enzygo
geo environmental

Phase I Geo-Environmental Report

Hardwick, Cambridgeshire

Hill Partnership Ltd.

CRM.1027.077.GE.R.001.A

'Experience and expertise working in union'

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Phase I Geo-Environmental Report for Hardwick, Cambridgeshire

Project:	Hardwick, Cambridgeshire
For:	Hill Partnership Limited
Ref:	SHF.1132.237.GE.R.001.A
Status:	DRAFT
Date:	September 2019
Author:	Nick Brook BSc (Hons), FGS **Senior Consultant**
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1.0 INTRODUCTION

1.1. Background

1.1.1 Enzygo Geo-environmental Limited (Enzygo) has been commissioned by Hill Partnership Limited [the client] to prepare a Phase 1 Geo-Environmental Report for a site, located off Cambridge Road, Hardwick, CB23 7RE.

1.2. Proposed Development

1.2.1 The proposed development is for residential development and associated infrastructure.

1.3. Objectives

1.3.1 The objectives of the study are to:

- Review historical plans, geology, mining, hydrogeology and site sensitivity information to complete a Desk Study. A Groundsure report has been obtained, copies of which are included in Appendix 1;
- Assess the implications of any potential environmental risks, liabilities and development constraints associated with the site in relation to the future use and in relation to off-site receptors;
- Conduct a comprehensive site walkover, to assess likely ground conditions;
- Provide a factual and interpretative report relating to the desk study; and
- Provide preliminary recommendations in relation to environmental risk, potential remedial options and to present an initial geotechnical assessment.

1.4. Risk Classification

1.4.1 Enzygo have utilised the available information, together with our experience to assess the likely risks to development from land quality issues. Definitions of the risk terms used are provided on the following table:

Table 1.4 Risk Classification

Risk	Description
Dismissed	The risk has been dismissed.
Negligible	No contamination risk has been identified which is likely to affect development.
Low	No significant contaminated land risks have been encountered affecting development and a low risk that remediation will be required.
Low-Moderate	There are unlikely to be significant contaminated land issue associated with the site which will adversely affect its re-development. However, minor or localised contamination may be present requiring remediation. Remediation should be possible under a discovery strategy and with a call out service.
Moderate	Some potential contaminated land risks have been encountered or identified which may affect re- development. The risks identified are unlikely to affect the entire site or preclude development. Remediation is considered feasible as part of the development process and no further investigation is considered necessary.
Moderate-High	Some potentially significant contaminated land risks have been identified at the property that requires remediation. It is recommended that a separate remedial methodology is prepared supported by a site-specific risk assessment
High	Significant potential contaminated land risks have been identified and remediation is required supported by further intrusive ground investigation, risk assessment and remedial design.

1.4.2 Where adverse geotechnical risks are identified these are discussed within the report.

2.0 SITE SETTING

Table 2.0 Site Description

Item	Description
Site Address	Cambridge Rd, Hardwick, Cambridge CB23 7RE
National Grid Reference	537587mE 258922mN

2.1. Current Site Description

2.1.1 The following description has been compiled from an inspection of the site, undertaken on 9th September 2019. A study area features plan, CRM.1027.077.GE.D.001.A, is included within the drawings section.

2.1.2 The study area can is split into two and is referred to as the northern parcel and the southern parcel.

2.1.3 The **Northern Parcel** - The site generally comprises of agricultural land which is split into two fields. The larger field comprised of arable land with the smaller field is pastoral which currently contains sheep.

2.1.4 Suspected asbestos containing materials (ACMs), Corrugated sheets were noted across site likely associated with historic landuse.

2.1.5 The **Southern Parcel** comprises of a small field which contains sheep that was noted as being wet and marshy at the bottom. In the south western corner, there was a small pond and a barn. The barn was constructed of brick with corrugated cement sheets suspected to contain asbestos. The barn was used for the storage of bird feeds and old farming implements, wood and metal items. No chemicals were observed.

2.1.6 In the north eastern corner of the yard there was an Intermediate Bulk Container (IBC) that is used for water storage which is fed by mains water.

2.1.7 The site slopes toward the southeast, with an elevation of approximately 68m Above Ordnance Datum (m AOD), falling to approximately 55m AOD in the southeast.

2.2. Surrounding Area

2.2.1 Land uses surrounding the site are summarised as follows:

Table 2.2.1 Land Use Surrounding the Area - Northern Parcel

Direction	Land Use
North	Bounded St Noets Road with the A428 and agricultural land beyond.
East	Bounded by agricultural fields with residential and commercial properties beyond.
South	Bounded by Bin Brook with agricultural fields beyond.
West	Bounded by residential and commercial properties beyond.

Table 2.2.2 Land Use Surrounding the Area - Southern Parcel

Direction	Land Use
North	Bounded by residential properties.
East	Bounded by agricultural fields beyond.
South	Bounded by residential properties with agricultural land beyond.
West	Bounded by residential properties with agricultural land.

3.0 SITE HISTORY

3.1. Historical Maps

3.1.1 A review of historical Ordnance Survey maps and information pertinent to the site and within a 250m radius is summarised below:

Table 3.1 Historical Maps

Potentially Contaminative Historical Land Use		
Map Edition	**Site**	**Surrounding Area**
1886 - 1903	Agricultural land Two ponds Moat	Numerous ponds located from approximately 50m south Pond located at Redbrick Farm approximate 50m northeast of the Southern Parcel Numerous ponds located from approximately 79 - 96m northwest
1924	Victoria Farm	Allotment gardens located approximately 100m northwest
1938	No Significant Changes	Development of Hardwick located to the east and west of site.
1950 - 1960	No Significant Changes	Continued development of Hardwick located to the west of site
1981 - 1982	One pond Moat possibly infilled	Numerous ponds located from approximately 50m south no longer shown Pumping station located 50m south Allotment gardens located approximately 100m northwest, no longer shown Depot located approximately 250m east Continued development of Hardwick located to the east and west of site
2001 - 2010	No Significant Changes	A428 located approximately 20m north of site Continued development of Hardwick located to the east and west of site.
2019	No ponds	Continued development of Hardwick located to the east and west of site.

3.1.2 There is a potential risk from contamination associated with the infilled moat and ponds adjacent/onsite. The risk is considered to be negligible to low.

3.1.3 There is a potential risk of ACMs associated with structures located onsite, the risk is considered to be locally low to moderate.

3.1.4 No other significant risks are identified, based on the available historic Ordnance Survey mapping.

4.0 ENVIRONMENTAL SETTING

4.1. Ground Conditions

4.1.1 The British Geological Survey (BGS) indicates that the site is underlain by the following geological sequence:

Table 4.1 Geological Sequence

Geological Unit	Type	Descriptions	Aquifer Classification
Superficial	Glacial Till	Diamicton	Secondary Undifferentiated
Bedrock	Gault Formation	Mudstone	Unproductive

4.1.2 There are no faults recorded as being located within 250m of site.

4.1.3 There are no records of landslips within 250m of site.

4.1.4 There are no anticipated exceedances of General Assessment Criteria (GAC) in relation to residential land-use with plant uptake.

4.1.5 There are six borehole records within 250m of site, the closest available is located approximately 28m northwest, with the borehole logged as: Glacial Till from ground level to approximately 27m overlying Gault Clay to approximately 55m which in turn overlies the Lower Green Sand formation to 61m.

4.2. Groundwater

4.2.1 The permeability of the superficial ground is recorded as low to moderate reflecting the varied nature of the cohesive and granular deposits. Local borehole data suggests the site will comprise of low permeability Glacial Till (Clay and Silt).

4.2.2 The permeability of the bedrock geology is recorded as very low to low reflecting the cohesive nature of the deposits recorded as the Gault Formation.

4.2.3 The site is not located within a Source Protection Zone.

4.2.4 There are no shallow groundwater abstraction licenses within 250m of site.

4.2.5 There are no surface water abstraction licenses within 250m of the site.

4.3. Coal Mining

4.3.1 The site is not within a Coal Authority Reporting Area and the risk to site is therefore dismissed.

4.4. Non-Coal Mining and Cavities

4.4.1 There are no records of non-coal mining within 250m of site.

4.4.2 There are no non-coal mining and natural cavities identified within 250m of the site.

4.5. Ground Workings

4.5.1 There are no active current ground workings within 250m of site.

4.5.2 There are no new risks associated with historic ground workings other than those described on the historical maps.

4.6. Hydrology

4.6.1 There are multiple references to an onsite surface watercourse, which describes Bin Brook located on the southern boundary of the Northern Parcel of site.

4.6.2 Part of the site is described as being in Zones 2 and 3 for flooding from River and Coastal Flooding.

4.6.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating for the site is described as High with RoFRaS data for the study site indicating the property is in an area with a High (1 in 30 or greater) chance of flooding in any given year.

4.6.4 There are no flood defences within 250m of the site.

4.6.5 There are no areas benefiting from flood defences within 250m of the site.

4.6.6 There are no areas benefiting from flood storage within 250m of the site.

4.6.7 The site is potentially susceptible to groundwater flooding associated within Glacial Till superficial deposits at surface.

4.6.8 This report is not a flood risk assessment.

4.7. Radon Risk Potential

4.7.1 The Groundsure Geo Insight report indicates that the site is not in a Radon Affected Area. No radon protective measures are considered necessary and the risk is dismissed.

4.8. Natural Hazards Finding

4.8.1 BGS information presented within the Groundsure report identified the following ground conditions:

Table 4.8 Natural Hazards

Hazard	Risk Designation (Groundsure)
Collapsible Ground	Very Low
Compressible Ground	Negligible
Ground Dissolution	Negligible
Landslide	Very Low
Running Sand	Very Low
Swelling / Shrinking Clay	Low

4.8.2 There are no new risks identified.

4.9. Sensitive Land Uses

4.9.1 No Environmentally Sensitive Areas have been identified on the site.

4.10. Unexploded Ordnance (UXO)

4.10.1 Unexploded Bomb Risk Map (UXO – Appendix 2) indicates that the site is within a low area and no further assessment is considered necessary.

4.11. Environmental Sensitivity

4.11.1 Overall the site is currently considered to be of low environmental sensitivity due to the following:

- The underlying superficial strata are designated as a Secondary Undifferentiated aquifer, (Glacial Till);
- One surface watercourse (Bin Brook) on the southern boundary; and

4.11.2 The proposed end use of the site is residential and as such, future sensitivity will be high.

4.12. Industrial Land Uses

4.12.1 There are ten Industrial land uses within 250m of the site. The closest industrial land-use is located onsite and is described an electrical substation. However, this is not considered to pose a significant risk to site with any contamination likely to be localised.

4.12.2 There are no fuel stations with 250m of the site.

4.12.3 There are no records of National Grid High Voltage Underground Electricity Transmission Cables within 250m of the site.

4.12.4 There are no records of National Grid high pressure gas transmission pipelines within 250m of the site.

4.12.5 No new risks are identified from the register of industrial land uses.

4.13. Regulatory Database

4.13.1 The following information has been obtained from a commercially available environmental database.

Table 4.13 Regulatory Database

Environmental Permits, Incidents and Registers	0-250m	251-500m	Details
Site determined as contaminated land	0	0	Not Applicable
Authorised industrial processes	0	0	Not Applicable
Registered radioactive substances	0	0	Not Applicable
Records of Part A (2) and Part B Activities	0	0	Not Applicable
Enforcements, prohibitions or prosecutions	0	0	Not Applicable
Pollution Incidents	1	2	Closest incident is located 207m southwest classified as a minor (Category 3) land impact. That is listed as crude sewage. Due to distance the risk to site is dismissed.
List 1 Dangerous Substance Inventory Sites	0	0	Not Applicable
List 2 Dangerous Substance Inventory Sites	0	0	Not Applicable
Consents issued under the Planning (Hazardous Substances) Act 1990	0	0	Not Applicable
Control of Major Accident Hazard (COMAH)/ Notification of Installations Handling Hazardous Substances (NIHHS) sites	0	0	Not Applicable
Records of Licensed Discharge Consents	3	2	Closest current license located approximately 70m northwest, listed as final/treated effluent. Due to the type of material the risk to site is dismissed.

4.13.2 No new significant risks are identified from the regulatory database.

4.14. Landfill Sites and Waste Treatment Sites

4.14.1 No historic and current landfills are identified within 250m of the site.

4.14.2 There are no records of active licensed waste sites of waste treatment, transfer or disposal site located within 250m of the site.

5.0 PRELIMINARY ASSESSMENT

5.1. Preliminary Conceptual Model

5.1.1 Based on the information obtained the following Preliminary Conceptual Model has been prepared:

Table 5.1 Preliminary Conceptual Model

Source	Location	Exposure Pathway	Potential Receptor	Probability of Exposure	Details
Human Health					
Asbestos, metals and hydrocarbons	Unforeseen Contamination	Ingestion dermal and inhalation	Construction Workers	Dismissed	Standard construction PPE will address risk under CDM 2015 Regulations
			Site users	Negligible	Discovery strategy
Asbestos, metals and hydrocarbons	On-site sources (ACM)	Ingestion dermal and inhalation	Construction Workers	Negligible	Contamination likely to be localised and easily addressed through development
			Site users		
Hydrocarbon and metals	Migration from off-site sources	Ingestion dermal and inhalation	Construction Workers	Dismissed	No Source
			Site users		
Ground Gas	Made Ground/Potentially Infilled Ground	Asphyxiant, Toxic & Explosive	Construction Workers	Negligible	Potential gas generation associated with infilled ponds located onsite and nearby ponds. Easily addressed through development
			Site users		
Radon	Natural Soils	Inhalation	Construction Workers	Dismissed	No radon protective measures are considered necessary; therefore, the risk is dismissed
			Site Users		
Groundwater					
Hydrocarbon and metals	Unforeseen Contamination	Vertical Migration	Groundwater	Dismissed	Significant widespread impact to soil unlikely due to Glacial Till (Clay)
Surface Water					
Hydrocarbon and metals	Unforeseen Contamination	Horizontal Migration	River Network	Dismissed	No receptor
Environmental Receptors					
Onsite contaminants		Ingestion dermal and inhalation	Ecology	Dismissed	No receptor
		Direct	Archaeology	Dismissed	No receptor
		Direct	Geology	Dismissed	No receptor
		Phytotoxic	Woodland	Dismissed	No receptor
		Phytotoxic	Crops	Dismissed	No receptor
		Ingestion dermal and inhalation	Livestock	Dismissed	No receptor
Building Services					
Onsite contaminants		Direct	Proposed Buildings	Dismissed	No sources identified
		Permeate into pipework	Water Pipes	Dismissed	No sources identified

6.0 DISCUSSION AND RECOMMENDATIONS

6.1.1 The site is considered to present negligible contamination risk, associated with current and potentially infilled ponds, which can be easily addressed through development.

6.1.2 An asbestos survey is advised due to the presence of existing structures onsite and removal of ACMs from site.

6.1.3 If unforeseen contamination is encountered during construction works such as localised spillage outside the areas investigated an Environmental consultant will be available on a 'call out' basis to undertake an assessment of risk. If 'unforeseen contamination' is encountered such as hydrocarbon contamination or solvent odours the discovery strategy will be to remove the source as it is likely to be very limited in extent or encapsulate it on site as appropriate and the Local Planning Authority advised.

6.1.4 Traditional strip foundation solutions are anticipated as being appropriate for the site which may require localised deepening due to trees in line with NHBC guidance or localised deep Made Ground, subject to confirmation through appropriate ground investigation.

6.1.5 Soakaway drainage is not considered feasible.

6.1.6 A Phase 2 ground investigation should be undertaken to provide design information for future development works.

6.1.7 Due to the absence of significant risks to site, the Phase 2 investigation may be undertaken post-planning, under a suitably worded condition.

CRM.1027.077.GE.D.001.A – Study Area Features Plan

NOTES

1. Do not scale from this drawing.
2. This drawing is to be read in conjunction with all relevant documentation, CRM.1027.077.GE.R.001.A - Phase 1 Geo-Environmental Report.

Key:

Site Boundary

Direction of Photograph

REV:	DATE:	DETAIL:	DES:	CHK:	APP:
A	24/09/19	First Issue	NB	SB	SB

enzygo environmental consultants

Samuel House, 5 Fox Valley Way, Stocksbridge, Sheffield, S36 2AA

CLIENT: Hill Partnerships Limited

PROJECT: Hardwick Cambridgeshire

DRAWING TITLE: Study Area Features Plan

DRAWN:	DESIGNED:	CHECKED:	APPROVED:
NB	NB	SB	SB

DATE:	SCALE @ A3:
24/09/19	Not to scale

PROJECT NO.:	DRAWING NO.:
CRM.1027.077	001

DRAWING STATUS:	ISSUE:
FOR INFORMATION	A

Appendix 1 – Emapsite Dataset

emapsite

Building A2 Office 1052 Cody Technology Park,
Old Ively Road,
Farnborough, GU14 0LX

Groundsure Reference:	EMS-567164_762006
Your Reference:	EMS_567164_762006
Report Date	18 Sep 2019
Report Delivery Method:	Email - pdf

Enviro Insight

Address: Hardwick, CB23 7QF,

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Enviro Insight** as requested.

If you would like further assistance regarding this report then please contact the emapsite customer services team on 0118 9736883 quoting the above report reference number.

Yours faithfully,

emapsite customer services team

Enc.
Groundsure Enviroinsight

Enviro Insight

Address:	**Hardwick, CB23 7QF,**
Date:	**18 Sep 2019**
Reference:	**EMS-567164_762006**
Client:	**emapsite**

NW N NE

W E

SW S SE

Aerial Photograph Capture date:	19-Jun-2017
Grid Reference:	537753,259146
Site Size:	28.4945ha

Report Reference: EMS-567164_762006
Client Reference: EMS_567164_762006

Contents Page

Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	1	4	2	5
1.2 Additional Information – Historical Tank Database	0	0	3	4
1.3 Additional Information – Historical Energy Features Database	3	0	14	11
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	4	4	0
1.6 Historical military sites	0	0	0	0
1.7 Potentially Infilled Land	0	0	7	2

Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	0	0
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	1	0	2	2
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	1	2
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	0	0	0	0	0
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	0
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	0	0	0	1

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	1	1	8	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	0
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology	
5.1 Records of Artificial Ground and Made Ground present beneath the study site	None identified
5.2 Records of Superficial Ground and Drift Geology present beneath the study site	Identified
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology	0-500m
6.1 Records of Strata Classification in the Superficial Geology within 500m of the study site	Identified
6.2 Records of Strata Classification in the Bedrock Geology within 500m of the study site	Identified

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	1	0	0	3
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	0	0	0	0	Not searched	Not searched

Section 6: Hydrogeology and Hydrology

	0-500m					
	On-site	0-50m	51-250	251-500	501-1000	1000-1500
6.9 Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site	No	No	No	No	No	No
6.10 Ordnance Survey MasterMap Water Network entries within 500m of the site	6	4	42	68	Not searched	Not searched
6.11 Surface water features within 250m of the study site	Yes	Yes	Yes	Not searched	Not searched	Not searched

Section 7: Flooding

7.1 Enviroment Agency Zone 2 floodplains within 250m of the study site	Identified
7.2 Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	Identified
7.3 Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site	High
7.4 Flood Defences within 250m of the study site	None identified
7.5 Areas benefiting from Flood Defences within 250m of the study site	None identified
7.6 Areas used for Flood Storage within 250m of the study site	None identified
7.7 Maximum BGS Groundwater Flooding susceptibility within 50m of the study site	Potential at Surface
7.8 BGS confidence rating for the Groundwater Flooding susceptibility areas	High

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	2
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	0	2
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	1	0	0	0	0	1
8.14 Records of Green Belt land	1	0	0	1	0	0

Section 9: Natural Hazards

9.1 Maximum risk of natural ground subsidence	Low
9.1.1 Maximum Shrink-Swell hazard rating identified on the study site	Low
9.1.2 Maximum Landslides hazard rating identified on the study site	Very Low
9.1.3 Maximum Soluble Rocks hazard rating identified on the study site	Negligible
9.1.4 Maximum Compressible Ground hazard rating identified on the study site	Negligible
9.1.5 Maximum Collapsible Rocks hazard rating identified on the study site	Very Low
9.1.6 Maximum Running Sand hazard rating identified on the study site	Very Low
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The site is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary.

Section 10: Mining

10.1 Coal mining areas within 75m of the study site	None identified
10.2 Non-Coal Mining areas within 50m of the study site boundary	None identified
10.3 Brine affected areas within 75m of the study site	None identified

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licences, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

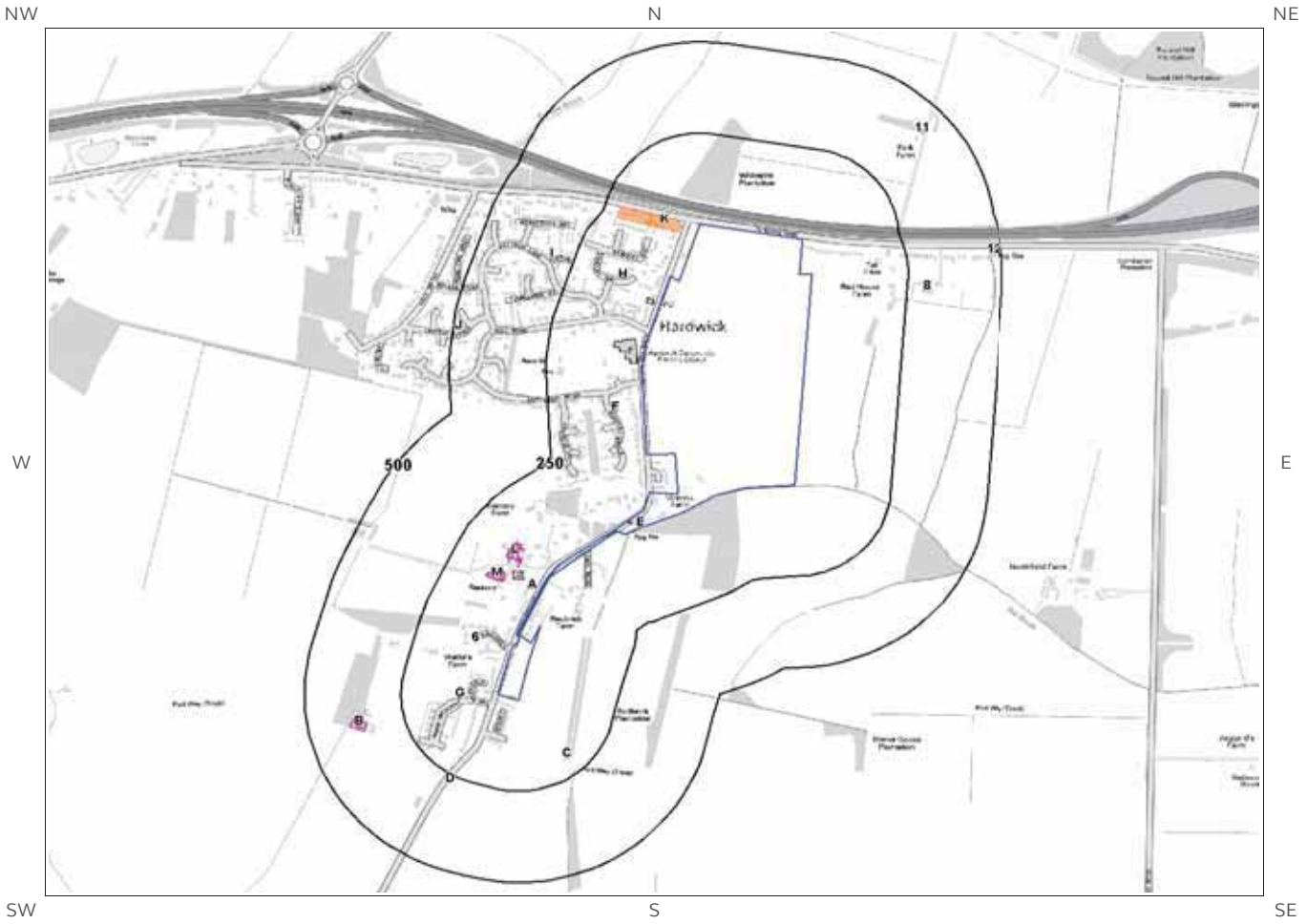
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier “A” on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as “Not Shown”.

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



Site Outline

250
500
Search Buffers (m)

Historical 1:10,000 and 1:10,560 scale mapping

Industrial Land Use

Potentially Infilled Land

Historical 1:2,500, 1:1,250 and 1:500 scale mapping

Energy Features

Petrol Stations

Historical military sites

Tanks

Garages

1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 12

ID	Distance [m]	Direction	Use	Date
1E	0	On Site	Pumping Station	1979
2A	16	NW	Smithy	1901
3A	16	NW	Smithy	1950
4A	18	NW	Smithy	1886
5A	18	NW	Smithy	1950
6	91	W	Unspecified Tank	1979
7G	95	W	Electric Substation	1979
8	289	E	Unspecified Depot	1979
9B	347	W	Sewage Works	1979
10B	364	W	Filter Bed	1979
11	423	NE	Pump House	1979
12	473	E	Sewage Pumping Station	1979

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary: 7

ID	Distance (m)	Direction	Use	Date
13C	198	SE	Unspecified Tank	1983
14C	200	SE	Unspecified Tank	1975
15C	202	SE	Unspecified Tank	1994
16D	265	SW	Unspecified Tank	1975
17D	265	SW	Unspecified Tank	1994
18D	266	SW	Unspecified Tank	1983
19B	361	W	Tanks	1975

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps

provides the following information.

Records of historical energy features within 500m of the search boundary: 28

ID	Distance (m)	Direction	Use	Date
20E	0	On Site	Electricity Substation	1994
21E	0	On Site	Electricity Substation	1975
22E	0	On Site	Electricity Substation	1983
23F	71	W	Electricity Substation	1994
24F	78	W	Electricity Substation	1983
25F	78	W	Electricity Substation	1984
26F	78	W	Electricity Substation	1982
27F	81	W	Electricity Substation	1987
28G	95	W	Electricity Substation	1975
29G	96	W	Electricity Substation	1994
30G	97	W	Electricity Substation	1983
31H	114	W	Electricity Substation	1980
32H	114	W	Electricity Substation	1994
33H	115	W	Electricity Substation	1983
34H	115	W	Electricity Substation	1979
35H	115	W	Electricity Substation	1984
36H	115	W	Electricity Substation	1982
37I	306	W	Electricity Substation	1987
38I	307	W	Electricity Substation	1980
39I	307	W	Electricity Substation	1994
40I	309	W	Electricity Substation	1983
41I	309	W	Electricity Substation	1984
42I	309	W	Electricity Substation	1982
43J	484	W	Electricity Substation	1983
44J	484	W	Electricity Substation	1984
45J	484	W	Electricity Substation	1982
46J	485	W	Electricity Substation	1987
47J	485	W	Electricity Substation	1994

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 8

ID	Distance (m)	Direction	Use	Date
48K	45	W	Garage	1983
49K	45	W	Garage	1982
50K	45	W	Garage	1984
51K	45	W	Garage	1979
52K	90	W	Garage	1987
53K	90	W	Garage	1980
54K	90	W	Garage	1975
55K	91	W	Garage	1994

1.6 Historical military sites

Certain military installations were not noted on historic mapping for security reasons. Whilst not all military land is necessarily of concern, Groundsure has researched and digitised a number of Ordnance Factories and other military industrial features (e.g. Ordnance Depots, Munitions Testing Grounds) which may be of contaminative concern. This research was drawn from a number of different sources, and should not be regarded as a definitive or exhaustive database of potentially contaminative military installations. The boundaries of sites within this database have been estimated from the best evidence available to Groundsure at the time of compilation.

Records of historical military sites within 500m of the search boundary: 0

Database searched and no data found.

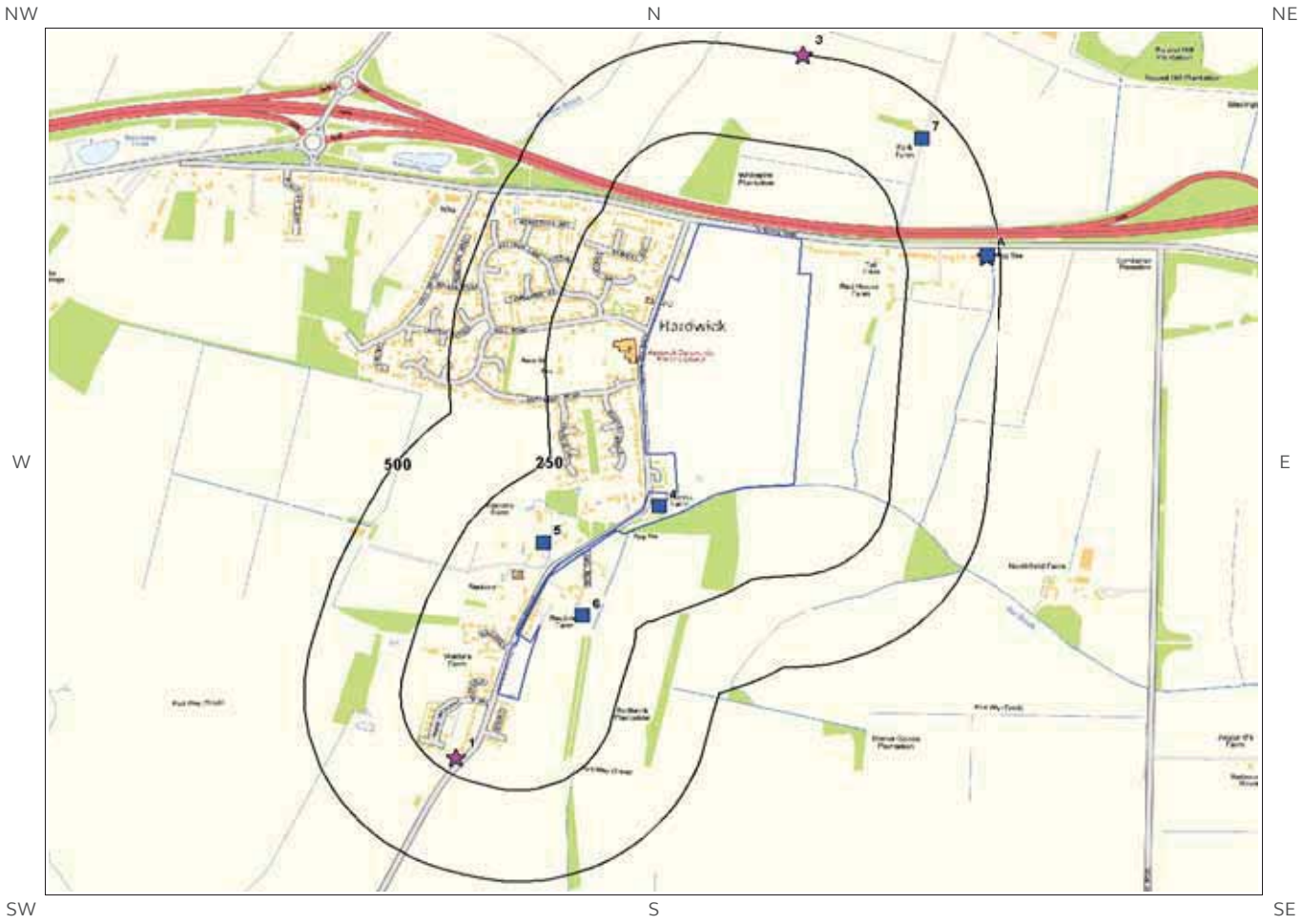
1.7 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 9

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

ID	Distance(m)	Direction	Use	Date
56L	79	NW	Pond	1886
57L	79	NW	Pond	1901
58L	79	NW	Pond	1950
59L	80	NW	Pond	1950
60M	95	NW	Pond	1901
61M	95	NW	Pond	1950
62M	96	NW	Pond	1950
63B	347	W	Sewage Works	1979
64B	364	W	Filter Bed	1979

2. Environmental Permits, Incidents and Registers Map



Site Outline

250
500
Search Buffers (m)

Recorded Pollution Incident

Dangerous Substances (List 1)

Dangerous Substances (List 2)

Water Industry Referrals

Licenced Discharge Consents

Red List Discharge Consents

RAS 3 & 4 Authorisations

Part A(1) Authorised Processes and Historic IPC Authorisations

Part A(2) and Part B Authorised Processes

COMAH / NIHHS Sites

Sites Determined as Contaminated Land

Hazardous Substance Consents and Enforcements

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency/Natural Resources Wales and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

5

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
4	0	On Site	537600 258800	Address: VICTORIA FARM, HARDWICK, CAMBRIDGE Effluent Type: AGRICULTURE - UNSPECIFIED Permit Number: PR1NFG0250 Permit Version: 1	Receiving Water: - Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 24/09/1962 Effective Date: 24-Sep-1962 Revocation Date: 25/07/1991
5	70	NW	537300 258700	Address: THE OLD RECTORY FARM, 32 MAIN STREET, HARDWICK, CAMBS, CB3 7QS Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PRCNF14442 Permit Version: 1	Receiving Water: BIN BROOK TRIB OF RIVER CAM Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 23/10/2000 Effective Date: 16-Oct-2000 Revocation Date:
6	113	E	537400 258500	Address: RED BRICK FARM, HARDWICK, CAMBRIDGE Effluent Type: AGRICULTURE - UNSPECIFIED Permit Number: PR1NFG0247 Permit Version: 1	Receiving Water: - Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 24/09/1962 Effective Date: 24-Sep-1962 Revocation Date: 25/07/1991
7	415	NE	538280 259810	Address: NEW FARMHOUSE, PARK FARM, MADINGLEY, CAMBS Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PRCNF14052 Permit Version: 1	Receiving Water: ditch tributary Bin Brook Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 24/03/1998 Effective Date: 24-Mar-1998 Revocation Date:
8A	458	E	538450 259490	Address: HARDWICK EAST PUMPING STATION, HARDWICK, CAMBS. Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: AWCNF11491 Permit Version: 1	Receiving Water: TRIB OF BIN BROOK Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 17/01/2000 Effective Date: 07-Jan-2000 Revocation Date:

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site: 0

Database searched and no data found.

