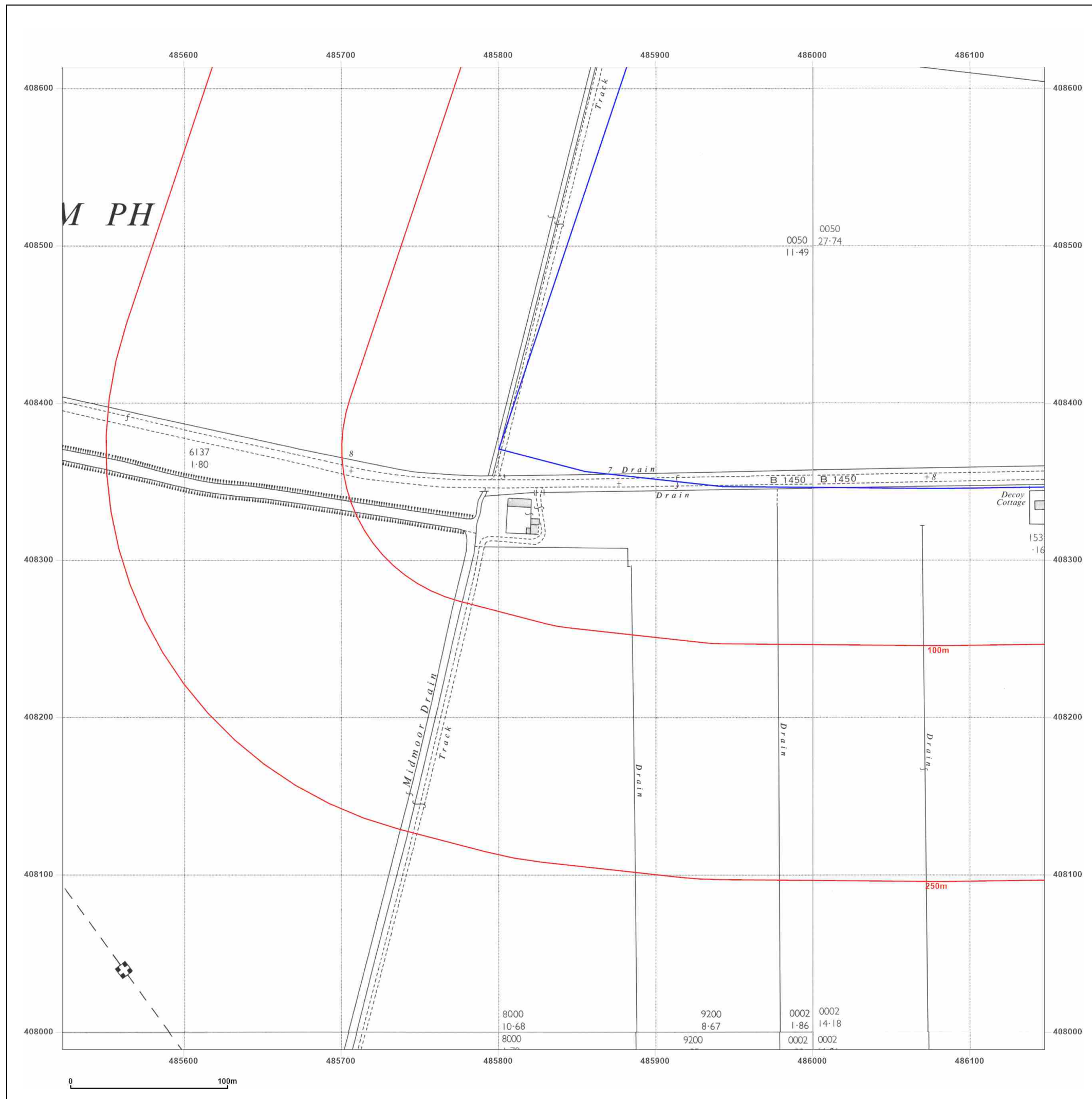


Surveyed 1965
 Revised 1965
 Edition N/A
 Copyright 1965
 Levelled 1951

Surveyed 1966
 Revised 1966
 Edition N/A
 Copyright 1968
 Levelled 1951

Surveyed 1964
 Revised 1964
 Edition N/A
 Copyright 1966
 Levelled 1951

Surveyed 1965
 Revised 1965
 Edition N/A
 Copyright 1967
 Levelled 1951



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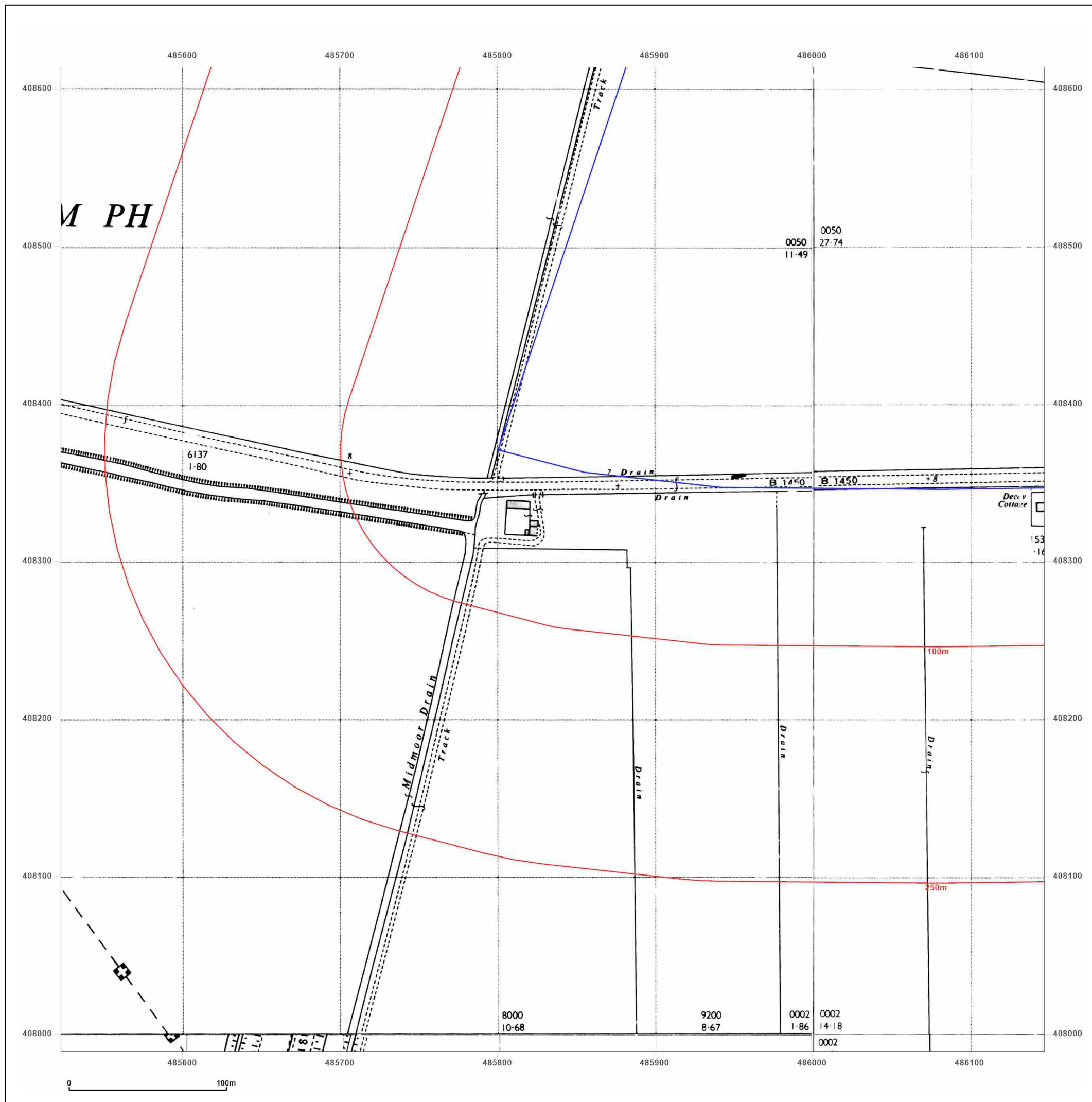


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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_1_1
Grid Ref: 485835, 408301

Map Name: National Grid

Map date: 1965-1968

Scale: 1:2,500

Printed at: 1:2,500



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

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

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

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



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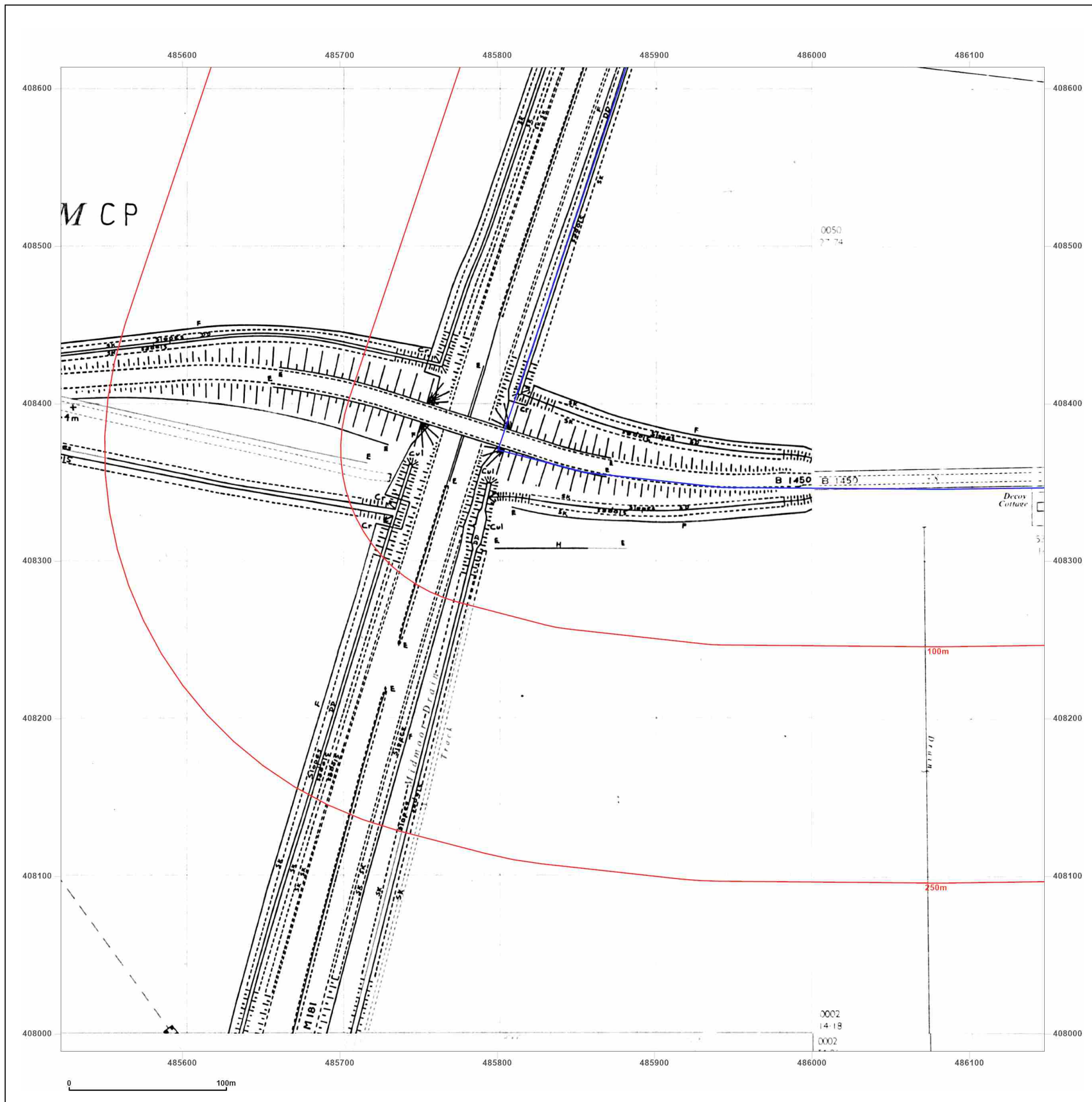


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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_1_1
Grid Ref: 485835, 408301

Map Name: National Grid

Map date: 1975-1979

Scale: 1:2,500

Printed at: 1:2,500



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

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

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

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



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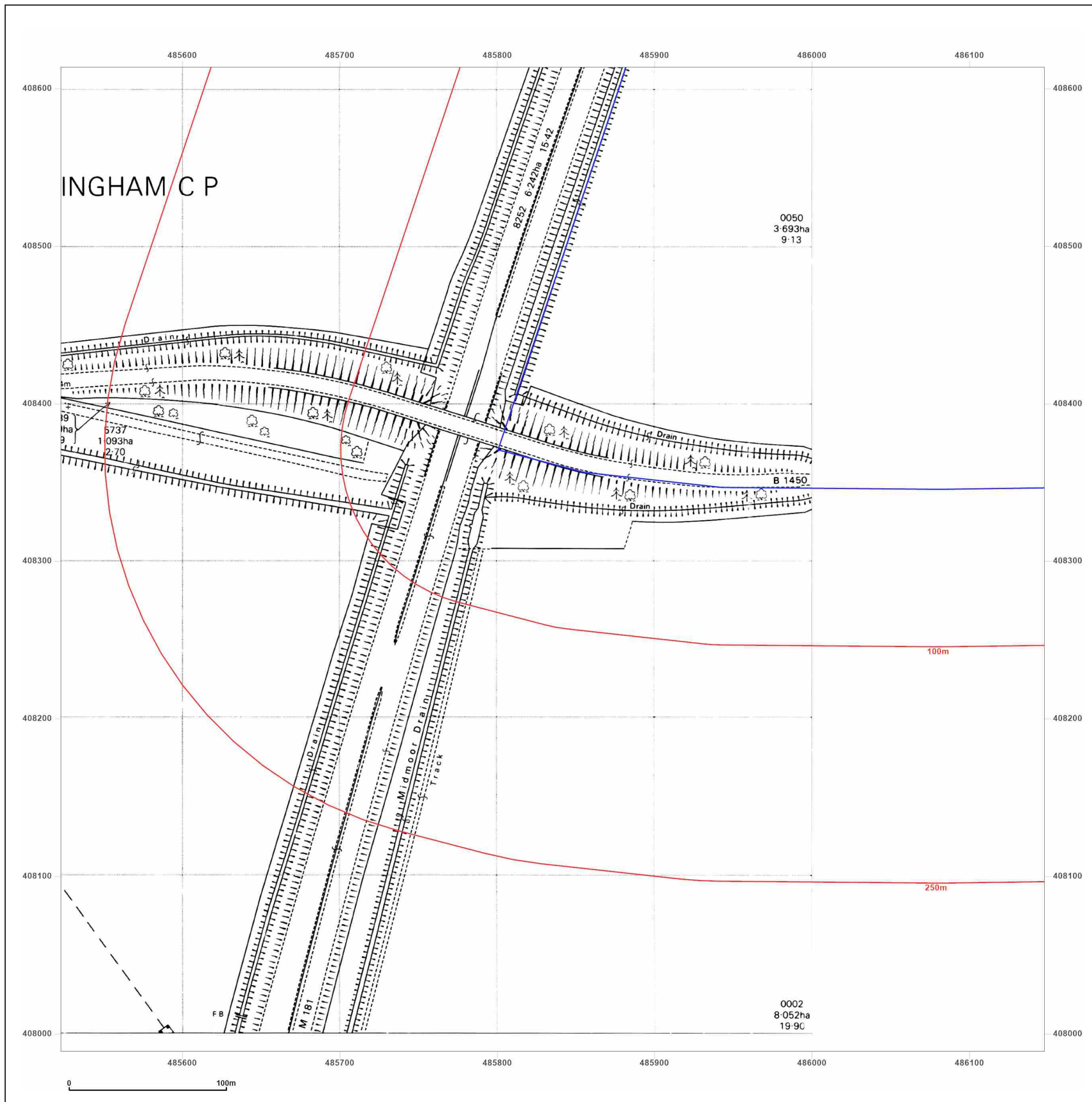


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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_1_1
Grid Ref: 485835, 408301

Map Name: National Grid

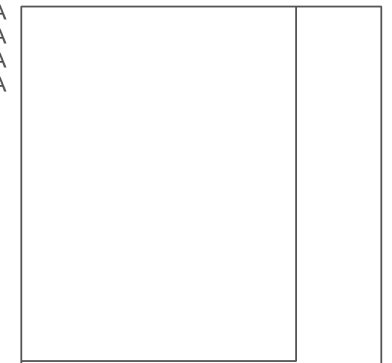
Map date: 1988

Scale: 1:2,500

Printed at: 1:2,500



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



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Site Details:

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Report Ref: EMS-839368_1077829_LS_1_1
Grid Ref: 485835, 408301

Map Name: National Grid

Map date: 1988-1990

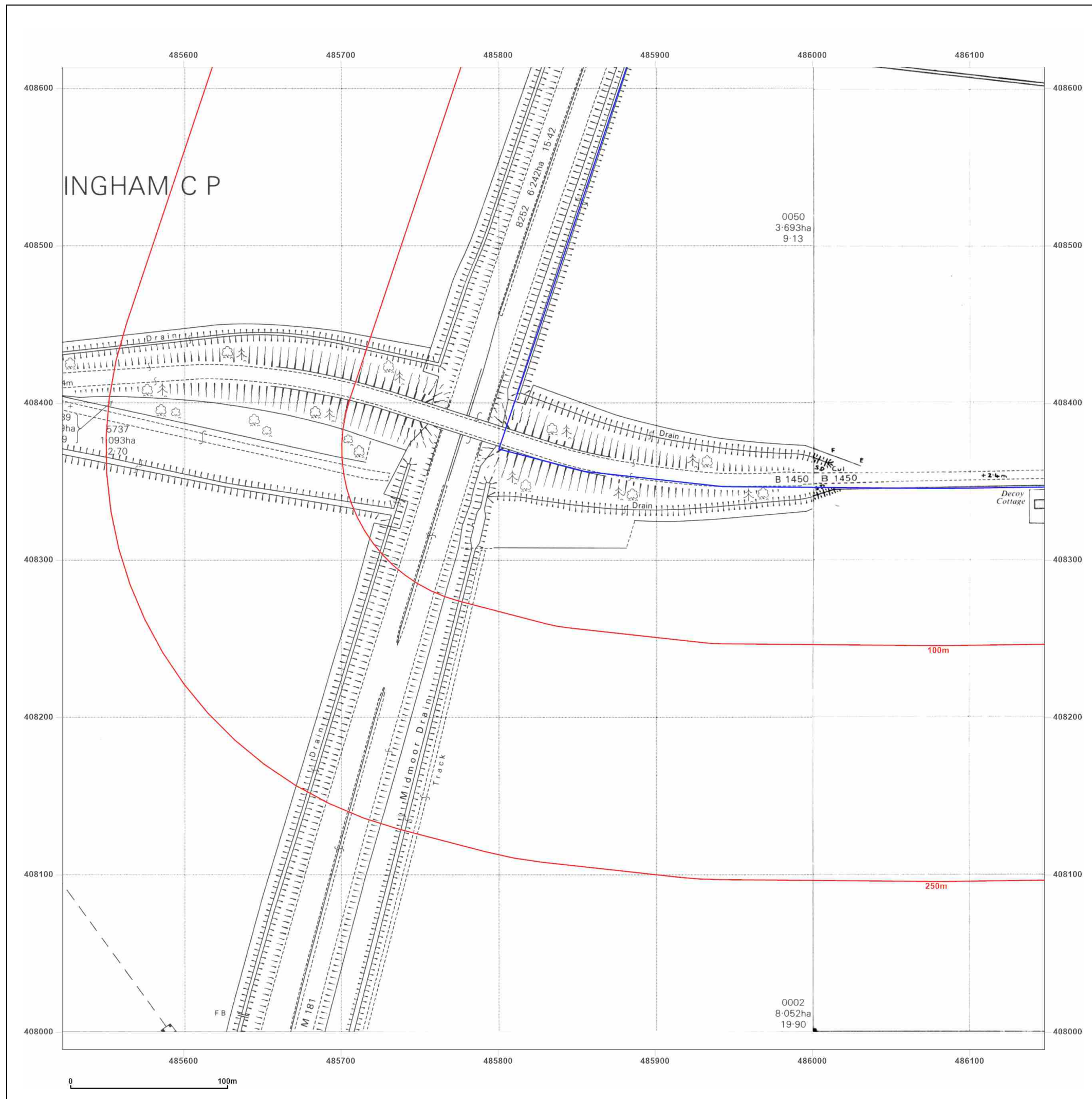
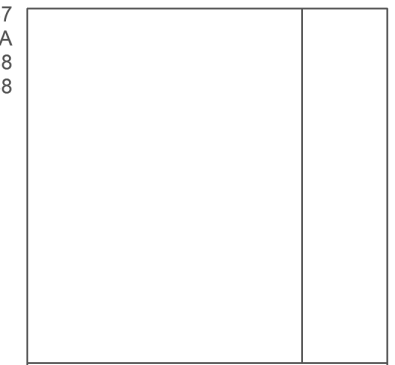
Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1987
 Revised 1987
 Edition N/A
 Copyright 1988
 Levelled 1968

Surveyed 1968
 Revised 1990
 Edition N/A
 Copyright 1990
 Levelled 1968



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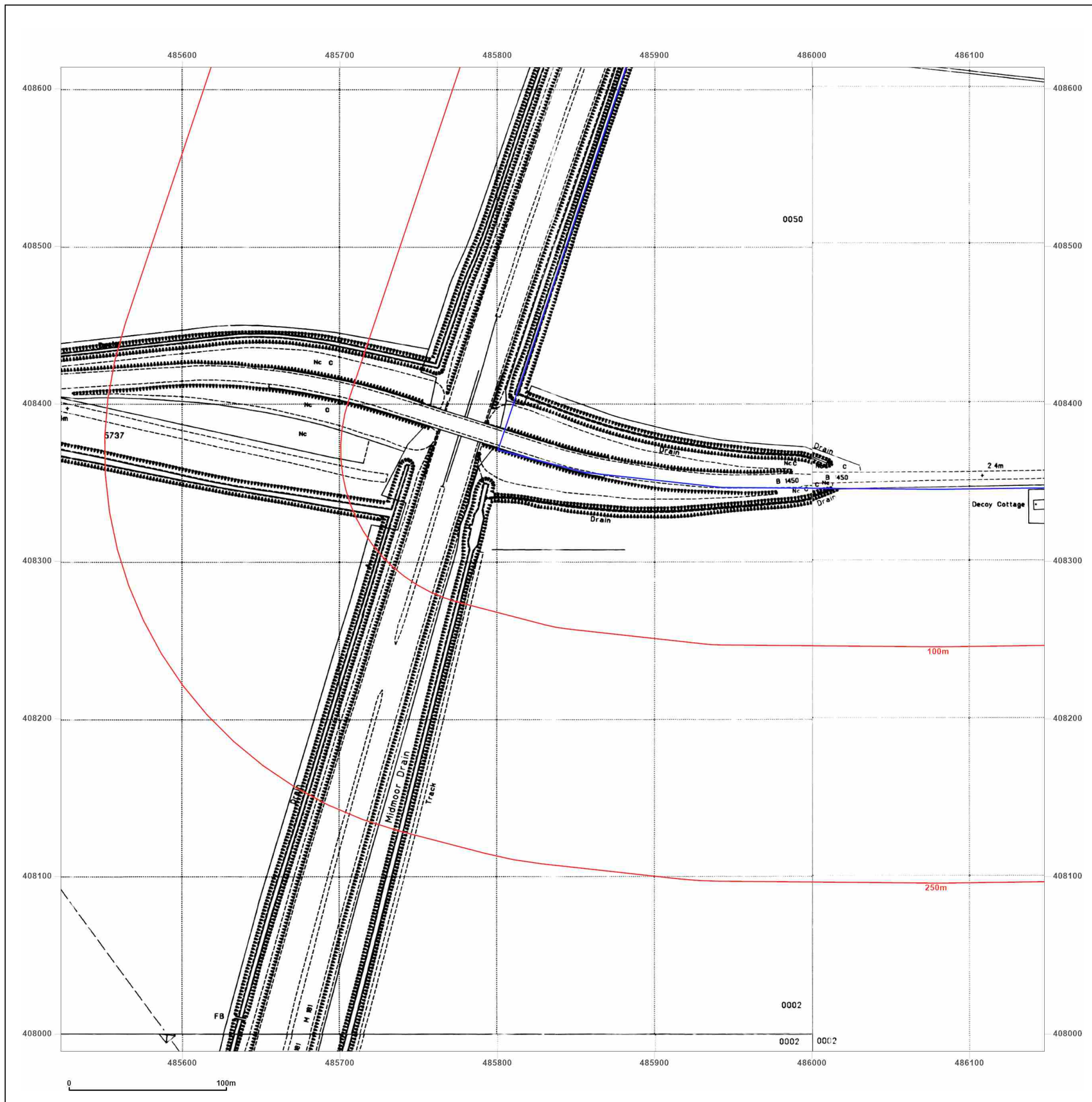


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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_1_1
Grid Ref: 485835, 408301

Map Name: National Grid

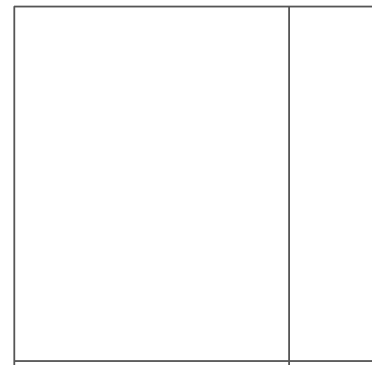
Map date: 1994

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1994
 Levelled N/A



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1994
 Levelled N/A

Surveyed 1994
 Revised N/A
 Edition N/A
 Copyright 1994
 Levelled N/A

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1994
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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_1_2
Grid Ref: 485835, 408926

Map Name: County Series

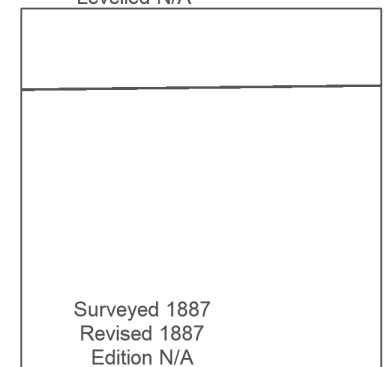
Map date: 1887

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1887
 Revised 1887
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1887
 Revised 1887
 Edition N/A
 Copyright N/A
 Levelled N/A



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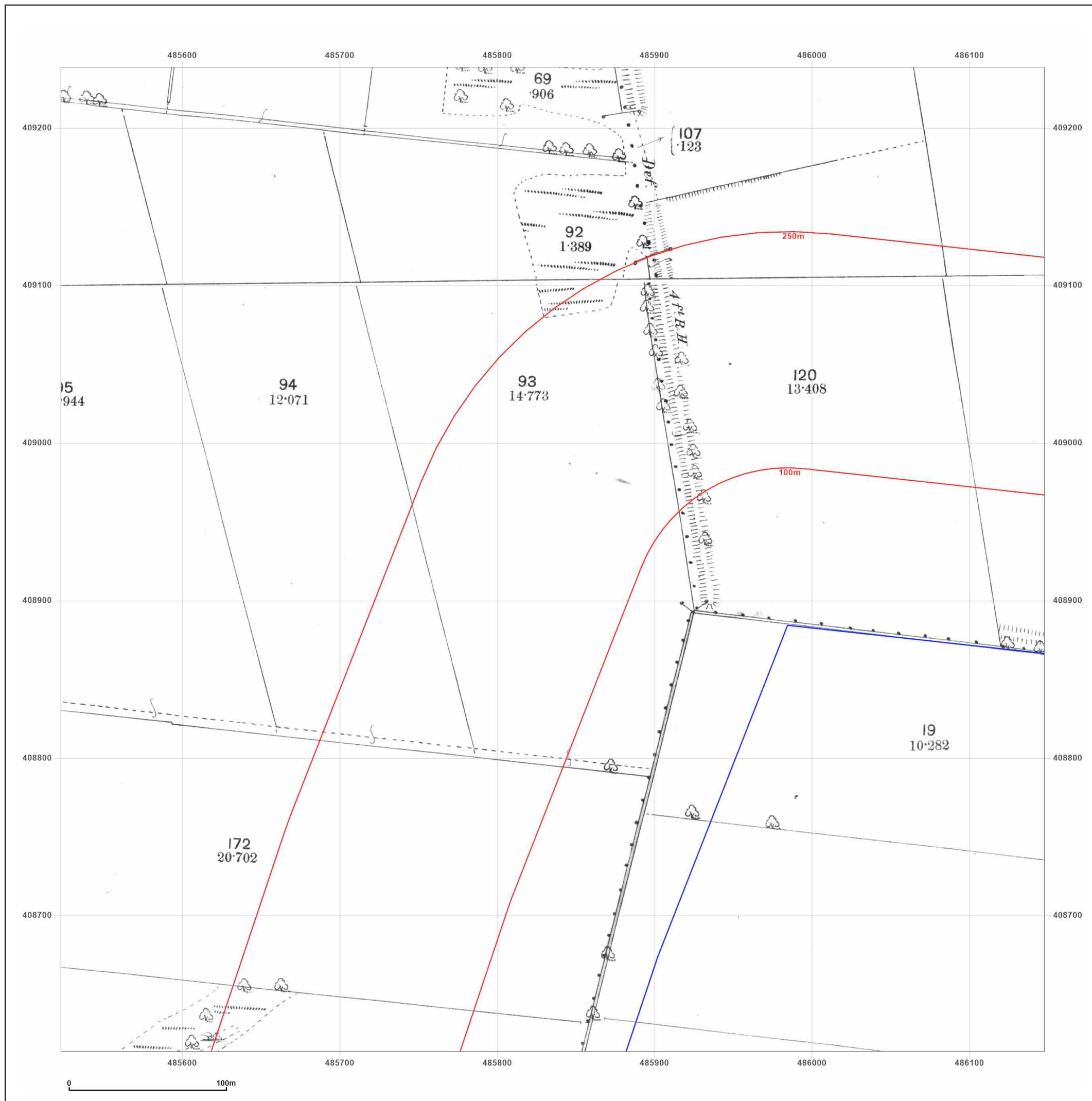


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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_1_2
Grid Ref: 485835, 408926

Map Name: County Series

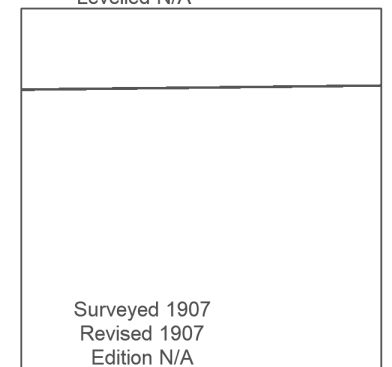
Map date: 1907

Scale: 1:2,500

Printed at: 1:2,500



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



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



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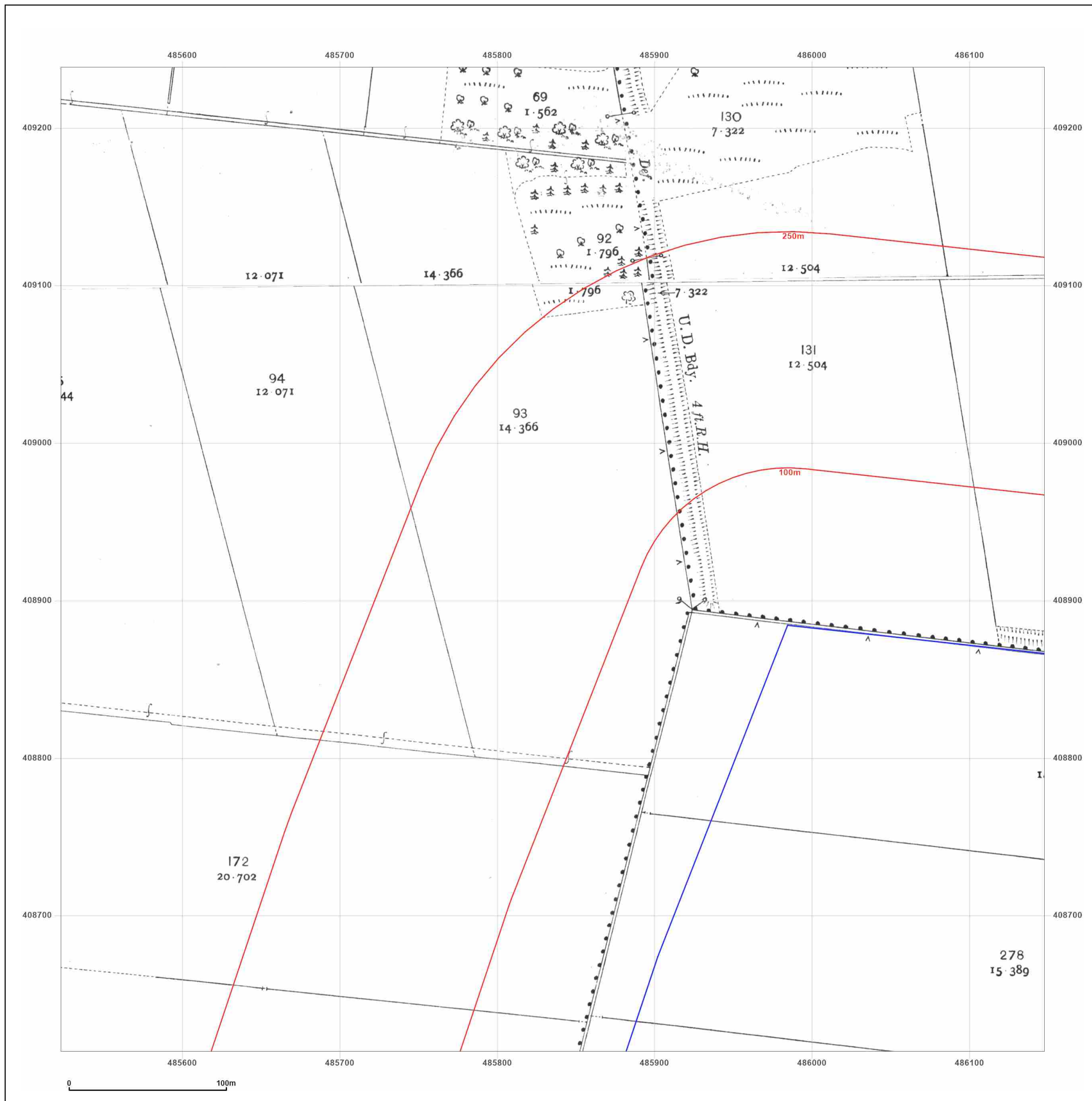


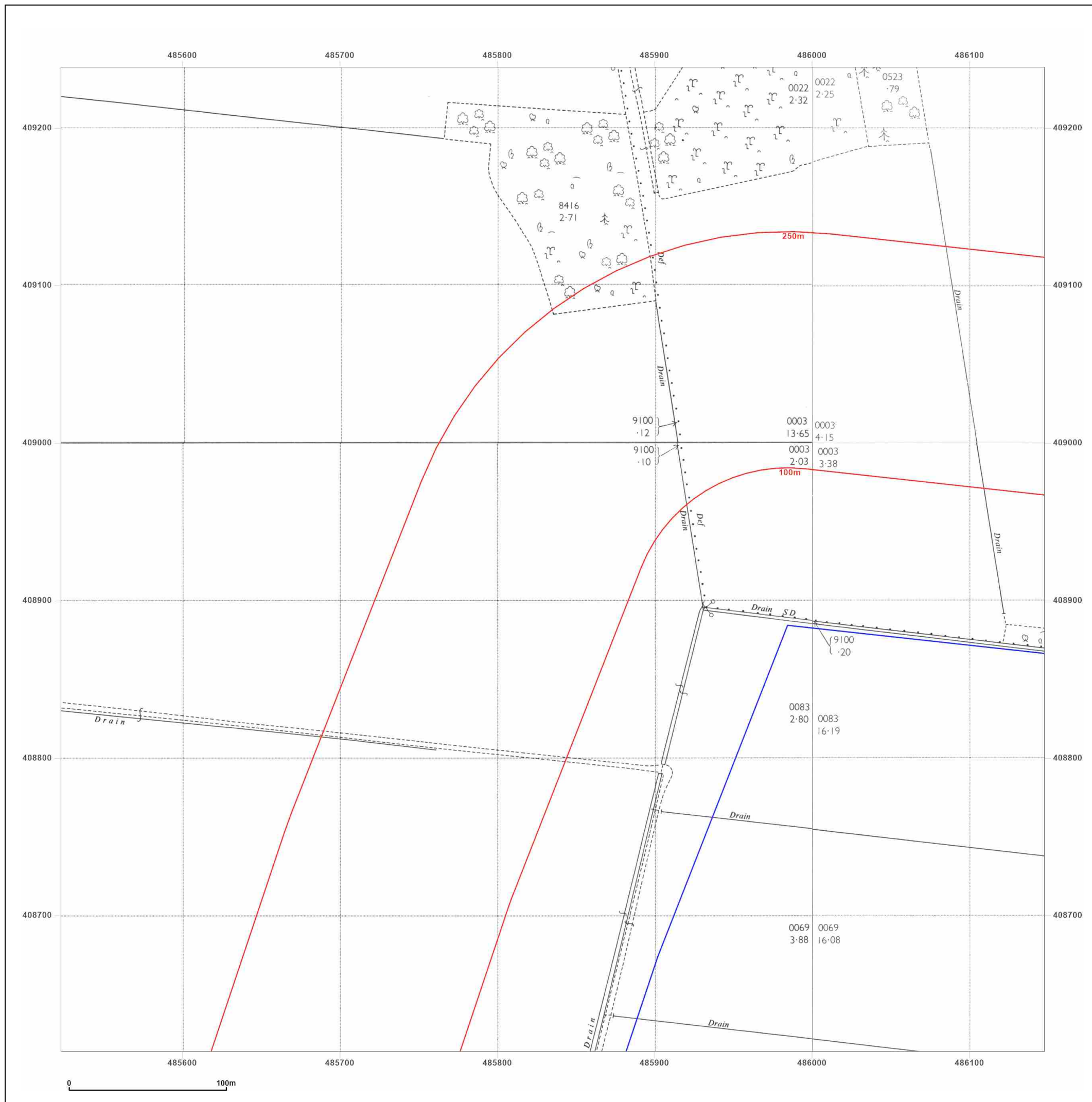
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Map legend available at:
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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_1_2
Grid Ref: 485835, 408926