2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

3

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
1	207	SW	537070.0 258110.0	Incident Date: 15-Aug-2003 Incident Identification: 182961.0 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
2A	456	E	538448.0 259485.0	Incident Date: 28-Aug-2001 Incident Identification: 27296.0 Pollutant: Sewage Materials Pollutant Description: Storm Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
3	500	N	537970.0 260039.0	Incident Date: 10-Jun-2012 Incident Identification: 999494.0 Pollutant: Agricultural Materials and Wastes Pollutant Description: Slurry and Dilute Slurry	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

Database searched and no data found.

2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

Records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site 0

Database searched and no data found.

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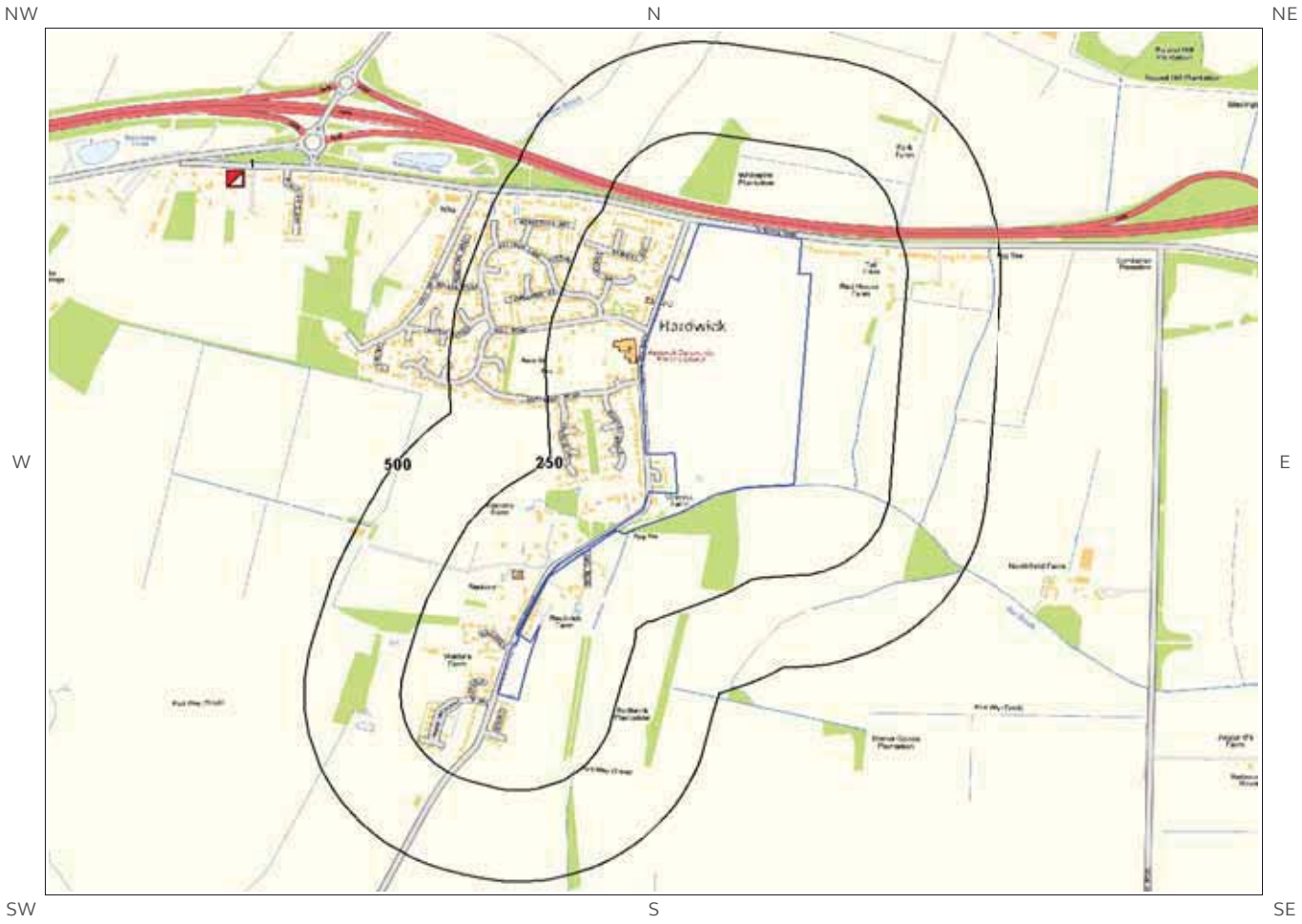
3. Landfill and Other Waste Sites Map



Site Outline

250
500
Search Buffers (m)

EA/NRW Active Landfill

EA/NRW Historic Landfill

BGS / DoE Survey Landfill

Historic and Planned Waste Sites

EA/NRW Licensed Waste Site

Local Authority/Historical Mapping Landfill Records

3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

0

Database searched and no data found.

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

Database searched and no data found.

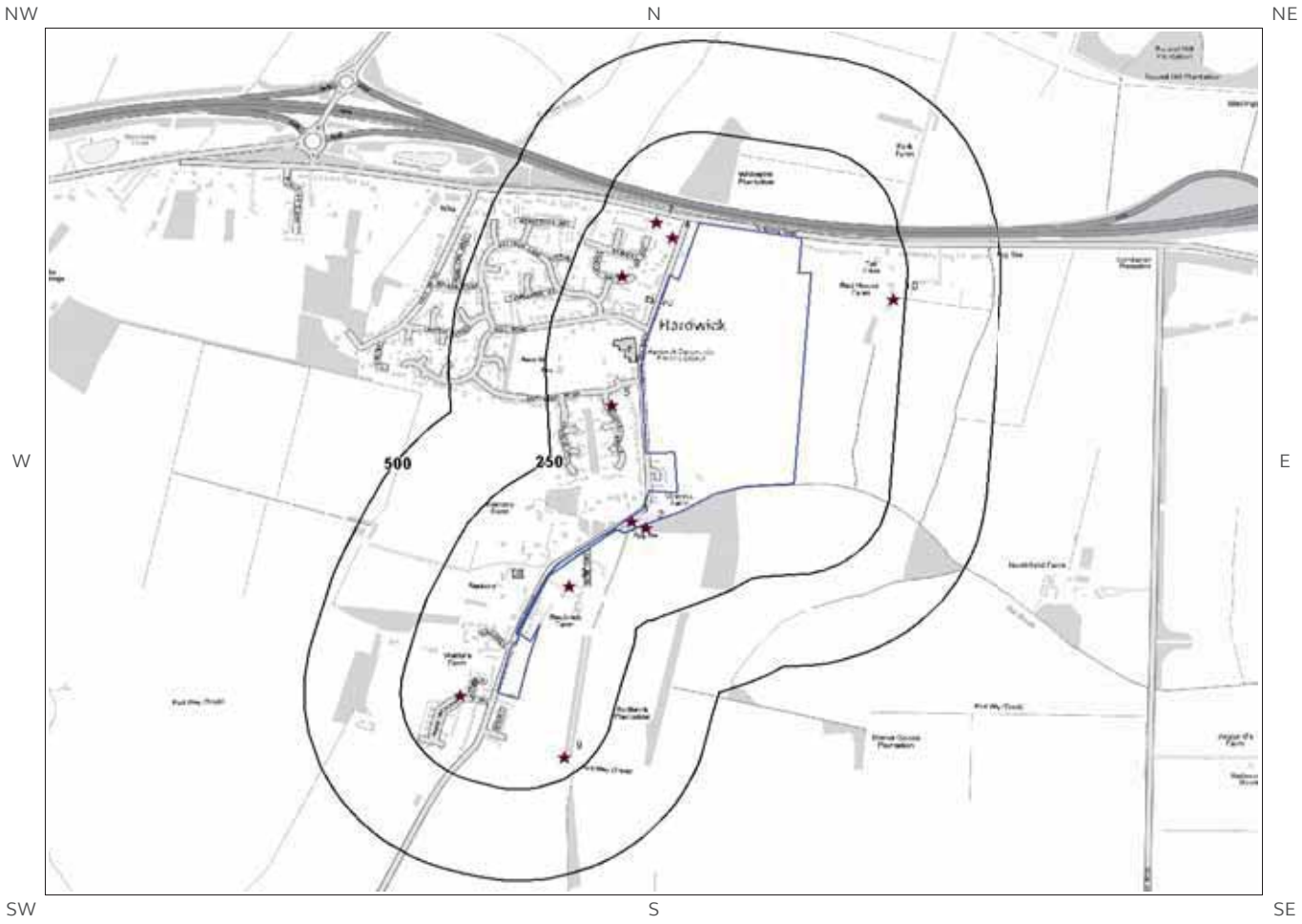
3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site:

1

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
1	1153	W	536500 259700	Site Address: Hardwick (Woodville) Transfer Station, 343, St Neots Road, Hardwick, Cambridge, Cambridgeshire, CB3 7QL Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JUP001 EPR reference: EA/EPR/PP3899NM/S002 Operator: Richard Van George Jupp Waste Management licence No: 70254 Annual Tonnage: 6400.0	Issue Date: 03/08/1995 Effective Date: - Modified: 26/03/1997 Surrendered Date: Feb 6 2003 12:00AM Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: R V G Jupp - Hardwick Transfer Station Correspondence Address: -

4. Current Land Use Map



Site Outline

Search Buffers (m)
250
500

Current Industrial Sites

Petrol & Fuel Sites

Electricity Transmission Cables

Gas Transmission Pipelines

4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 10

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	0	On Site	Electricity Sub Station	537529 258757	Cambridgeshire, CB23	Electrical Features	Infrastructure and Facilities
2	8	S	Pumping Station	537564 258739	Cambridgeshire, CB23	Water Pumping Stations	Industrial Features
3	51	SE	G E O Green Energy Options	537366 258580	3 St. Marys Court, Main Street, Hardwick, Cambridge, Cambridgeshire, CB23 7QS	Electronic Equipment	Industrial Products
4	55	W	Telephone Exchange	537633 259537	Cambridgeshire, CB23	Telecommunications Features	Infrastructure and Facilities
5	84	W	Electricity Sub Station	537476 259077	Cambridgeshire, CB23	Electrical Features	Infrastructure and Facilities
6	98	W	Electricity Sub Station	537082 258278	Cambridgeshire, CB23	Electrical Features	Infrastructure and Facilities
7	107	W	Technisol	537592 259576	Broadway House 149-151, St. Neots Road, Hardwick, Cambridge, Cambridgeshire, CB23 7QJ	Measurement and Inspection Equipment	Industrial Products
8	116	W	Electricity Sub Station	537504 259430	Cambridgeshire, CB23	Electrical Features	Infrastructure and Facilities
9	201	SE	Tank	537353 258109	Cambridgeshire, CB23	Tanks (Generic)	Industrial Features
10	218	E	Silo	538208 259367	Cambridgeshire, CB23	Hoppers and Silos	Farming

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 0

Database searched and no data found.

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site: 0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site: 0

Database searched and no data found.

---

5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

5.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
ODT-DMTN	OADBY MEMBER	DIAMICTON

5.3 Bedrock and Solid Geology

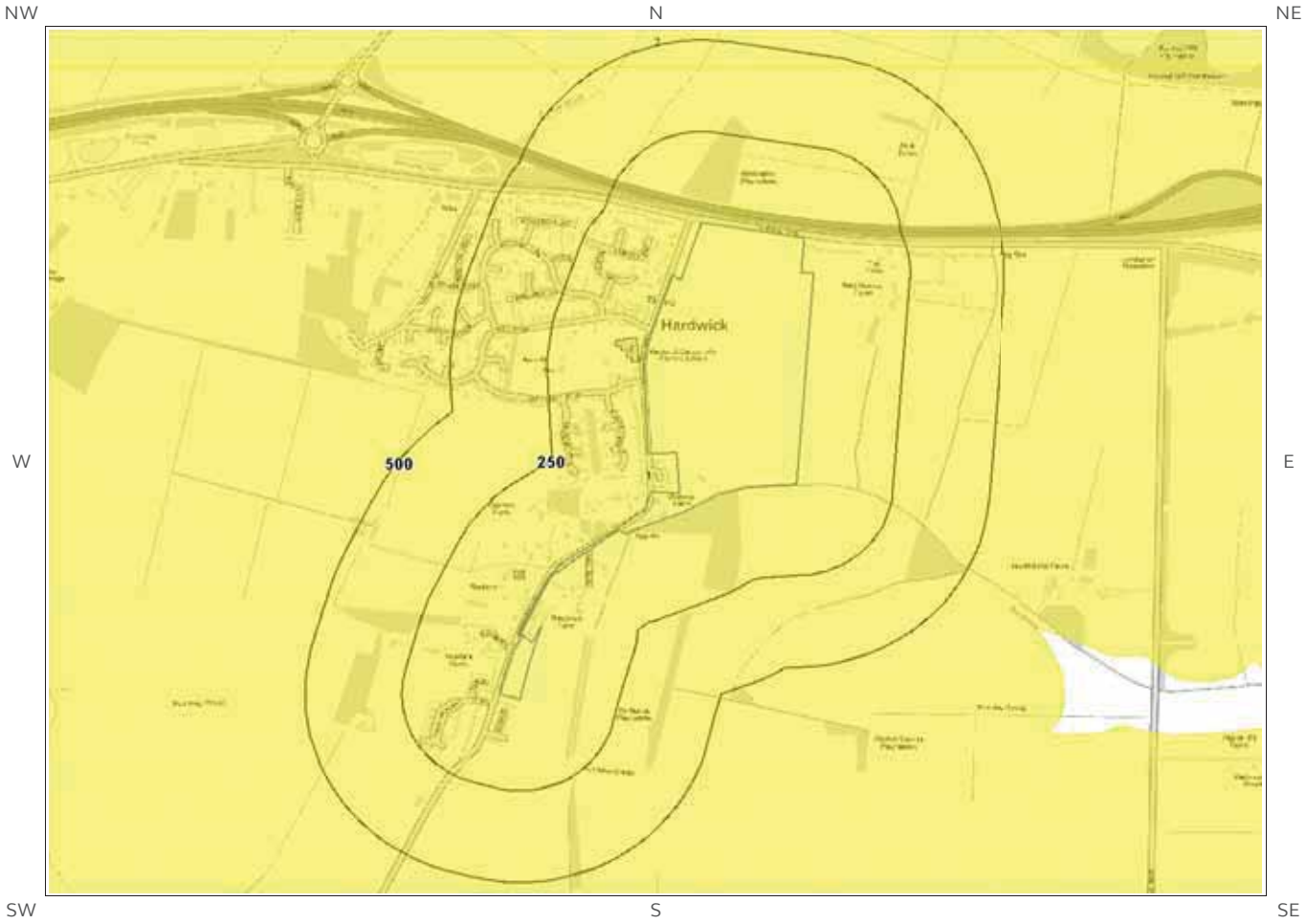
The database has been searched on site, including a 50m buffer.

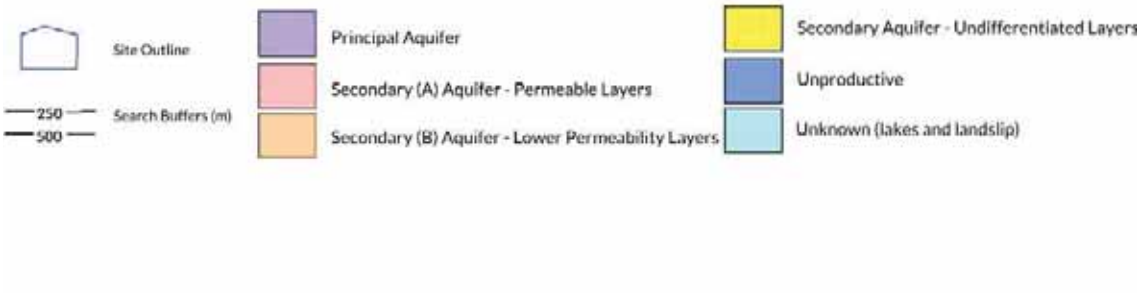
Lex Code	Description	Rock Type
GLT-MDST	GAULT FORMATION	MUDSTONE

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

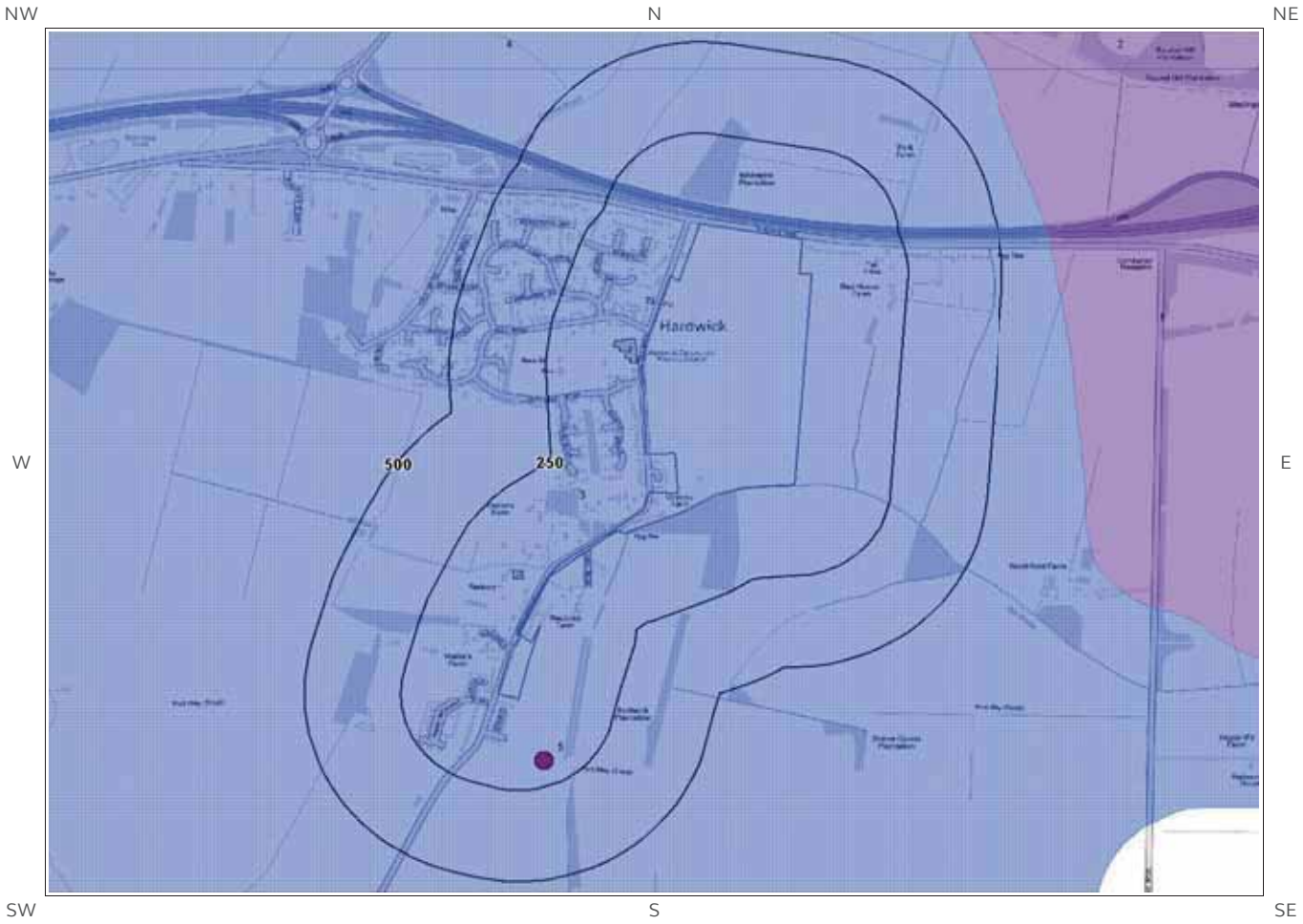
6 Hydrogeology and Hydrology

6a. Aquifer Within Superficial Geology

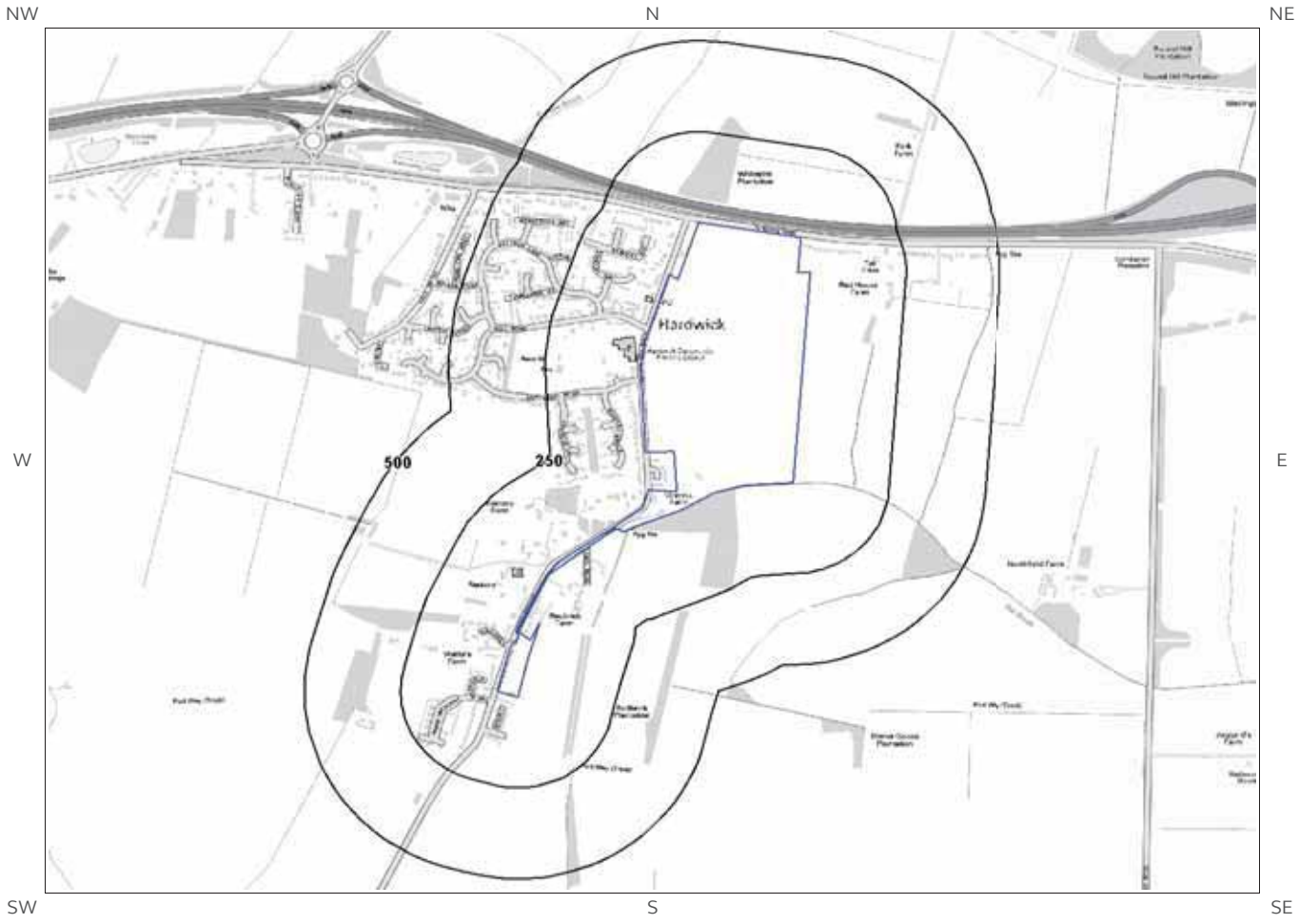


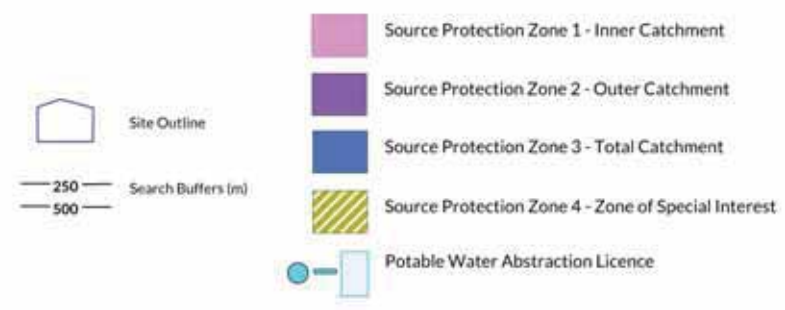


6b. Aquifer Within Bedrock Geology and Abstraction Licences

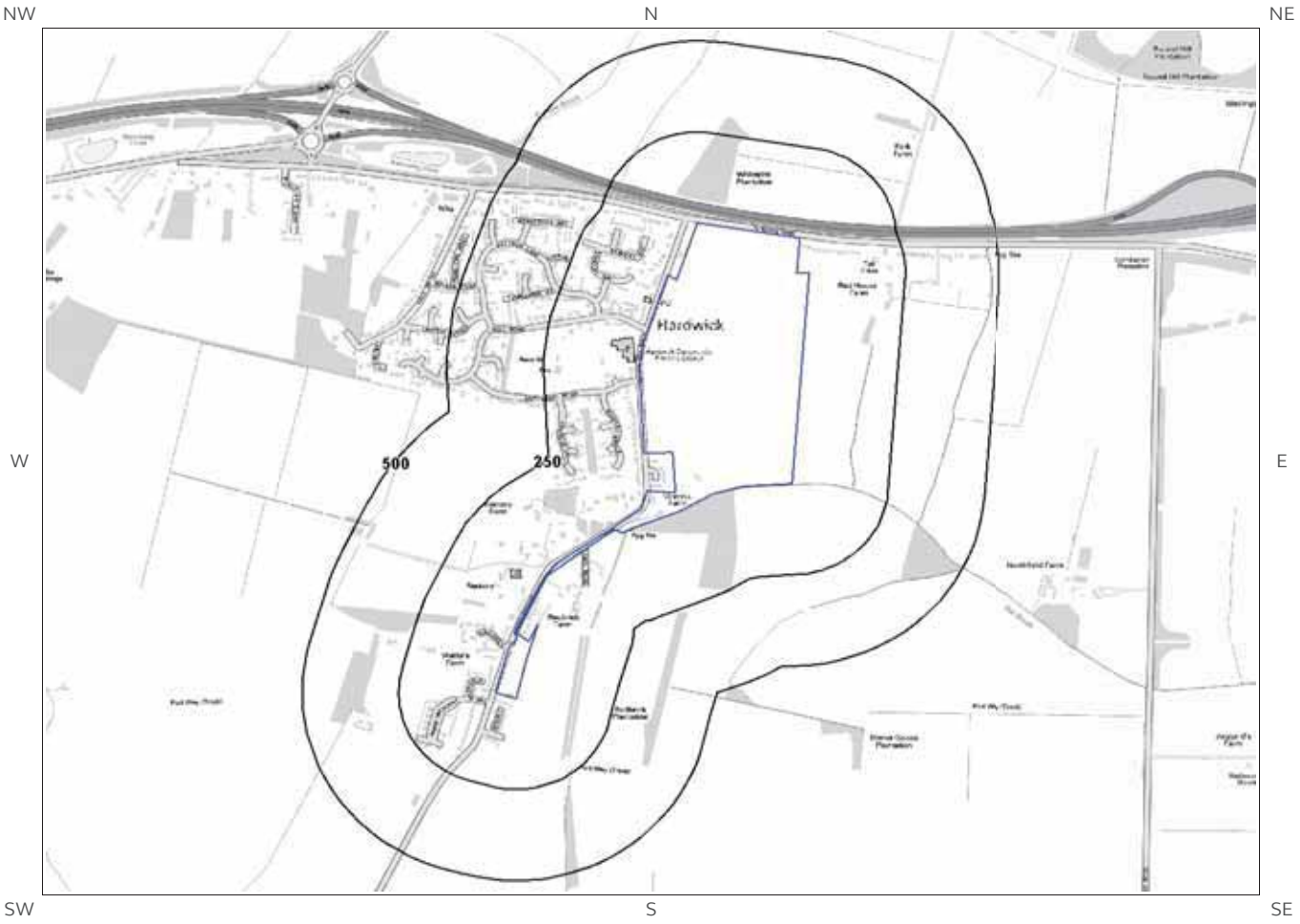


6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licences





6d. Hydrogeology – Source Protection Zones within confined aquifer

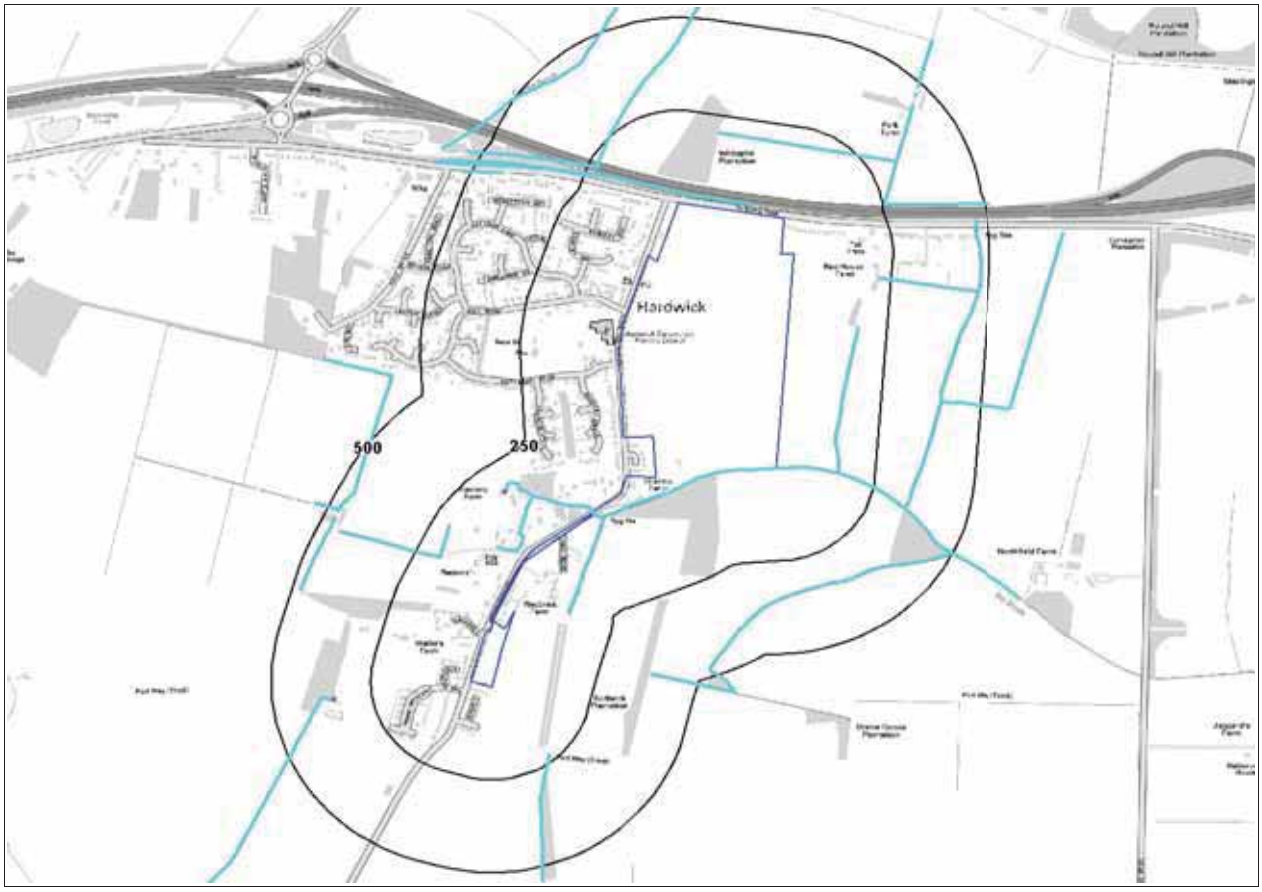


6e. Hydrology – Watercourse Network and River Quality

NW N NE

W E

SW S SE



Watercourse type

- Tidal River
- Inland River
- Canal
- Lock or Flight of Locks
- Lake, Reservoir, or Marsh
- Foreshore
- Drain or Transfer

Site Outline

250
500
Search Buffers (m)

Watercourse level

- On ground surface
- Underground or Elevated
- Level unknown

General Quality Assessment: Biology

General Quality Assessment: Chemistry

6.Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Records of strata classification within the superficial geology at or in proximity to the property Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	426	N	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

6.2 Aquifer within Bedrock Deposits

Records of strata classification within the bedrock geology at or in proximity to the property Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
3	0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
4	426	N	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

6.3 Groundwater Abstraction Licences

Groundwater Abstraction Licences within 2000m of the study site — Identified

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details	
5	183	S	537300 258100	Status: Active Licence No: 6/33/32/*G/0017 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE NW OF COMBERTON Data Type: Point Name: CHIVERS FARMS LTD	Annual Volume (m^3): 5,973 Max Daily Volume (m^3): 29 Original Application No: - Original Start Date: Expiry Date: Issue No: Version Start Date: 26/03/2008 Version End Date:
Not shown	1456	N	538140 260980	Status: Active Licence No: 6/33/35/*G/0125 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE S OF DRY DRAYTON Data Type: Point Name: CHIVERS FARMS LTD	Annual Volume (m^3): 1,818 Max Daily Volume (m^3): 32 Original Application No: - Original Start Date: Expiry Date: Issue No: Version Start Date: 26/03/2008 Version End Date:
Not shown	1878	S	537400 256400	Status: Historical Licence No: 6/33/32/*G/0024 Details: Make-Up or Top Up Water Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BENNELL FARM TOFT Data Type: Point Name: ARNOLD	Annual Volume (m^3): 5,000 Max Daily Volume (m^3): 43 Original Application No: - Original Start Date: Expiry Date: Issue No: Version Start Date: 01/10/1996 Version End Date:
Not shown	1878	S	537400 256400	Status: Historical Licence No: 6/33/32/*G/0024 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT BENNELL FARM TOFT Data Type: Point Name: ARNOLD	Annual Volume (m^3): 5,000 Max Daily Volume (m^3): 43 Original Application No: - Original Start Date: Expiry Date: Issue No: Version Start Date: 01/10/1996 Version End Date:

6.4 Surface Water Abstraction Licences

Surface Water Abstraction Licences within 2000m of the study site — None identified

Database searched and no data found.