Map Name: National Grid

Map date: 1965-1968

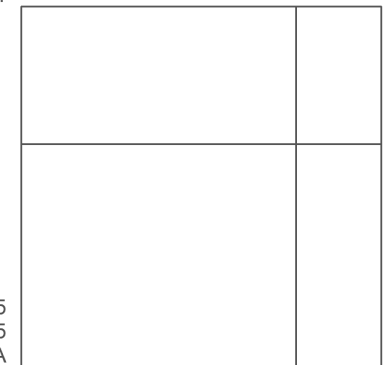
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Printed at: 1:2,500



Surveyed 1965
 Revised 1965
 Edition N/A
 Copyright 1966
 Levelled 1951

Surveyed 1966
 Revised 1966
 Edition N/A
 Copyright 1968
 Levelled 1951



Surveyed 1965
 Revised 1965
 Edition N/A
 Copyright 1965
 Levelled 1951

Surveyed 1966
 Revised 1966
 Edition N/A
 Copyright 1968
 Levelled 1951



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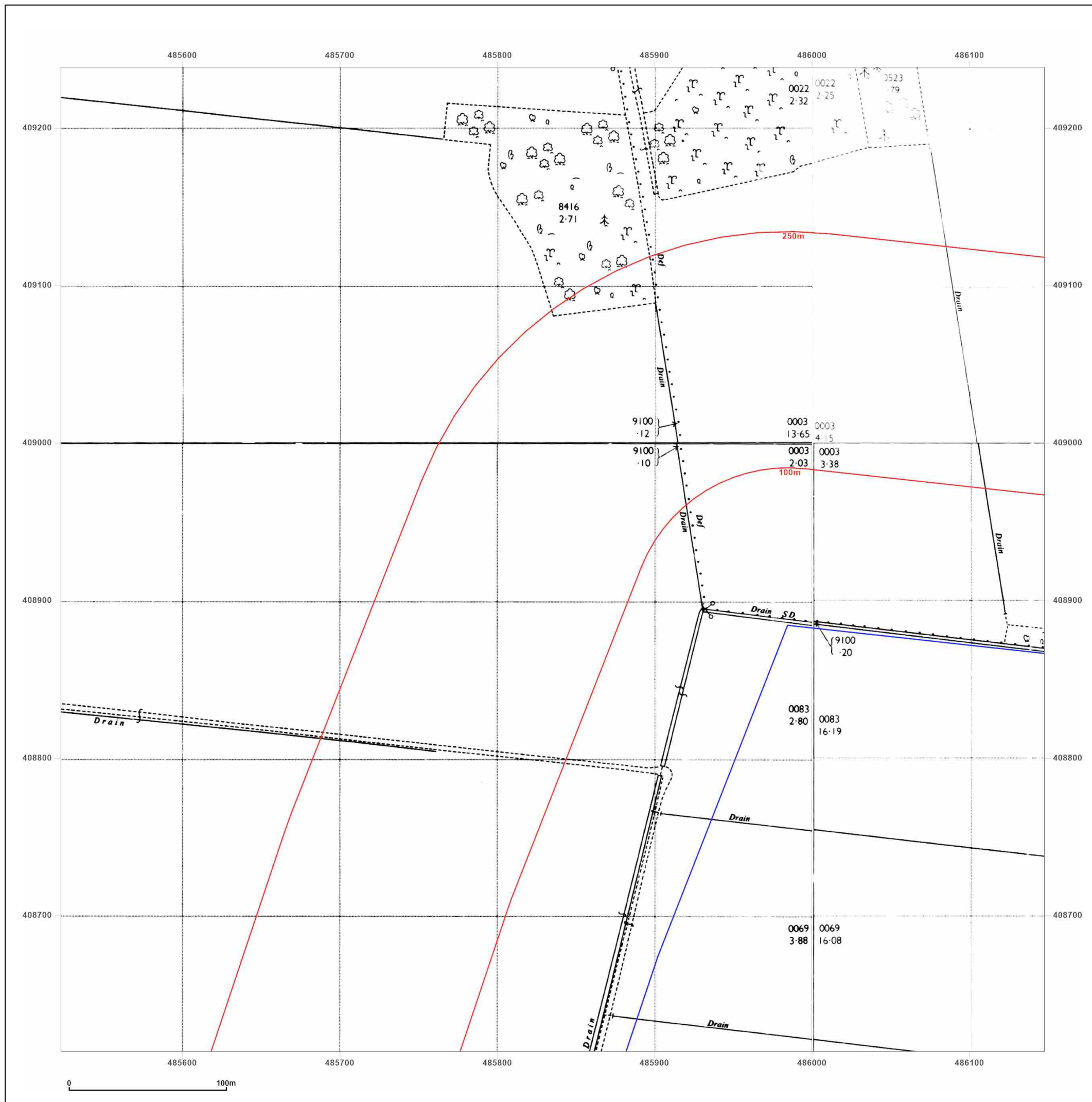


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Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf

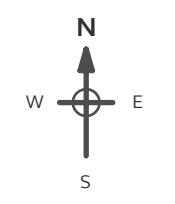


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Site Details:

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Report Ref: EMS-839368_1077829_LS_1_2
Grid Ref: 485835, 408926

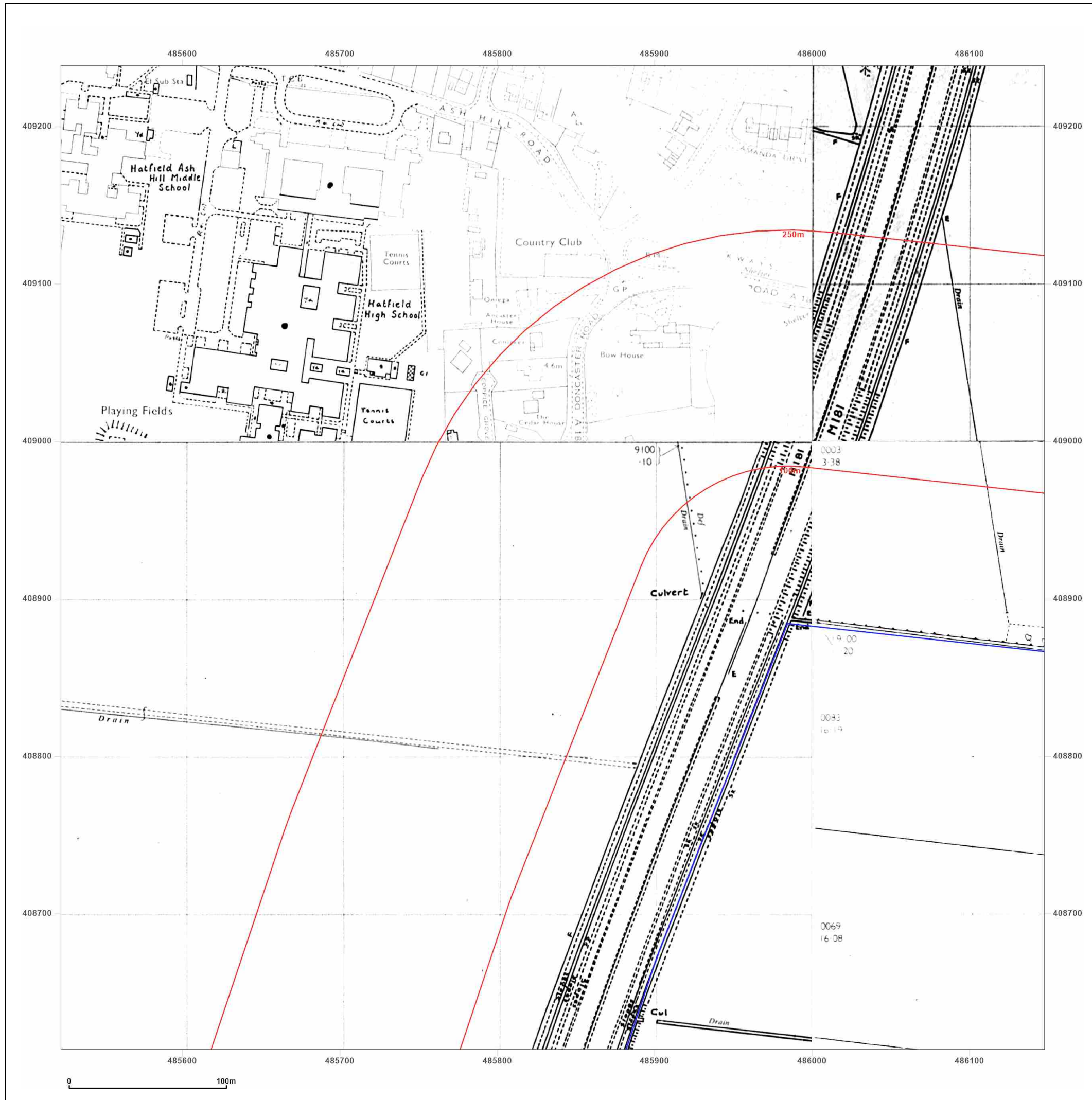
Map Name: National Grid
Map date: 1965-1968
Scale: 1:2,500
Printed at: 1:2,500



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


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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_1_2
Grid Ref: 485835, 408926

Map Name: National Grid

Map date: 1975-1980

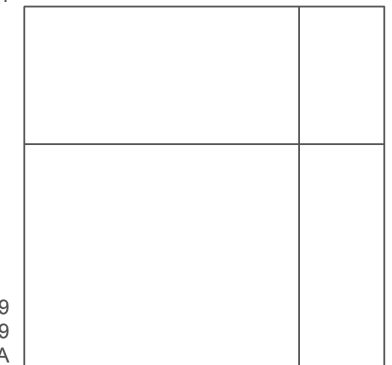
Scale: 1:2,500

Printed at: 1:2,500



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

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



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

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



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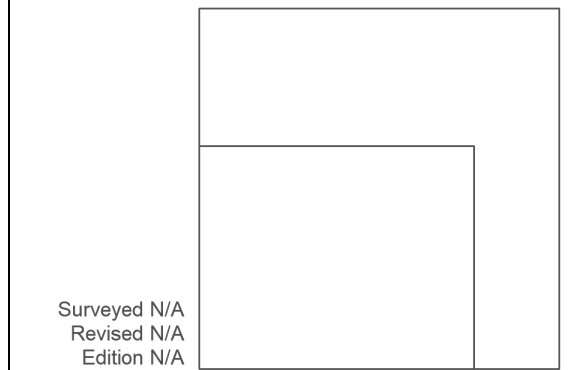
Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_1_2
Grid Ref: 485835, 408926

Map Name: National Grid

Map date: 1988

Scale: 1:2,500

Printed at: 1:2,500



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



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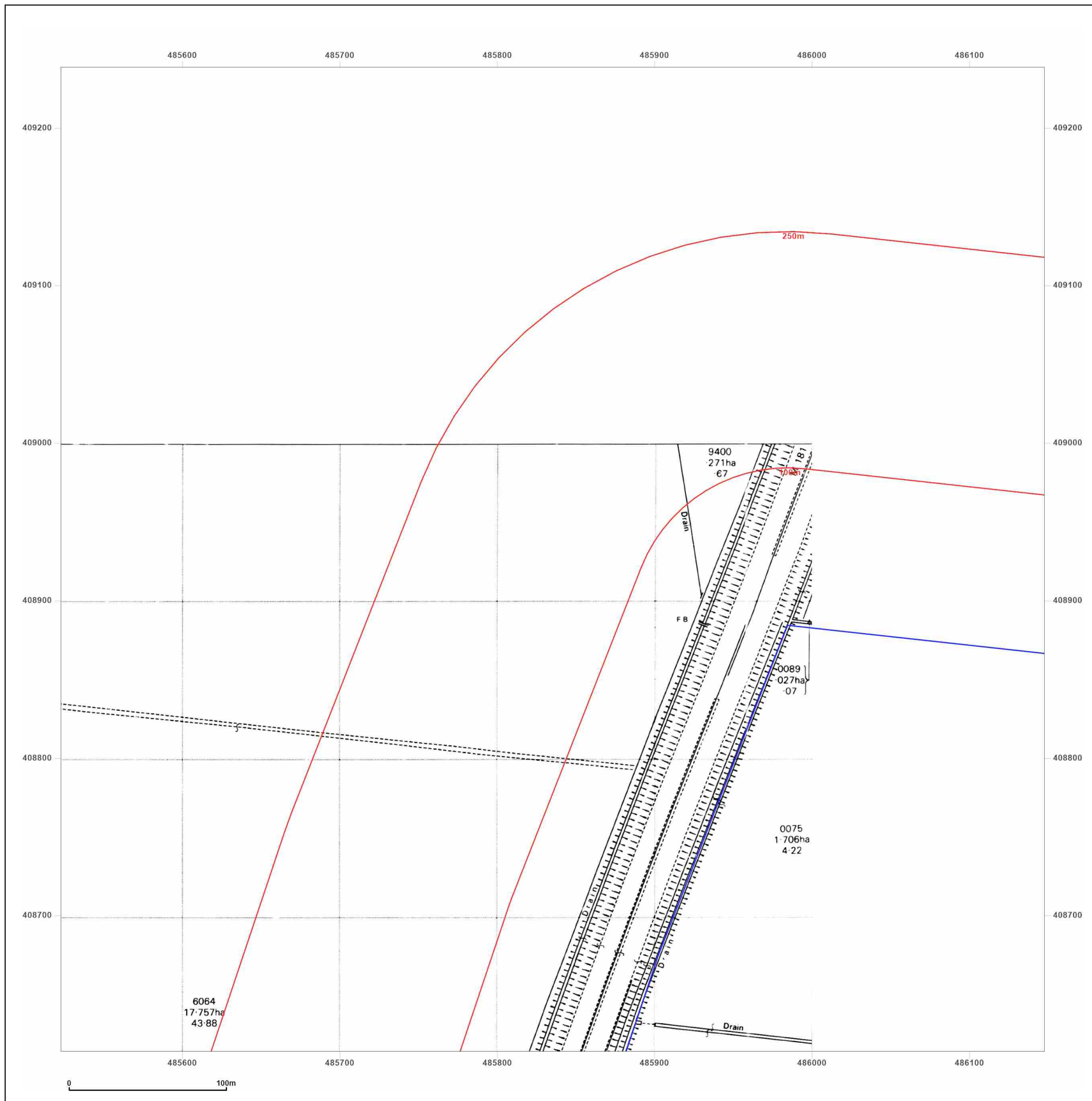


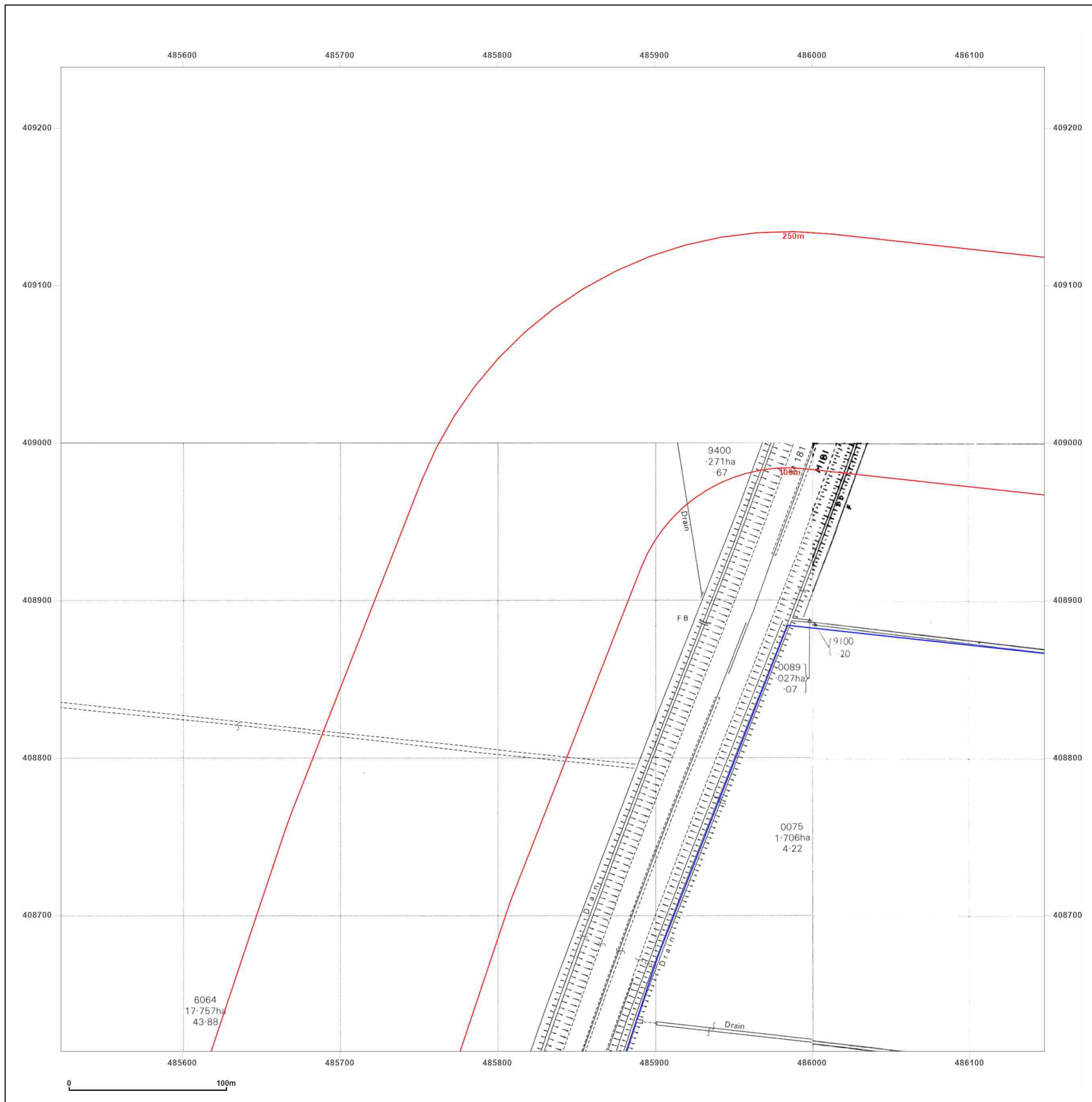
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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_1_2
Grid Ref: 485835, 408926