6.5 Potable Water Abstraction Licences

Potable Water Abstraction Licences within 2000m of the study site — None identified

Database searched and no data found.

6.6 Source Protection Zones

Source Protection Zones within 500m of the study site — None identified

Database searched and no data found.

6.7 Source Protection Zones within Confined Aquifer

Source Protection Zones within the Confined Aquifer within 500m of the study site — None identified

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Environment Agency/Natural Resources Wales information on groundwater vulnerability and soil leaching potential within 500m of the study site — None identified

Database searched and no data found.

6.9 River Quality

Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site — None identified

6.9.1 Biological Quality:

Database searched and no data found.

6.9.2 Chemical Quality:

Database searched and no data found.

6.10 Ordnance Survey MasterMap Water Network

Ordnance Survey MasterMap Water Network entries within 500m of the study site

This watercourse information is provided by Ordnance Survey MasterMap Water Network. The data provides a detailed centre line following the curve of the waterway precisely, so all distances provided in the report should be understood as measurements to the centreline rather than a measurement to the nearest point of the watercourse. Underground watercourses are inferred from entry and exit points so caution is advised in using these to indicate precise locations of underground watercourses when planning site investigation and development.

The following Ordnance Survey MasterMap Water Network records are represented on the Hydrology Map (6e):

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
1	0 On Site	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
2	0 On Site	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
3	0 On Site	Bin Brook	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
4	0 On Site	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
5	0 On Site	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
6	0 On Site	Bin Brook	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
4	1 S	Bin Brook	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
5	1 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.0
7	1 S	Bin Brook	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
8	1 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.0
6	24 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
9	24 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
7	28 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
10	28 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
8	121 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
11	121 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
9	128 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
12	128 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
10	130 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.6
13	130 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.6
11	142 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.0
14	142	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	E			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.0
12	155 E	Bin Brook	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
15	155 E	Bin Brook	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
13	171 NW	-	Lake, loch or reservoir.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.0
16	171 NW	-	Lake, loch or reservoir.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.0
14	182 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
17	182 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
15	188 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
16	188 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
18	188 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
19	188 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
17	189 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
20	189 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				Average Width in Watercourse Section (m): Not Provided
18	190 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
21	190 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
19	192 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
22	192 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
20	197 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
23	197 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
21	198 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
24	198 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
22	199 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
25	199 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
23	214 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
26	214 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
24	222 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
27	222 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
25	227 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
26	227 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
28	227 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
29	227 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
27	233 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
30	233 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
28	234 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
31	234 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
29	254 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
30	254 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
32	254	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	E			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
33	254 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
31	290 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
32	290 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
34	290 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
35	290 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
33	292 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
36	292 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
34	313 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
37	313 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
35	321 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
38	321 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
36	336 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				Average Width in Watercourse Section (m): 1.6
39	336 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.6
37	341 E	Bin Brook	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
38	341 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
40	341 E	Bin Brook	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
41	341 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
39	343 W	-	Lake, loch or reservoir.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 7.7
42	343 W	-	Lake, loch or reservoir.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 7.7
40	348 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
43	348 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
41	350 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
44	350 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
42	368 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
43	368 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
45	368 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
46	368 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
44	372 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
47	372 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
45	376 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.2
48	376 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.2
46	399 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
49	399 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
47	401 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
50	401 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
48	429 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
51	429	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	NW			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
49	439 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
52	439 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
50	450 NW	Callow Brook	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
53	450 NW	Callow Brook	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
51	459 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
54	459 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
52	463 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
55	463 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
53	464 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
56	464 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
54	467 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
57	467 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				Average Width in Watercourse Section (m): Not Provided
55	470 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
56	470 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
58	470 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
59	470 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
57	473 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
60	473 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
58	474 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.2
61	474 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.2
59	488 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	488 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
60	490 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
63	490 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
61	497 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
64	497 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
62	498 SE	Bin Brook	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
65	498 SE	Bin Brook	Inland river not influenced by normal tidal action.	Catchment Area: Cam Ely Ouse and South Level Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1

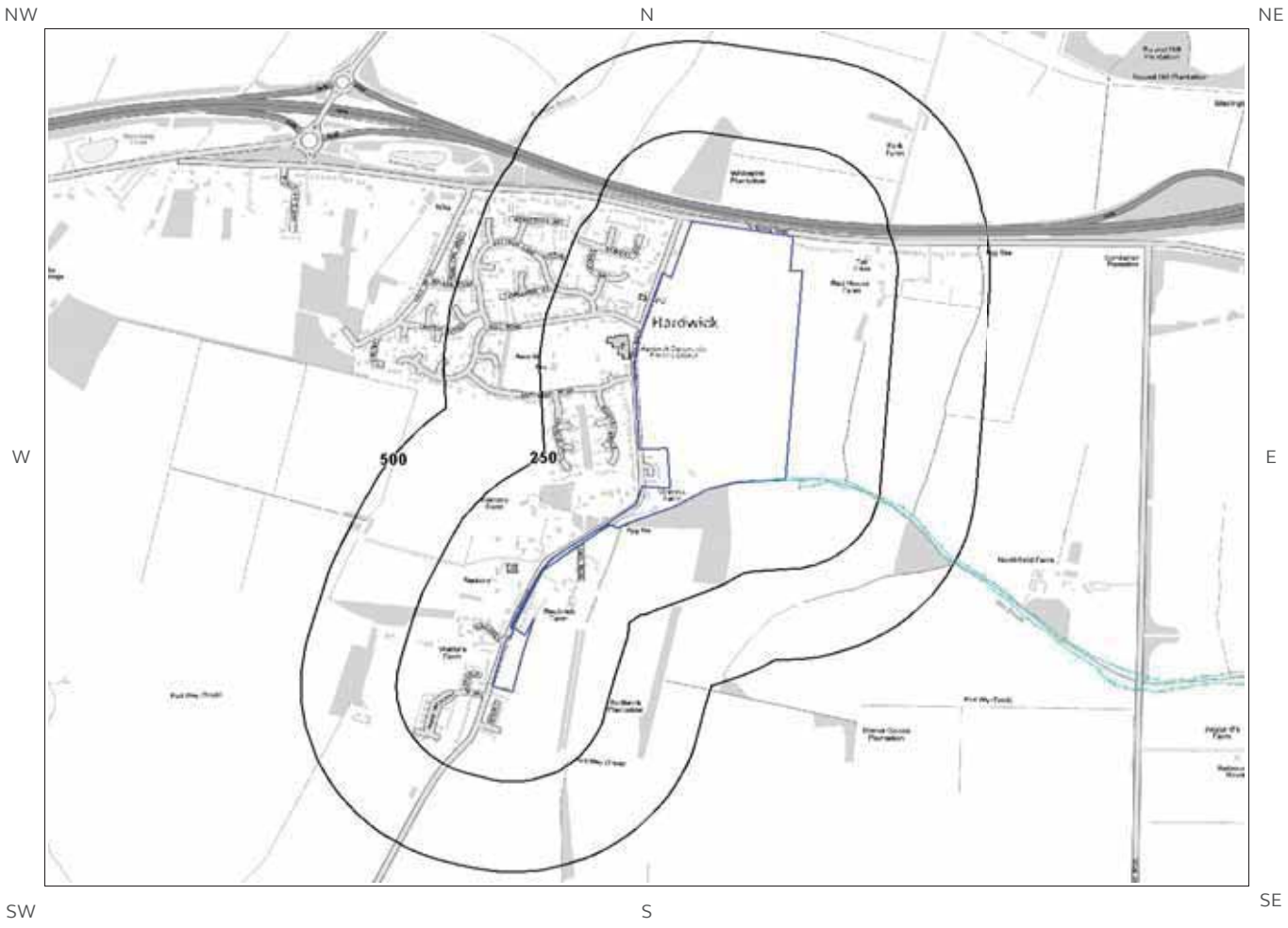
6.11 Surface Water Features

Surface water features within 250m of the study site — Identified

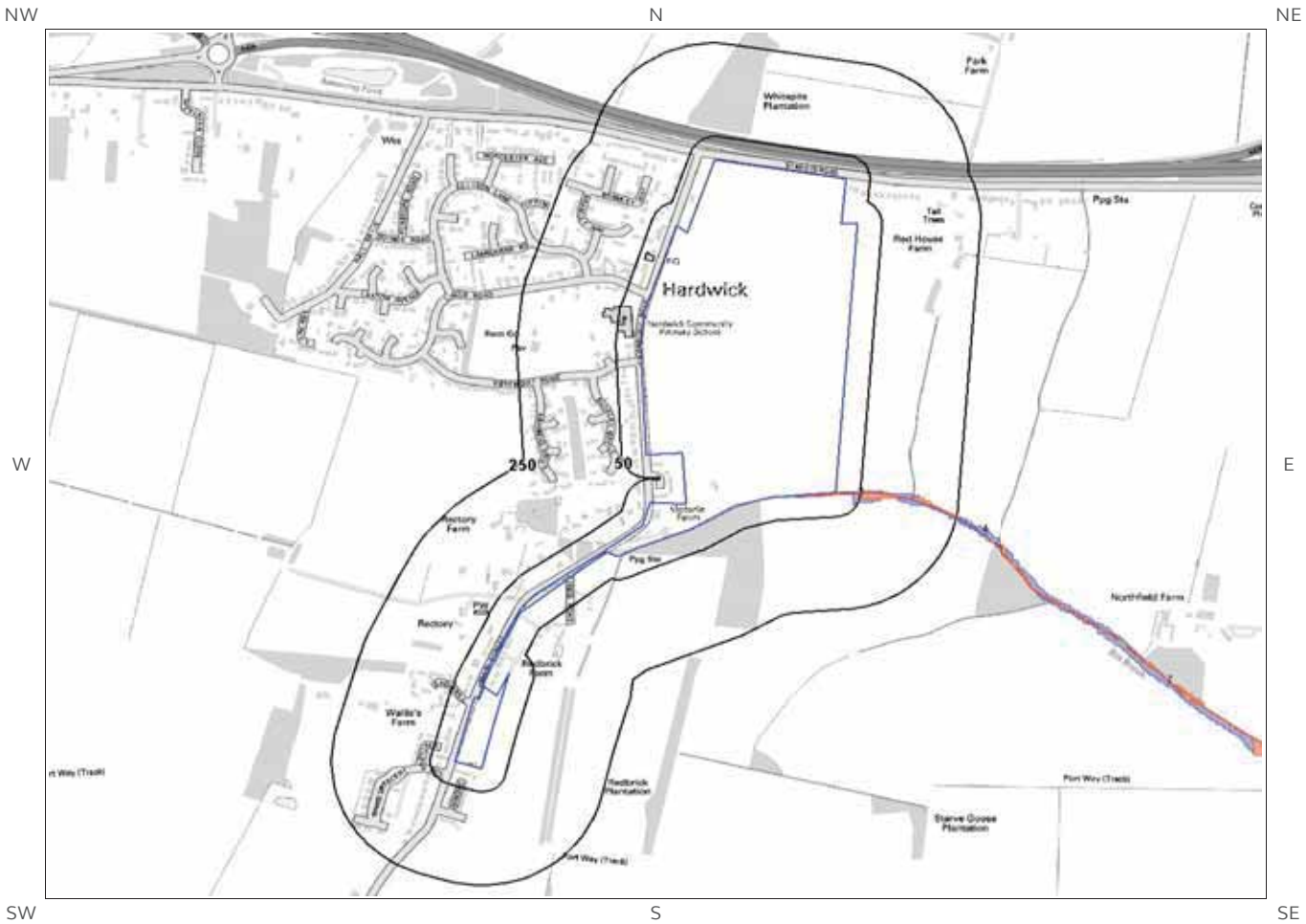
The following surface water records are not represented on mapping:

Distance (m)	Direction
0	On Site
0	On Site
0	On Site
0	On Site
0	On Site
0	SE
7	NW
28	NW
32	NW
32	NW
40	NW
78	NW
84	NW
136	E
171	NW
182	NW
190	NW
192	NW
198	NW
199	N
200	N
214	E
232	NW
233	SE
234	W
234	W

7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)



7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



Site Outline

100
250
Search Buffers (m)

RoFRaS Rating

Very Low

Low

Medium

High

7 Flooding

7.1 River and Coastal Zone 2 Flooding

Environment Agency/Natural Resources Wales Zone 2 floodplain within 250m — Identified

Environment Agency/Natural Resources Wales Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

ID	Distance (m)	Direction	Update	Type
1A	0	On Site	09-Sep-2019	Zone 2 - (Fluvial /Tidal Models)

7.2 River and Coastal Zone 3 Flooding

Environment Agency/Natural Resources Wales Zone 3 floodplain within 250m — Identified

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

ID	Distance (m)	Direction	Update	Type
1A	0	On Site	09-Sep-2019	Zone 3 - (Fluvial Models)

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

Highest risk of flooding onsite — High

The Environment Agency/Natural Resources Wales RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a High (1 in 30 or greater) chance of flooding in any given year.

Any relevant data within 250m is represented on the RoFRaS Flood map. Data to 50m is reported in the table below.

ID	Distance (m)	Direction	RoFRas flood Risk
1	0.0	On Site	High
2	0.0	On Site	Medium

7.4 Flood Defences

Flood Defences within 250m of the study site — None identified

Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Areas benefiting from Flood Defences within 250m of the study site — None identified

7.6 Areas benefiting from Flood Storage

Areas used for Flood Storage within 250m of the study site — None identified

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site — Identified

Clearwater Flooding or Superficial Deposits Flooding — Superficial Deposits Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 Highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

7.8 Groundwater Flooding Confidence Areas

British Geological Survey confidence rating in this result — High

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map

Site Outline
100
250
Search Buffers (m)

AONB
National Park
SSSI
Special Protection Areas
Nitrate Vulnerable Zones
Green Belt
Environmentally Sensitive Areas
Special Areas of Conservation
World Heritage Sites
Nitrate Sensitive Areas
Ancient Woodland
National Nature Reserve
Local Nature Reserves
Ramsar Sites

8. Designated Environmentally Sensitive Sites

Designated Environmentally Sensitive Sites within 2000m of the study site | Identified

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

2

The following Site of Special Scientific Interest (SSSI) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	SSSI Name	Data Source
1	1518	W	Hardwick Wood	Natural England
2A	1825	E	Madingley Wood	Natural England

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

2

The following records of Designated Ancient Woodland provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
5	1791	W	HARDWICK WOOD	Ancient and Semi-Natural Woodland
6A	1825	E	MADINGLEY WOOD	Ancient and Semi-Natural Woodland

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

0

Database searched and no data found.

8.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

8.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

2

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
3	0	On Site	Existing	DEFRA
4	1926	NW	Existing	DEFRA

8.14 Records of Green Belt land within 2000m of the study site:

2

Green Belt data contains Ordnance Survey data © Crown copyright and database right [2015].

ID	Distance	Direction	Green Belt Name	Local Authority Name
7	0	On Site	Oxford Greenbelt	South Cambridgeshire
8	426	N	Oxford Greenbelt	South Cambridgeshire

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a Groundsure Geo Insight, available from our website. The following information has been found:

9.1.1 Shrink Swell

Maximum Shrink-Swell* hazard rating identified on the study site — Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

9.1.2 Landslides

Maximum Landslide* hazard rating identified on the study site — Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

9.1.3 Soluble Rocks

Maximum Soluble Rocks* hazard rating identified on the study site — Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

* This indicates an automatically generated 50m buffer and site.

9.1.4 Compressible Ground

Maximum Compressible Ground* hazard rating identified on the study site — Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

9.1.5 Collapsible Rocks

Maximum Collapsible Rocks* hazard rating identified on the study site — Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

9.1.6 Running Sand

Maximum Running Sand** hazard rating identified on the study site — Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

* This indicates an automatically generated 50m buffer and site.

9.2 Radon

9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The site is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supercede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square. As such, the radon atlas is considered indicative, whereas the data given in this report is considered definitive.

9.2.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing
ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary.

10. Mining

10.1 Coal Mining

Coal mining areas within 75m of the study site — None identified

Database searched and no data found.

10.2 Non-Coal Mining

Non-Coal Mining areas within 50m of the study site boundary — None identified

Database searched and no data found.

10.3 Brine Affected Areas

Brine affected areas within 75m of the study site — None identified
Guidance: No Guidance Required.

Contact Details

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sales@emapsite.com

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Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email:
Web:**www.bgs.ac.uk**
BGS Geological Hazards Reports and general geological enquiries:
enquiries@bgs.ac.uk

Environment Agency
National Customer Contact Centre, PO Box 544
Rotherham, S60 1BY
Tel: 03708 506 506
Web: **www.environment-agency.gov.uk**
Email: enquiries@environment-agency.gov.uk

Public Health England
Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
www.gov.uk/phe
Email:**enquiries@phe.gov.uk**
Main switchboard**: 020 7654 8000**

The Coal Authority
200 Lichfield Lane
Mansfield
Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk

Ordnance Survey
Adanac Drive, Southampton
SO16 0AS
Tel: 08456 050505

Local Authority
Authority: South Cambridgeshire District Council
Phone: 03450 450 500
Web: http://www.scambs.gov.uk/
Address: South Cambridgeshire Hall, Cambourne Business Park,

Gemapping PLC
Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8NW
Tel: 01252 845444

Standard Terms and Conditions

Groundsure's Terms and Conditions can be viewed online at this link:

https://www.groundsure.com/terms-and-conditions-feb11-2019

emapsite

Building A2 Office 1052 Cody Technology Park,
Old Ively Road,
Farnborough, GU14 0LX

Report Reference: EMS-567164_762005

Your Reference: EMS_567164_762005

Report Date 18 Sep 2019

Report Delivery Method: Email - pdf

Geo Insight

Address: Hardwick, CB23 7QF,

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geo Insight** as requested.

If you would like further assistance regarding this report then please contact the emapsite customer services team on 0118 9736883 quoting the above report reference number.

Yours faithfully,

emapsite customer services team

Enc.
Groundsure Geo Insight

Geo Insight

Address:	**Hardwick, CB23 7QF,**
Date:	**18 Sep 2019**
Reference:	**EMS-567164_762005**
Client:	**emapsite**

NW N NE

W E

SW S SE

Aerial Photograph Capture date:	19-Jun-2017
Grid Reference:	537753,259146
Site Size:	28.4945ha

Contents Page

Overview of Findings

The Groundsure Geo Insight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 and 1:10,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Non-coal mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Geology 1:10,000 Scale		
1.1 Artificial Ground	1.1 Is there any Artificial Ground/ Made Ground present beneath the study site at 1:10,000 scale?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site at 1:10,000 scale?*	No
	1.2.2 Are there any records of landslip within 500m of the study site boundary at 1:10,000 scale?	No
1.3 Bedrock, Solid Geology and linear features	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records of linear features within 500m of the study site boundary at 1:10,000 scale?	No

Section 2: Geology 1:50,000 Scale		
2.1 Artificial Ground	2.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	2.1.2 Are there any records relating to permeability of artificial ground within the study site*boundary?	No
2.2 Superficial Geology and Landslips	2.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?*	Yes
	2.2.2 Are there any records of permeability of superficial ground within 500m of the study site?	Yes
	2.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	2.2.4 Are there any records relating to permeability of landslips within the study site* boundary?	No

Section 2: Geology 1:50,000 Scale

2.3 Bedrock, Solid Geology and linear features	2.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	2.3.2 Are there any records relating to permeability of bedrock ground within the study site boundary?	Yes
	2.3.3 Are there any records of linear features within 500m of the study site boundary?	No

Section 3: Radon

3. Radon	3.1Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
	3.2Radon Protection	No radon protective measures are necessary.

Section 4: Ground Workings	On-site	0-50m	51-250	251-500	501-1000
4.1 Historical Surface Ground Working Features from Small Scale Mapping	0	0	7	Not Searched	Not Searched
4.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
4.3 Current Ground Workings	0	0	0	0	0

Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.1 Historical Mining	0	0	0	0	0
5.2 Coal Mining	0	0	0	0	0
5.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
5.4 Non-Coal Mining*	0	0	0	0	2
5.5 Non–Coal Mining Cavities	0	0	0	0	0
5.5 Natural Cavities	0	0	0	0	0

Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.6 Brine Extraction	0	0	0	0	0
5.7 Gypsum Extraction	0	0	0	0	0
5.8 Cornwall and Devon Metalliferous Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0

Section 6: Natural Ground Subsidence	On-site
6.1 Shrink-Swell Clay	Low
6.2 Landslides	Very Low
6.3 Ground Dissolution of Soluble Rocks	Negligible
6.4 Compressible Deposits	Negligible
6.5 Collapsible Deposits	Very Low
6.5 Running Sand	Very Low

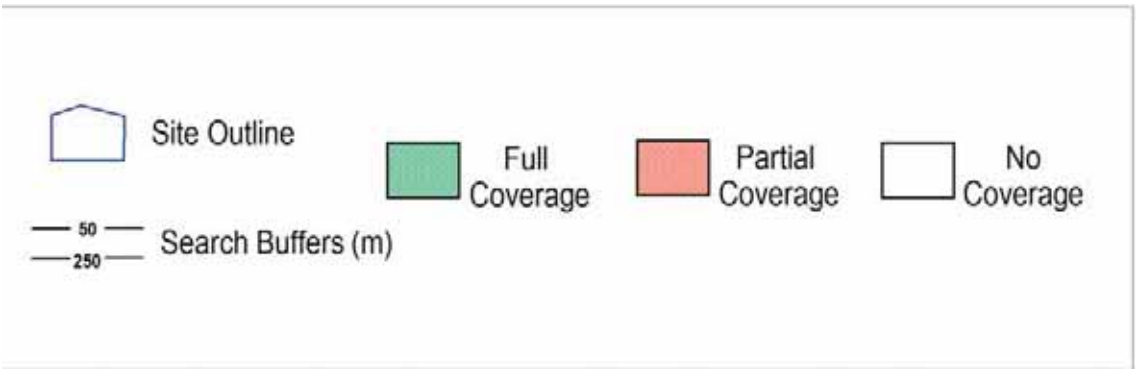
Section 7: Borehole Records	On-site	0-50m	51-250
7 BGS Recorded Boreholes	0	2	4

Section 8: Estimated Background Soil Chemistry	On-site	0-50m	51-250
8 Records of Background Soil Chemistry	5	6	0

Section 9: Railways and Tunnels	On-site	0-50m	51-250	250-500
9.1 Tunnels	0	0	0	Not Searched
9.2 Historical Railway and Tunnel Features	0	0	0	Not Searched
9.3 Historical Railways	0	0	0	Not Searched
9.4 Active Railways	0	0	0	Not Searched
9.5 Railway Projects	0	0	0	0

1:10,000 Scale Availability

1_10,000 Availability Legend



Availability of 1:10,000 Scale Geology Mapping

The following information represents the availability of the key components of the 1:10,000 scale geological data.

ID	Distance	Artificial Coverage	Superficial Coverage	Bedrock Coverage	Mass Movement Coverage
1	0.0	No deposits are mapped	No coverage	No coverage	No coverage

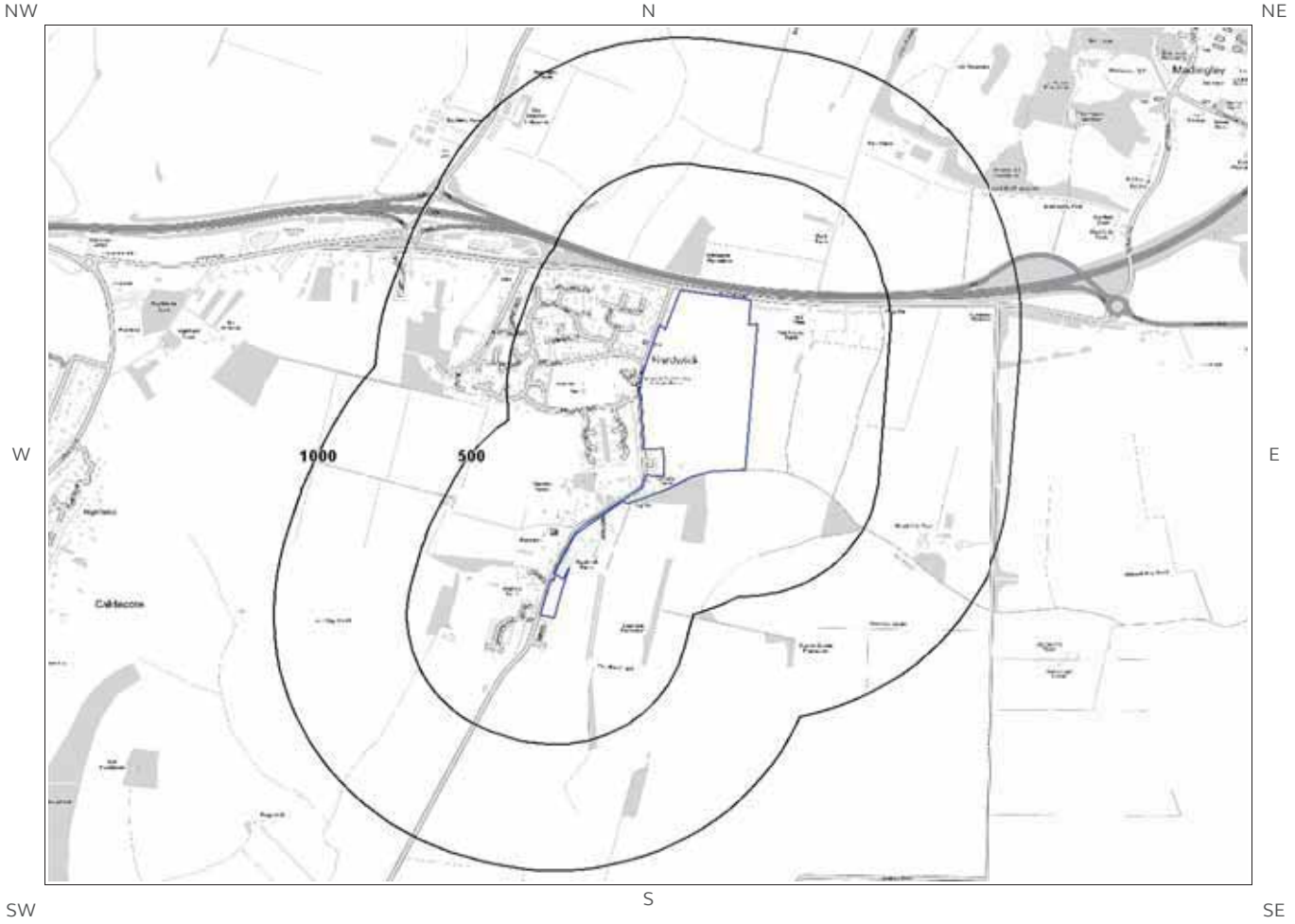
Guidance: The 1:10,000 scale geological interpretation is the most detailed generally available from BGS and is the scale at which most geological surveying is carried out in the field. The database is presented as four types of geology (artificial, mass movement, superficial and bedrock), although not all themes are mapped or available on every map sheet. Therefore a coverage layer showing the availability of the four themes is presented above.

The definitions of coverage are as follows:

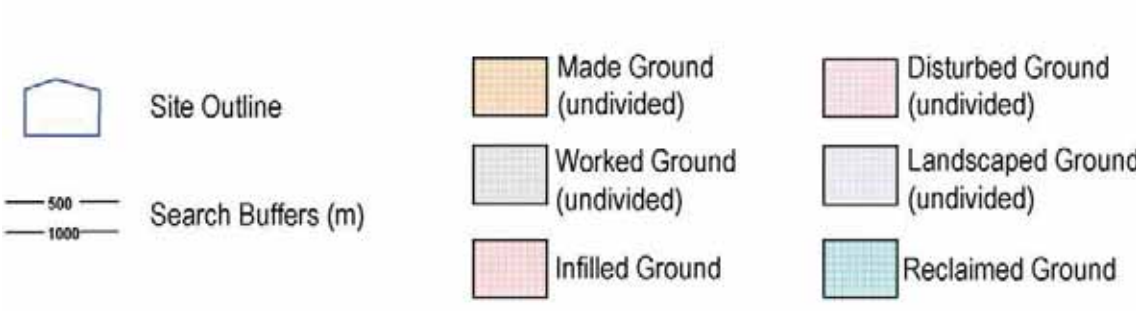
Geology	Full Coverage	Partial Coverage	No Coverage
Bedrock	The whole tile has been mapped	Some but not all the tile has been mapped	No coverage
Superficial	The whole tile has been mapped	Some but not all of the tile has been mapped	No coverage
Artificial	Some deposits are mapped on this tile	-	No deposits are mapped
Mass Movement	Some deposits are mapped on this tile	-	No coverage

1 Geology (1:10,000 scale).

1.1 Artificial Ground map (1:10,000 scale)



Artificial Ground Legend



1. Geology 1:10,000 scale

1.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

Are there any records of Artificial/ Made Ground within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found.

1.2 Superficial Deposits and Landslips map (1:10,000 scale)

Artificial Ground Legend

Site Outline

500
1000
Search Buffers (m)

1.2 Superficial Deposits and Landslips

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found.

1.2.2 Landslip

Are there any records of Landslip within 500m of the study site boundary at 1:10,000 scale?

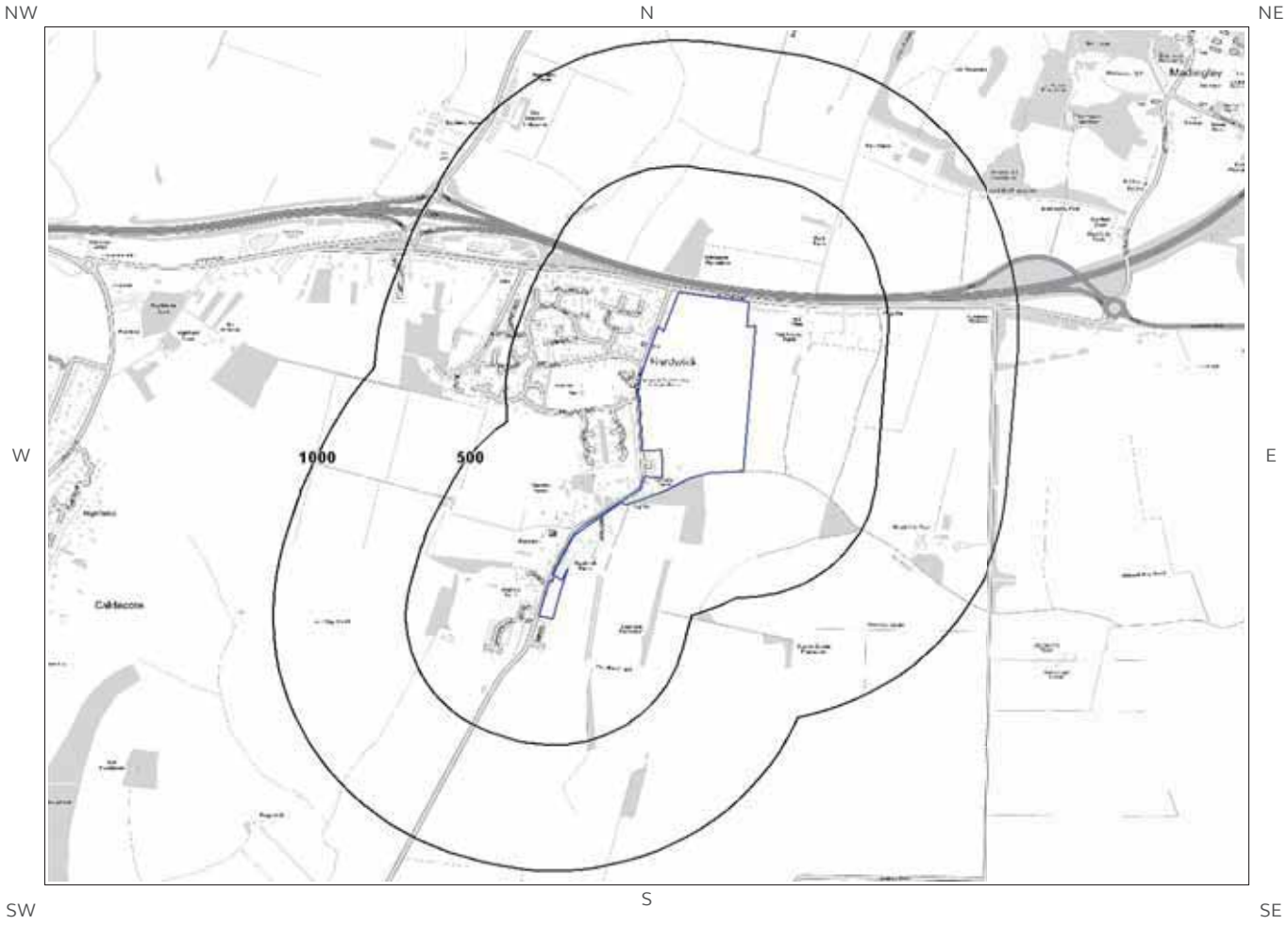
No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:10,000 scale

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

1.3 Bedrock and linear features map (1:10,000 scale)



Bedrock and linear features Legend

Site Outline

500
1000
Search Buffers (m)

1.3 Bedrock and linear features

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary at 1:10,000 scale.

Database searched and no data found at this scale.

1.3.2 Linear features

Are there any records of linear features within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found at this scale.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of great Britain at 1:10,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

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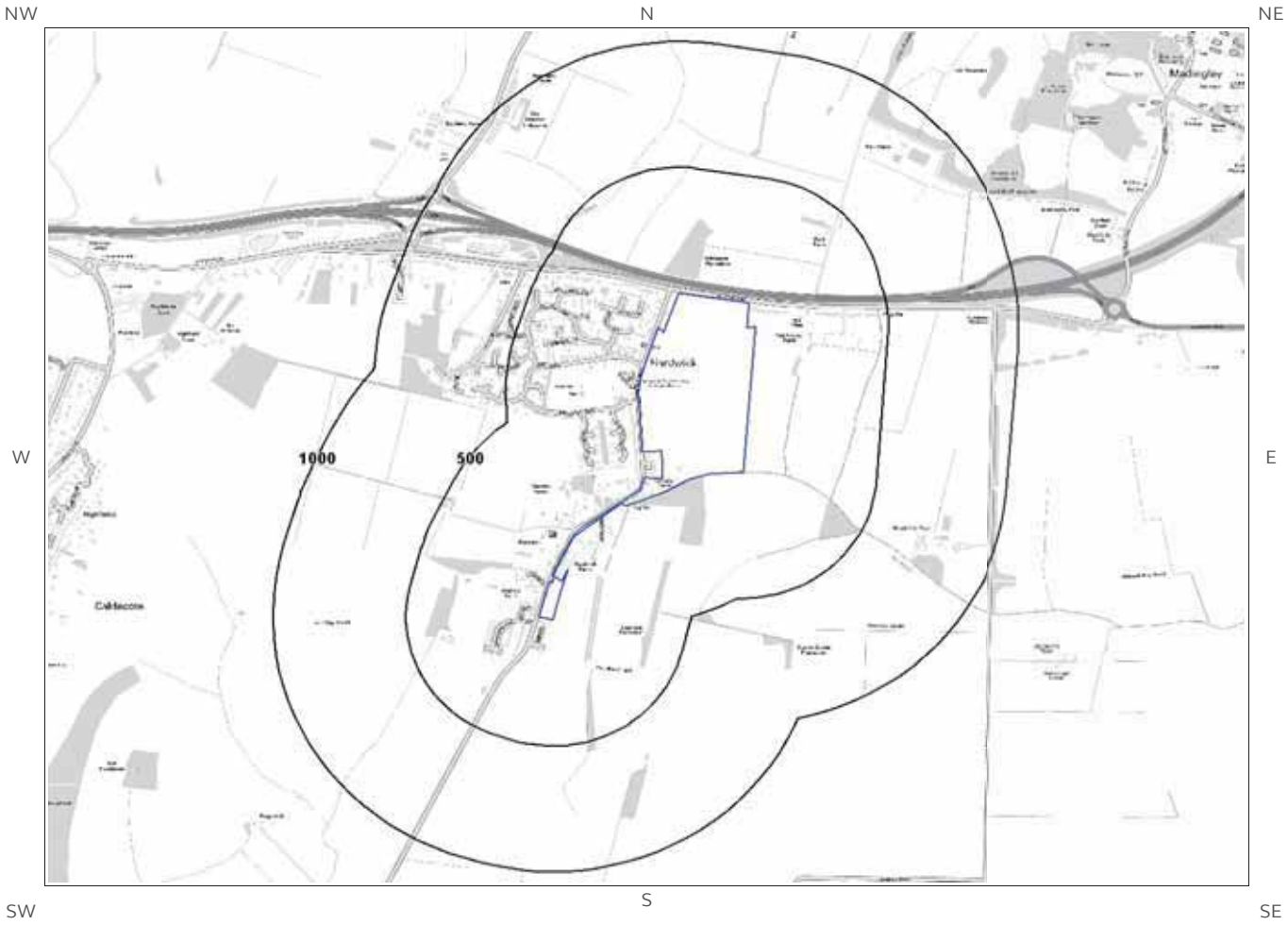
2 Geology 1:50,000 Scale

2.1 Artificial Ground map



Site Outline

500
1000
Search Buffers (m)

Made Ground (undivided)

Worked Ground (undivided)

Infilled Ground

Disturbed Ground (undivided)

Landscaped Ground (undivided)

Reclaimed Ground

2. Geology 1:50,000 scale

2.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 187

2.1.1 Artificial/ Made Ground

Are there any records of Artificial/ Made Ground within 500m of the study site boundary? No

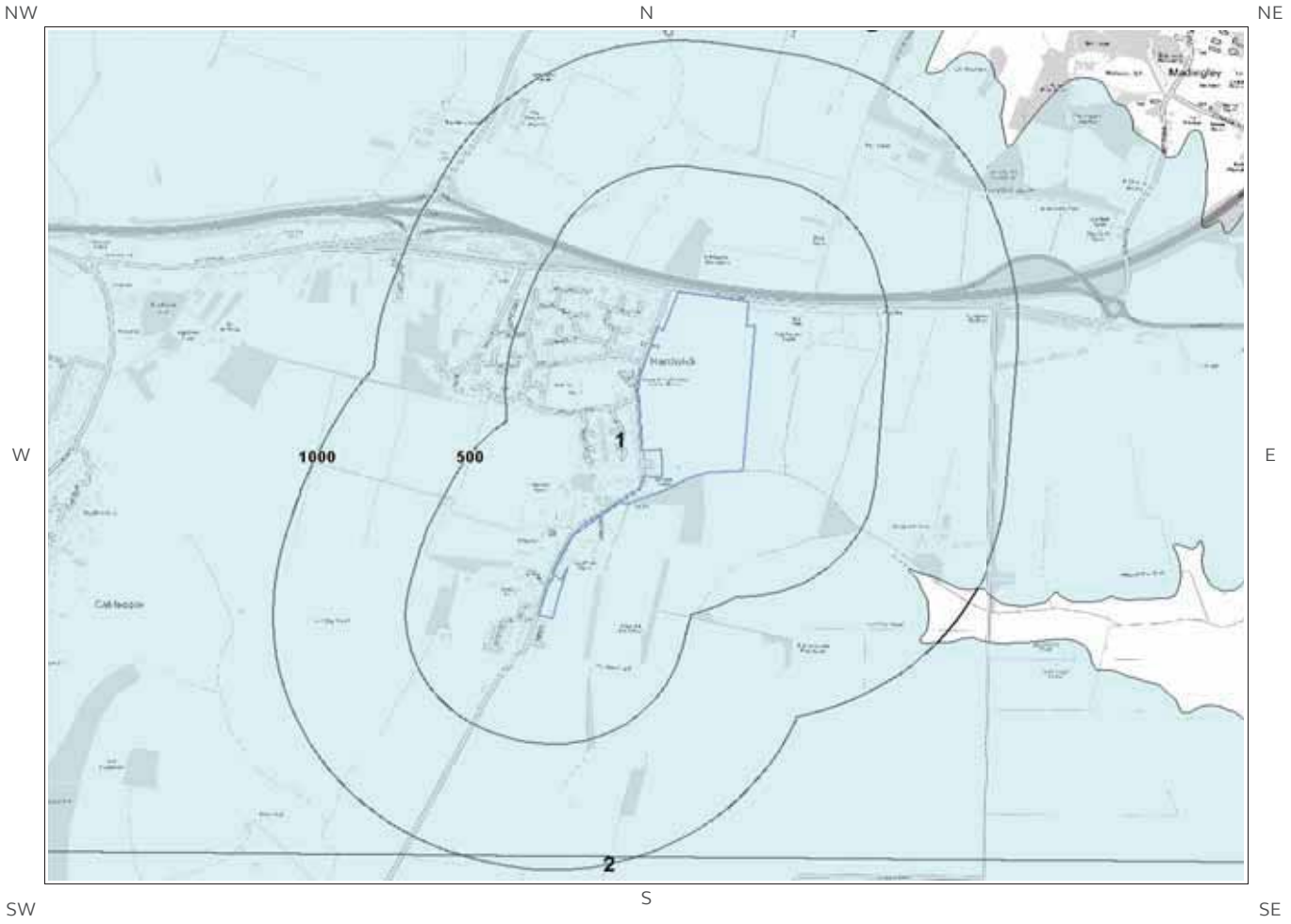
Database searched and no data found.

2.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? No

Database searched and no data found.

2.2 Superficial Deposits and Landslips map (1:50,000 scale)



Site Outline

500
1000
Search Buffers (m)

2.2 Superficial Deposits and Landslips

2.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	ODT-DMTN	OADBY MEMBER	DIAMICTON

2.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	Moderate	Low

2.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

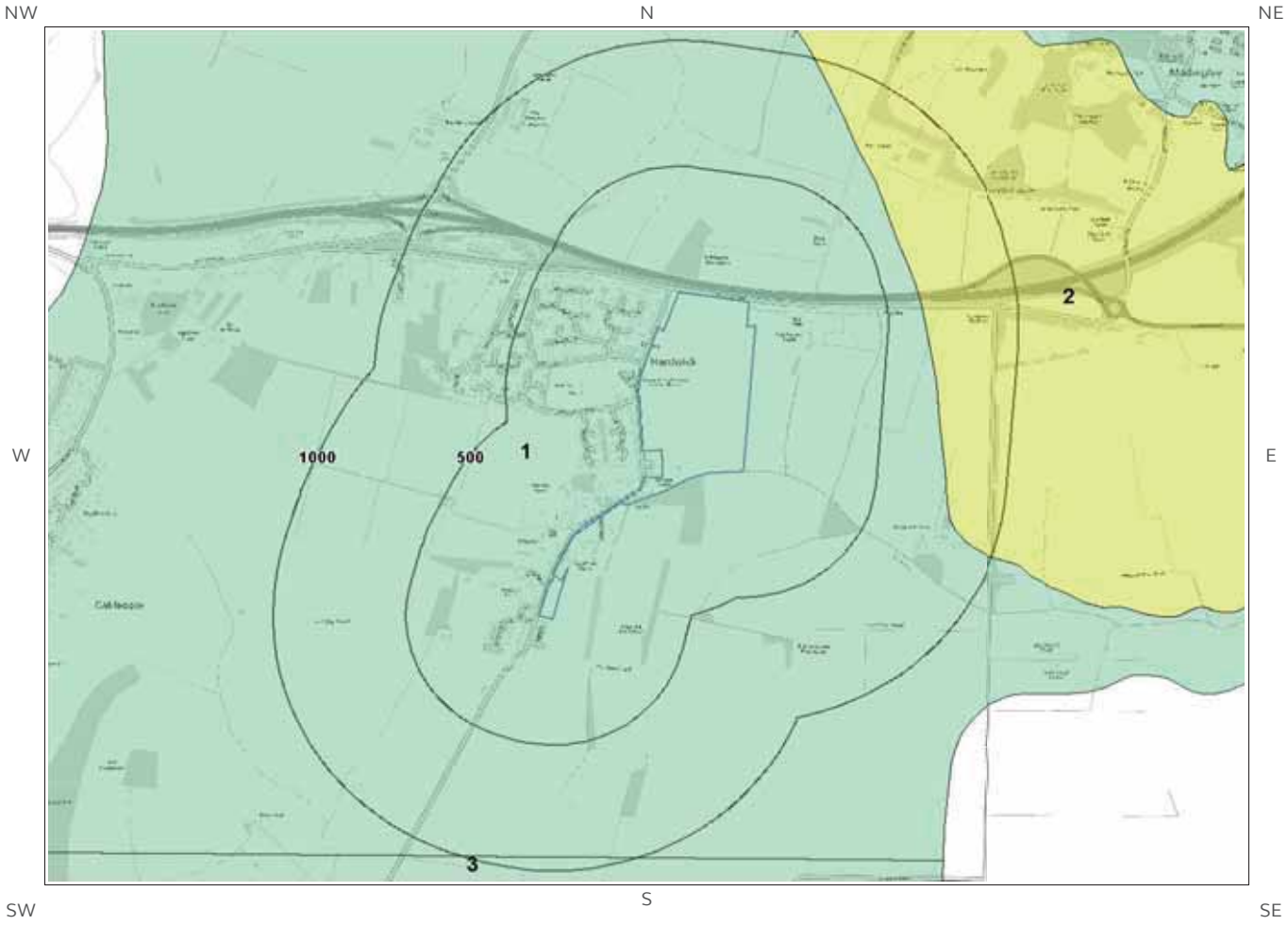
This Geology shows the main components as discrete layers, there are: Artificial/ Made Ground, Superficial/ Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

2.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site boundary? No

Database searched and no data found.

2.3 Bedrock and linear features map (1:50,000 scale)



Site Outline

500
1000
Search Buffers (m)

2.3 Bedrock, Solid Geology & linear features

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 187

2.3.1 Bedrock/Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary:

ID	Distance	Direction	LEX Code	Rock Description	Rock Age
1	0.0	On Site	GLT-MDST	GAULT FORMATION - MUDSTONE	ALBIAN

2.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site boundary? Yes

Distance	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	Low	Very Low

2.3.3 Linear features

Are there any records of linear features within 500m of the study site boundary? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/Solid Geology and linear features such as faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nation wide coverage.

3 Radon Data

3.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supercede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square. As such, the radon atlas is considered indicative, whereas the data given in this report is considered definitive.

3.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary.

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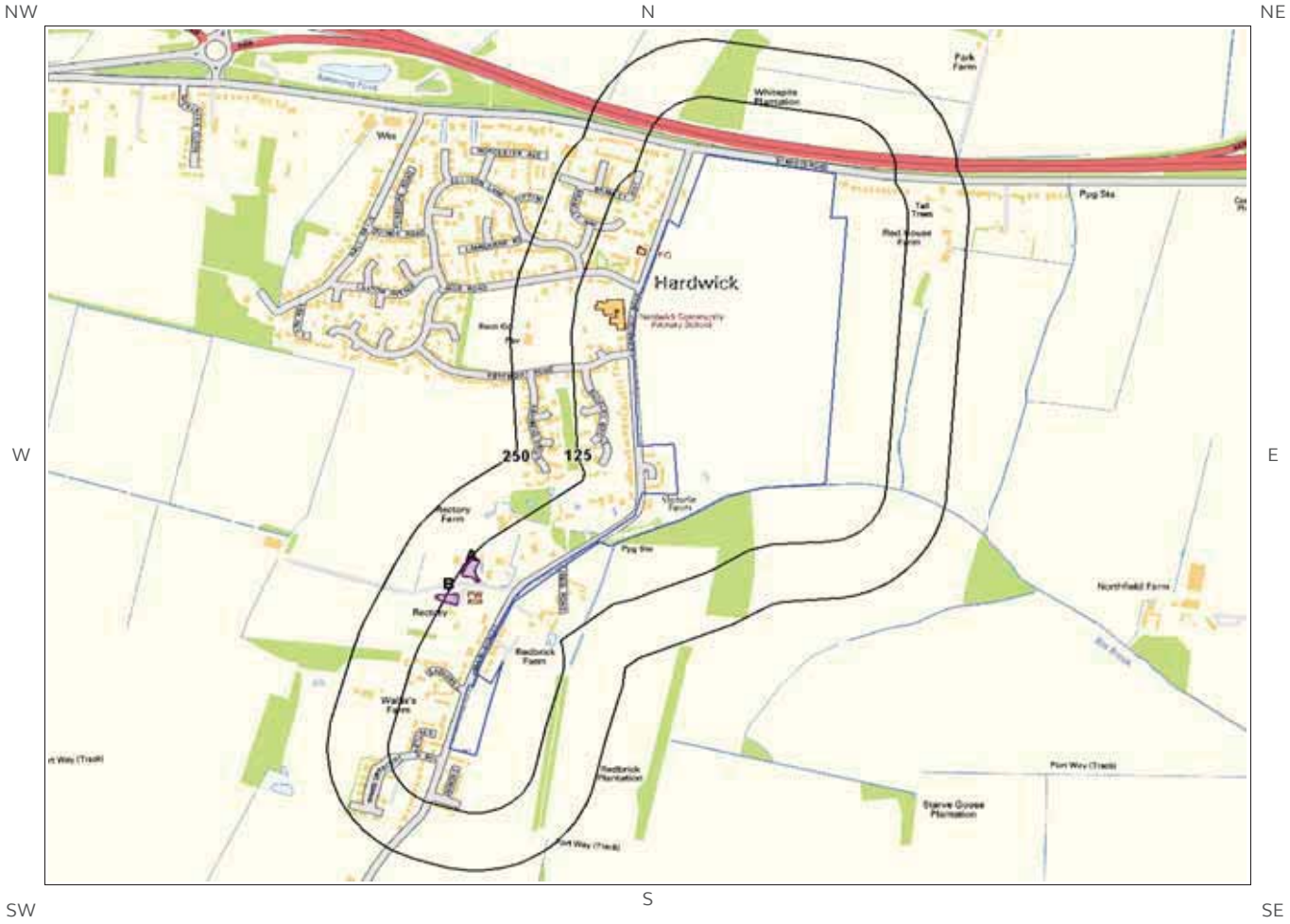
4 Ground Workings map



Ground Workings Legend

Site Outline

125
250
Search Buffers (m)

Historic Surface Ground Workings

Historic Underground Workings

Current Ground Workings

4 Ground Workings

4.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Use	Date
1A	79.0	NW	537224 258671	Pond	1886
2A	79.0	NW	537225 258671	Pond	1901
3A	79.0	NW	537225 258671	Pond	1950
4A	80.0	NW	537224 258673	Pond	1960
5B	95.0	NW	537175 258608	Pond	1950
6B	95.0	NW	537175 258608	Pond	1901
7B	96.0	NW	537175 258609	Pond	1960

4.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? No

Database searched and no data found.

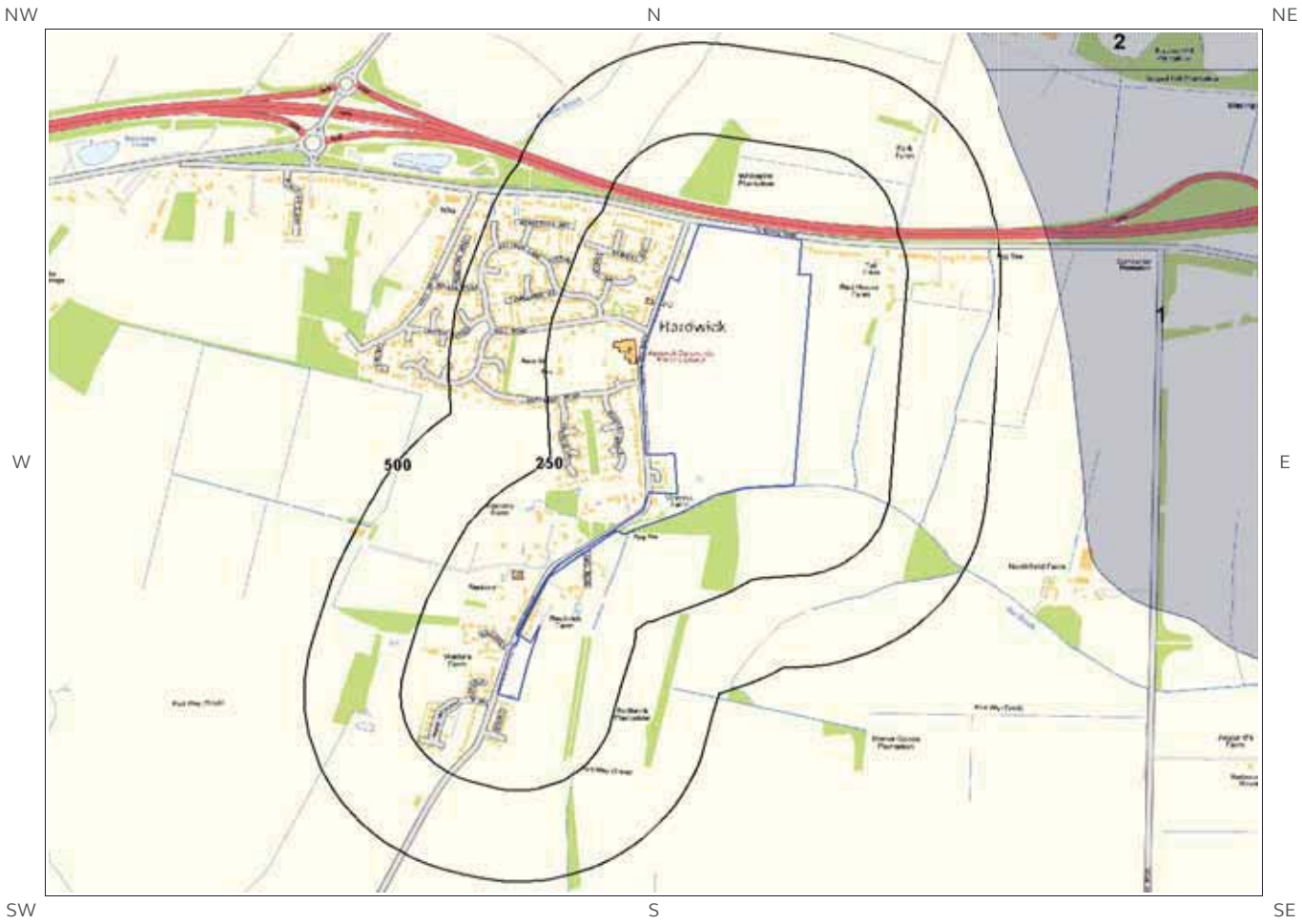
4.3 Current Ground Workings

This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

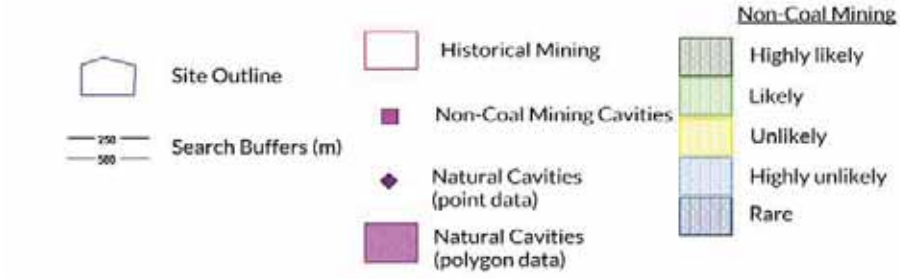
Are there any BGS Current Ground Workings within 1000m of the study site boundary? No

Database searched and no data found.

5 Mining, Extraction & Natural Cavities map



Mining, Extraction and Natural Cavities Legend



5 Mining, Extraction & Natural Cavities

5.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

5.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	608.0	E	Not available	Chalk	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
2	669.0	NE	Not available	Chalk	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered

5.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled "Review of mining instability in Great Britain, 1990" PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

5.6 Natural Cavities

This dataset provides information based on the Peter Brett Associates natural cavities database. The dataset is made up of points and polygons. Where polygons are used these represent an area in which it is expected the cavities could be found. It does not indicate that cavities are present everywhere within the polygon, and caution should be used in the interpretation of this data.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

5.7 Brine Extraction

This data provides information from the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

5.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

5.9 Cornwall and Devon Metalliferous Mining

This dataset provides information on metalliferous mining areas in Cornwall/Devon and is derived from records held by Mining Searches UK.

Are there any Cornwall and Devon Metalliferous Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.10 Clay Mining

This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

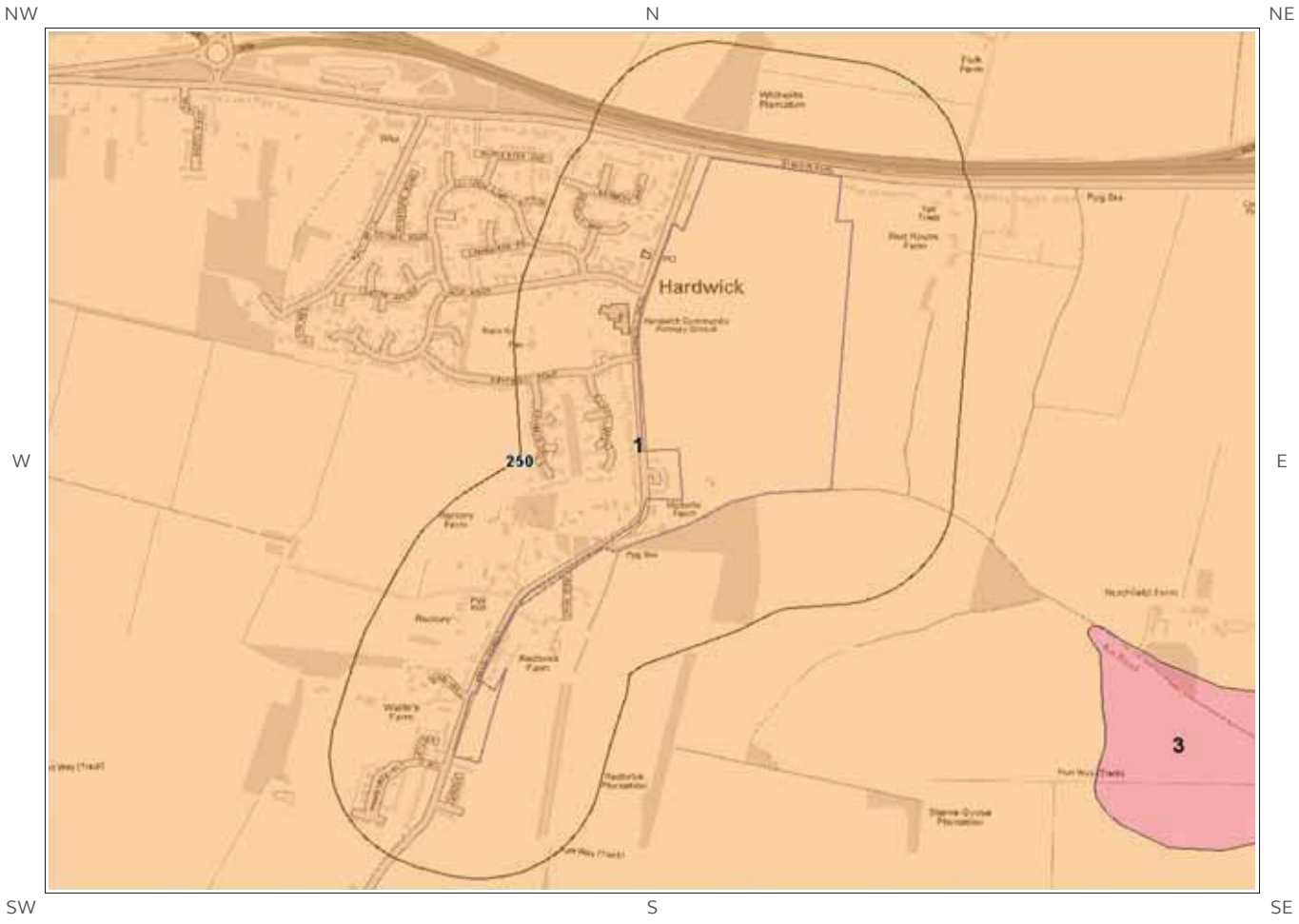
Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