Map Name: National Grid

Map date: 1988-1990

Scale: 1:2,500

Printed at: 1:2,500



<p> Surveyed 1987 Revised 1987 Edition N/A Copyright 1988 Levelled 1968 </p>	<p> Surveyed 1968 Revised 1990 Edition N/A Copyright 1990 Levelled 1968 </p>
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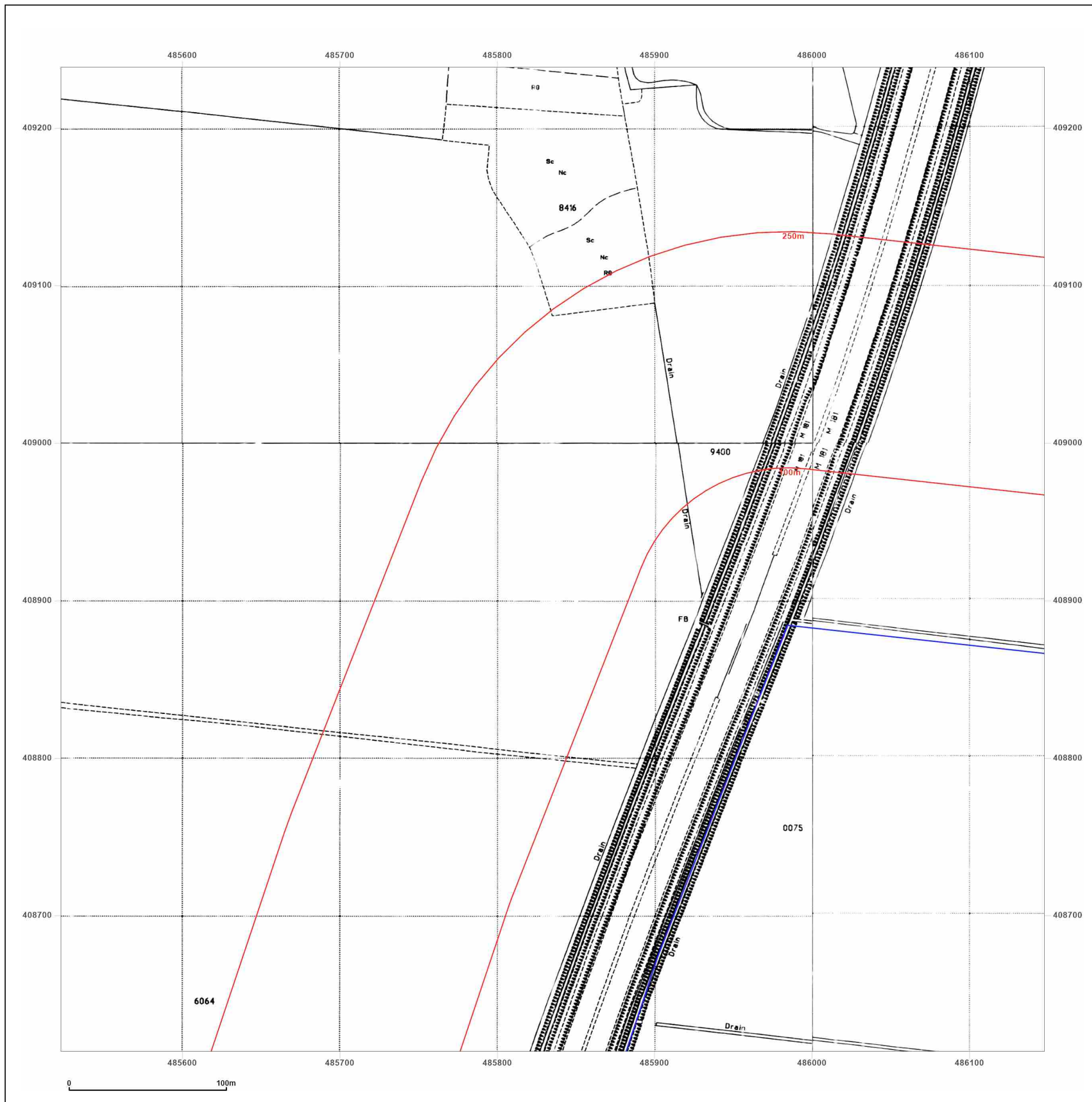


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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_1_2
Grid Ref: 485835, 408926

Map Name: National Grid

Map date: 1994

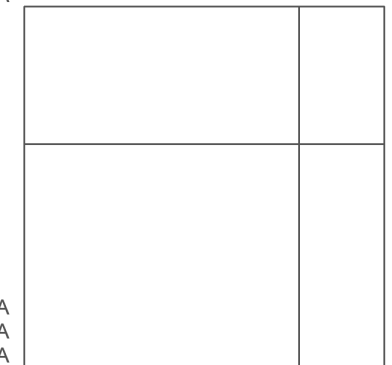
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Printed at: 1:2,500



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 Edition N/A
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 Copyright 1994
 Levelled N/A



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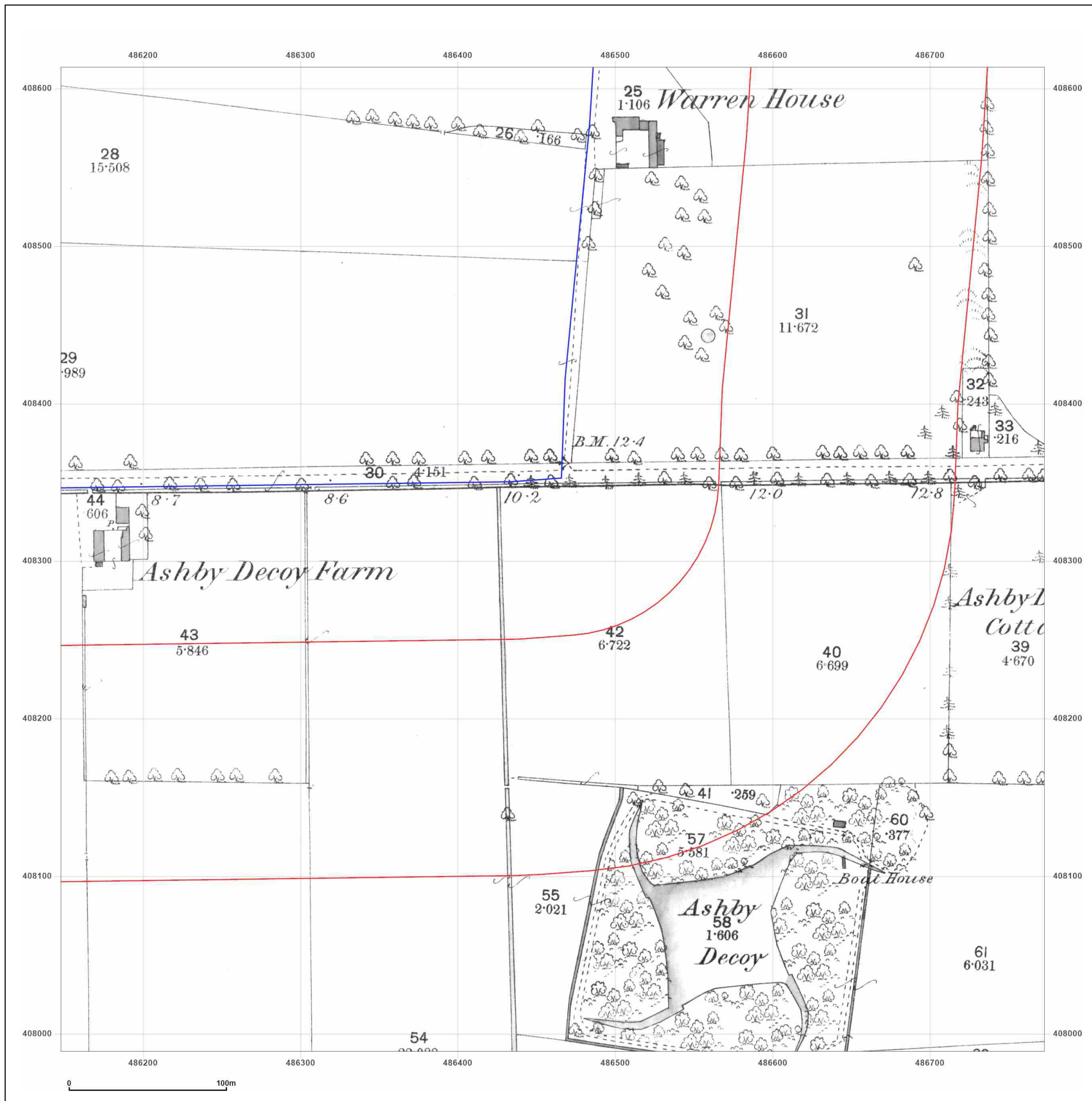


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Site Details:

Client Ref: EMS_839368_1037320
 Report Ref: EMS-839368_1077829_LS_2_1
 Grid Ref: 486460, 408301

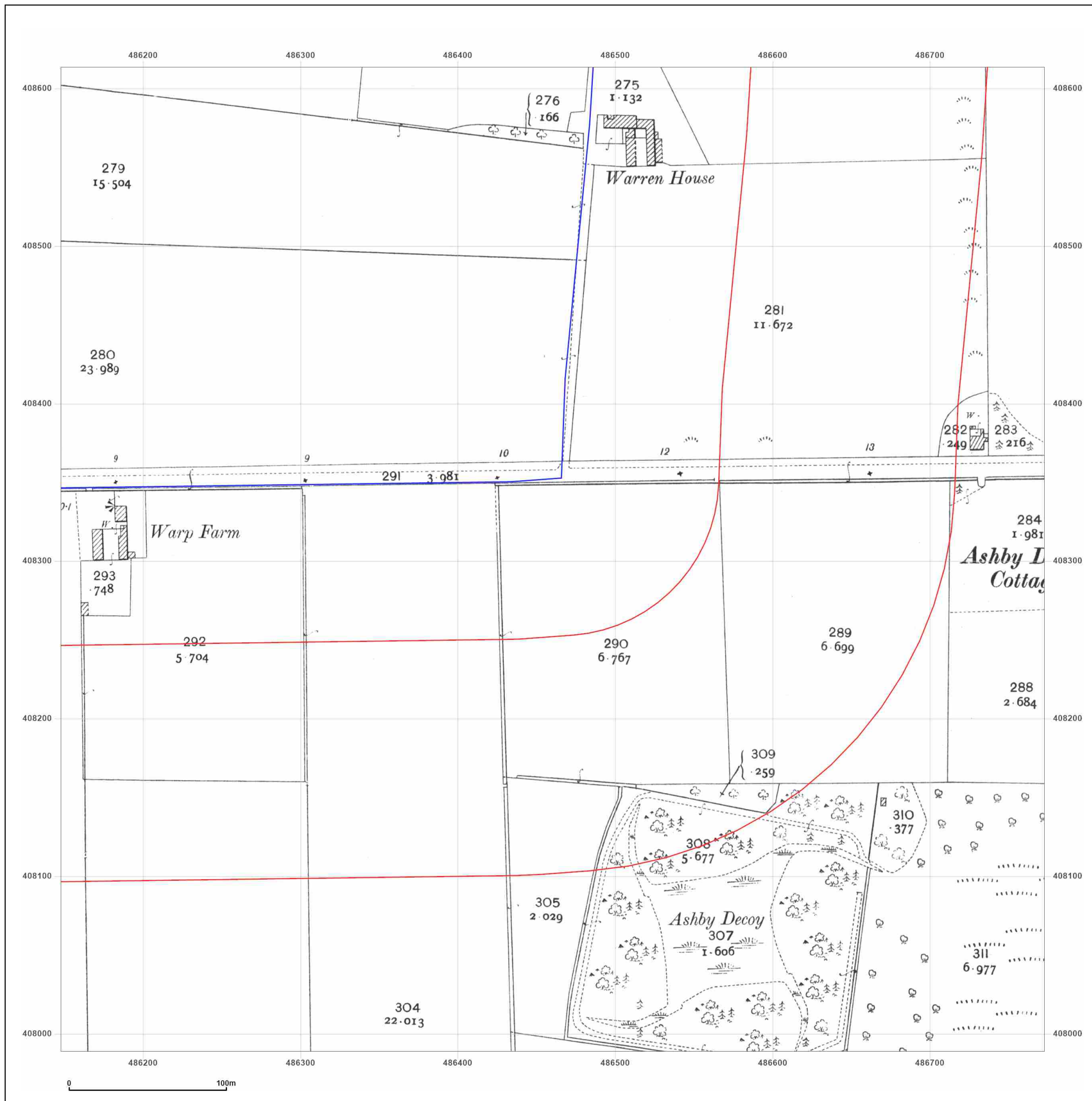
Map Name: County Series
 Map date: 1887
 Scale: 1:2,500
 Printed at: 1:2,500



Surveyed 1887
 Revised 1887
 Edition N/A
 Copyright N/A
 Levelled N/A

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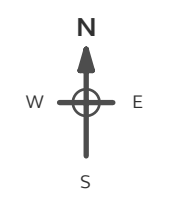


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Site Details:

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 Grid Ref: 486460, 408301

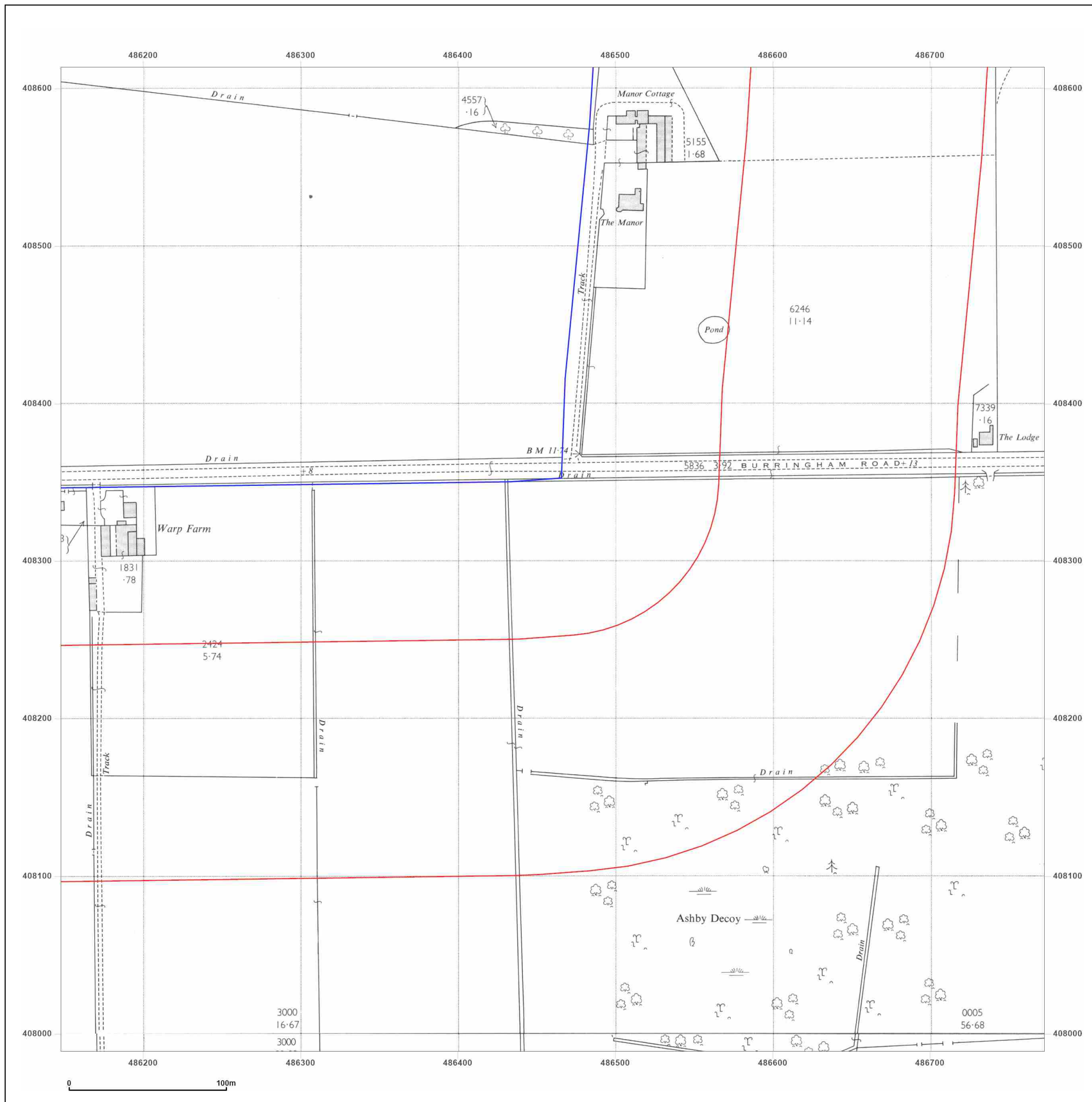
Map Name: County Series
 Map date: 1907
 Scale: 1:2,500
 Printed at: 1:2,500



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

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Site Details:

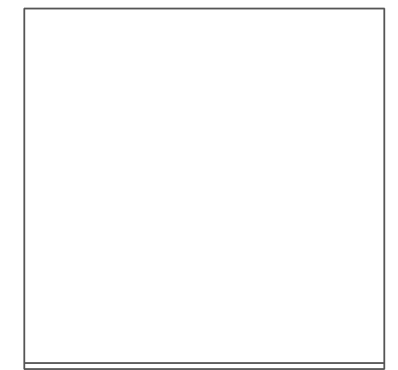
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Report Ref: EMS-839368_1077829_LS_2_1
Grid Ref: 486460, 408301

Map Name: National Grid

Map date: 1967-1968

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1966
 Revised 1966
 Edition N/A
 Copyright 1968
 Levelled 1951

Surveyed 1965
 Revised 1965
 Edition N/A
 Copyright 1967
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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_2_1
Grid Ref: 486460, 408301

Map Name: National Grid

Map date: 1967-1968

Scale: 1:2,500

Printed at: 1:2,500



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

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



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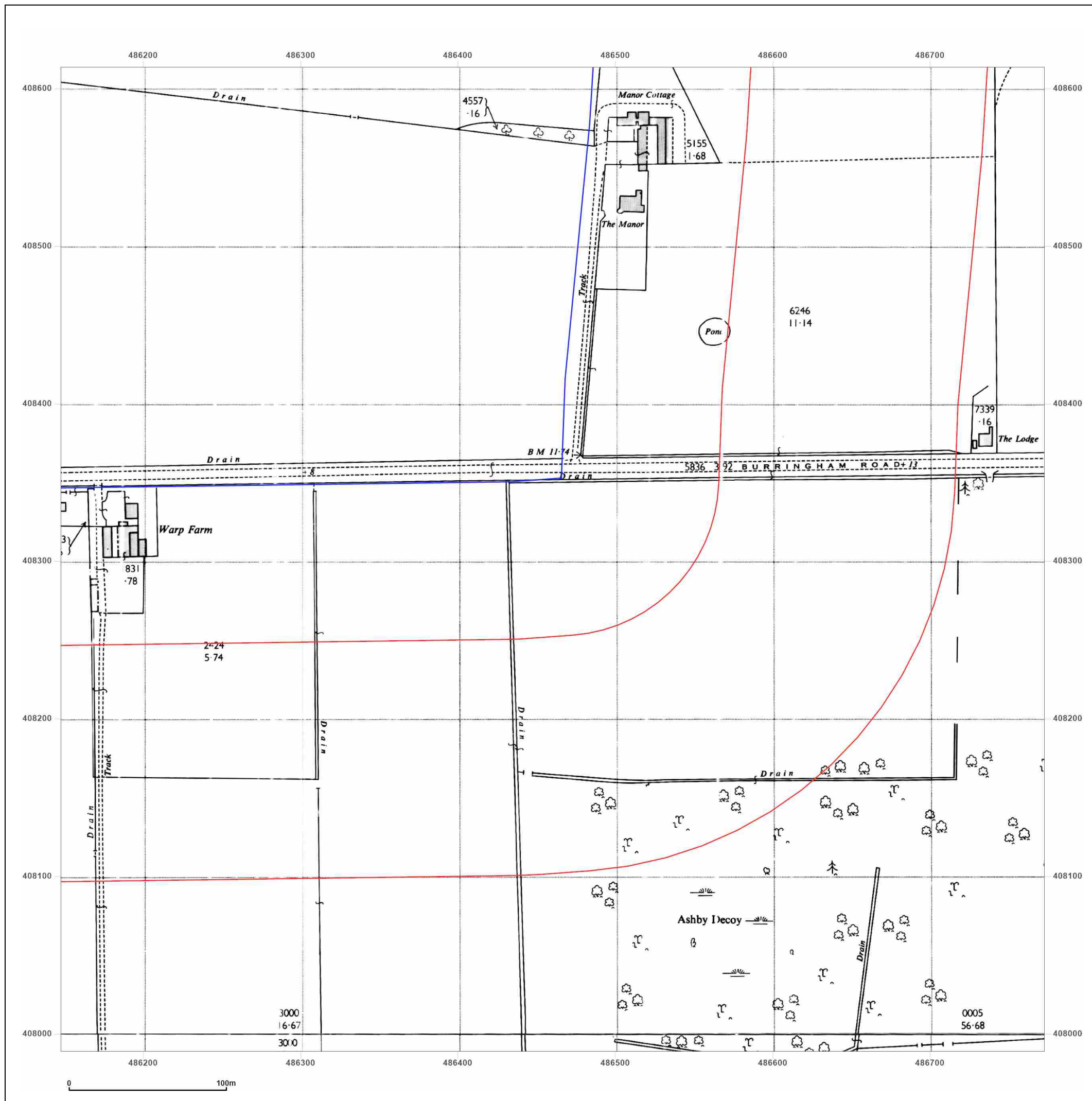


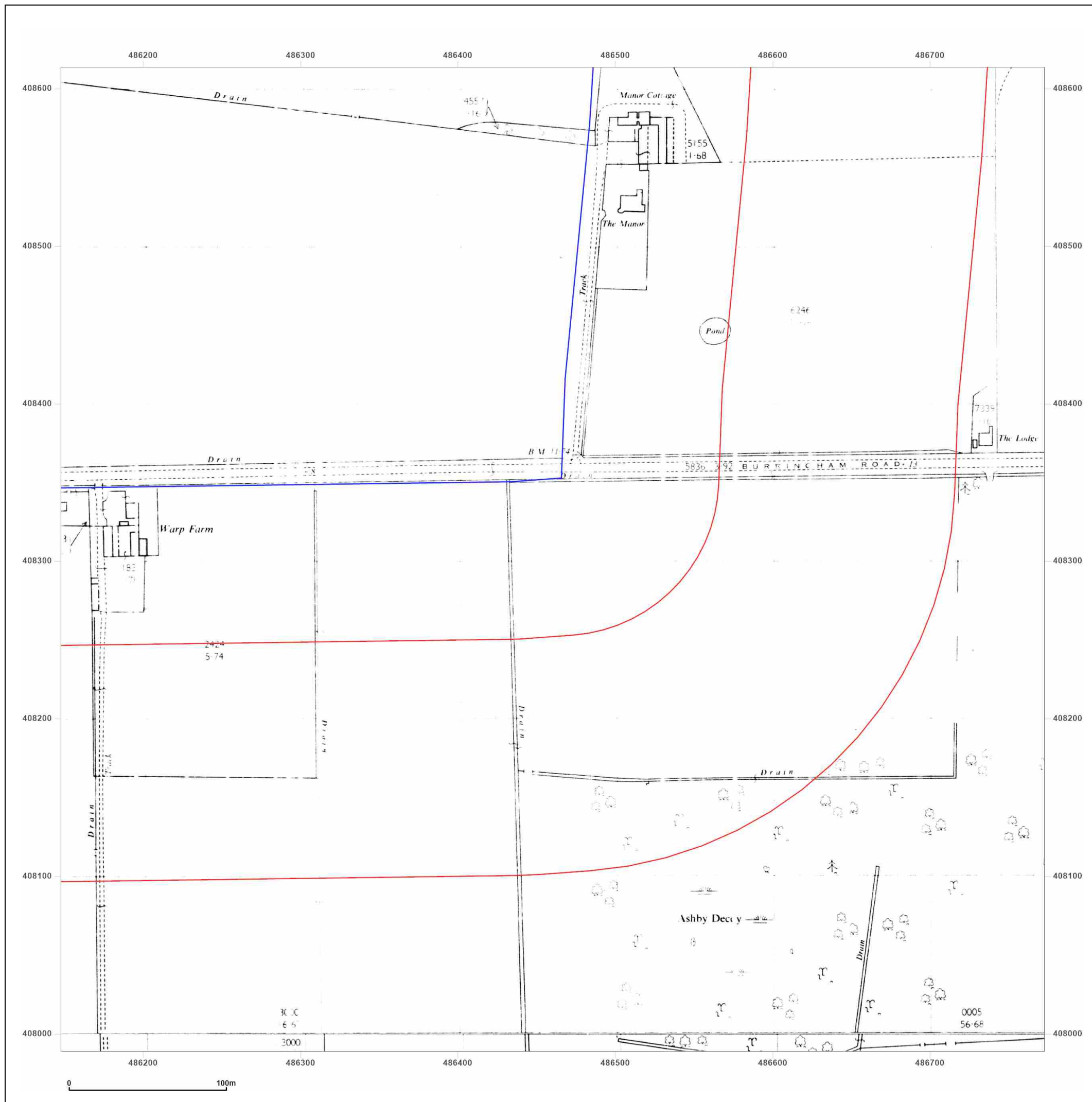
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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_2_1
Grid Ref: 486460, 408301

Map Name: National Grid

Map date: 1975-1979

Scale: 1:2,500

Printed at: 1:2,500



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

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



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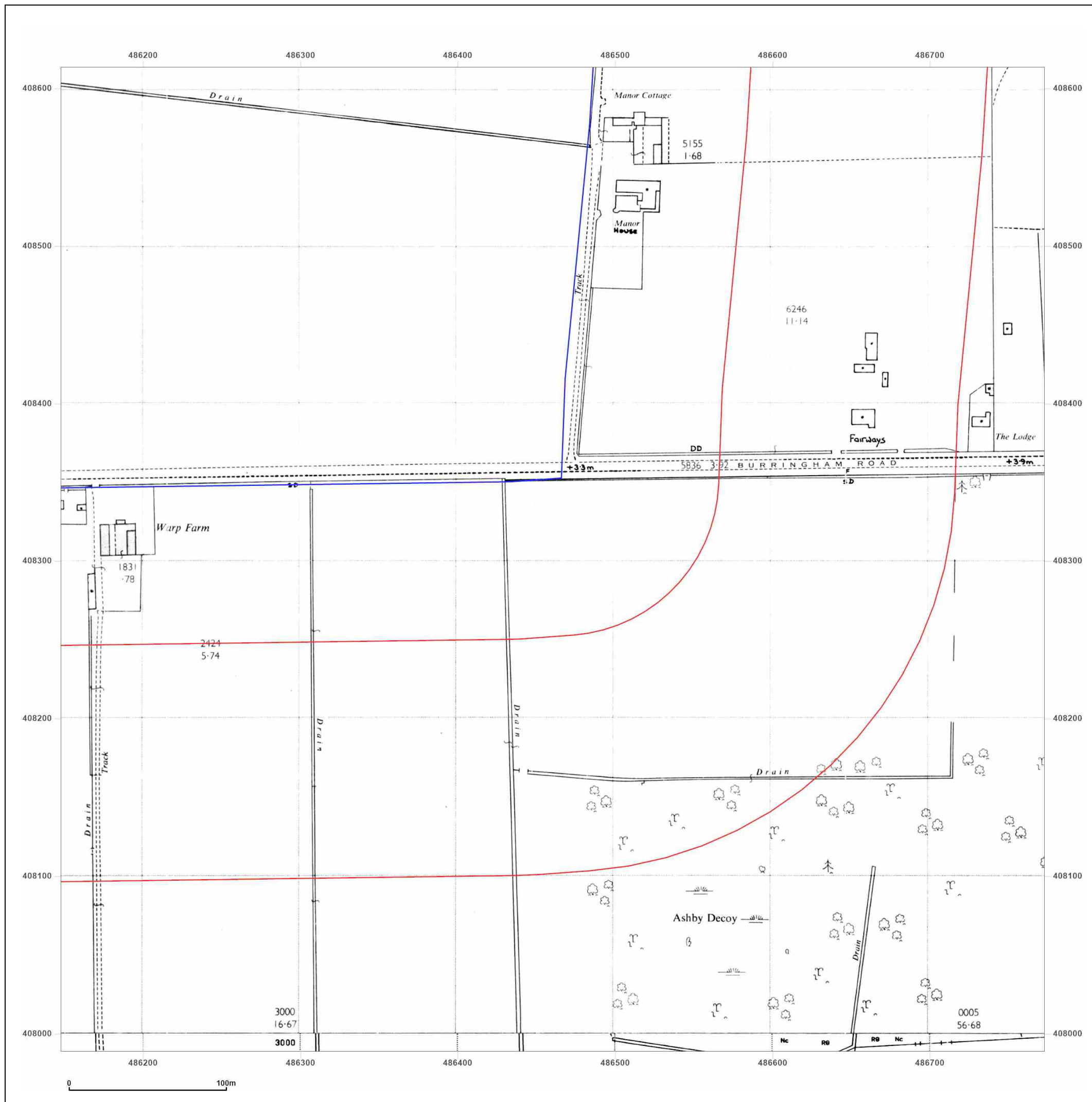


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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_2_1
Grid Ref: 486460, 408301

Map Name: National Grid

Map date: 1990-1994

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1968
 Revised 1990
 Edition N/A
 Copyright 1990
 Levelled 1968

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1994
 Levelled N/A



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Site Details:

Client Ref: EMS_839368_1037320
 Report Ref: EMS-839368_1077829_LS_2_1
 Grid Ref: 486460, 408301

Map Name: National Grid

Map date: 1994

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1994
 Levelled N/A



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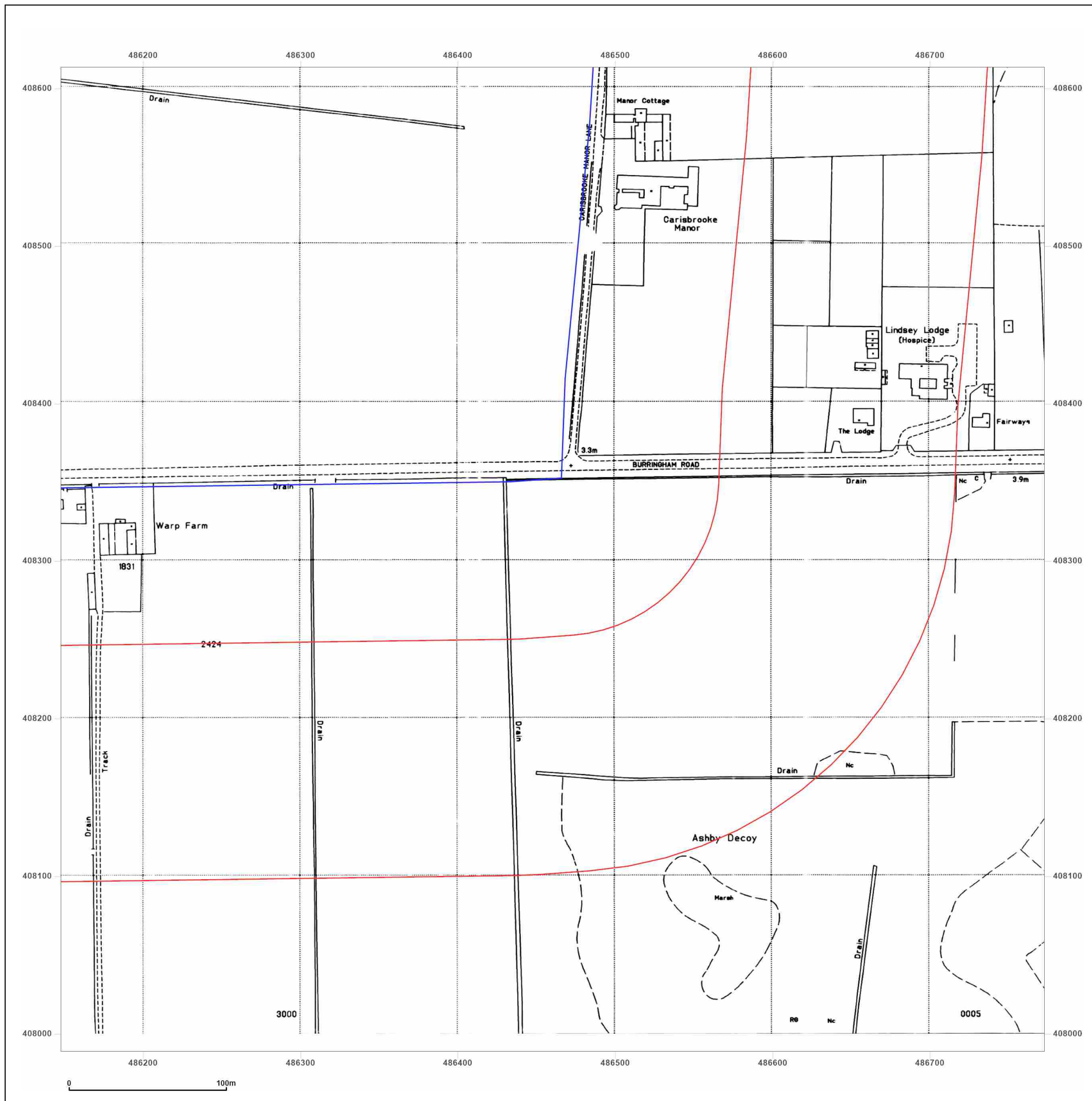


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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_2_2
Grid Ref: 486460, 408926

Map Name: County Series

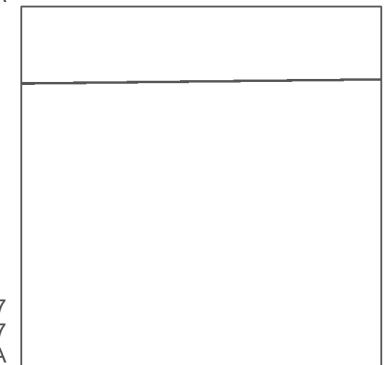
Map date: 1887

Scale: 1:2,500

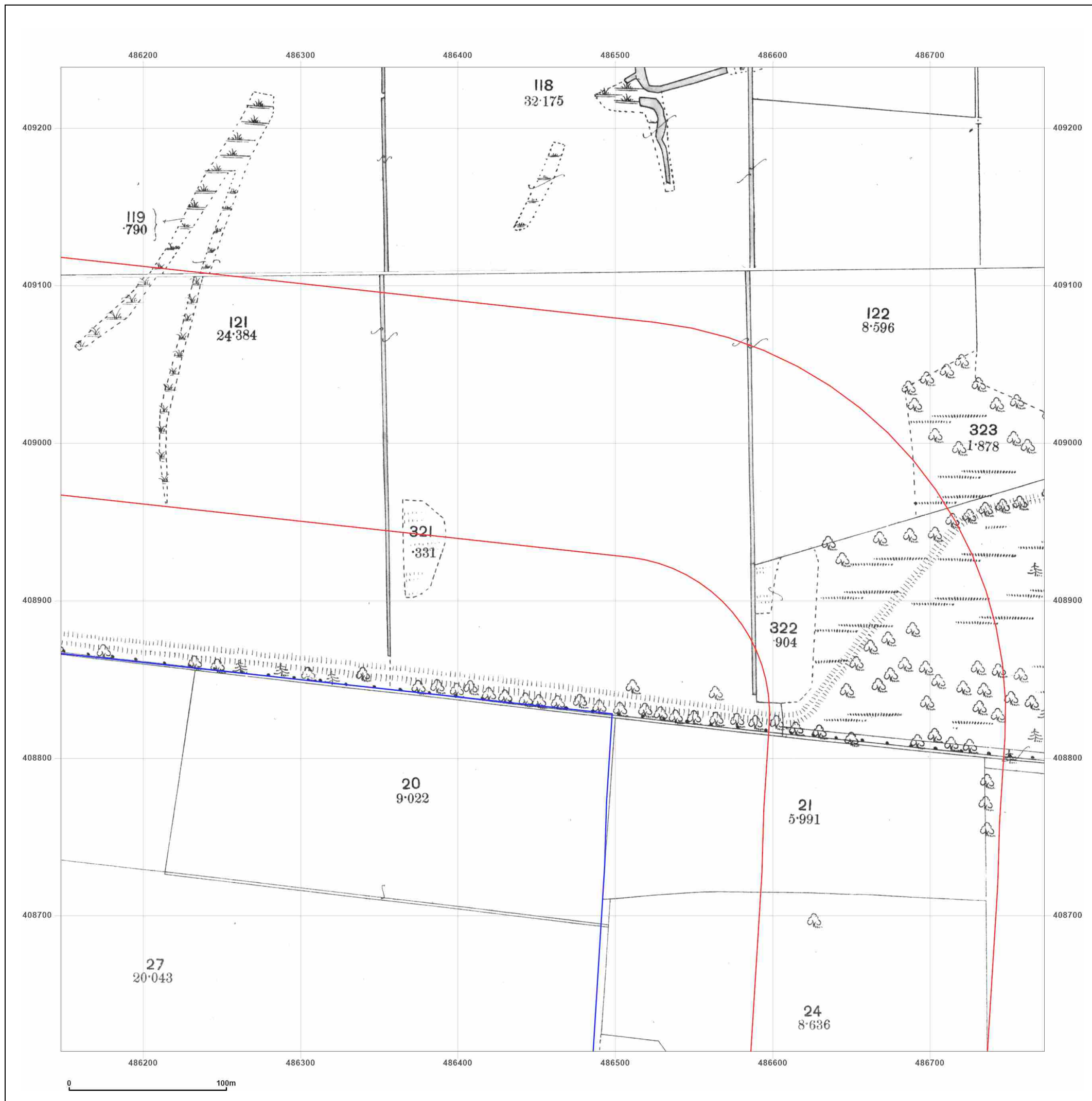
Printed at: 1:2,500



Surveyed 1887
 Revised 1887
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1887
 Revised 1887
 Edition N/A
 Copyright N/A
 Levelled N/A