---

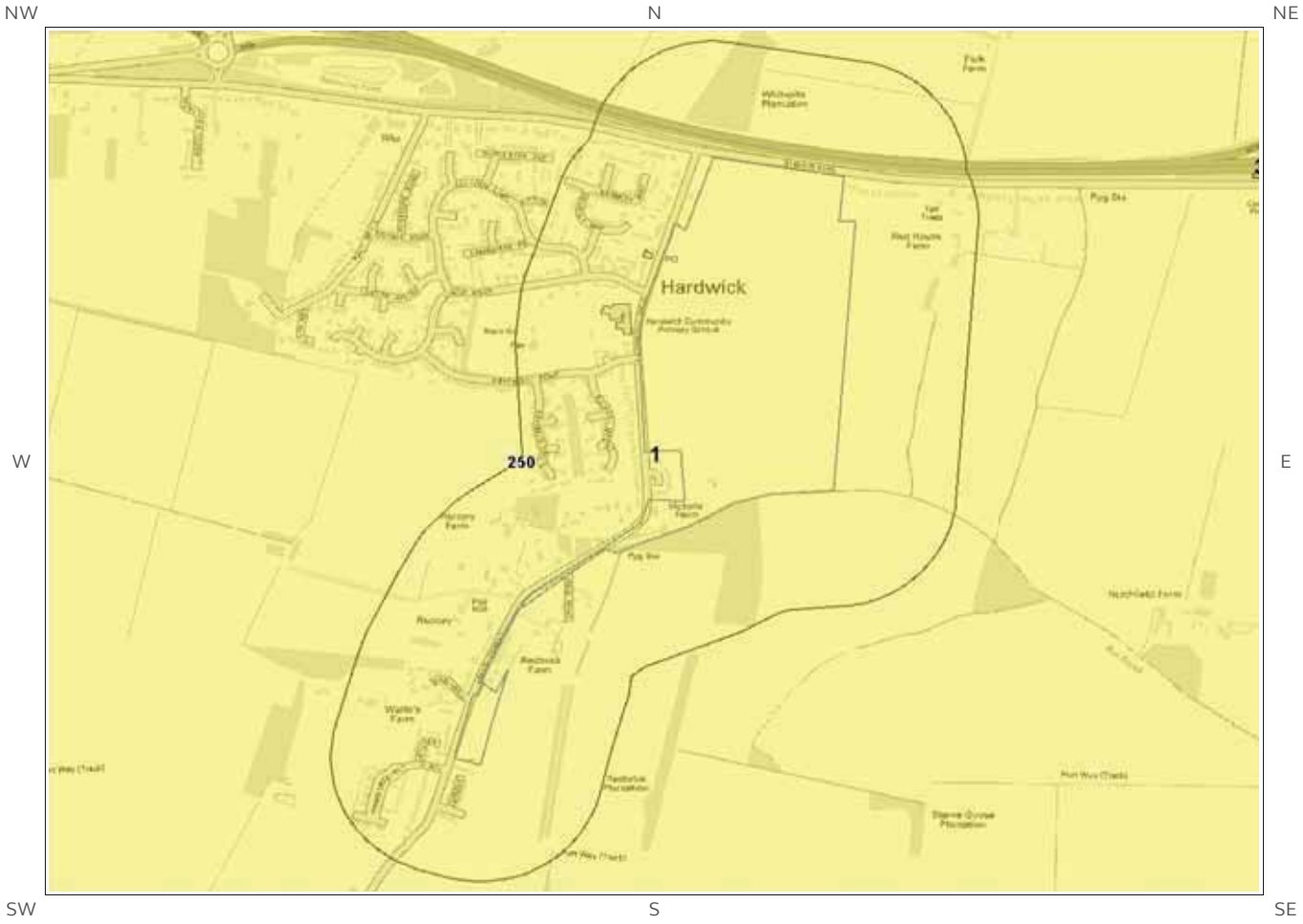
6 Natural Ground Subsidence

6.1 Shrink-Swell Clay map



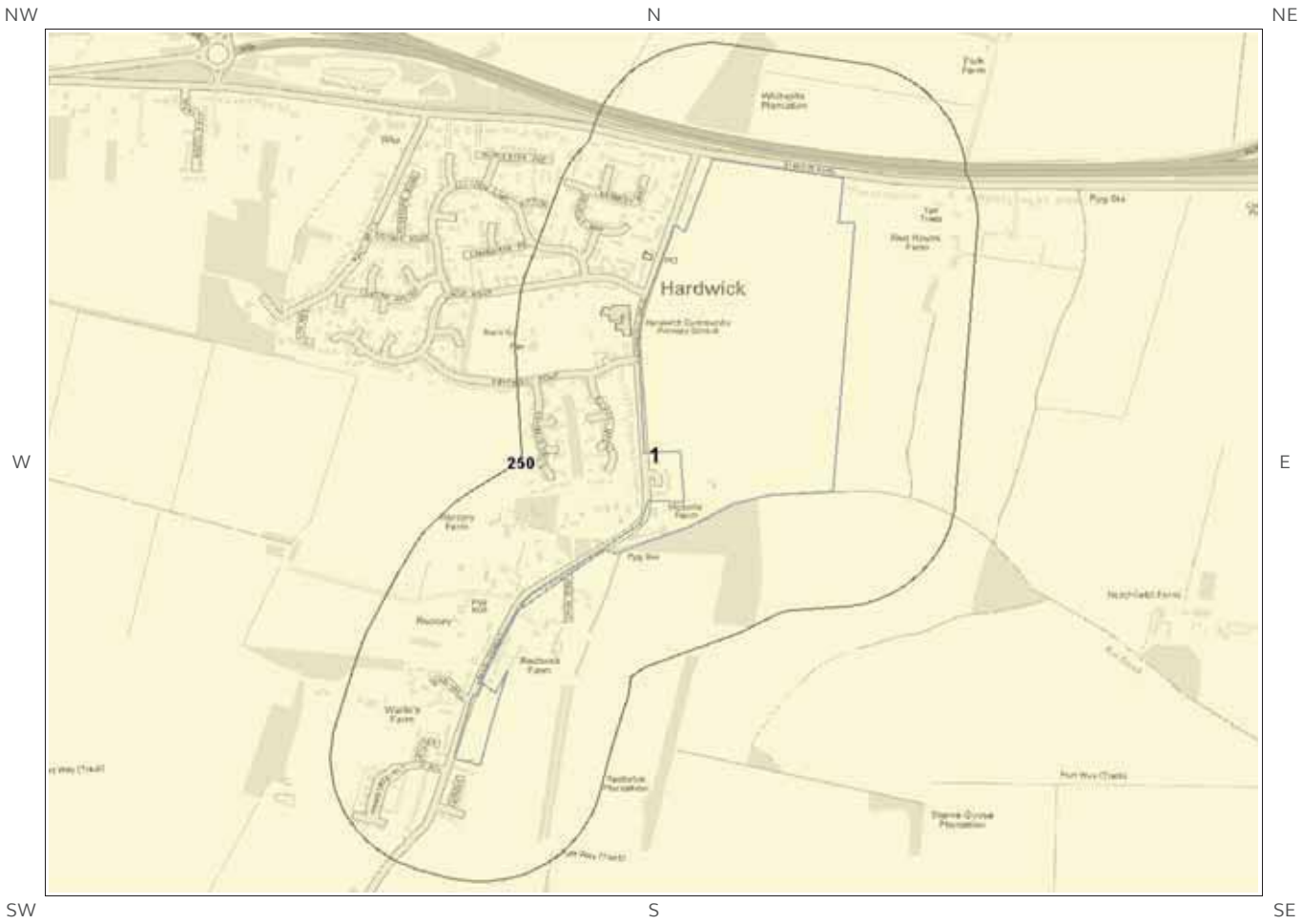
Shrink Swell Clay Legend

6.2 Landslides map



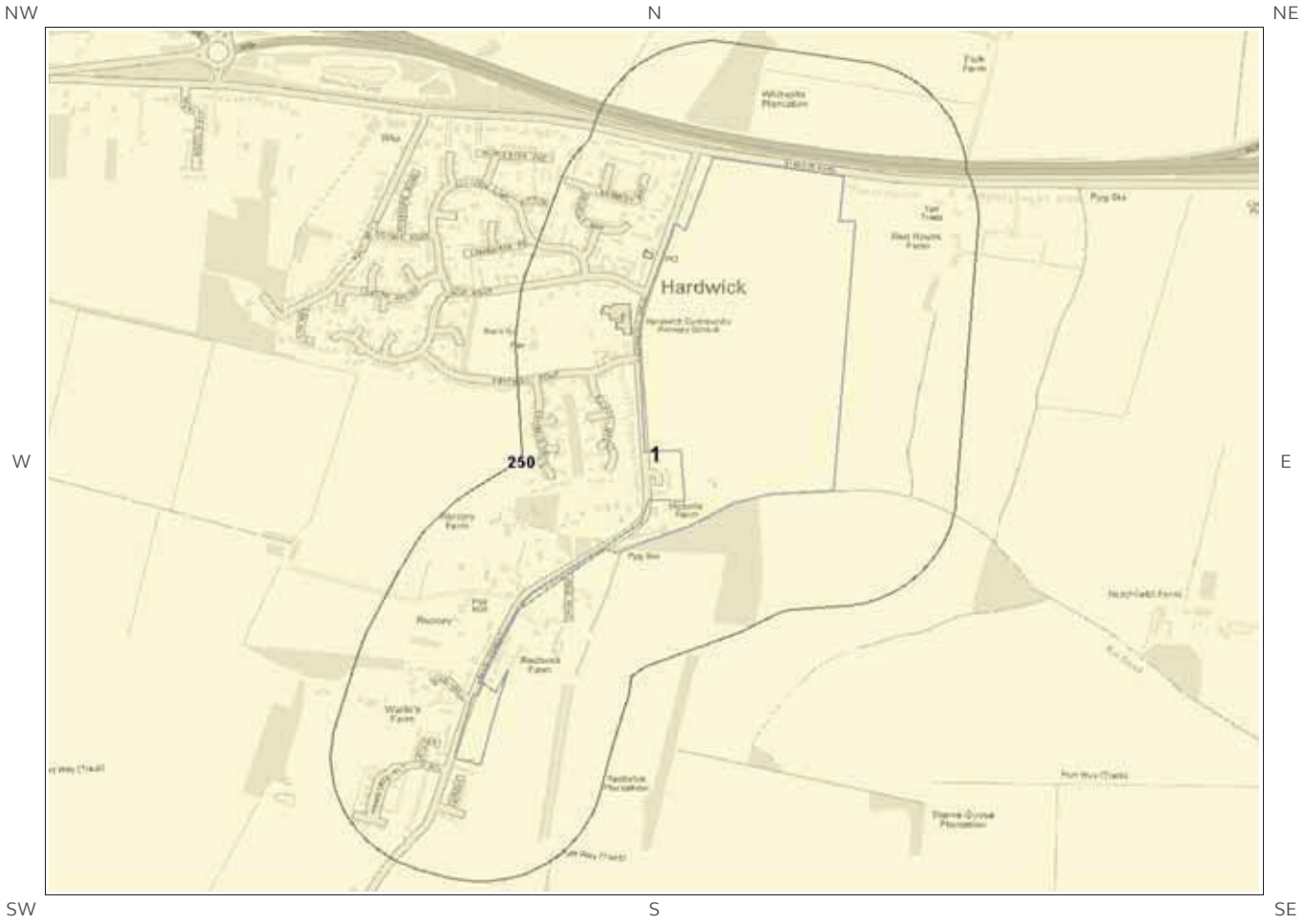
Landslides Legend

6.3 Ground Dissolution of Soluble Rocks map



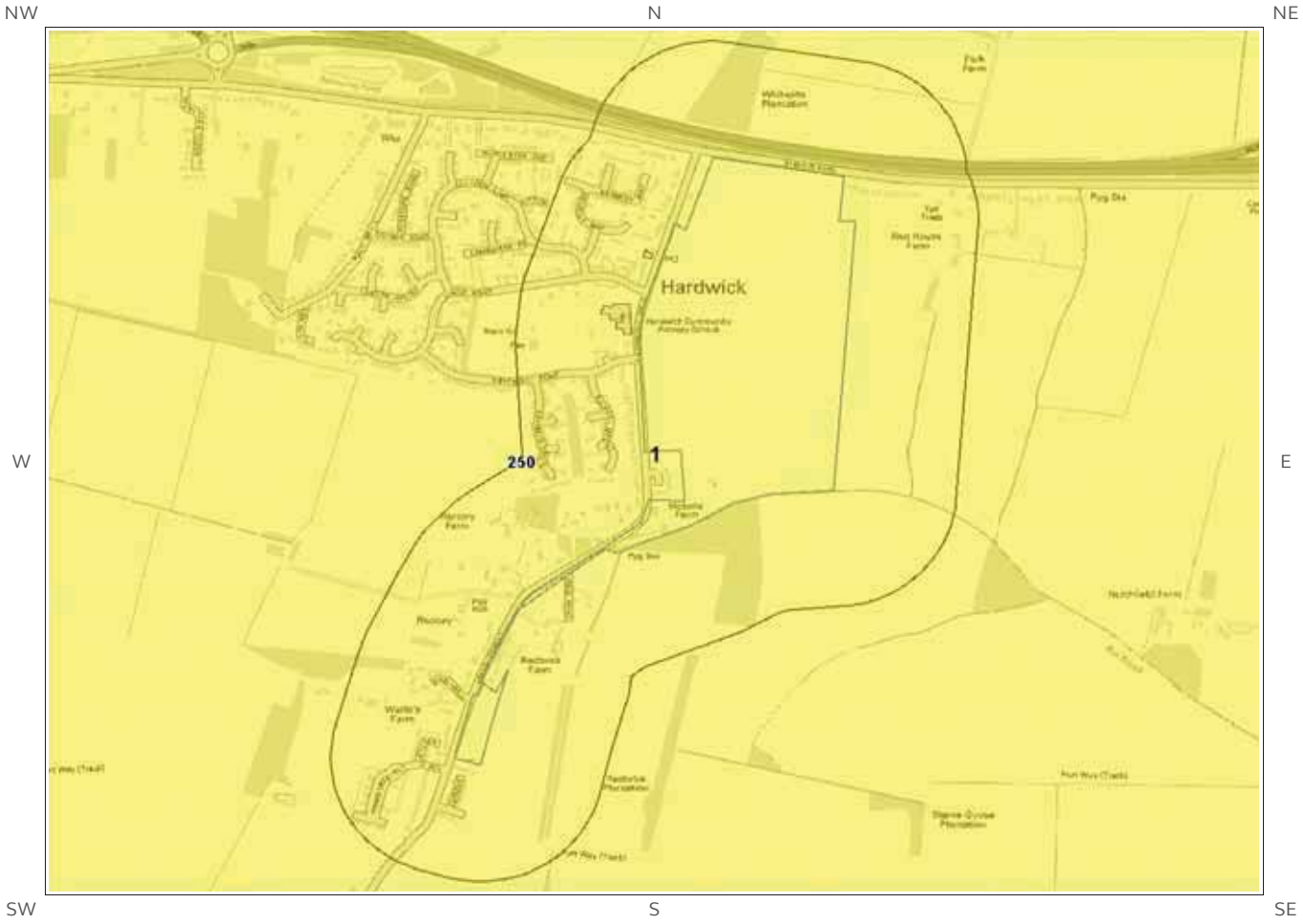
Ground Dissolution Soluble Rocks Legend

6.4 Compressible Deposits map



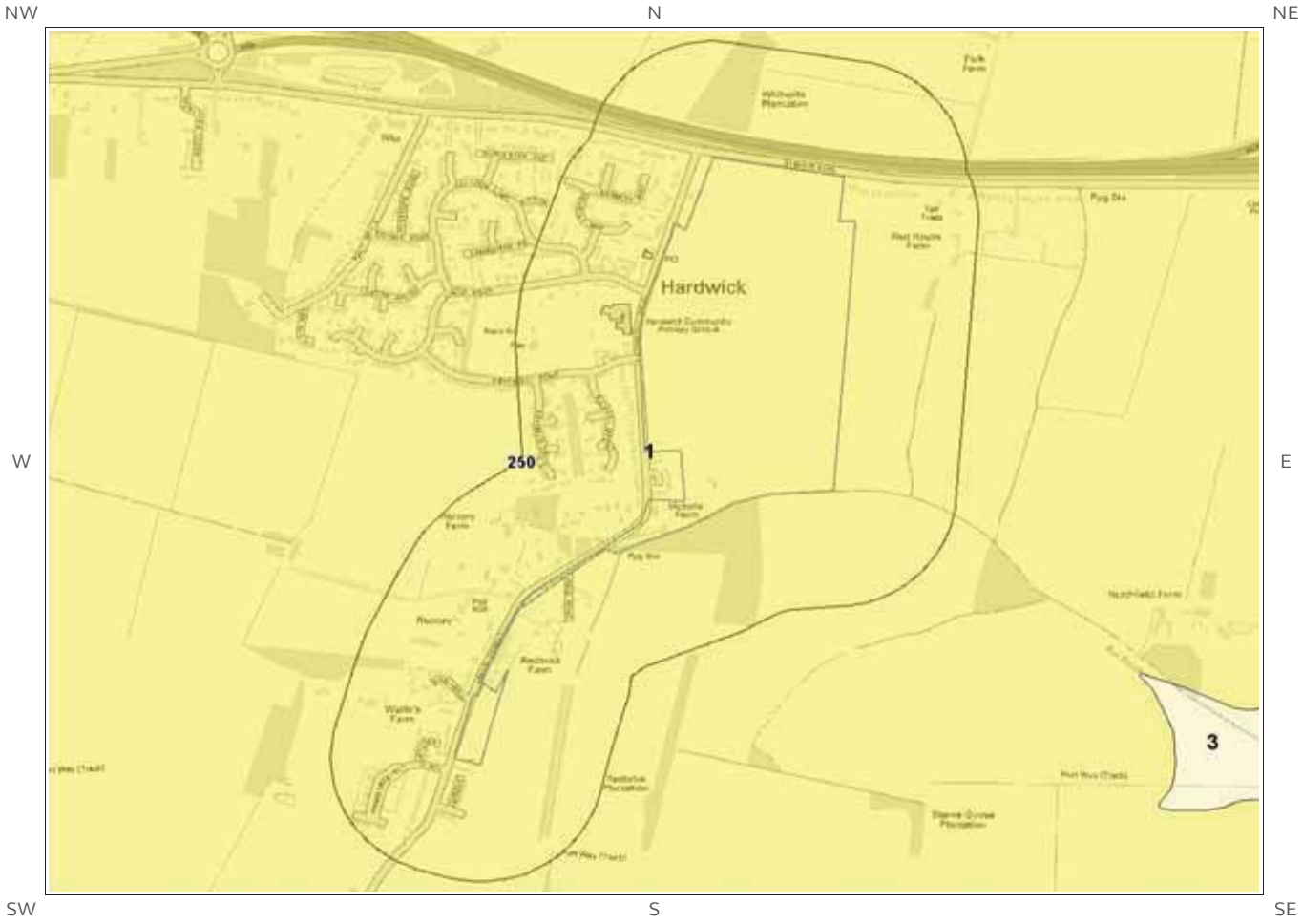
Compressible Deposits Legend

6.5 Collapsible Deposits map



Collapsible Deposits Legend

6.6 Running Sand map



Running Sand Legend

6 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site*[*] boundary? Low

6.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Low	Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

6.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

* This includes an automatically generated 50m buffer zone around the site

6.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

6.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

6.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

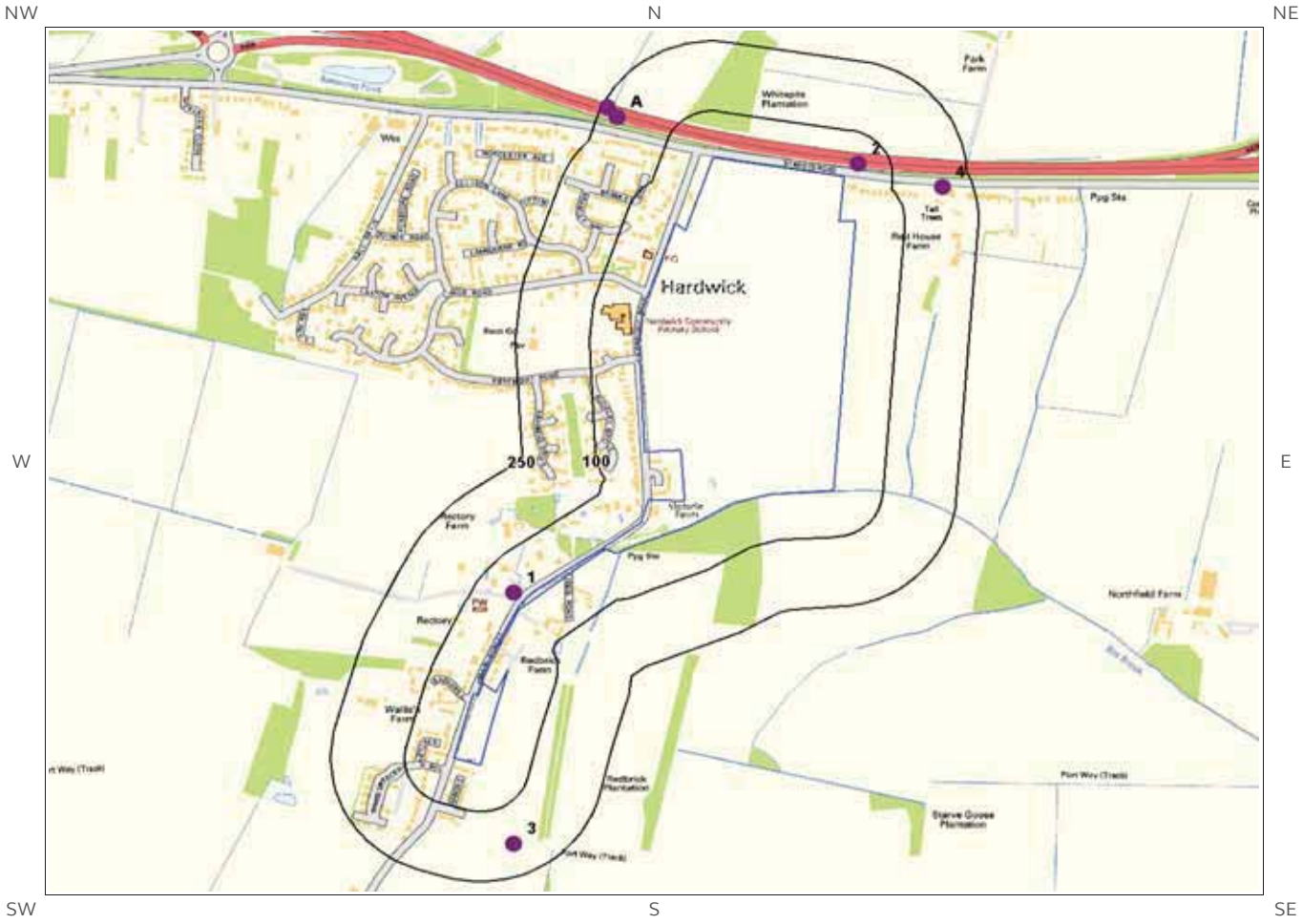
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

6.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

7 Borehole Records map



Borehole Records Legend

7 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary: 6

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	28.0	NW	537300 258640	TL35NE56	61.72	PUBLIC WELL HARDWIDE
2	40.0	NE	538000 259560	TL35NE30	1	CAMBRIDGE NORTHERN BY-PASS A45, A5001
3	183.0	S	537300 258100	TL35NE68	68.58	RED BRICK FARM HARDWICK
4	190.0	E	538170 259510	TL35NE31	1	CAMBRIDGE NORTHERN BY-PASS A45, A5002
5A	213.0	NW	537510 259660	TL35NE27	1	CAMBRIDGE NORTHERN BY-PASS A45, D1007
6A	239.0	NW	537490 259680	TL35NE95	15	A428 CAXTON COMMON TO HARDWICK 9/1

The borehole records are available using the hyperlinks below: Please note that if the donor of the borehole record has requested the information be held as commercial-in-confidence, the additional data will be held separately by the BGS and a formal request must be made for its release.

#1: scans.bgs.ac.uk/sobi_scans/boreholes/538880
#2: scans.bgs.ac.uk/sobi_scans/boreholes/538854
#3: scans.bgs.ac.uk/sobi_scans/boreholes/538892
#4: scans.bgs.ac.uk/sobi_scans/boreholes/538855
#5A: scans.bgs.ac.uk/sobi_scans/boreholes/538851
#6A: scans.bgs.ac.uk/sobi_scans/boreholes/15937089

8 Estimated Background Soil Chemistry

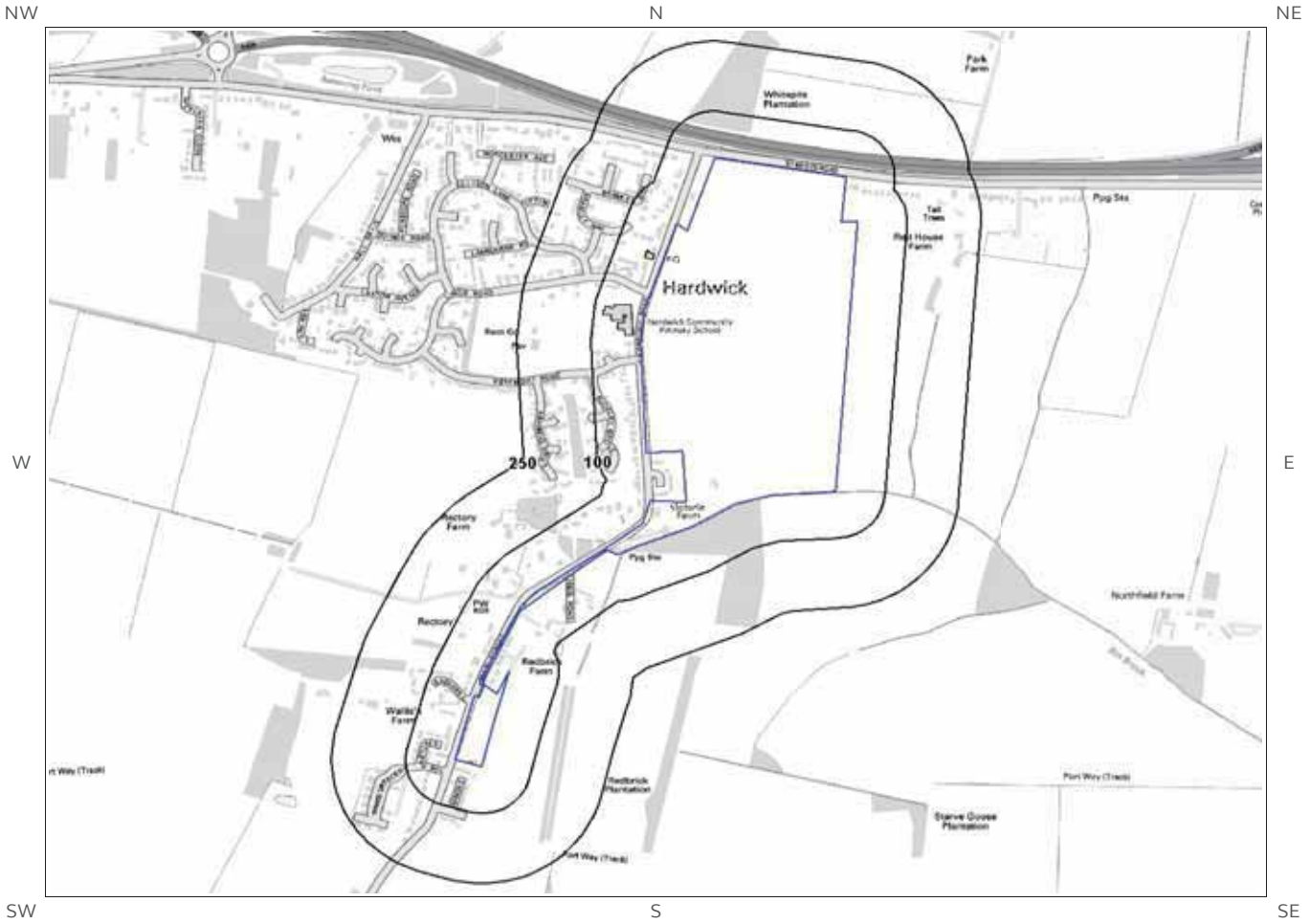
Records of background estimated soil chemistry within 250m of the study site boundary: 11

For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geo Insight User Guide, available on request.

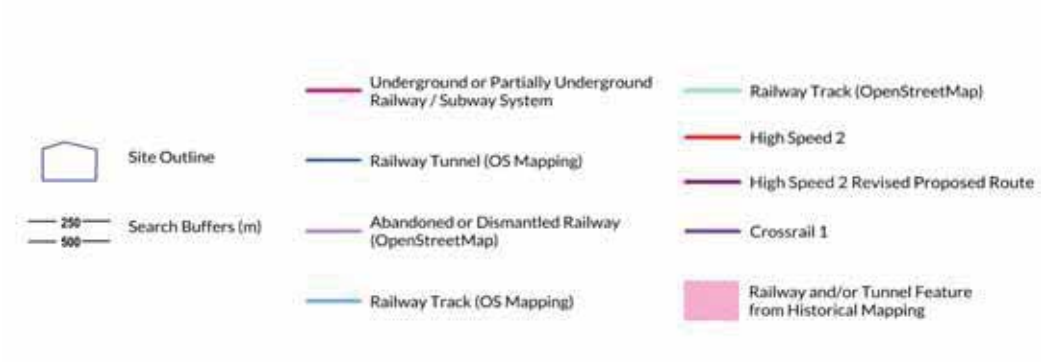
Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg
6.0	E	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg
6.0	E	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg
29.0	E	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg
30.0	E	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg
39.0	E	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg
39.0	E	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg

*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

9 Railways and Tunnels map



Railways and Tunnels Legend



9 Railways and Tunnels

9.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary?	No
Have any underground railway lines been identified within 250m of the study site boundary?	No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary?	No
Have any other railway tunnels been identified within 250m of the site boundary?	No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

9.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary?	No
Have any historical railway or tunnel features been identified within 250m of the study site boundary?	No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

9.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary?	No
Have any historical railway lines been identified within 250m of the study site boundary?	No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels map.

9.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary?	No
Have any active railway lines been identified within 250m of the study site boundary?	No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels map.

9.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1 .

Is the study site within 5km of the route of the High Speed 2 rail project?	No
Is the study site within 500m of the route of the Crossrail 1 rail project?	No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a Groundsure HS2 and Crossrail 1 Report.

The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

Please note that this assessment takes account of both the original Phase 2b proposed route and the amended route proposed in 2016. As the Phase 2b route is still under consultation, Groundsure are providing information on both options until the final route is formally confirmed. Practitioners should take account of this uncertainty when advising clients.

Contact Details

emapsite

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Email:**enquiries@bgs.ac.uk**
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BGS Geological Hazards Reports and general geological enquiries

British Gypsum

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LE12 6HX

The Coal Authority

200 Lichfield Lane
Mansfield
Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk

Public Health England

Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
https://www.gov.uk/government/organisations/public-health-england
Email: **enquiries@phe.gov.uk**
Main switchboard: 020 7654 8000

Johnson Poole & Bloomer Limited

Harris and Pearson Building, Brettel Lane
Brierley Hill, West Midlands
DY5 3LH
Tel: +44 (0) 1384 262 000
Email:**enquiries.gs@jpb.co.uk**
Website: **www.jpb.co.uk**

Ordnance Survey

Adanac Drive, Southampton
SO16 0AS

Tel: 08456 050505
Website: http://www.ordnancesurvey.co.uk/

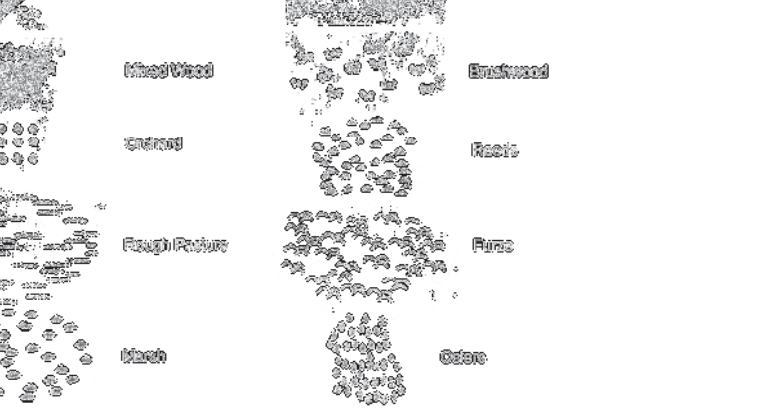
Getmapping PLC

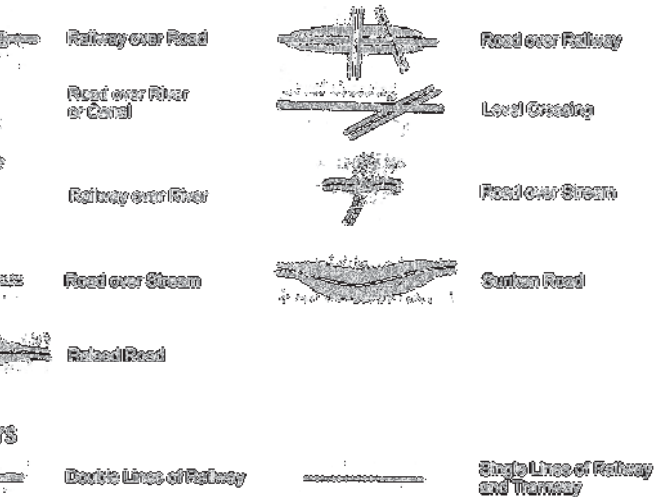
Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8NW
Tel: 01252 845444
Website:**http://www1.getmapping.com/**

Peter Brett Associates
Caversham Bridge House
Waterman Place
Reading
Berkshire RG1 8DN
Tel: +44 (0)118 950 0761 E-mail:**reading@pba.co.uk**
Website:**http://www.peterbrett.com/home**

Standard Terms and Conditions

Groundsure's Terms and Conditions can be viewed online at this link:
https://www.groundsure.com/terms-and-conditions-feb11-2019





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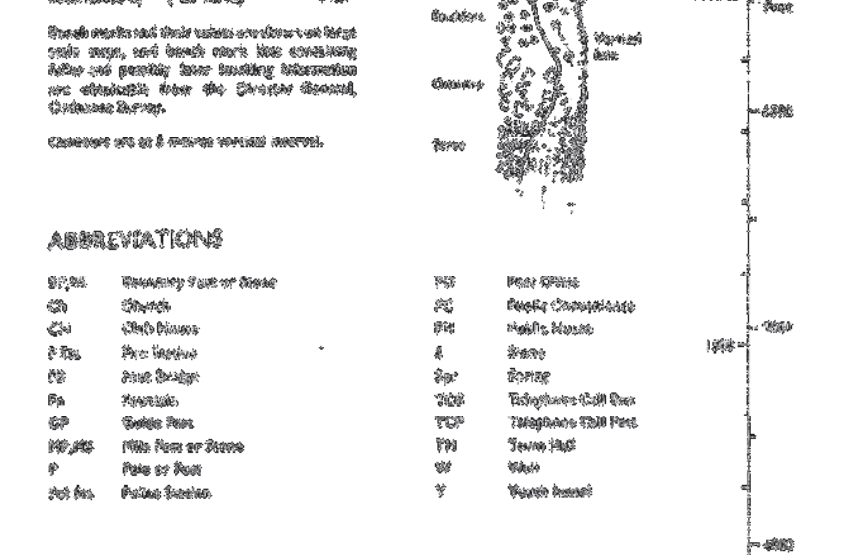

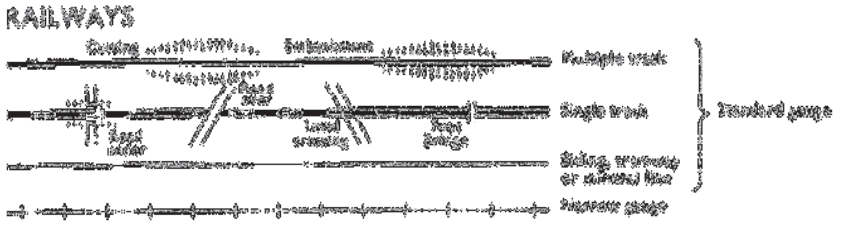

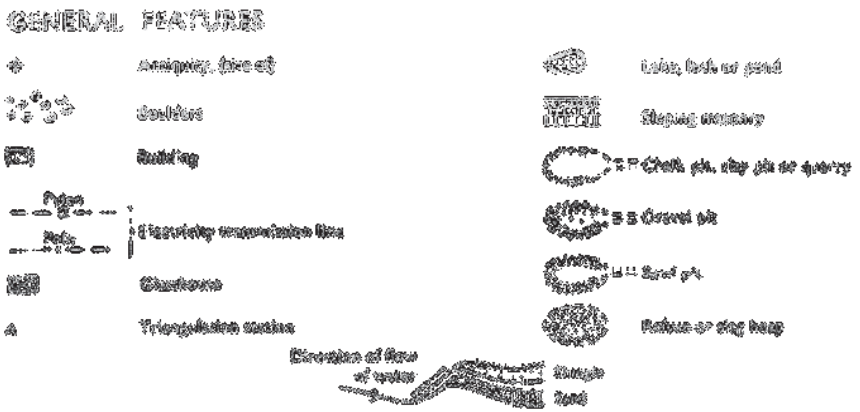

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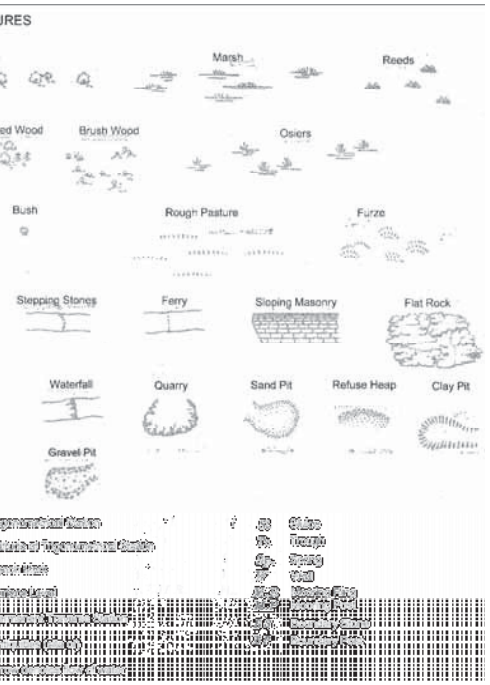