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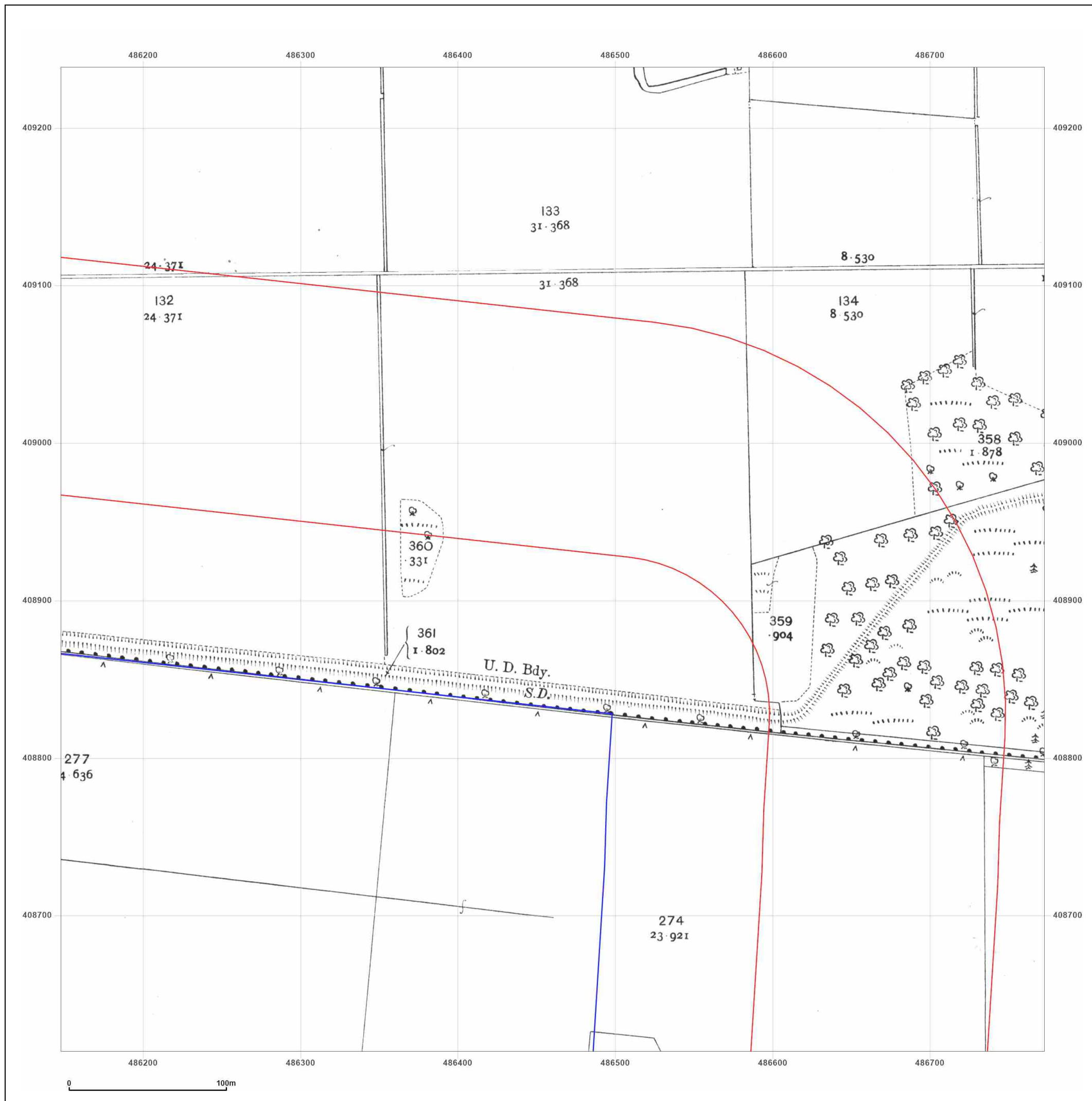


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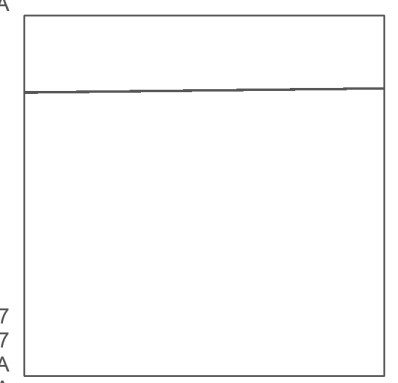
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Report Ref: EMS-839368_1077829_LS_2_2
Grid Ref: 486460, 408926

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



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



Surveyed 1907
 Revised 1907
 Edition N/A
 Copyright N/A
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Site Details:

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Report Ref: EMS-839368_1077829_LS_2_2
Grid Ref: 486460, 408926

Map Name: National Grid

Map date: 1968

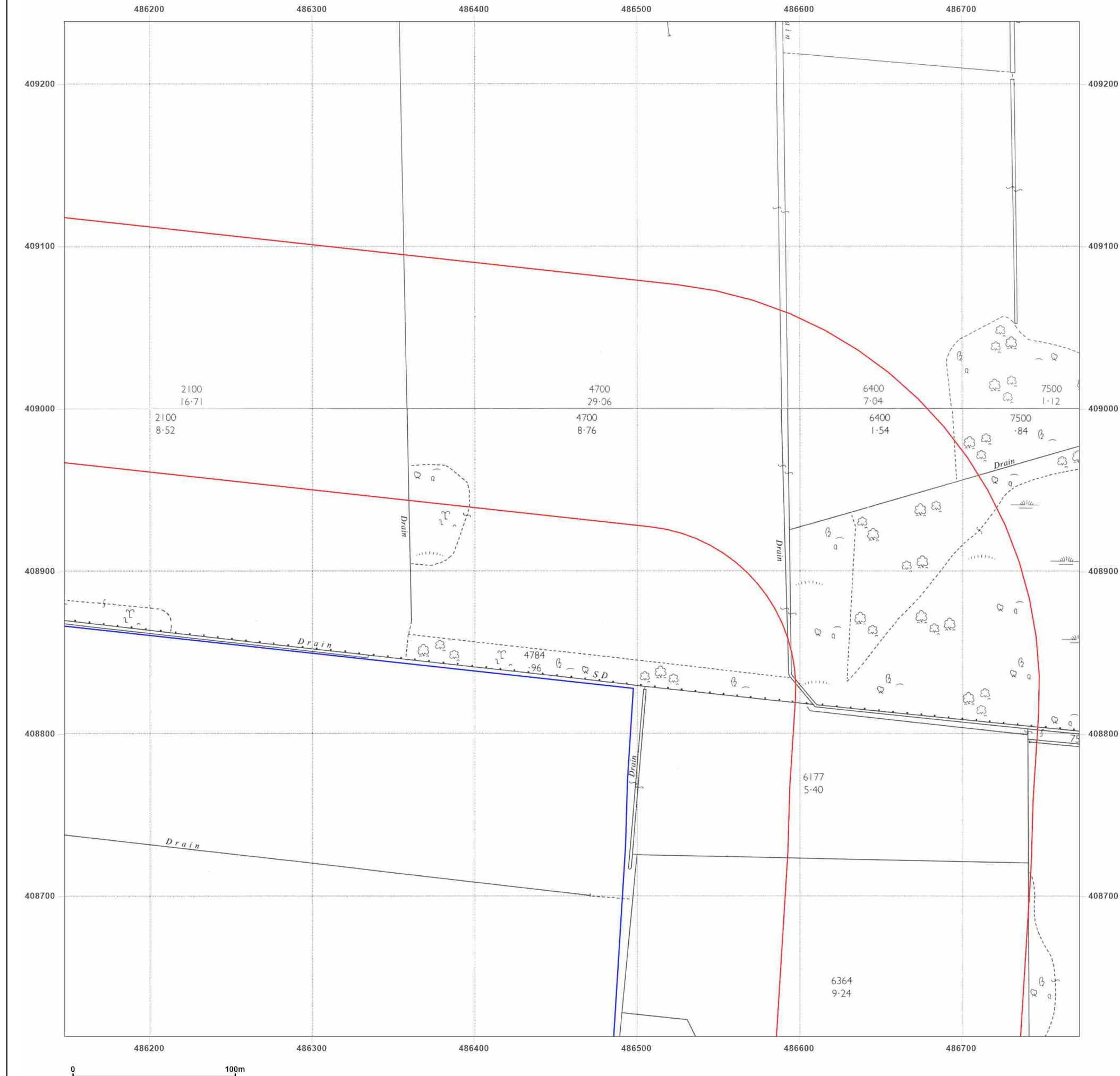
Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1966
 Revised 1966
 Edition N/A
 Copyright 1968
 Levelled 1951

Surveyed 1966
 Revised 1966
 Edition N/A
 Copyright 1968
 Levelled 1951



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Site Details:

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Report Ref: EMS-839368_1077829_LS_2_2
Grid Ref: 486460, 408926

Map Name: National Grid

Map date: 1968

Scale: 1:2,500

Printed at: 1:2,500



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

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



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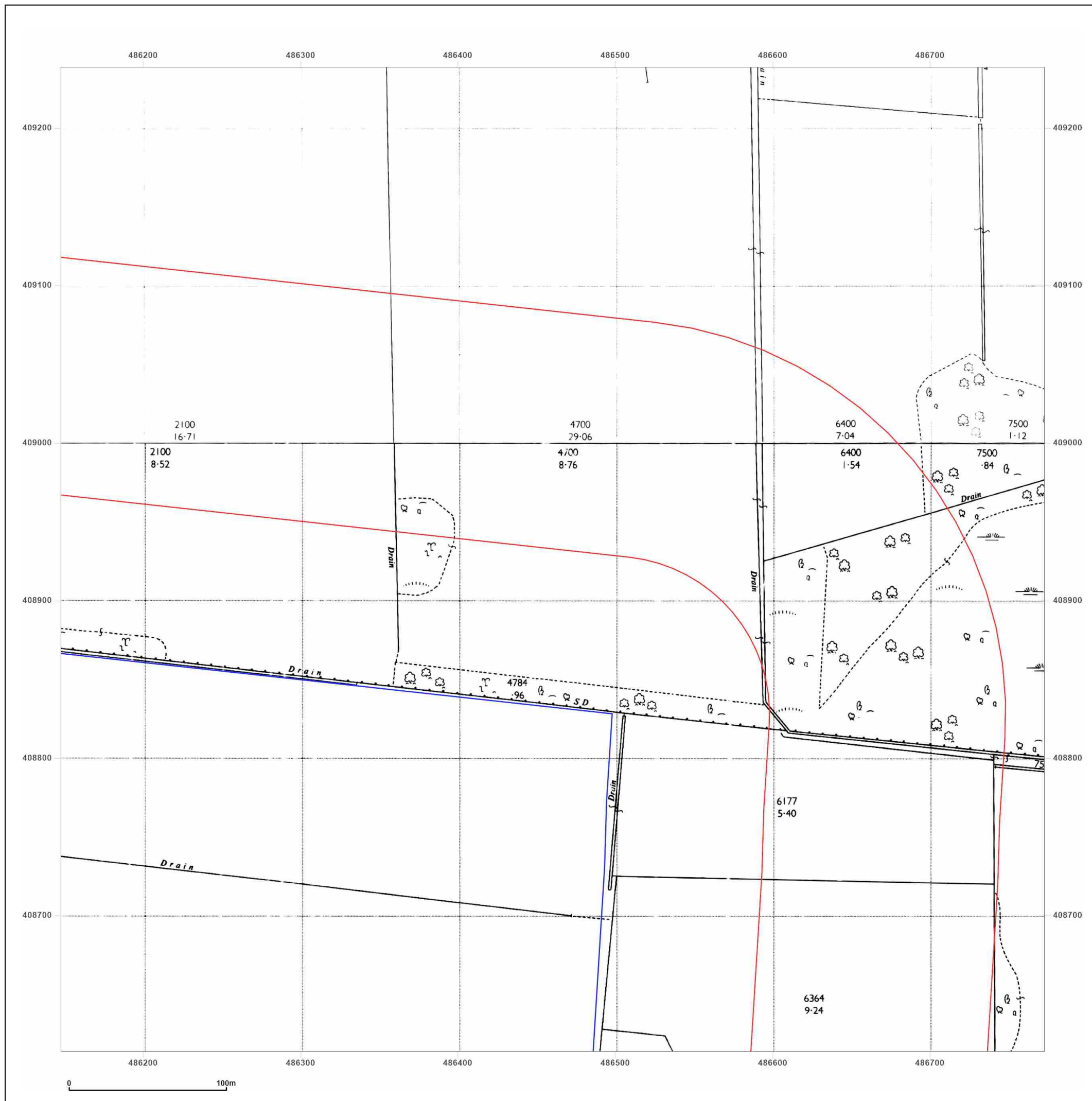


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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_2_2
Grid Ref: 486460, 408926

Map Name: National Grid

Map date: 1975-1979

Scale: 1:2,500

Printed at: 1:2,500



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

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



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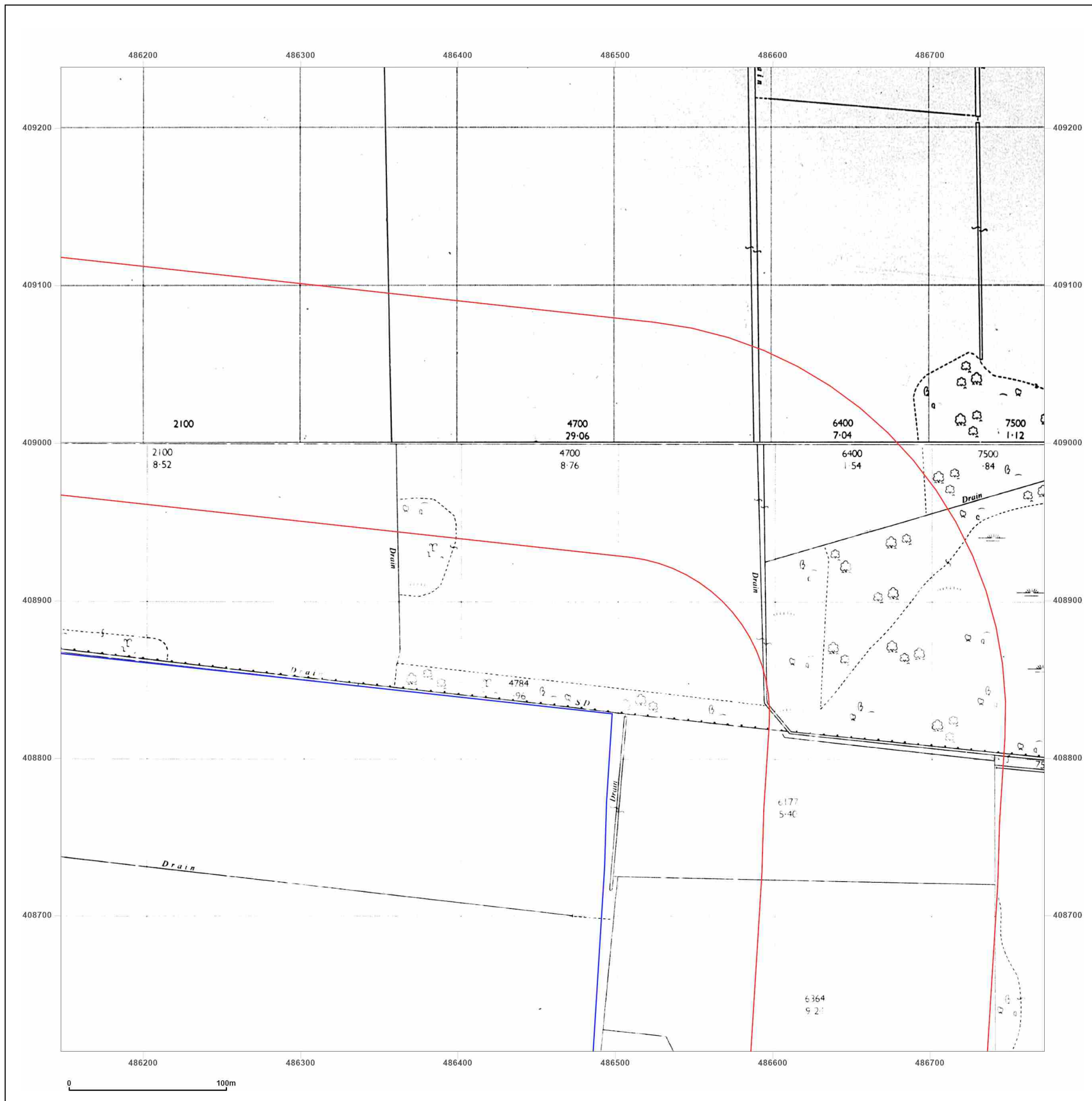


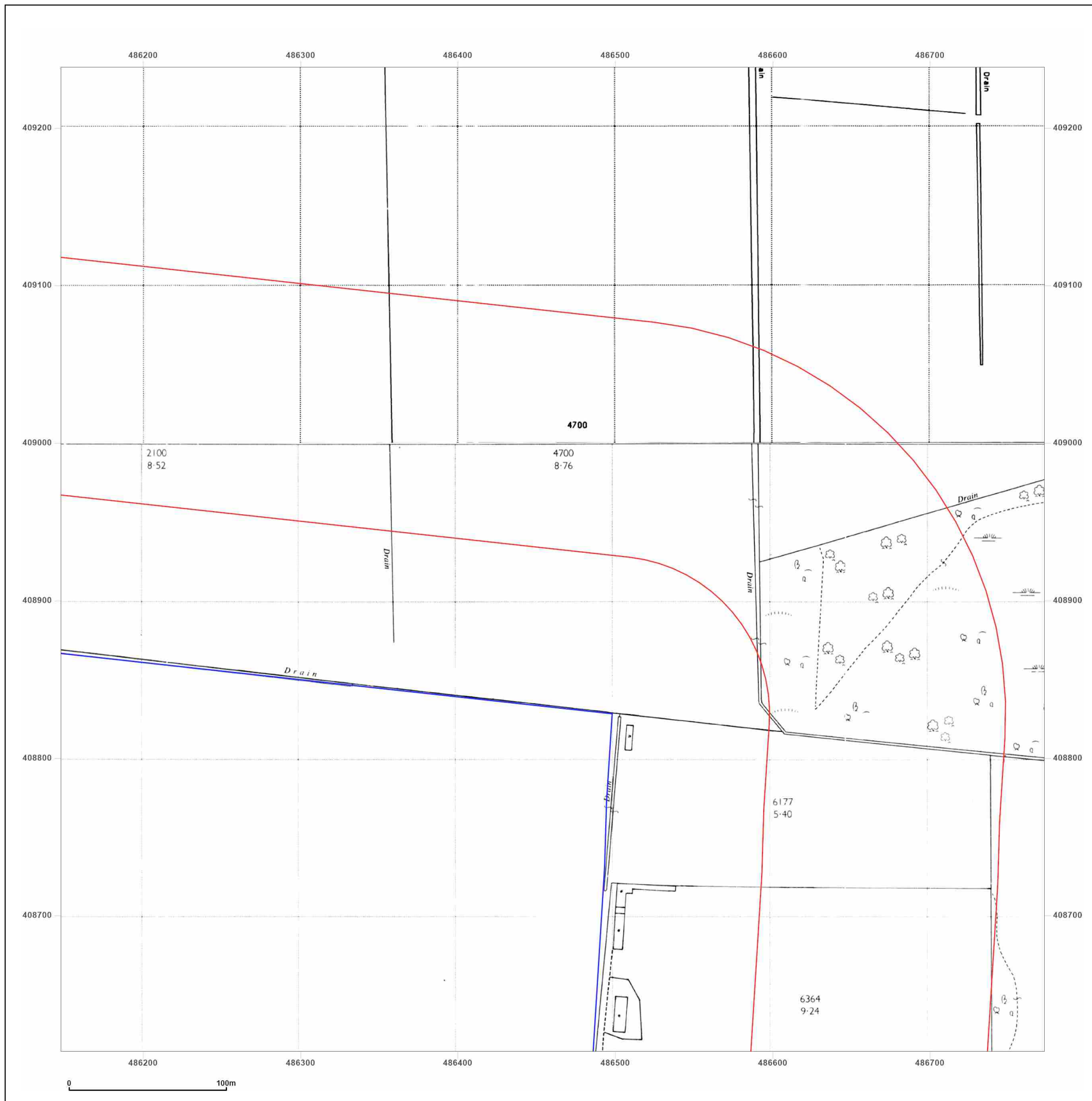
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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_2_2
Grid Ref: 486460, 408926

Map Name: National Grid
Map date: 1990-1994
Scale: 1:2,500
Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1994
 Levelled N/A

Surveyed 1968
 Revised 1990
 Edition N/A
 Copyright 1990
 Levelled 1968



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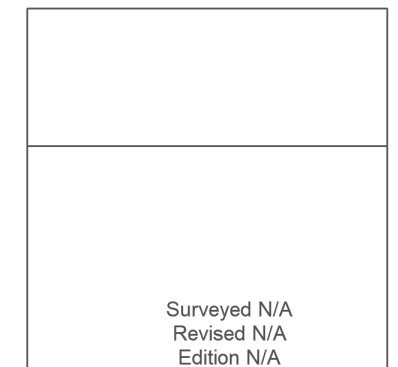
Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_LS_2_2
Grid Ref: 486460, 408926

Map Name: National Grid

Map date: 1994

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A



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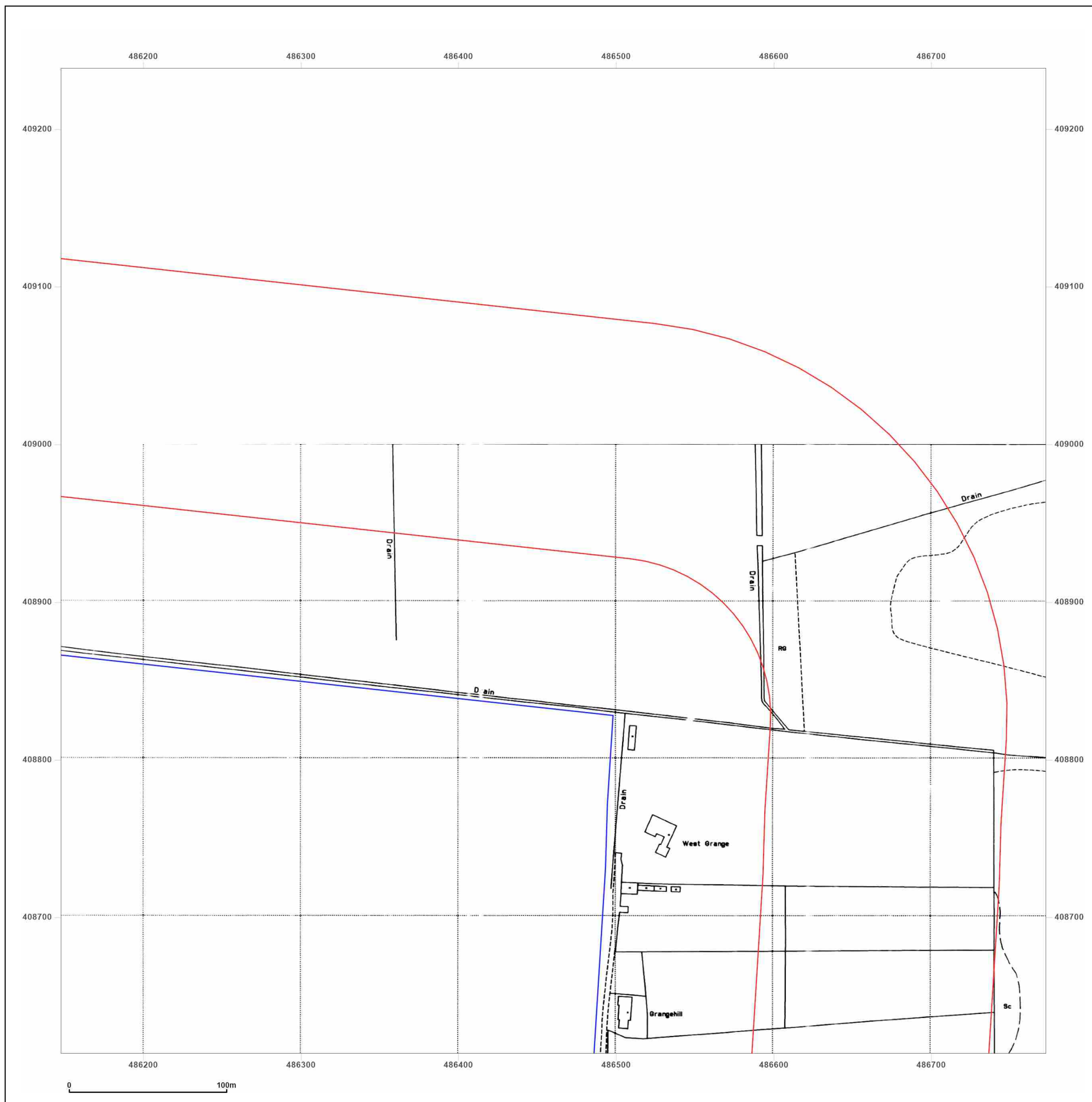


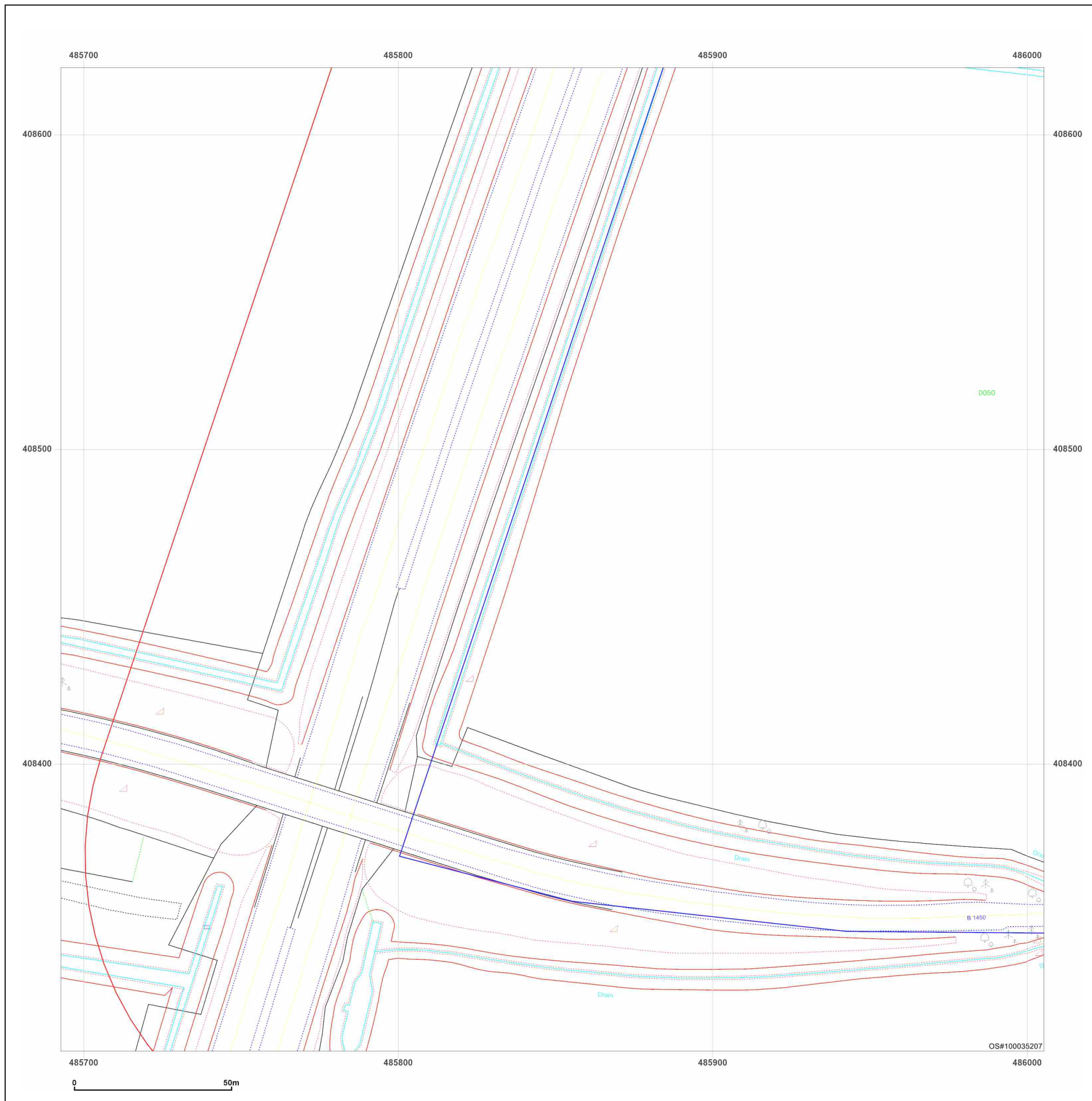
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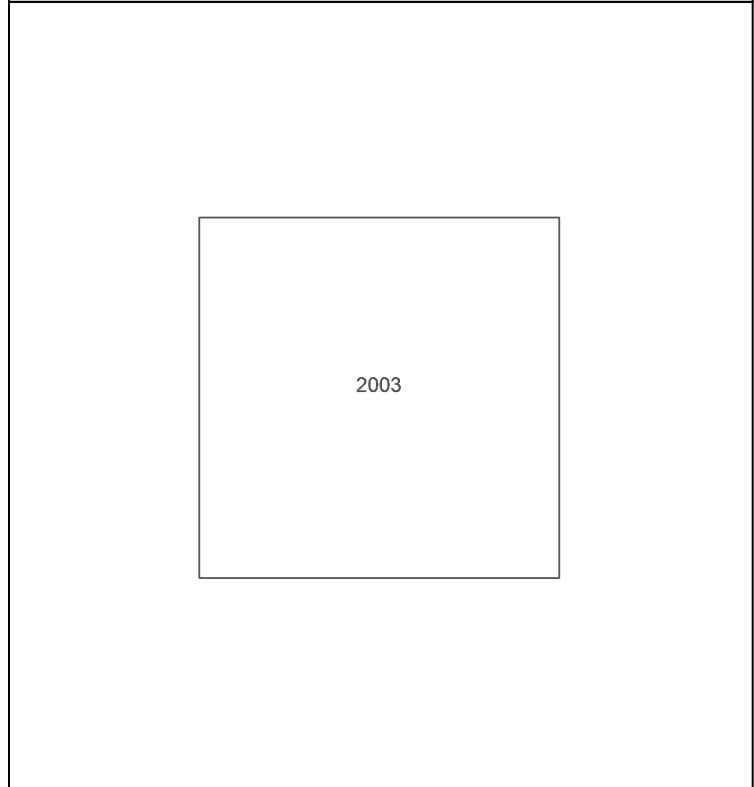
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Report Ref: EMS-839368_1077829_Landline_1_1
Grid Ref: 485849, 408465

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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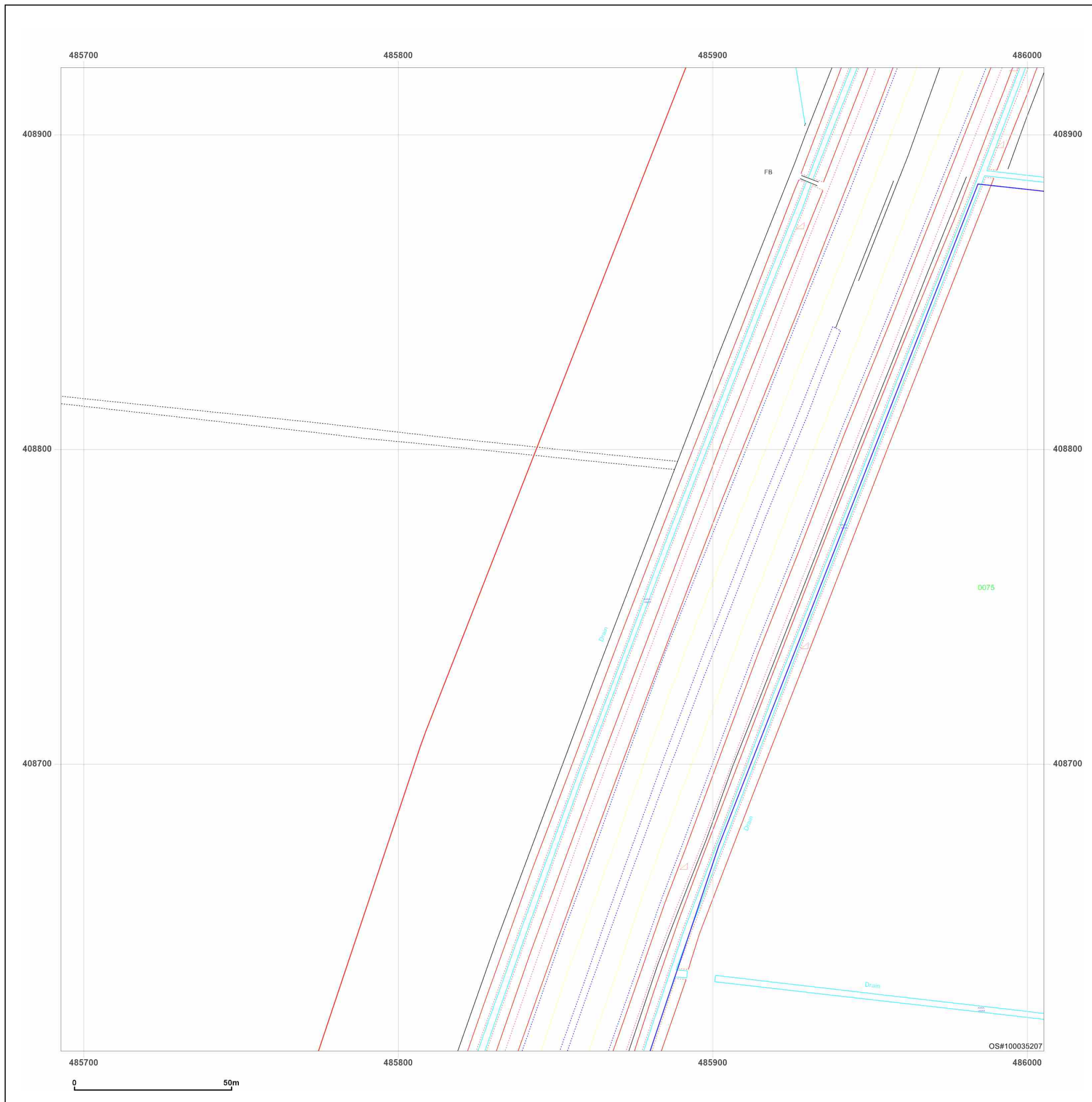


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Site Details:

Client Ref: EMS_839368_1037320
Report Ref: EMS-839368_1077829_Landline_1_2
Grid Ref: 485849, 408765

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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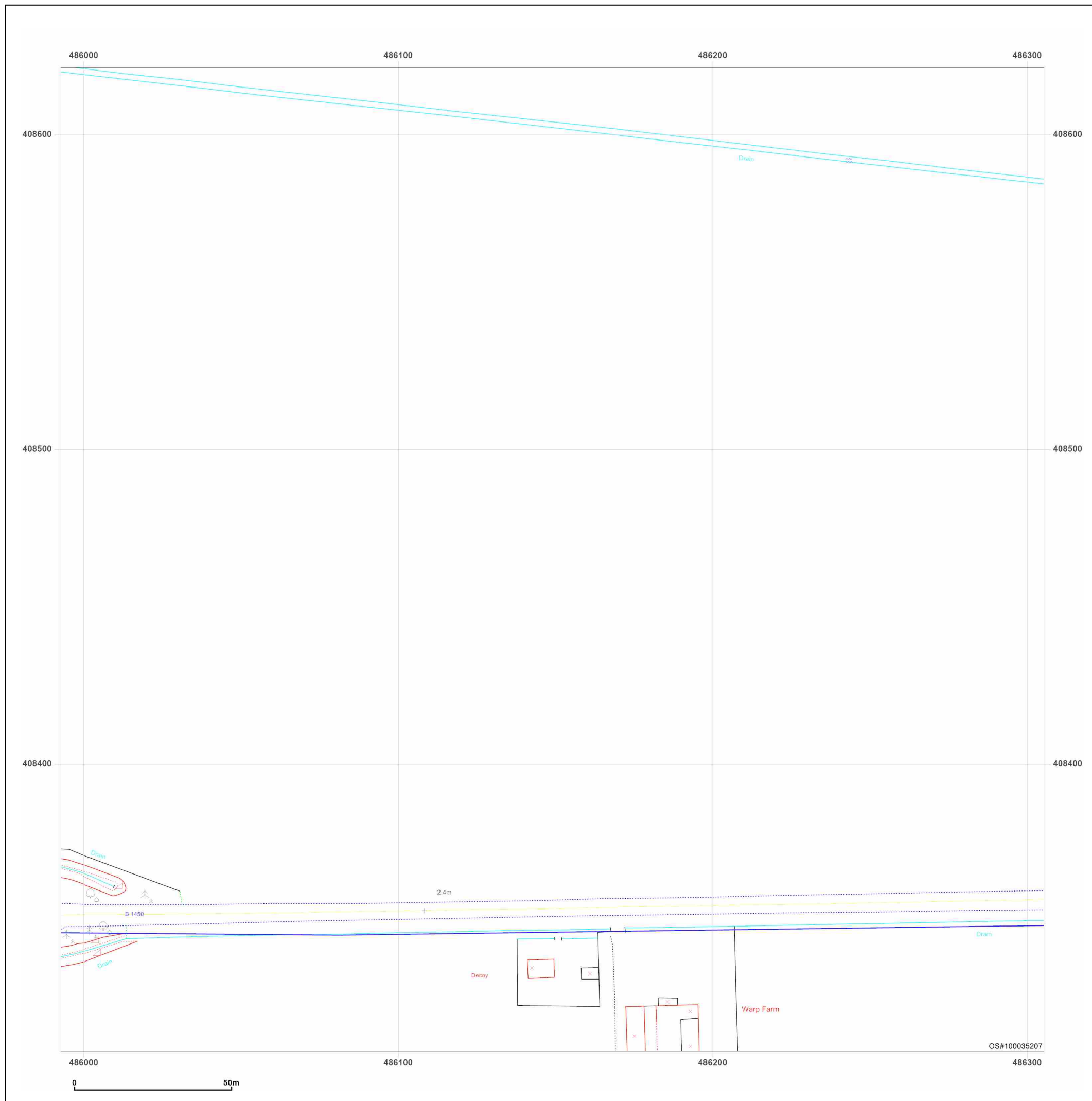
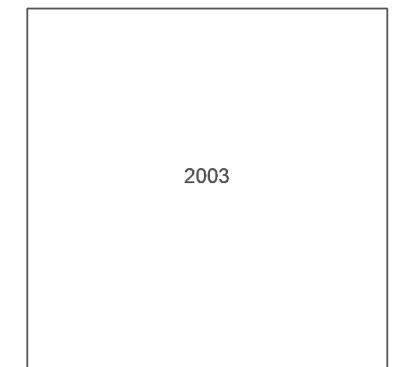
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Report Ref: EMS-839368_1077829_Landline_2_1
Grid Ref: 486149, 408465