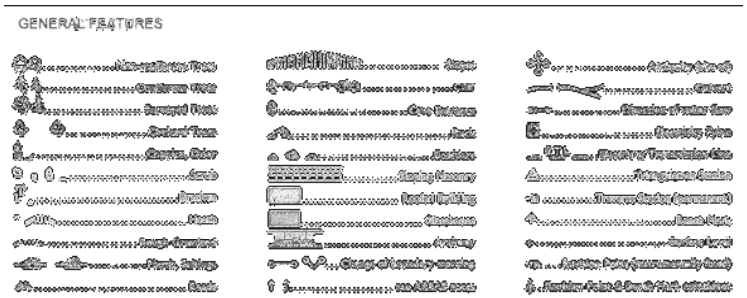

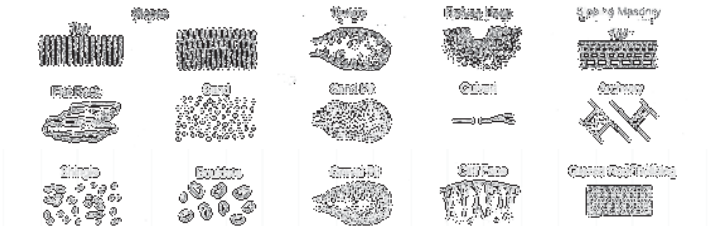

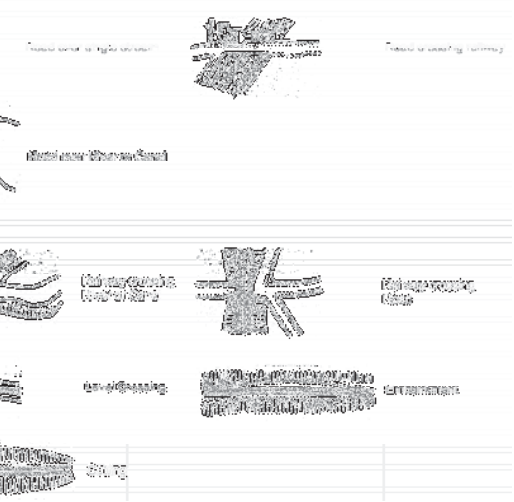

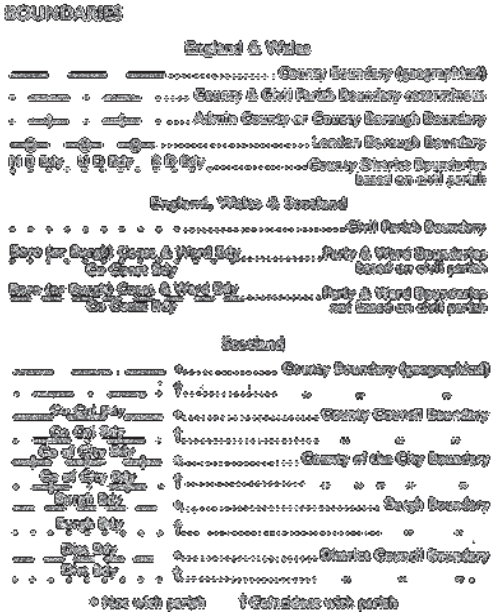

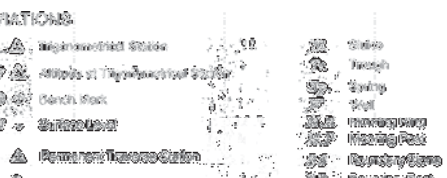

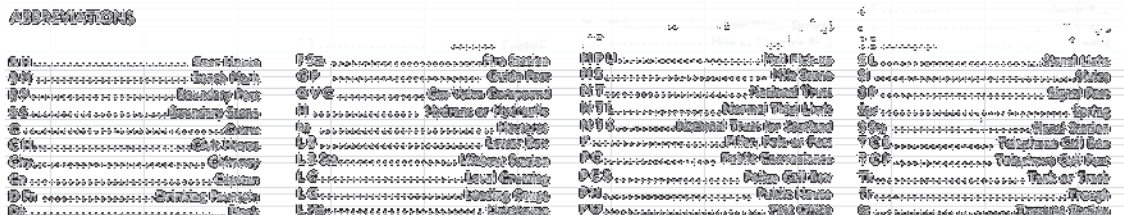

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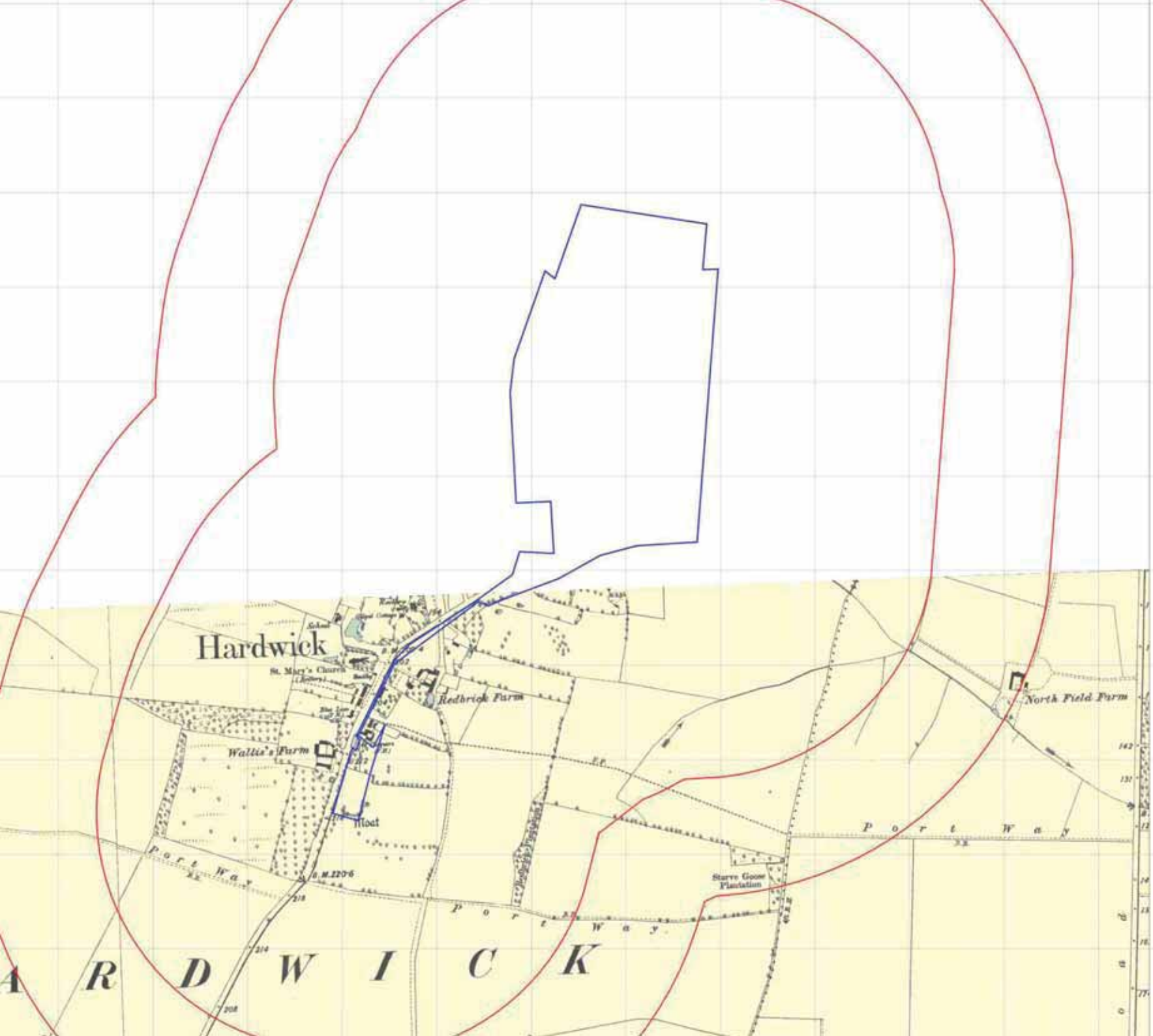

Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 537587, 25

Map Name: County Seri

Map date: **1886**

Scale: 1:10,560

Printed at: 1:10,560

Surveyed 1886
Revised 1886
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

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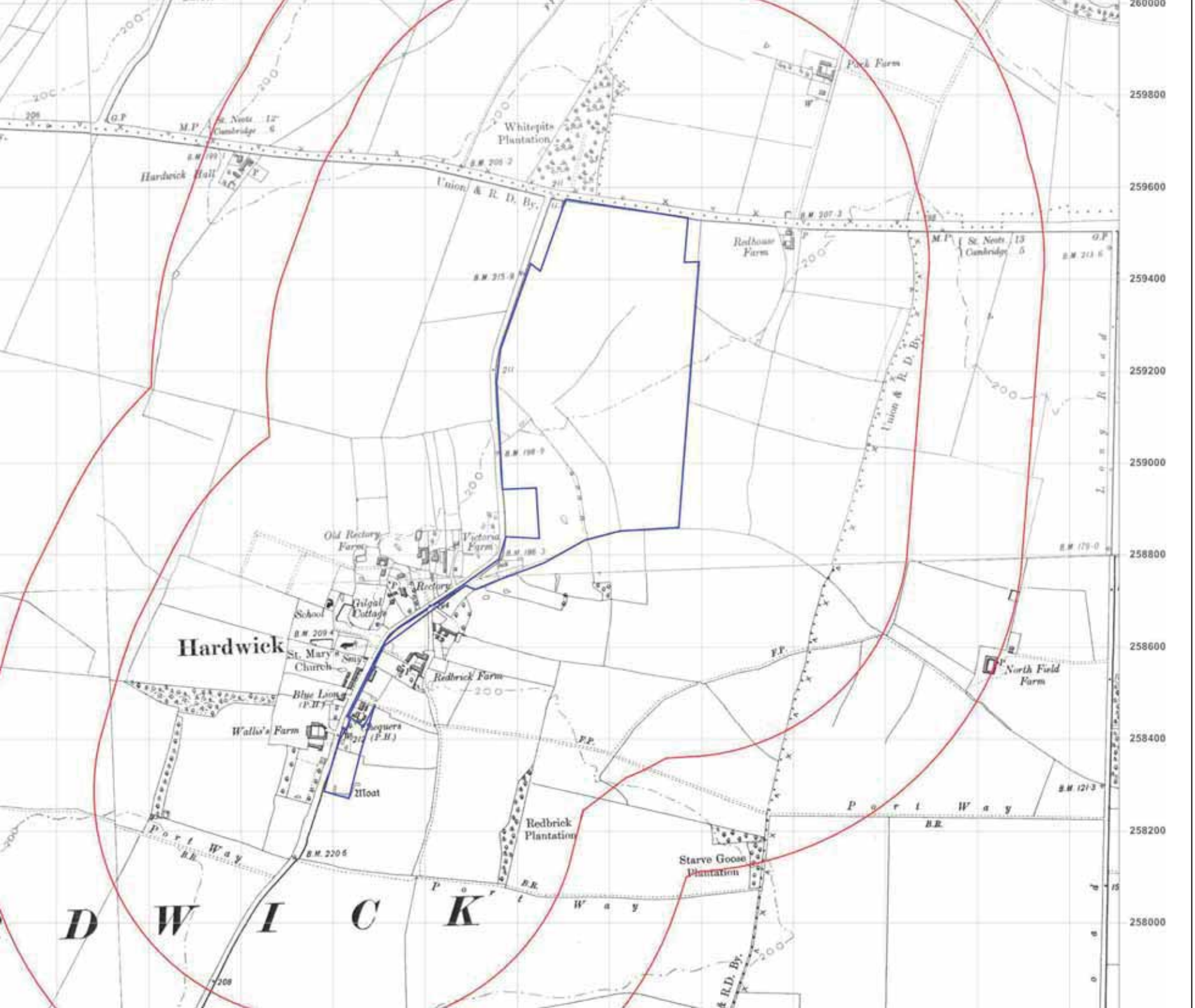

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

Map Name:	County Seri
Map date:	**1901-1903**
Scale:	1:10,560
Printed at:	1:10,560

Surveyed 1886
Revised 1901
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1886
Revised 1903
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

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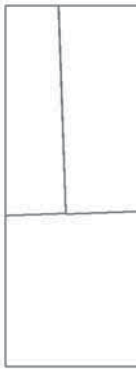
Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

Map Name:	County Seri
Map date:	**1924**
Scale:	1:10,560
Printed at:	1:10,560

Surveyed 1886
Revised 1924
Edition N/A
Copyright N/A
Levelled N/A



Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

Map Name:	County Seri
Map date:	**1924**
Scale:	1:10,560
Printed at:	1:10,560

Surveyed 1886
Revised 1924
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

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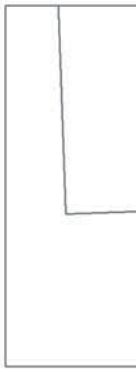
Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25
Map Name:	County Seri
Map date:	**1924**
Scale:	1:10,560
Printed at:	1:10,560



Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25
Map Name:	County Seri
Map date:	**1938**
Scale:	1:10,560
Printed at:	1:10,560

Groundsure INSIGHTS

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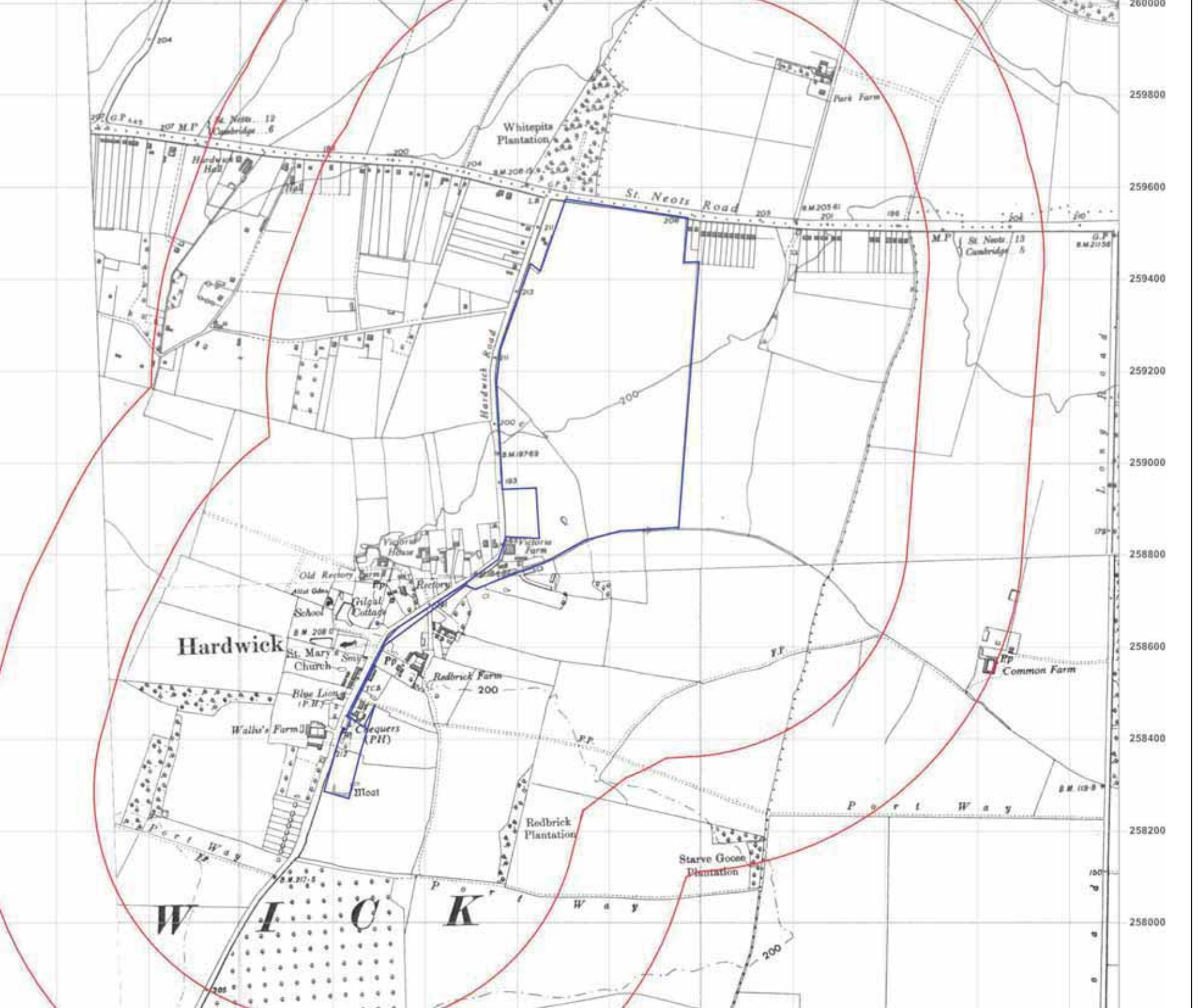

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25
Map Name:	County Seri
Map date:	**1950**
Scale:	1:10,560
Printed at:	1:10,560

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

Map Name:	Provisional
Map date:	**1958-1960**
Scale:	1:10,560
Printed at:	1:10,560

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

Map Name:	Provisional
Map date:	**1960**
Scale:	1:10,560
Printed at:	1:10,560

Groundsure INSIGHTS

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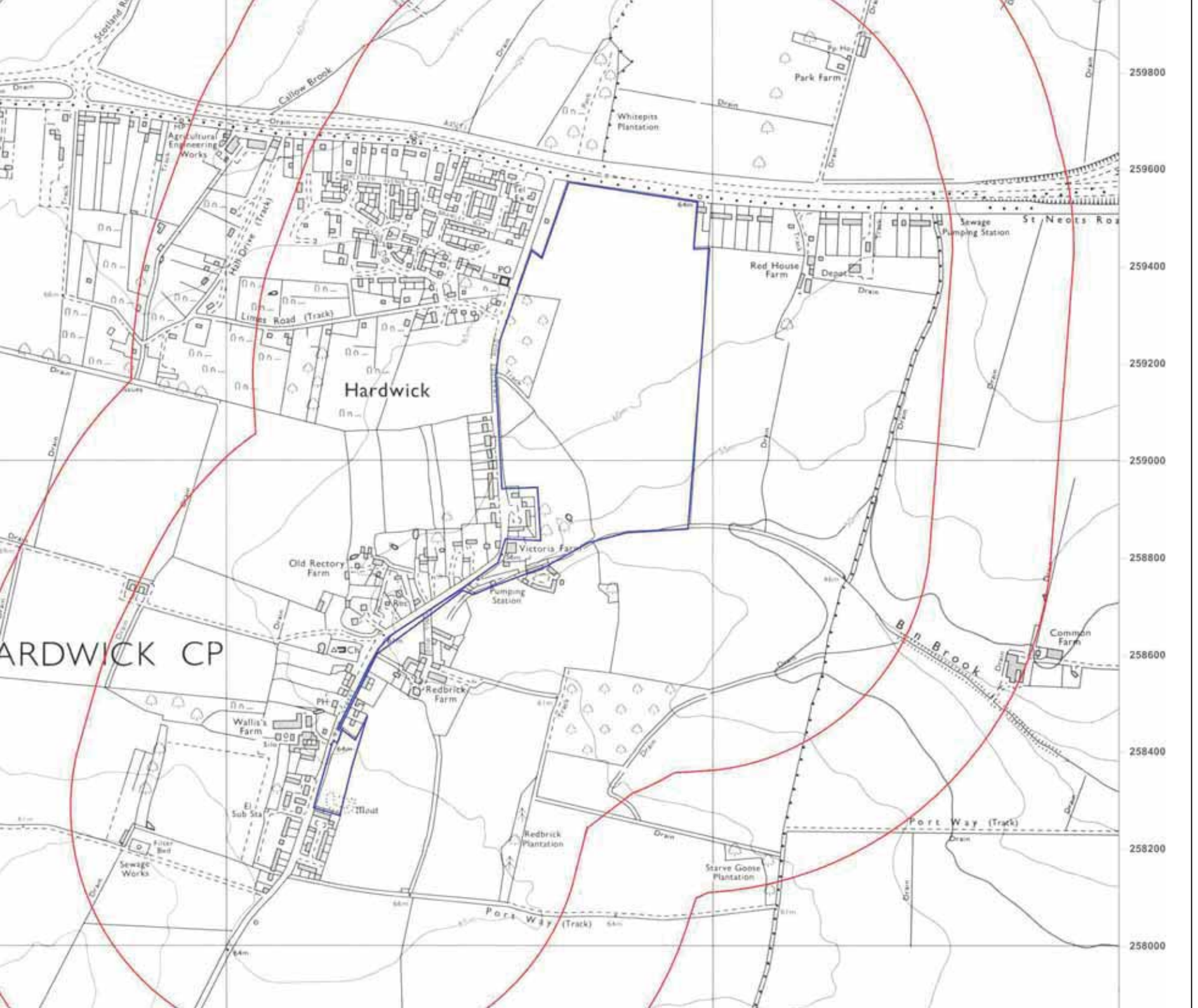

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25
Map Name:	National Gr
Map date:	**1981-1982**
Scale:	1:10,000
Printed at:	1:10,000

Groundsure INSIGHTS

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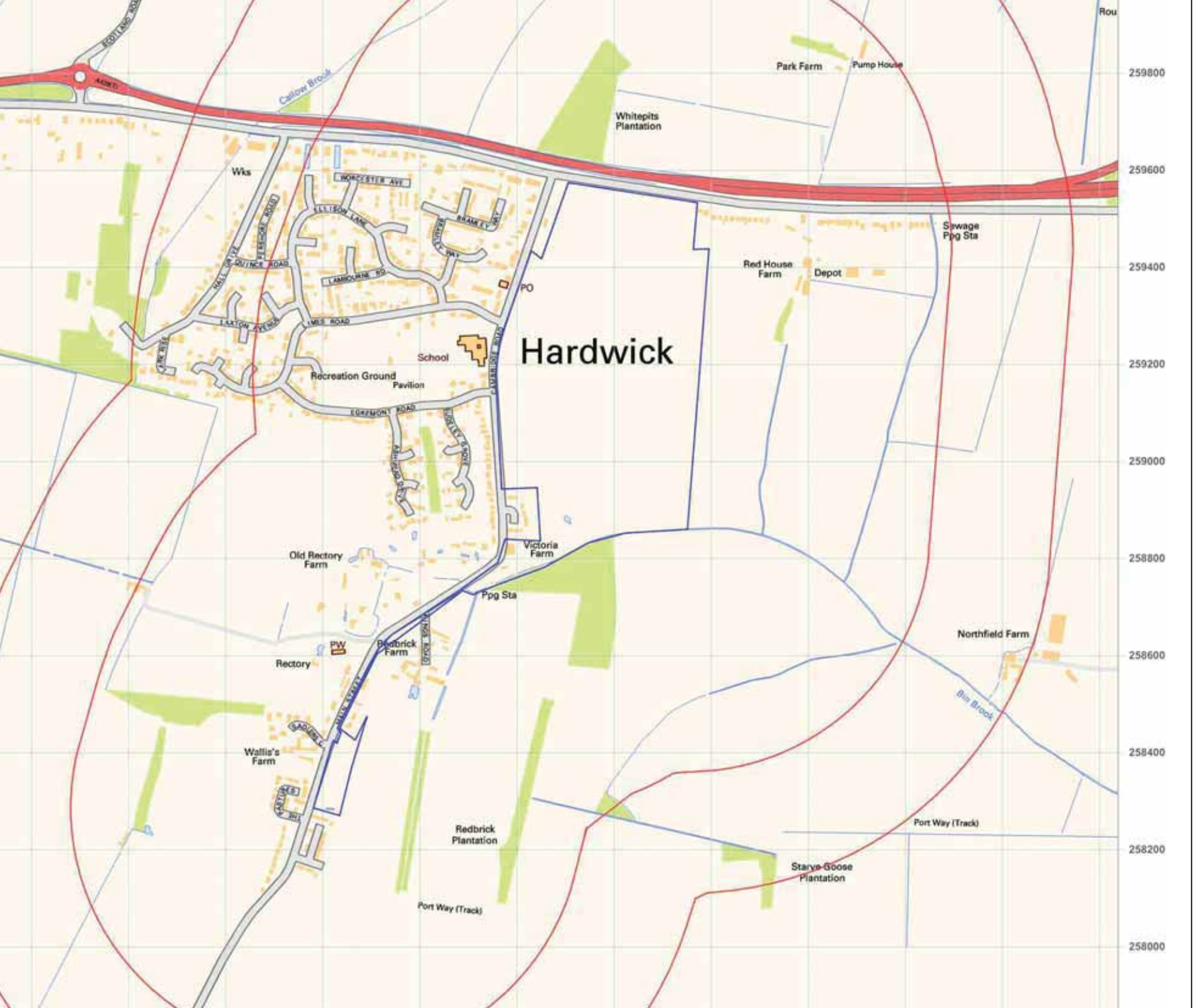

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

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

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

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

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

Map Name:	National Gr
Map date:	**2019**
Scale:	1:10,000
Printed at:	1:10,000

Groundsure INSIGHTS

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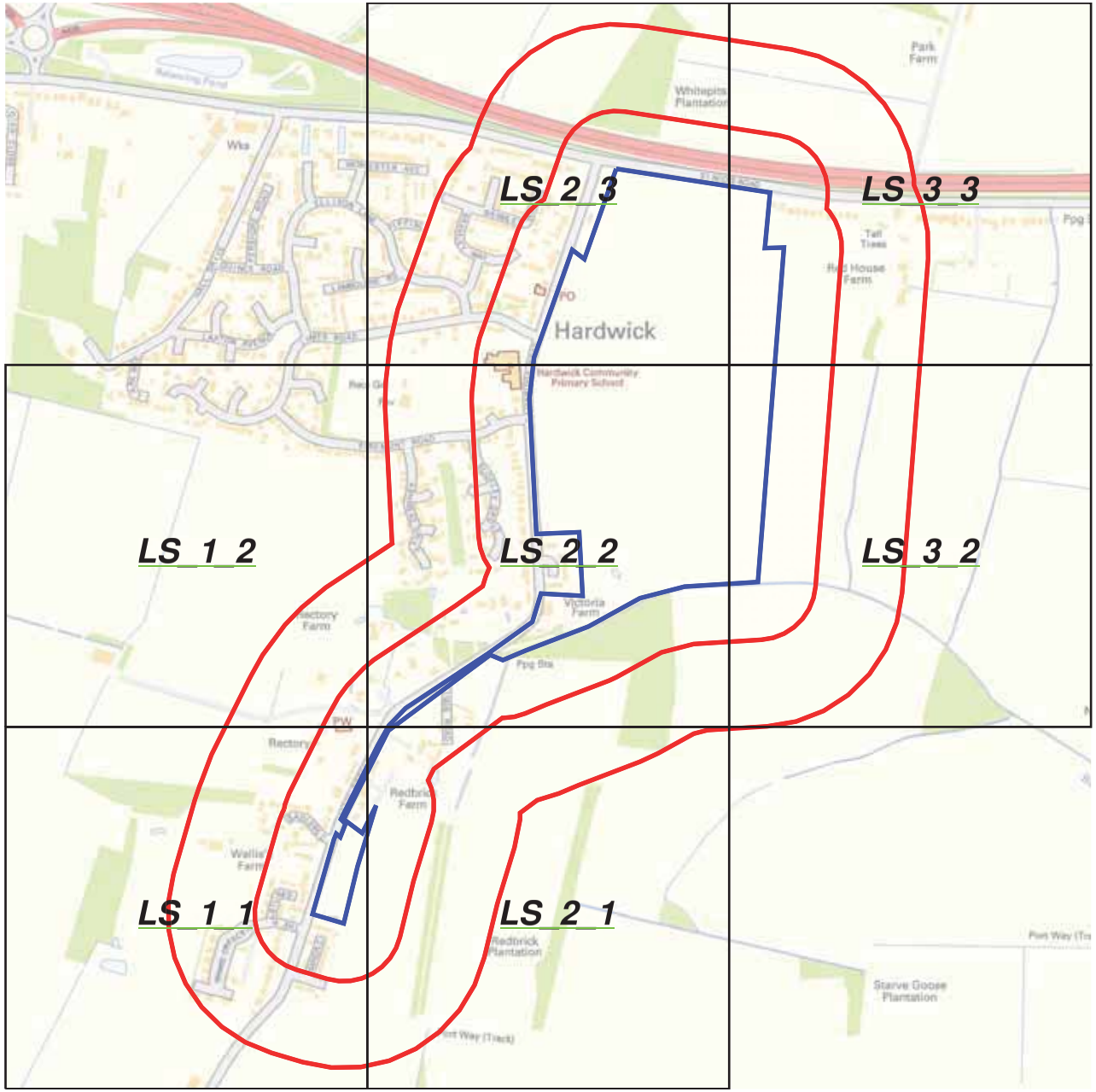

Groundsure INSIGHTS

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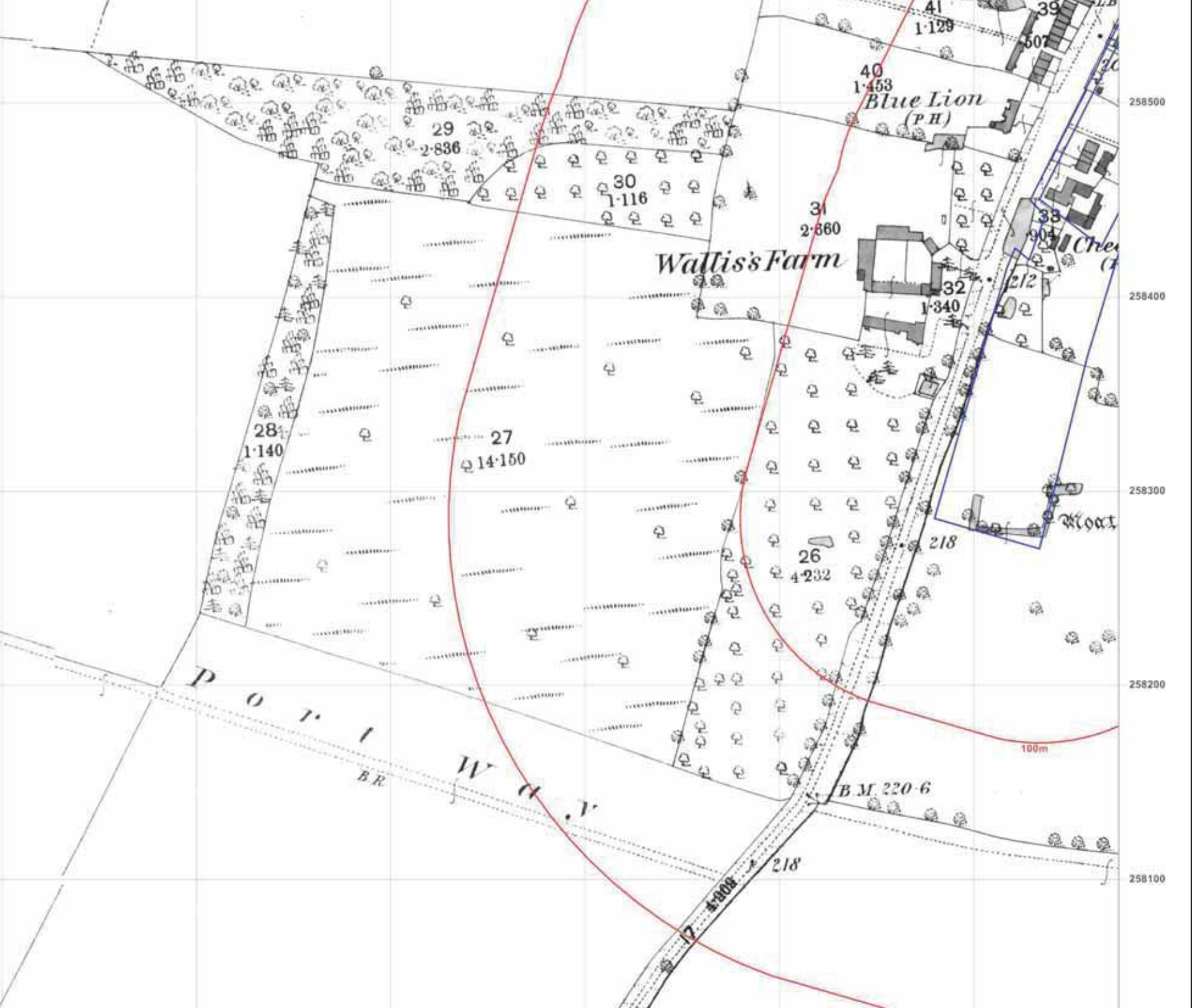
1:2500 Scale Grid Index



Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	536962, 25

Map Name:	County Seri
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

Groundsure INSIGHTS

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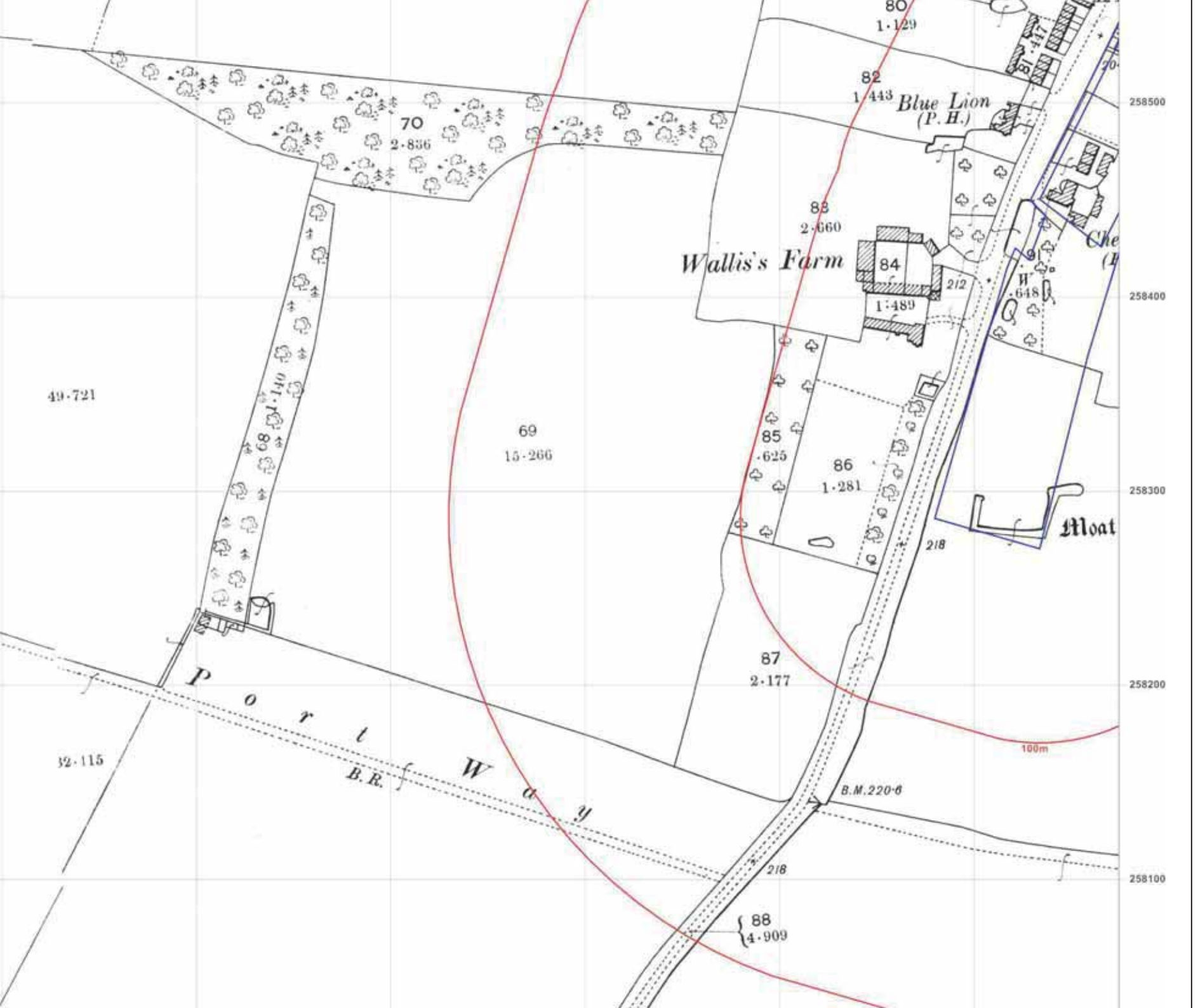

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	536962, 25
Map Name:	County Seri
Map date:	**1902-1903**
Scale:	1:2,500
Printed at:	1:2,500

Surveyed 1903
Revised 1903
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	536962, 25

Map Name:	National Gr
Map date:	**1974-1975**
Scale:	1:2,500
Printed at:	1:2,500

Groundsure INSIGHTS

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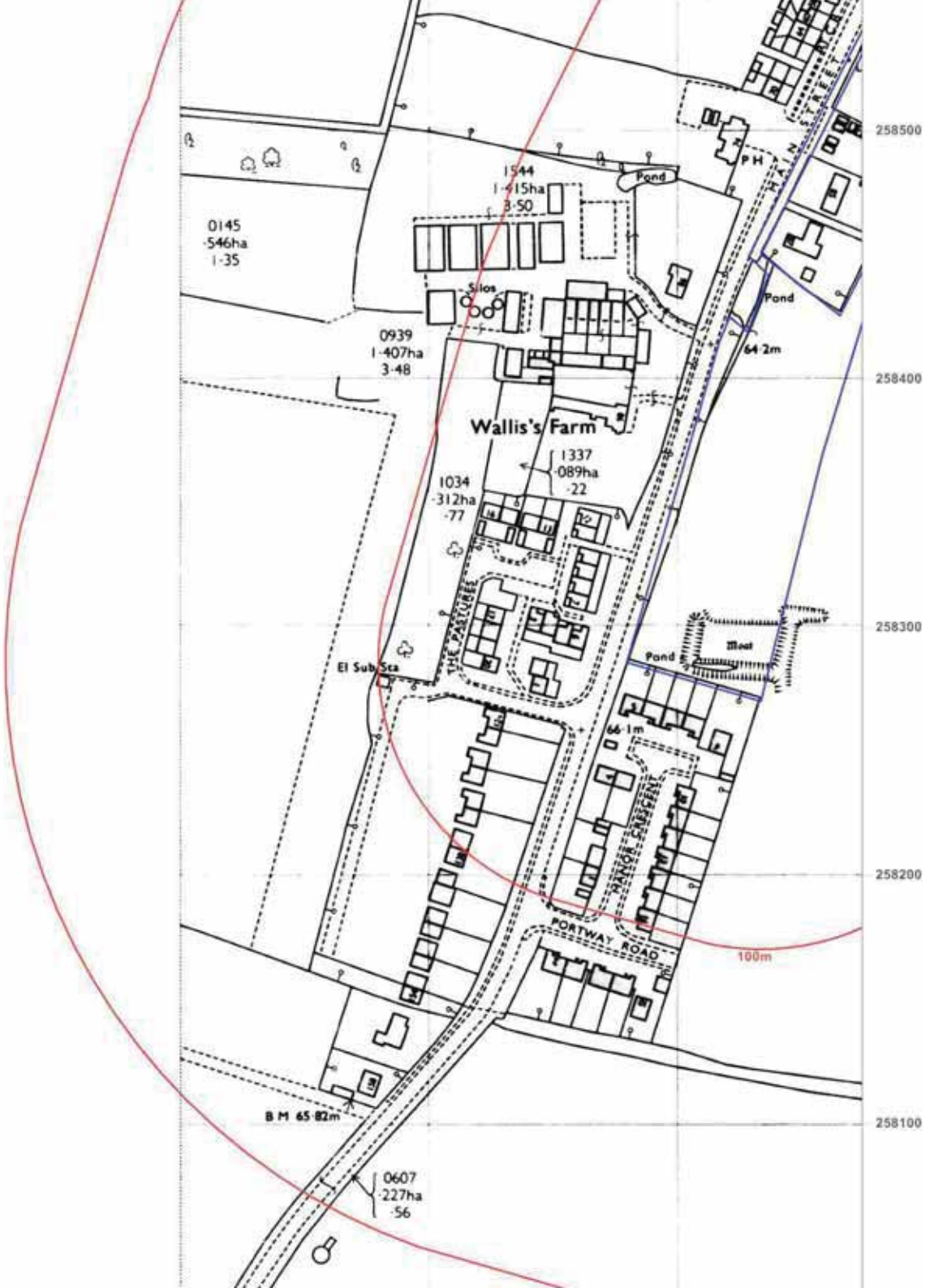

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	536962, 25
Map Name:	National Gr
Map date:	**1976**
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:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	536962, 25

Map Name:	National Gr
Map date:	**1983**
Scale:	1:2,500
Printed at:	1:2,500

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 536962, 25

Map Name: National Gr

Map date: 1994

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1994
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

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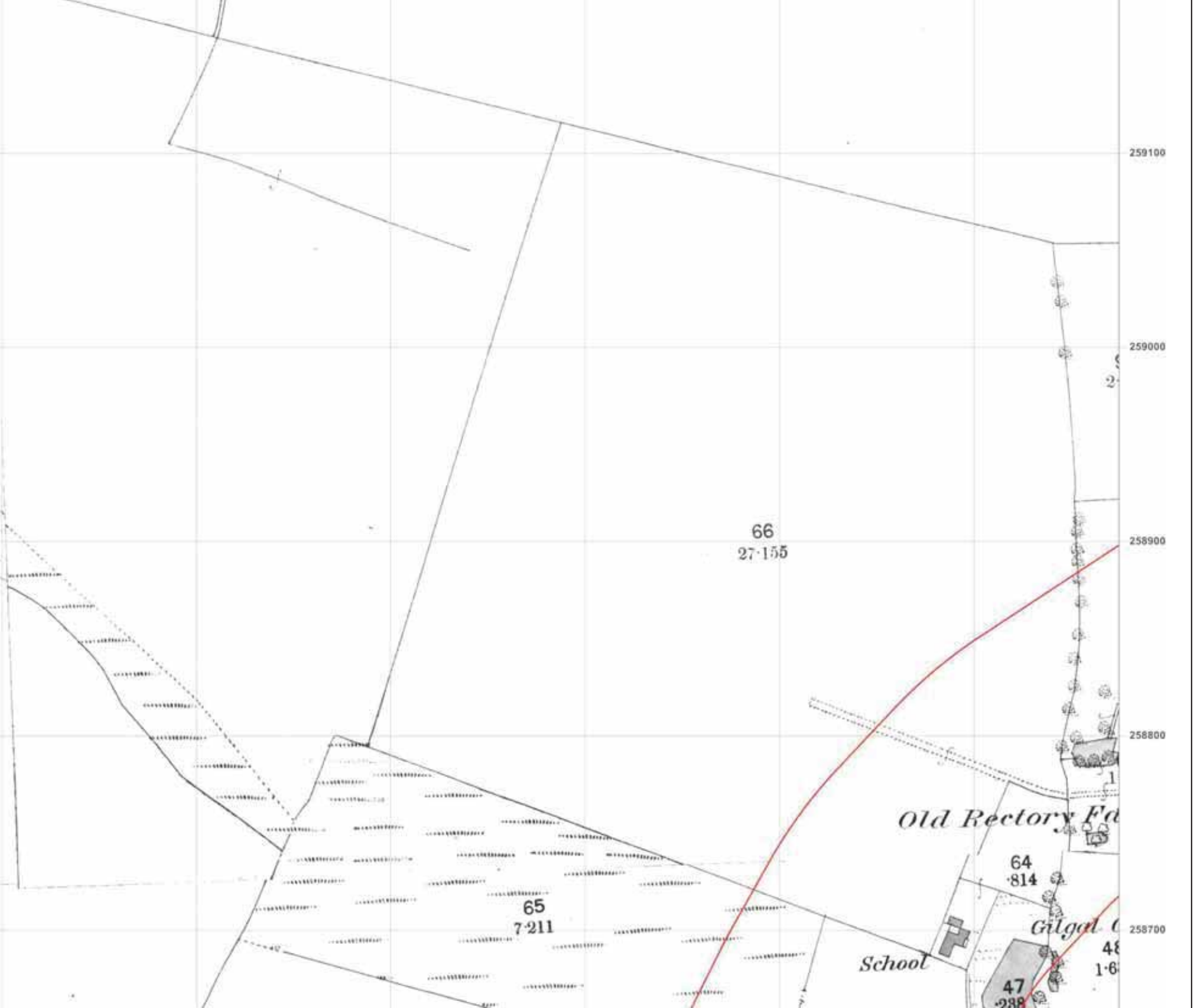

Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 536962, 25

Map Name: County Seri

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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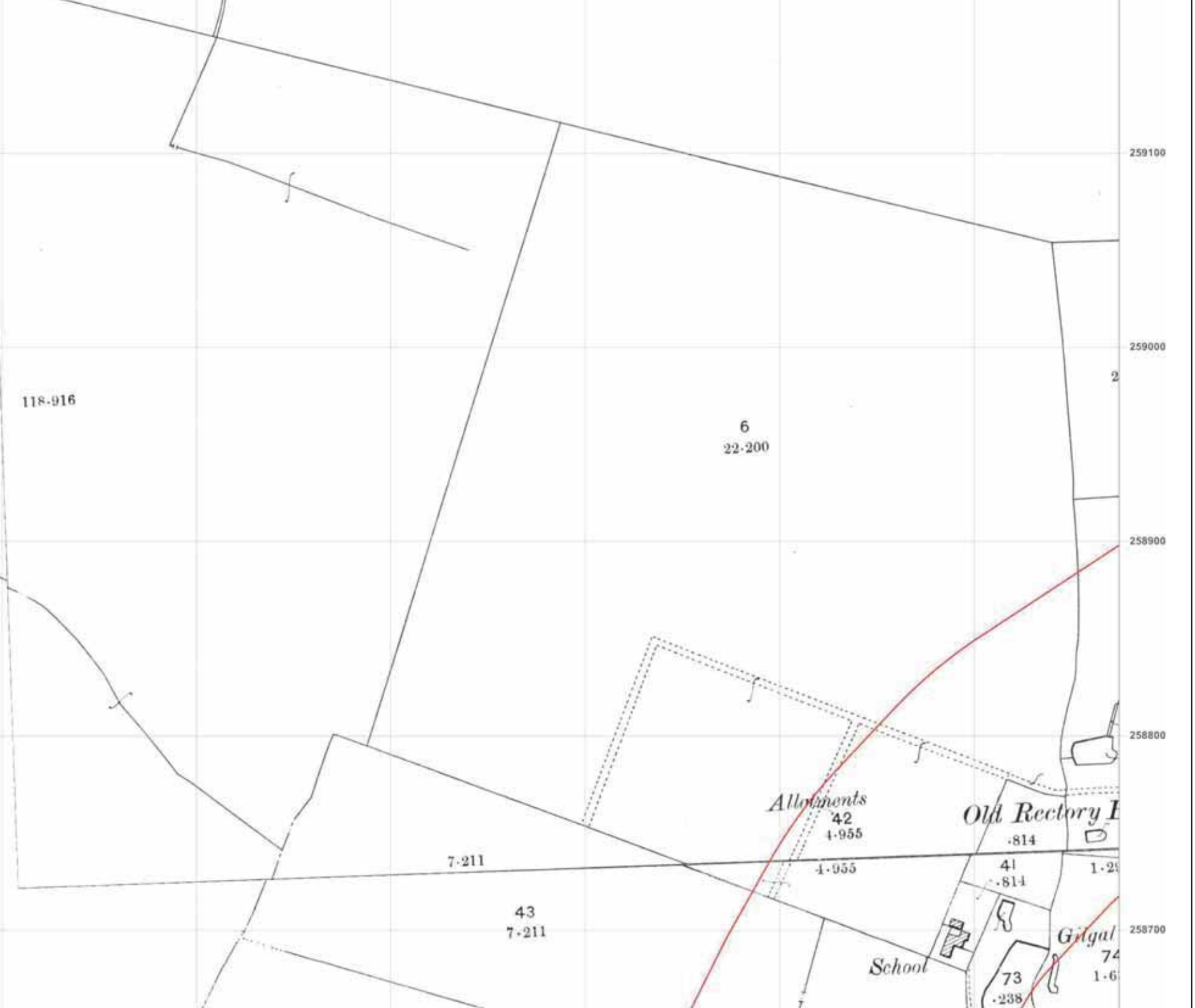

Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 536962, 25

Map Name: County Seri

Map date: **1902-1903**

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1902
Revised 1902
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1903
Revised 1903
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 536962, 25

Map Name: County Seri

Map date: **1926**

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1926
Revised 1926
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 536962, 25

Map Name: County Seri

Map date: **1938**

Scale: 1:2,500

Printed at: 1:2,500

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

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

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 536962, 25

Map Name: National Gr

Map date: **1973-1975**

Scale: 1:2,500

Printed at: 1:2,500

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

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 536962, 25

Map Name: National Gr

Map date: **1975-1976**

Scale: 1:2,500

Printed at: 1:2,500

Groundsure INSIGHTS

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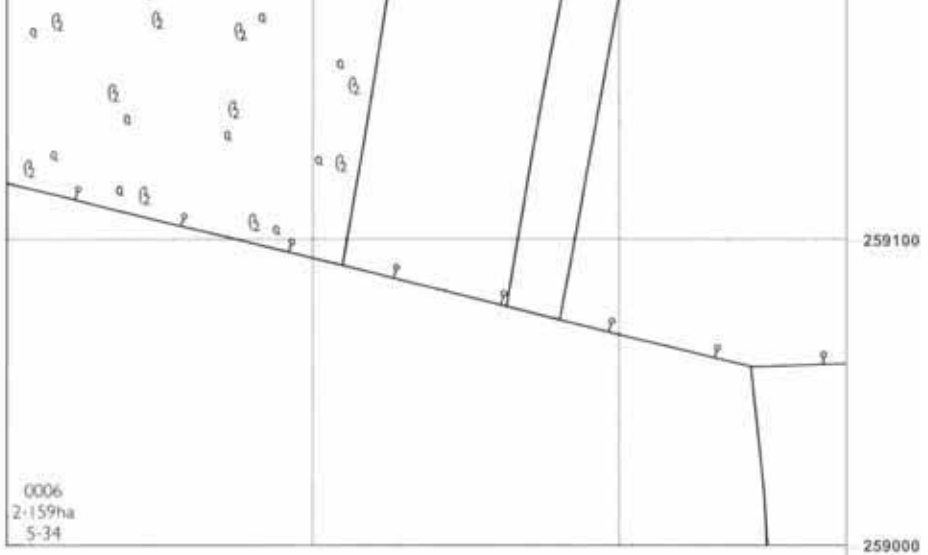

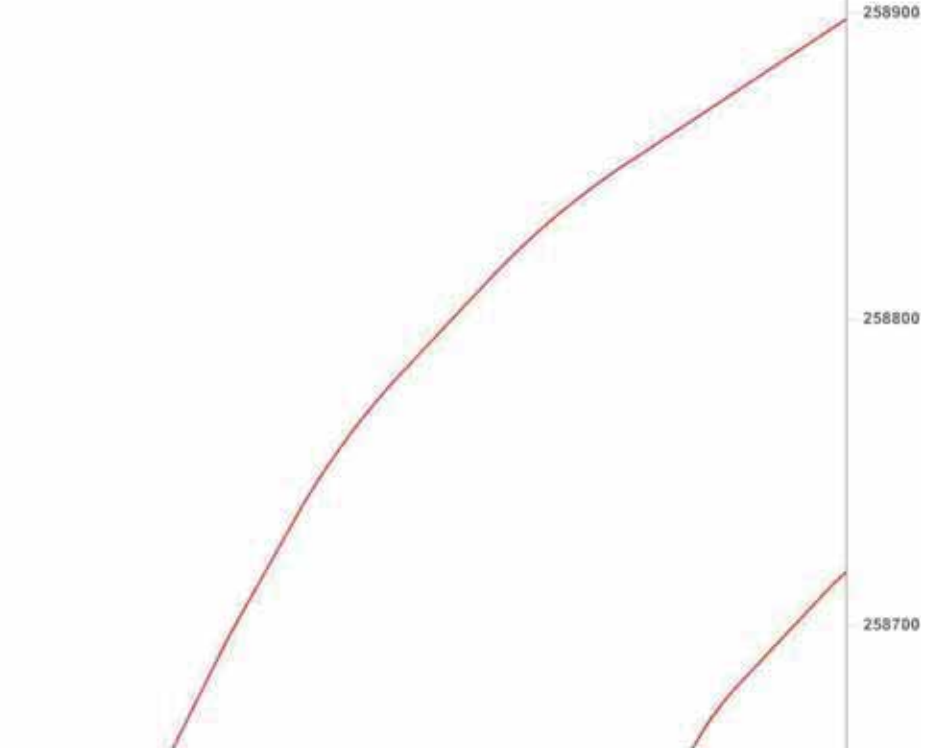

Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 536962, 25

Map Name: National Gr

Map date: **1980**

Scale: 1:2,500

Printed at: 1:2,500

Groundsure INSIGHTS

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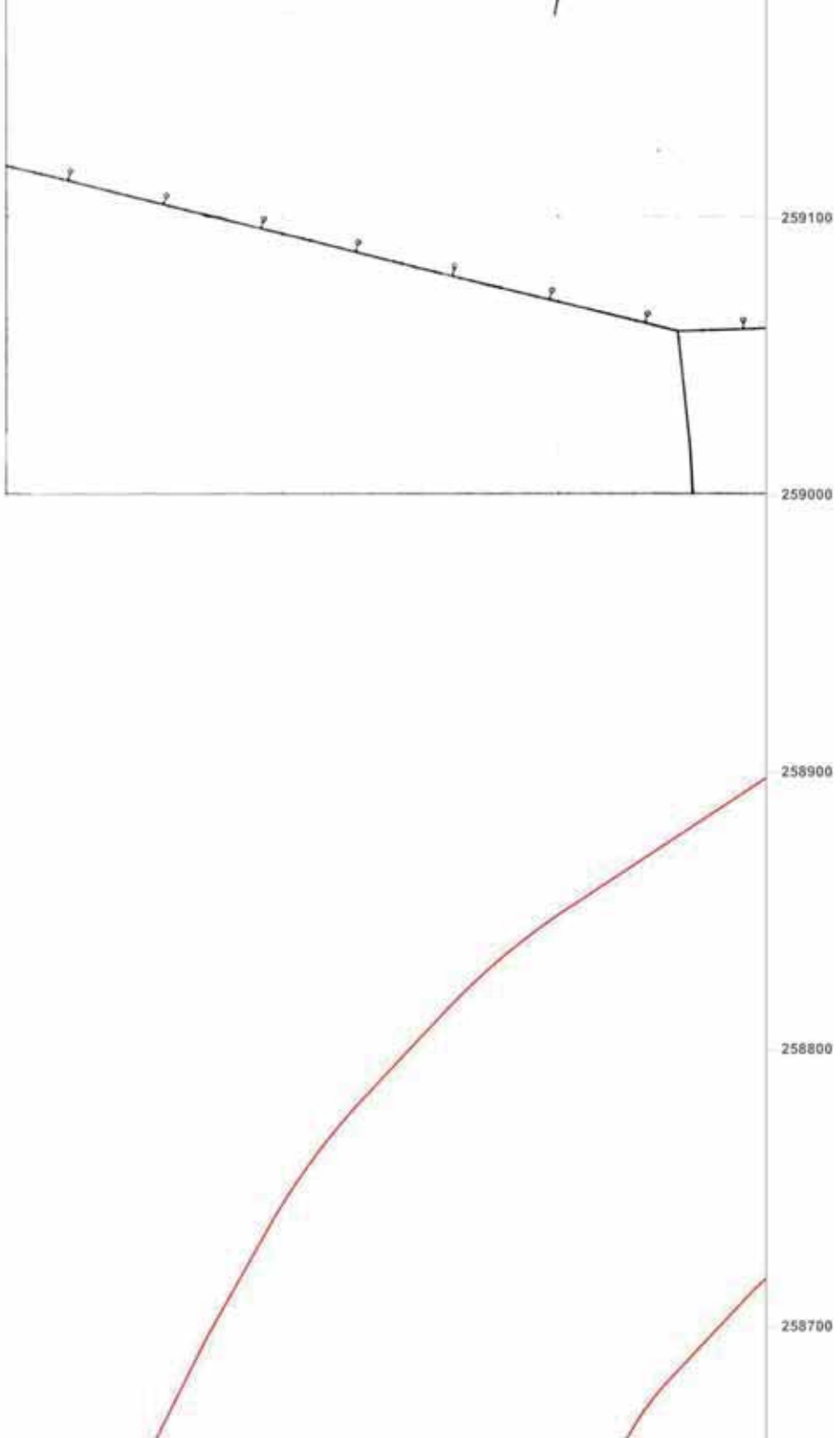

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	536962, 25

Map Name:	National Gr
Map date:	**1982**
Scale:	1:2,500
Printed at:	1:2,500

Groundsure INSIGHTS

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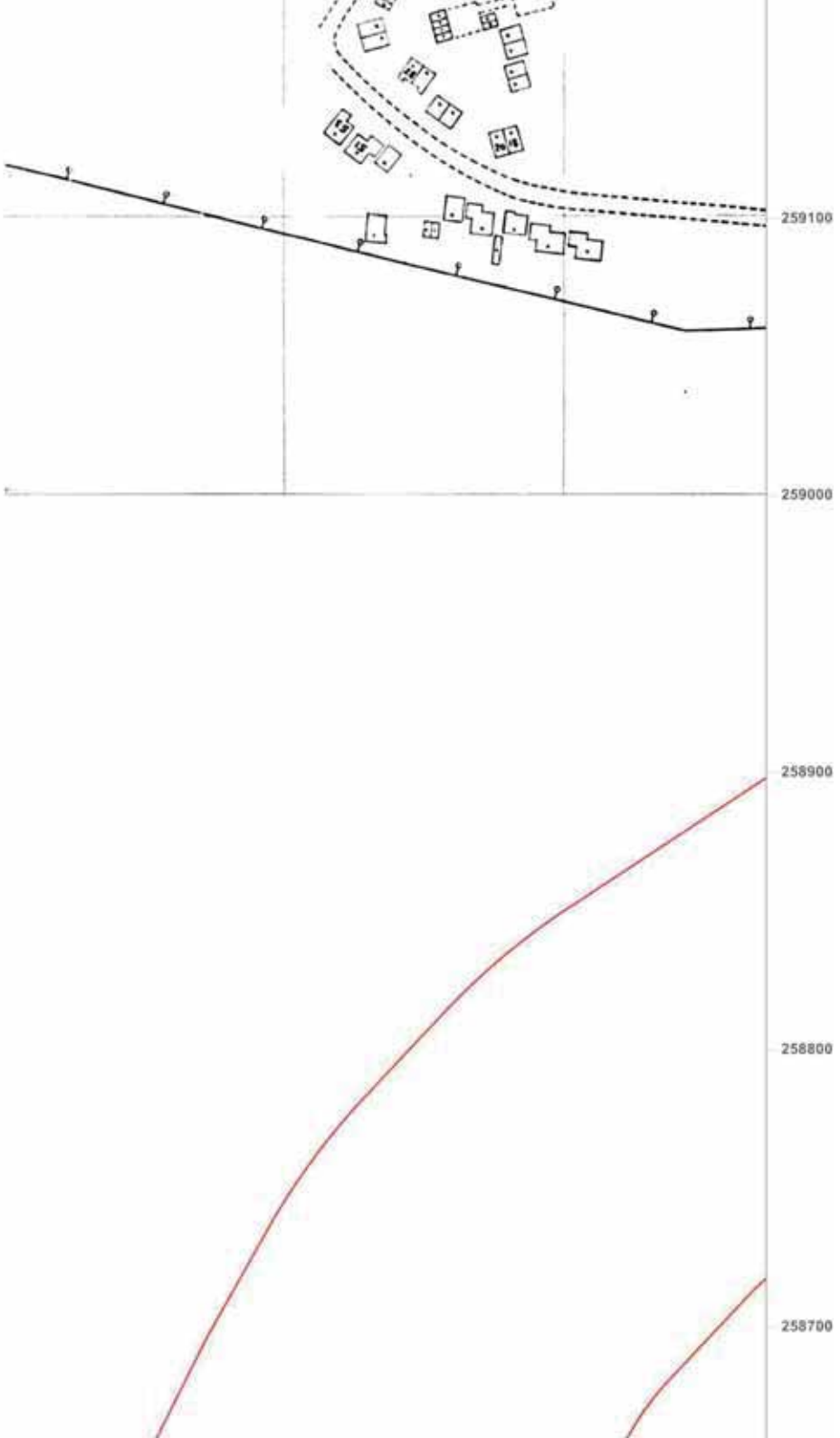

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	536962, 25
Map Name:	National Gr
Map date:	**1983**
Scale:	1:2,500
Printed at:	1:2,500

Groundsure INSIGHTS

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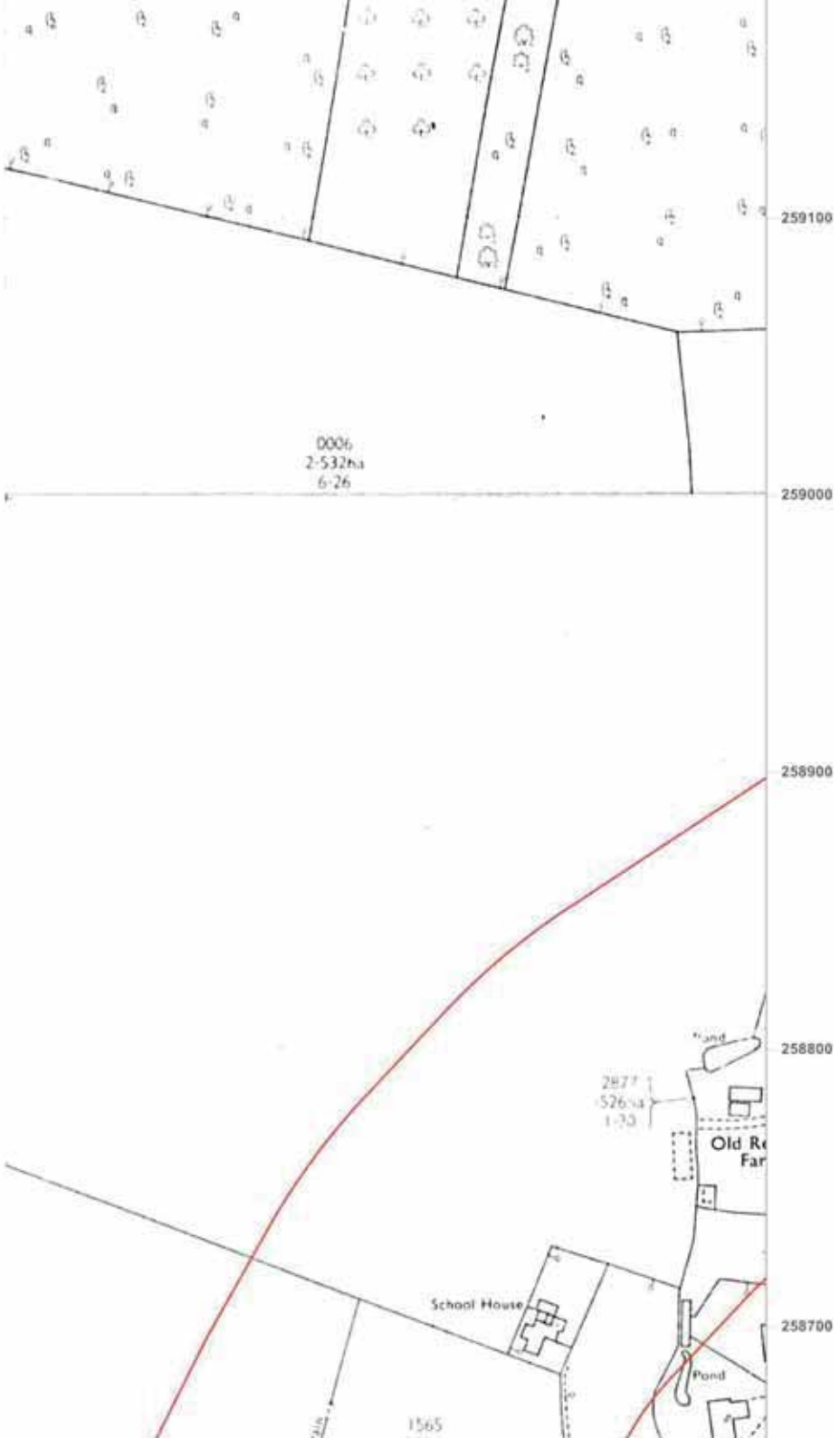

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	536962, 25
Map Name:	National Gr
Map date:	**1979-1983**
Scale:	1:2,500
Printed at:	1:2,500

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 536962, 25

Map Name: National Gr

Map date: **1984**

Scale: 1:2,500

Printed at: 1:2,500

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 536962, 25

Map Name: National Gr

Map date: **1987**

Scale: 1:2,500

Printed at: 1:2,500

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 536962, 25

Map Name: National Gr

Map date: **1994**

Scale: 1:2,500

Printed at: 1:2,500

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

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

Groundsure INSIGHTS

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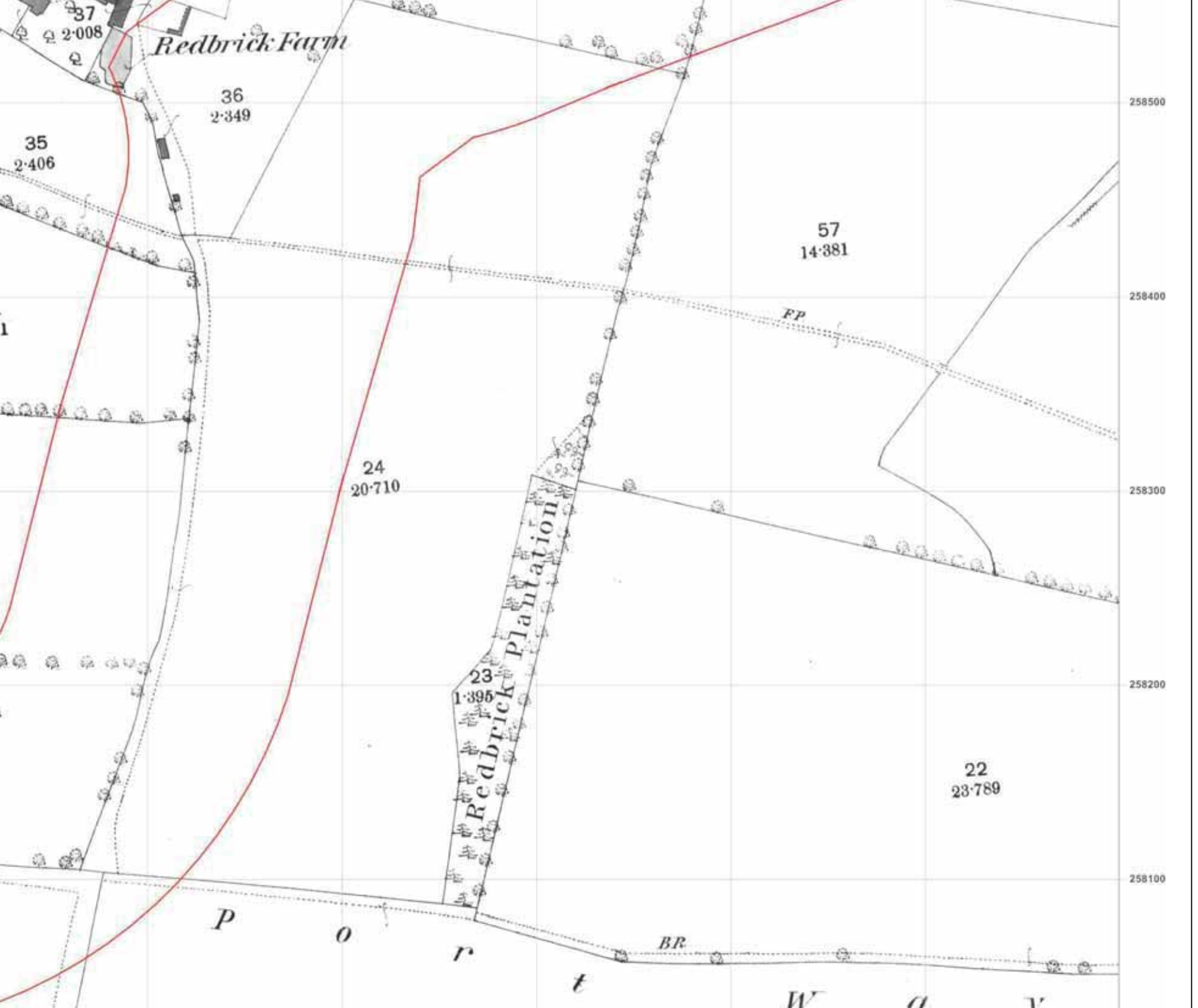