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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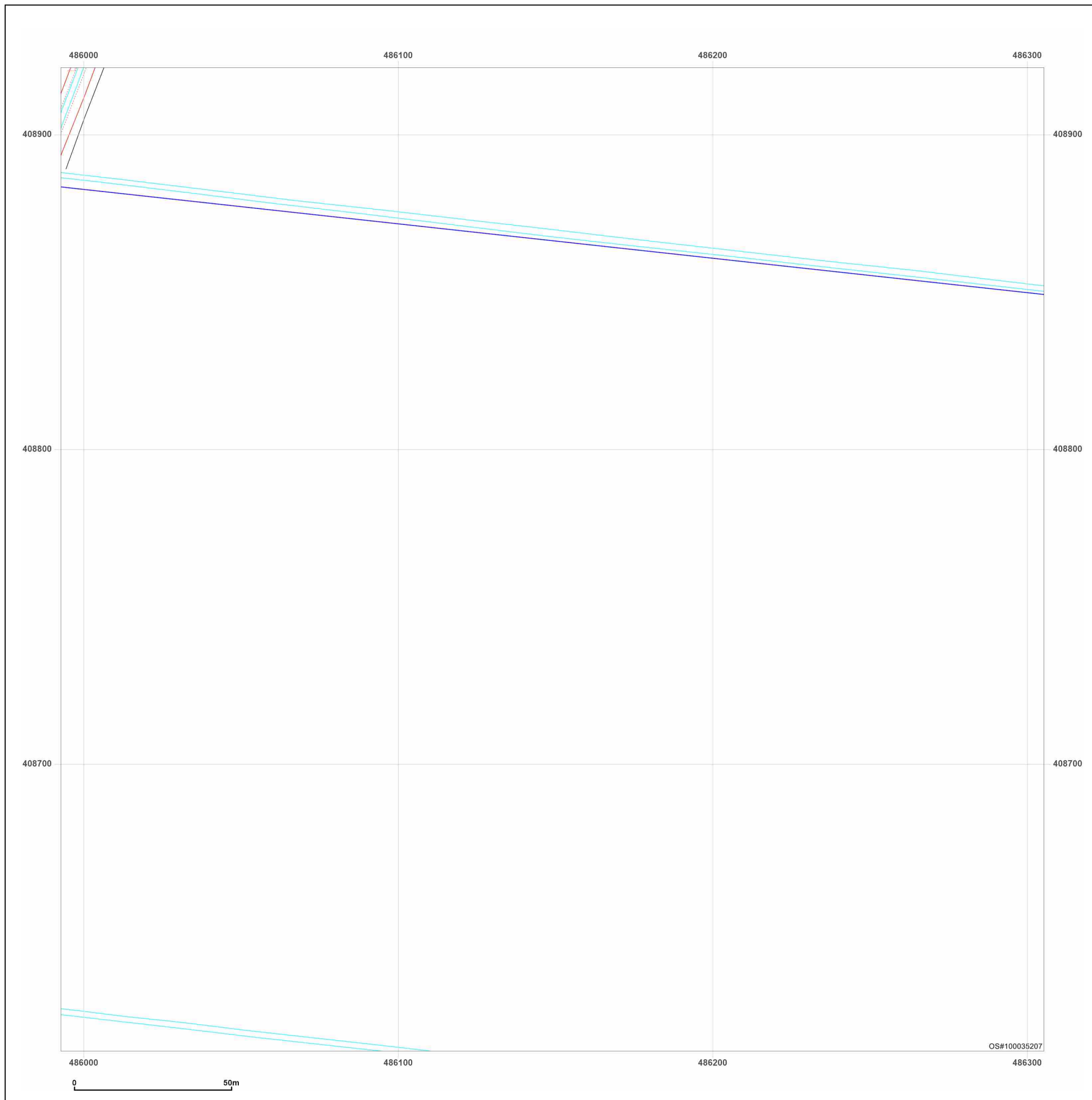
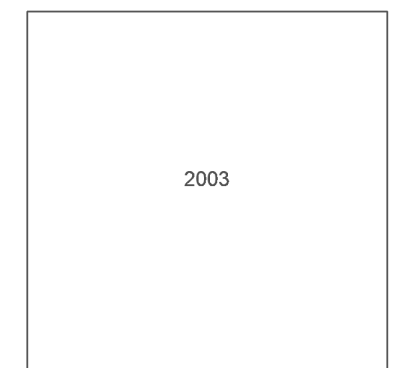
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Grid Ref: 486149, 408765

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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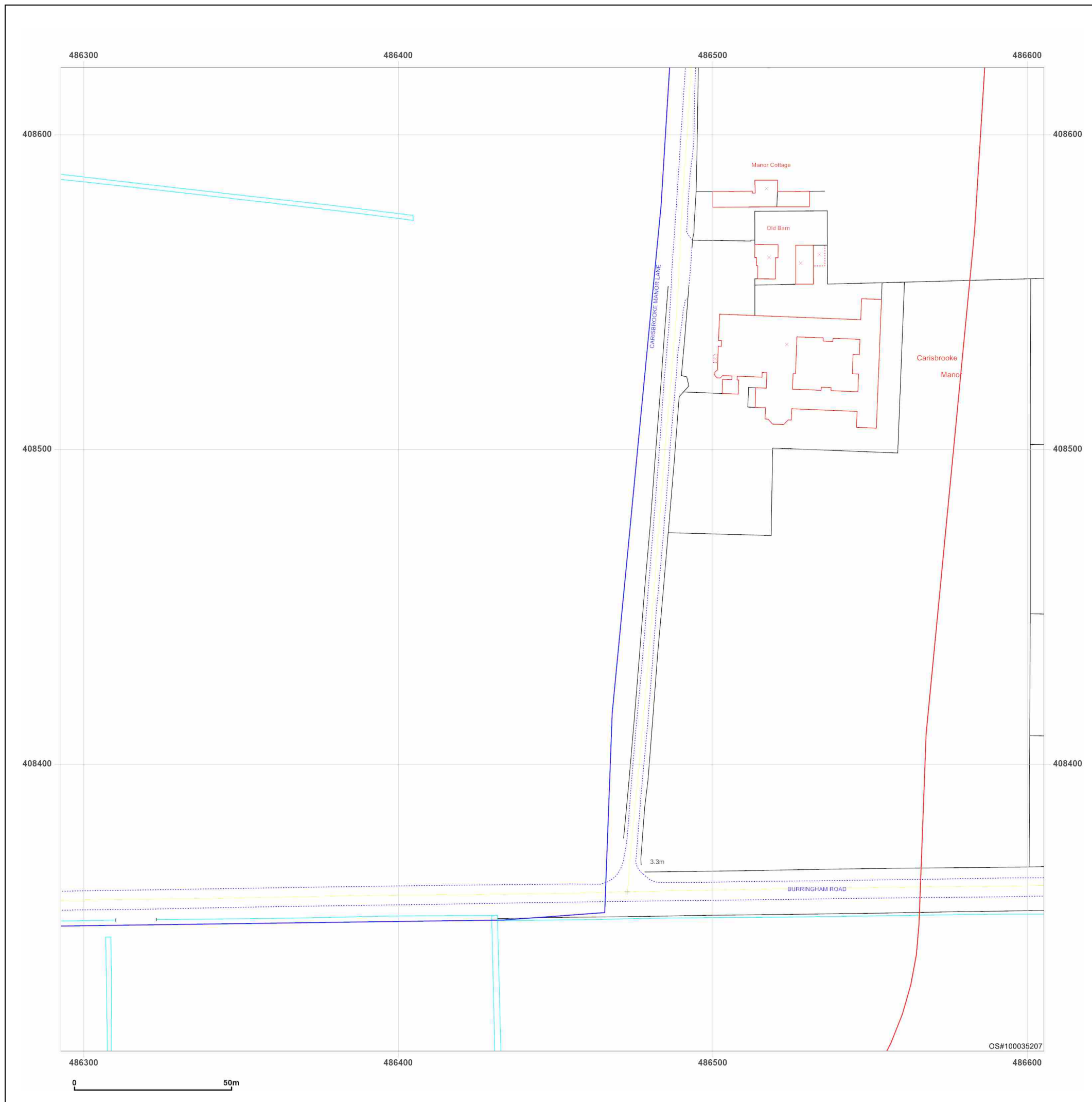


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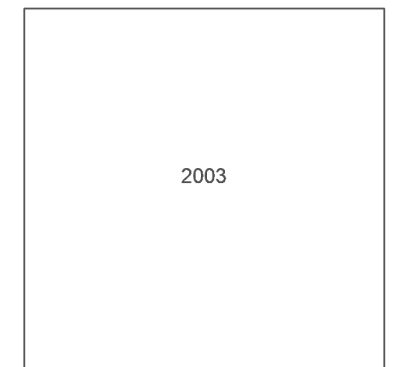
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Grid Ref: 486449, 408465

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

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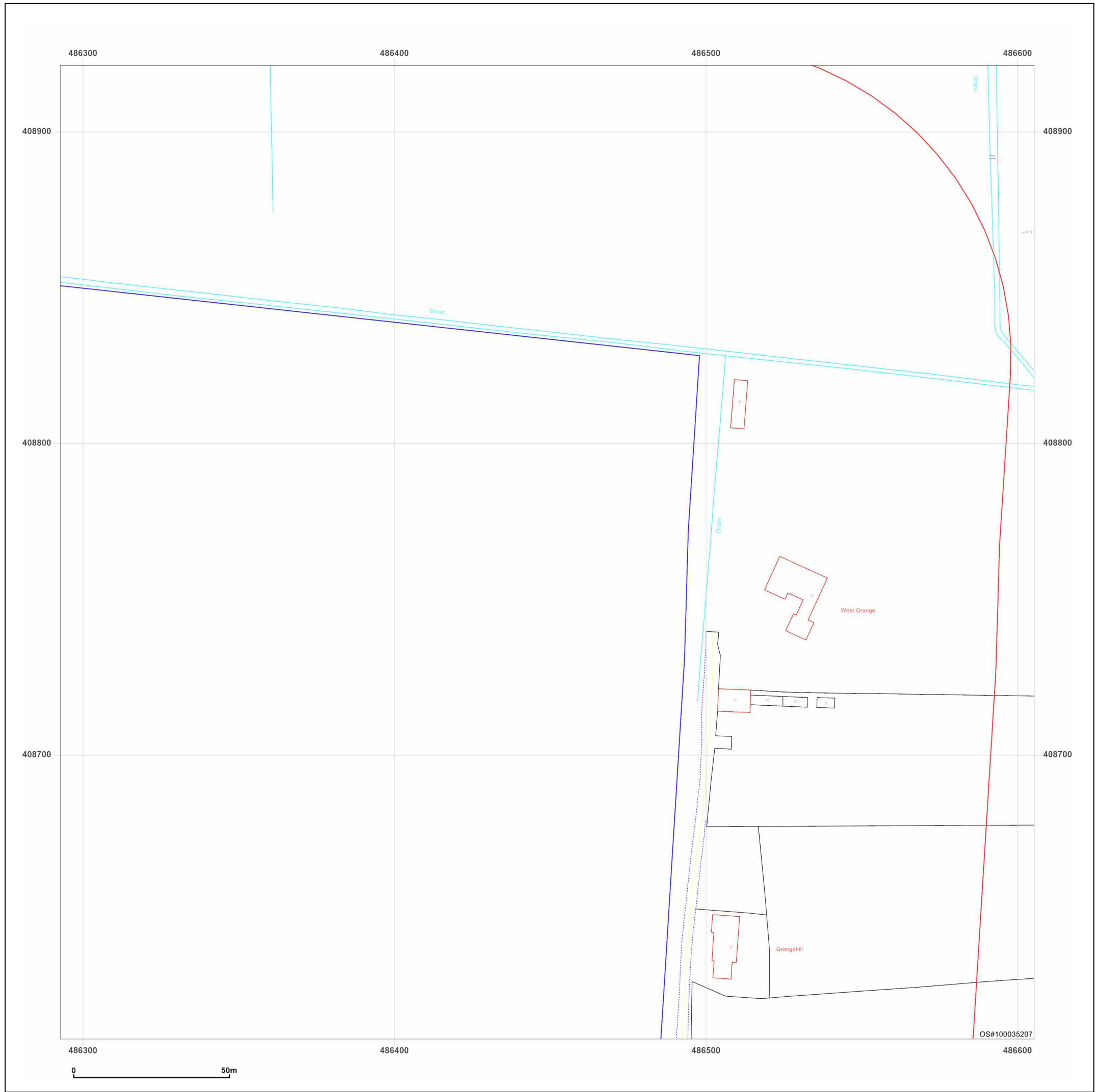


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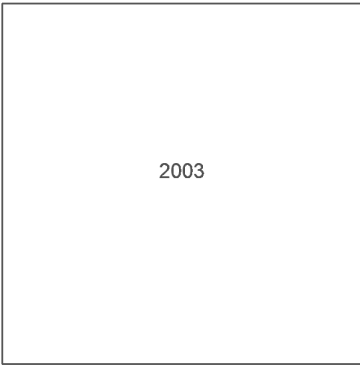


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Report Ref: EMS-839368_1077829_Landline_3_2
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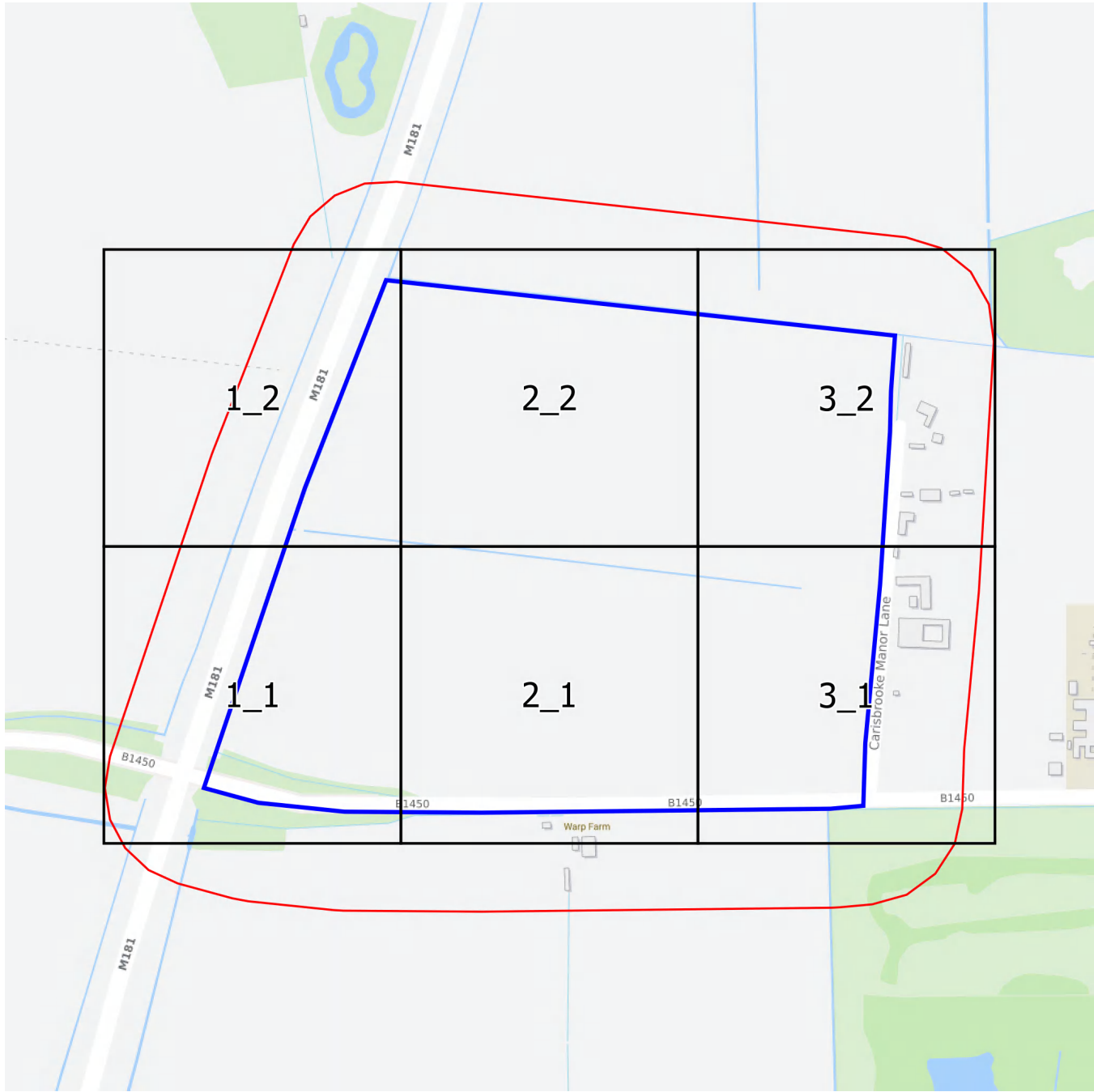


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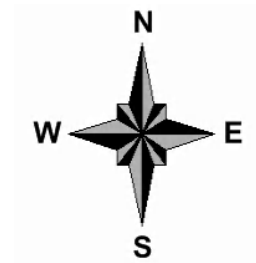
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Landline Scale Grid Index



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