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

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

Groundsure INSIGHTS

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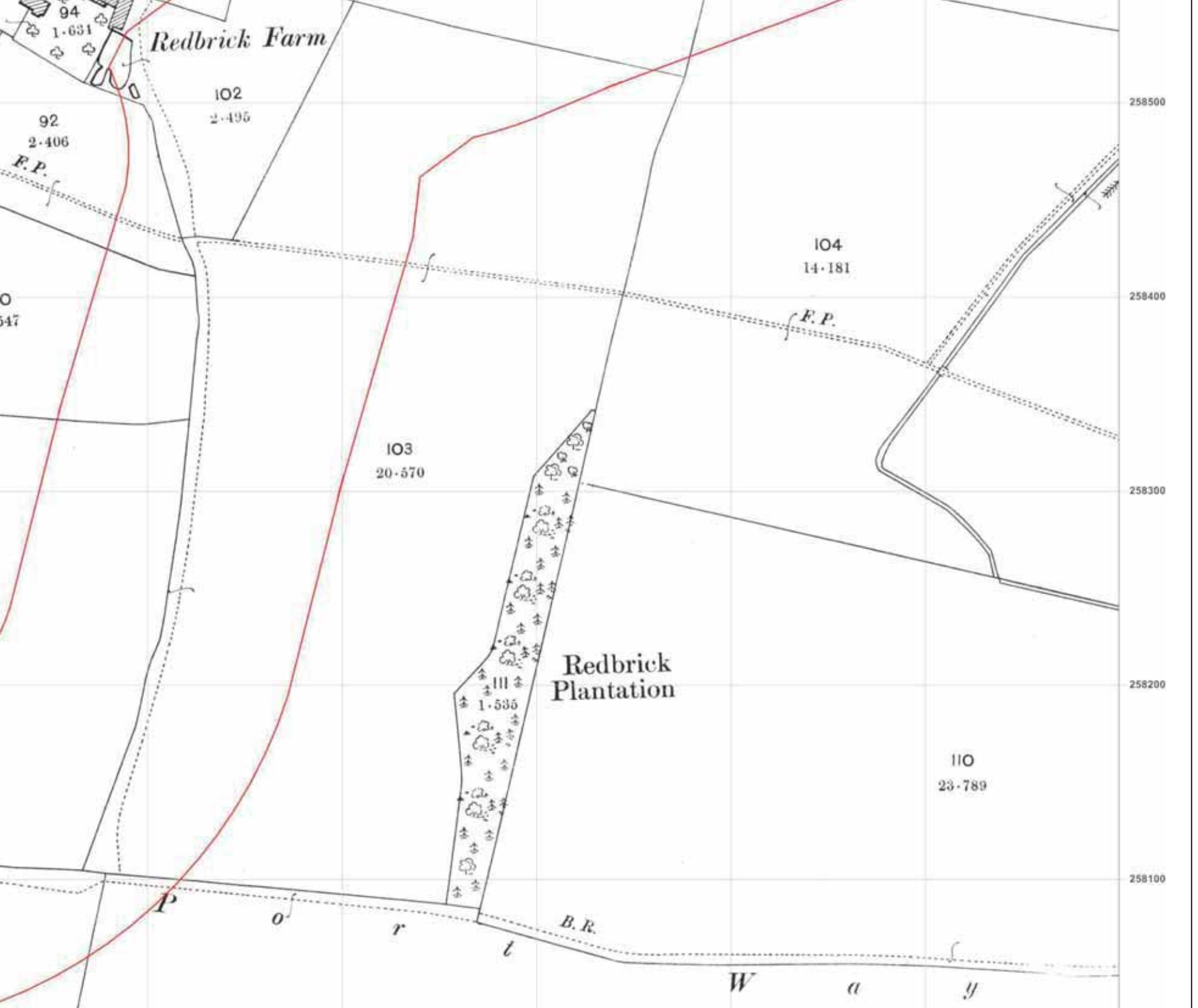

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

Map Name:	County Seri
Map date:	**1902**
Scale:	1:2,500
Printed at:	1:2,500

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 537587, 25

Map Name: National Gr

Map date: **1974-1975**

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1975
Revised 1975
Edition N/A
Copyright 1976
Levelled 1964

Surveyed 1974
Revised 1974
Edition N/A
Copyright 1976
Levelled 1964

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 537587, 25

Map Name: National Gr

Map date: **1976**

Scale: 1:2,500

Printed at: 1:2,500

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Groundsure INSIGHTS

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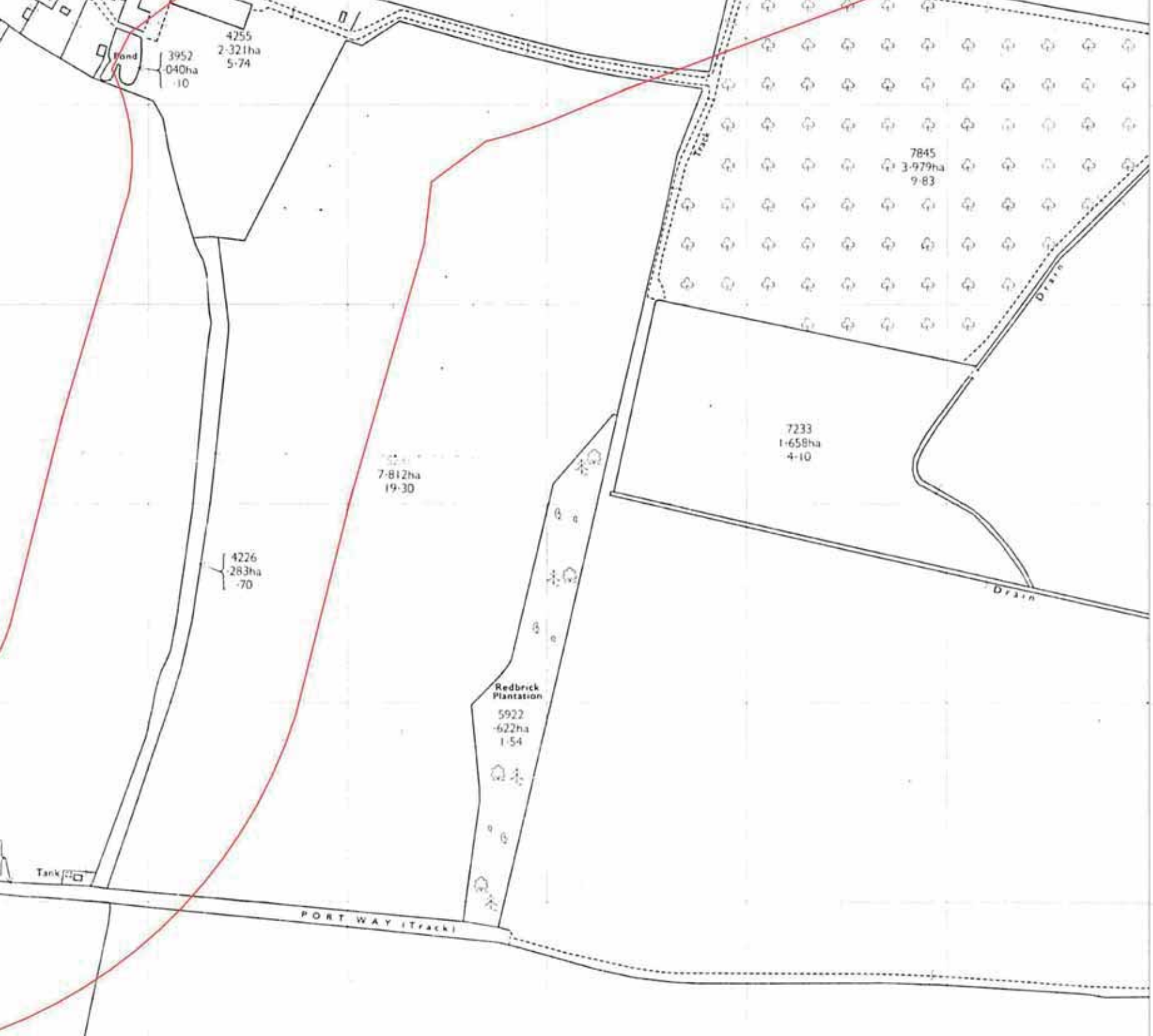

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

Map Name:	National Gr
Map date:	**1983**
Scale:	1:2,500
Printed at:	1:2,500

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Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25
Map Name:	National Gr
Map date:	**1994**
Scale:	1:2,500
Printed at:	1:2,500

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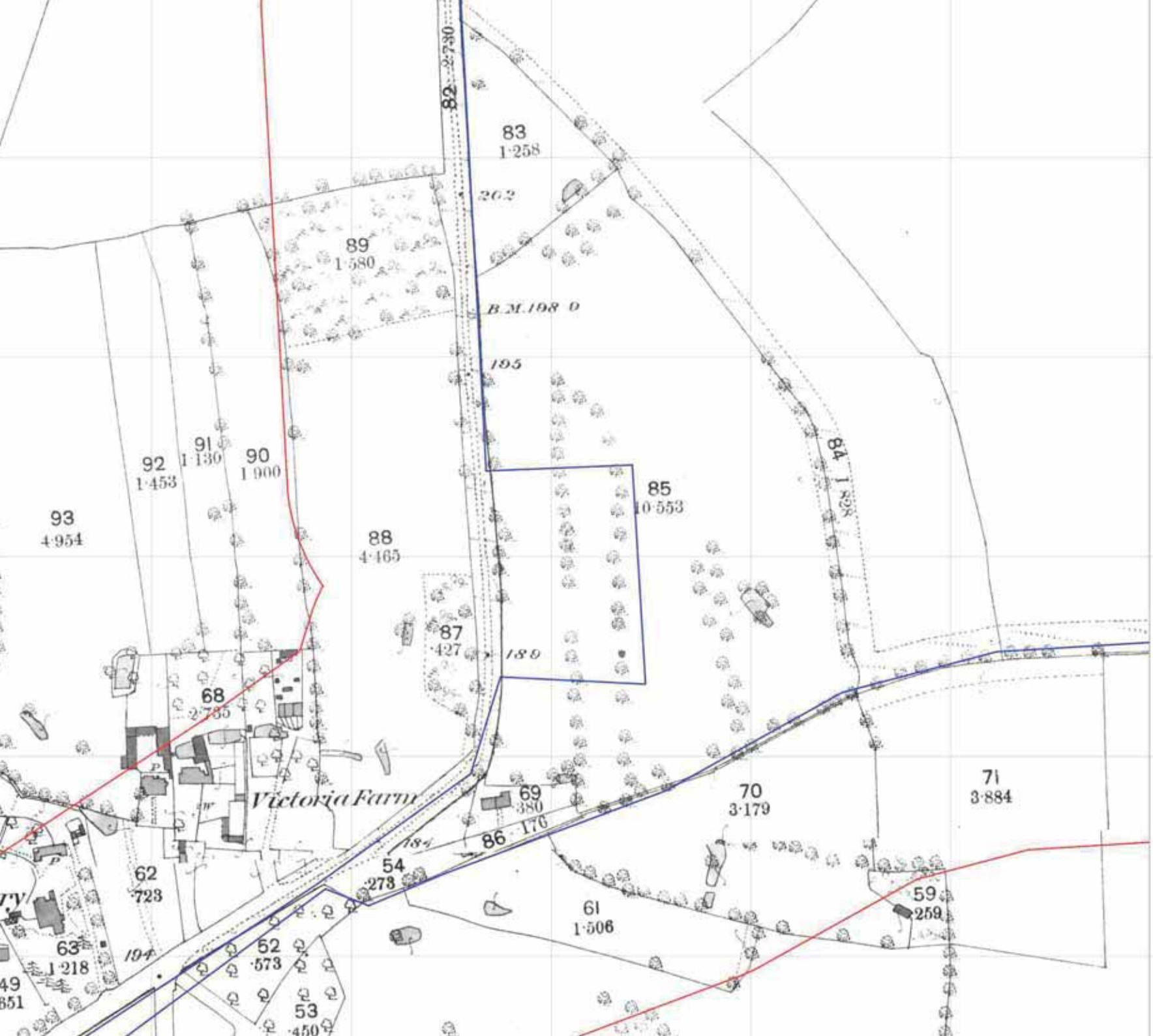

Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 537587, 25

Map Name: County Seri

Map date: 1887

Scale: 1:2,500

Printed at: 1:2,500

Groundsure INSIGHTS

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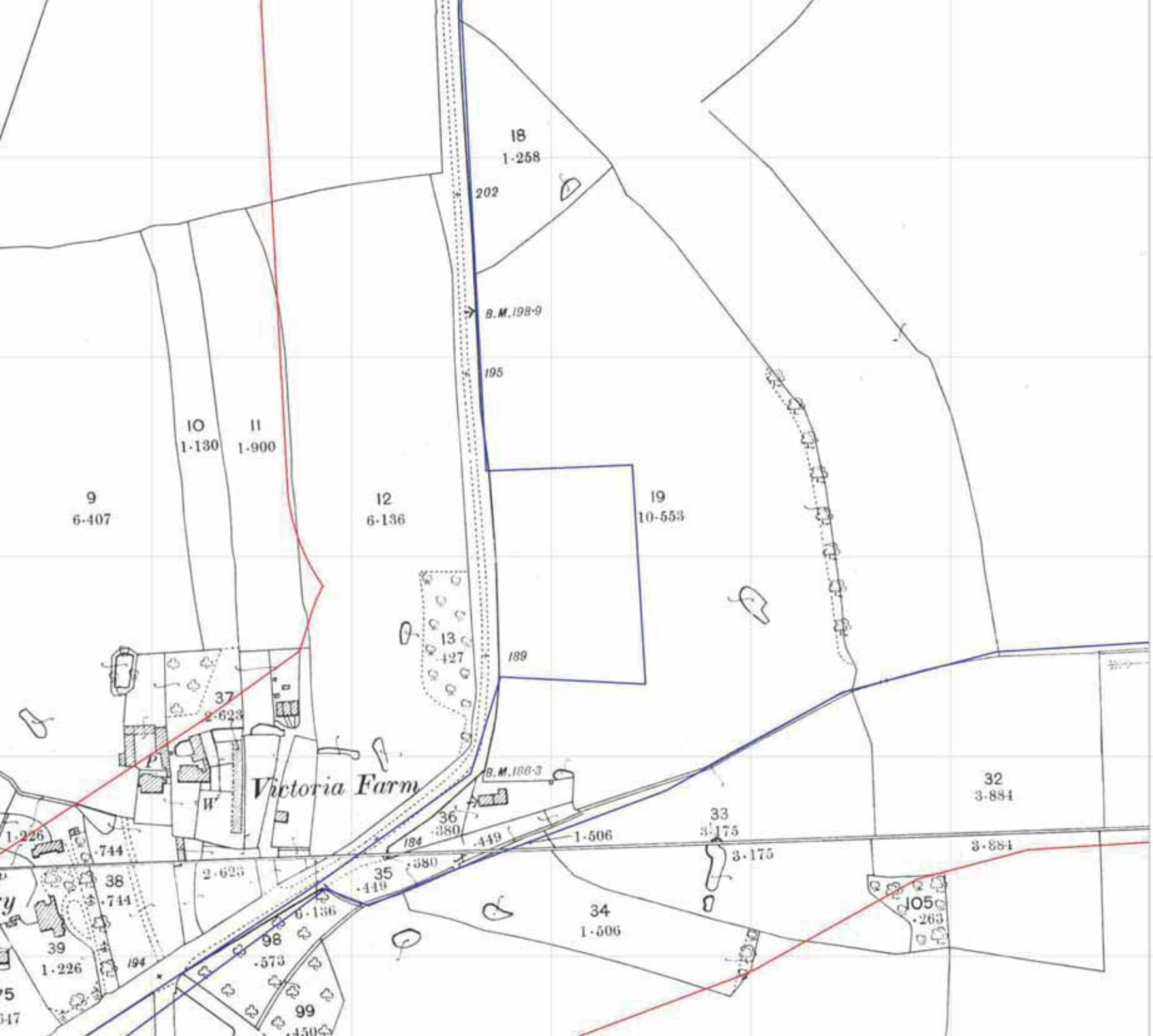

Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 537587, 25

Map Name: County Seri

Map date: **1902**

Scale: 1:2,500

Printed at: 1:2,500

Groundsure INSIGHTS

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Powered by

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

Map Name:	County Seri
Map date:	**1926**
Scale:	1:2,500
Printed at:	1:2,500

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

Map Name:	County Seri
Map date:	**1938**
Scale:	1:2,500
Printed at:	1:2,500

Groundsure INSIGHTS

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Powered by

Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 537587, 25

Map Name: National Gr

Map date: **1975**

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1975
Revised 1975
Edition N/A
Copyright 1977
Levelled 1971

Surveyed 1975
Revised 1975
Edition N/A
Copyright 1976
Levelled 1964

Groundsure INSIGHTS

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Powered by

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

Map Name:	National Gr
Map date:	**1976-1979**
Scale:	1:2,500
Printed at:	1:2,500

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 537587, 25

Map Name: National Gr

Map date: **1982**

Scale: 1:2,500

Printed at: 1:2,500

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Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 537587, 25

Map Name: National Gr

Map date: **1983**

Scale: 1:2,500

Printed at: 1:2,500

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Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

Map Name:	National Gr
Map date:	**1980-1983**
Scale:	1:2,500
Printed at:	1:2,500

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 537587, 25

Map Name: National Gr

Map date: 1984

Scale: 1:2,500

Printed at: 1:2,500

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Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 537587, 25

Map Name: National Gr

Map date: **1987**

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1987
Revised 1987
Edition N/A
Copyright 1988
Levelled 1971

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_5671
Report Ref: EMS-5671
Grid Ref: 537587, 25

Map Name: National Gr

Map date: 1994

Scale: 1:2,500

Printed at: 1:2,500

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Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 537587, 25

Map Name: County Seri

Map date: **1887**

Scale: 1:2,500

Printed at: 1:2,500

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25
Map Name:	County Seri
Map date:	**1902**
Scale:	1:2,500
Printed at:	1:2,500

Groundsure INSIGHTS

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Powered by

Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 537587, 25

Map Name: County Seri

Map date: **1926**

Scale: 1:2,500

Printed at: 1:2,500

Groundsure INSIGHTS

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Powered by

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25
Map Name:	County Seri
Map date:	**1938**
Scale:	1:2,500
Printed at:	1:2,500

Groundsure INSIGHTS

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Powered by

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

Map Name:	National Gr
Map date:	**1975**
Scale:	1:2,500
Printed at:	1:2,500

Surveyed 1975
Revised 1975
Edition N/A
Copyright 1977
Levelled 1971

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25
Map Name:	National Gr
Map date:	**1979**
Scale:	1:2,500
Printed at:	1:2,500

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Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25
Map Name:	National Gr
Map date:	**1980**
Scale:	1:2,500
Printed at:	1:2,500

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Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25
Map Name:	National Gr
Map date:	**1982**
Scale:	1:2,500
Printed at:	1:2,500

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Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25
Map Name:	National Gr
Map date:	**1983**
Scale:	1:2,500
Printed at:	1:2,500

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Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25
Map Name:	National Gr
Map date:	**1984**
Scale:	1:2,500
Printed at:	1:2,500

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Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	537587, 25

Map Name:	National Gr
Map date:	**1987**
Scale:	1:2,500
Printed at:	1:2,500

Surveyed 1987
Revised 1987
Edition N/A
Copyright 1988
Levelled 1971

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 537587, 25

Map Name: National Gr

Map date: **1994**

Scale: 1:2,500

Printed at: 1:2,500

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Groundsure INSIGHTS

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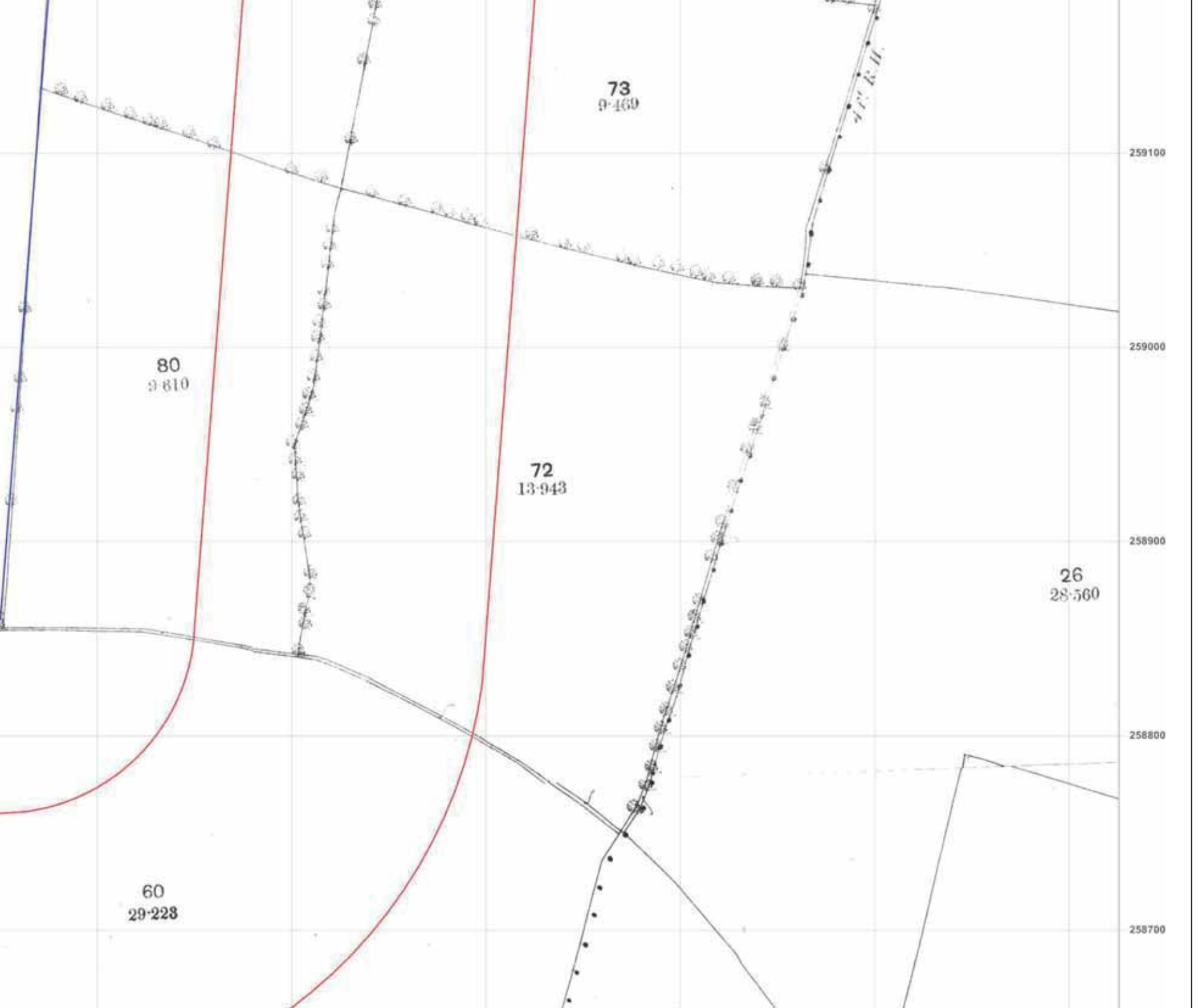

Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 538213, 25

Map Name: County Seri

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

Groundsure INSIGHTS

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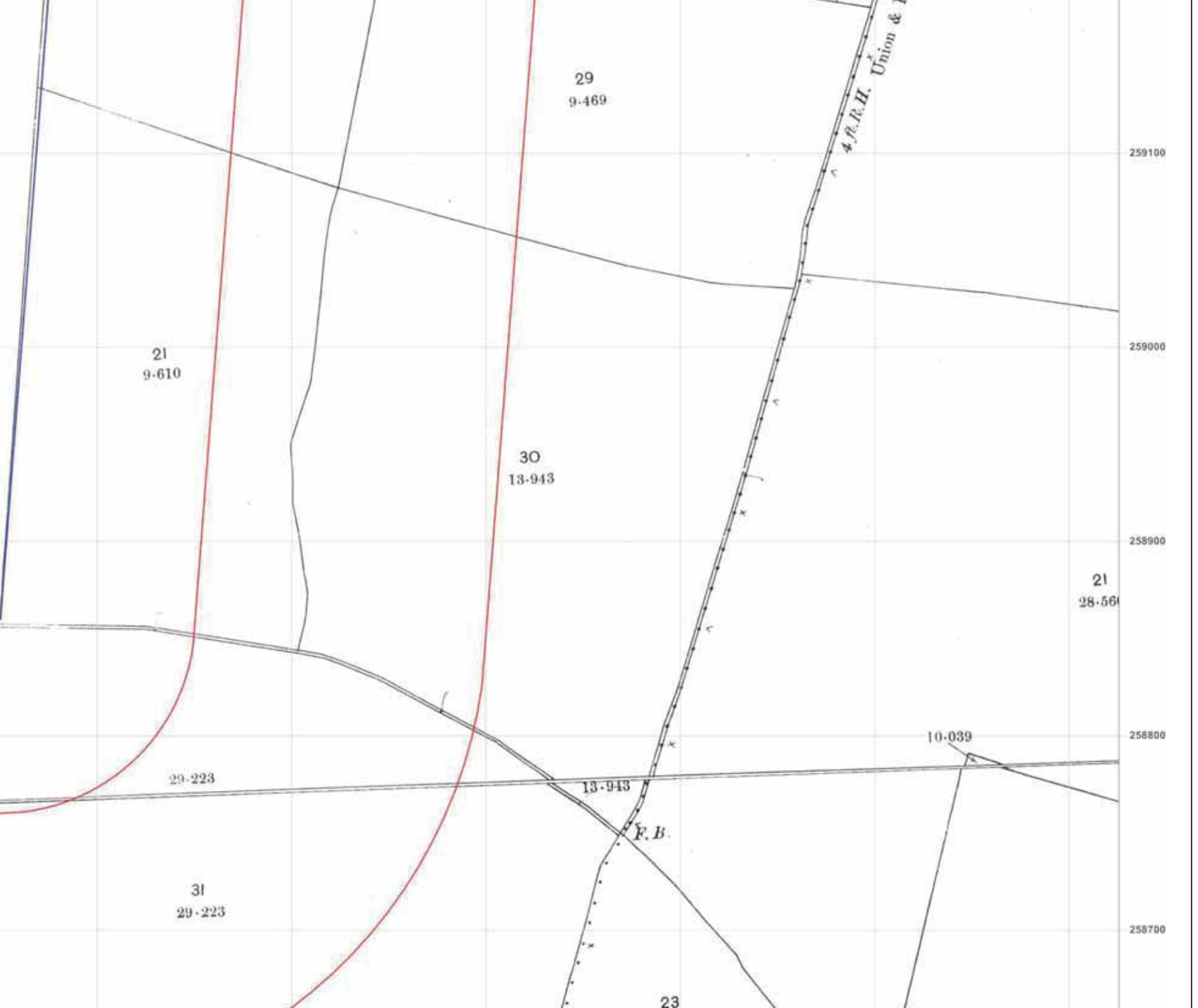

Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 538213, 25

Map Name: County Seri

Map date: **1902**

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1902
Revised 1902
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1902
Revised 1902
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

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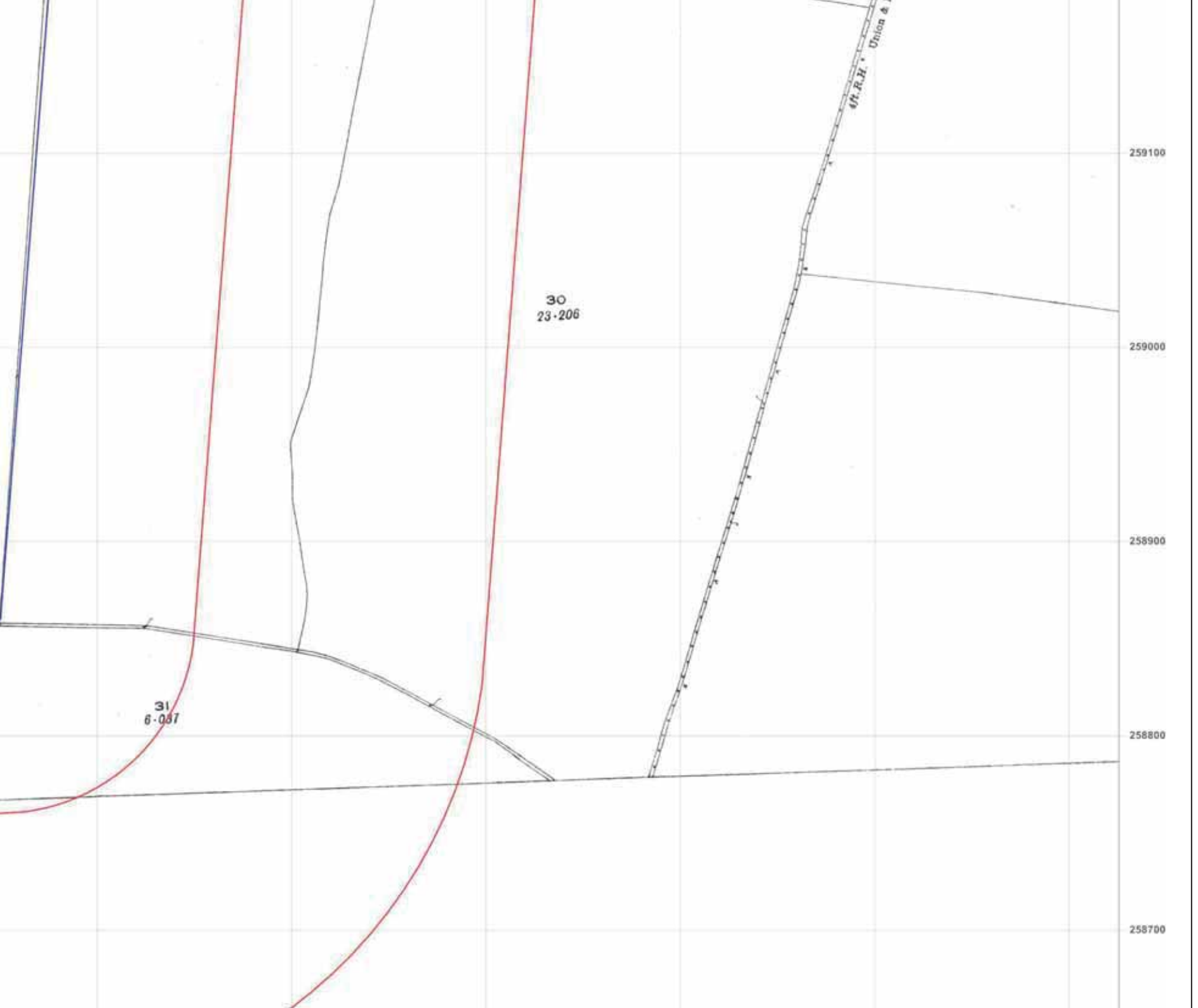
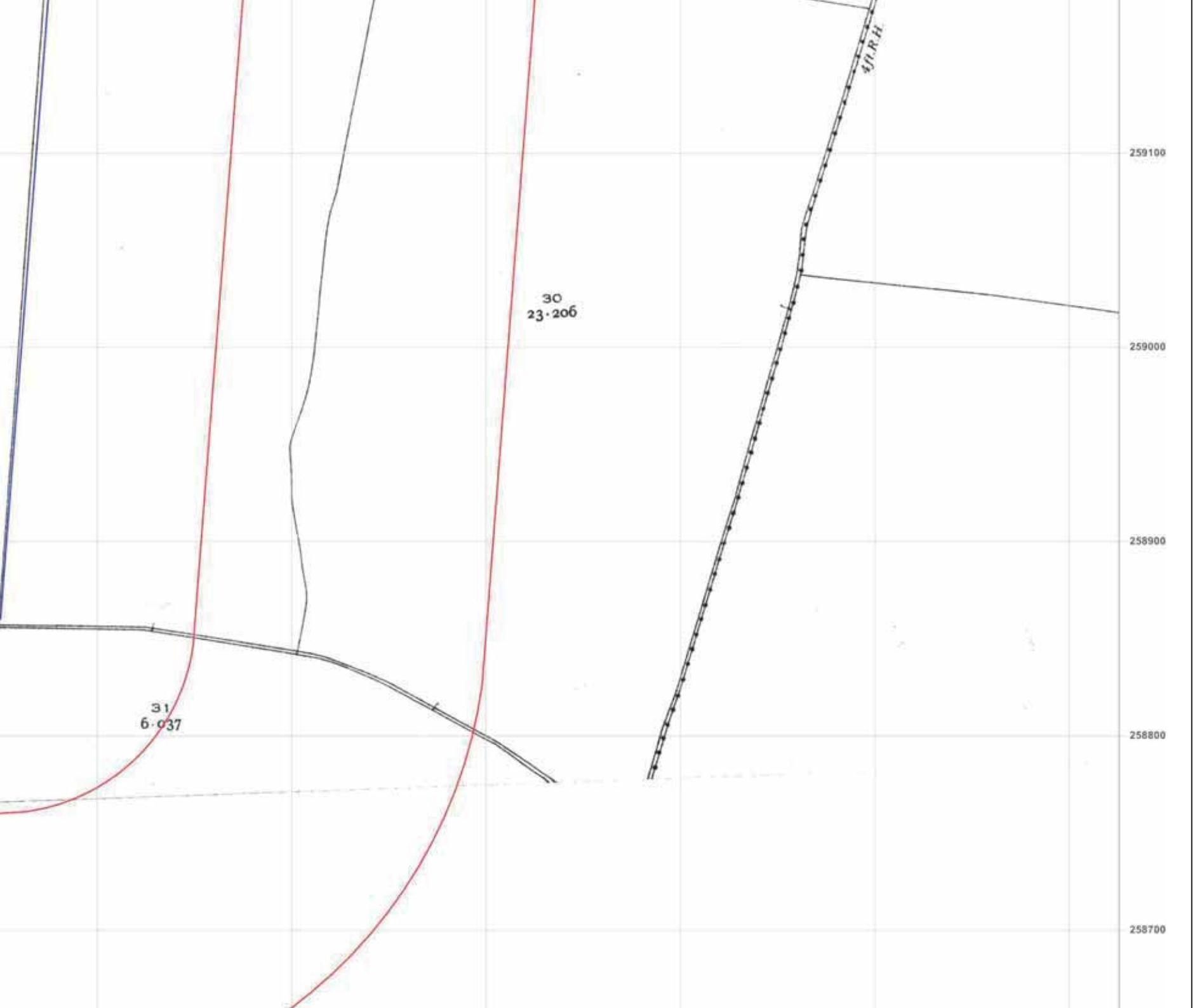


Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	538213, 25
Map Name:	County Seri
Map date:	**1926**
Scale:	1:2,500
Printed at:	1:2,500

Surveyed 1926
Revised 1926
Edition N/A
Copyright N/A
Levelled N/A



Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 538213, 25

Map Name: County Seri

Map date: **1938**

Scale: 1:2,500

Printed at: 1:2,500

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

Groundsure INSIGHTS

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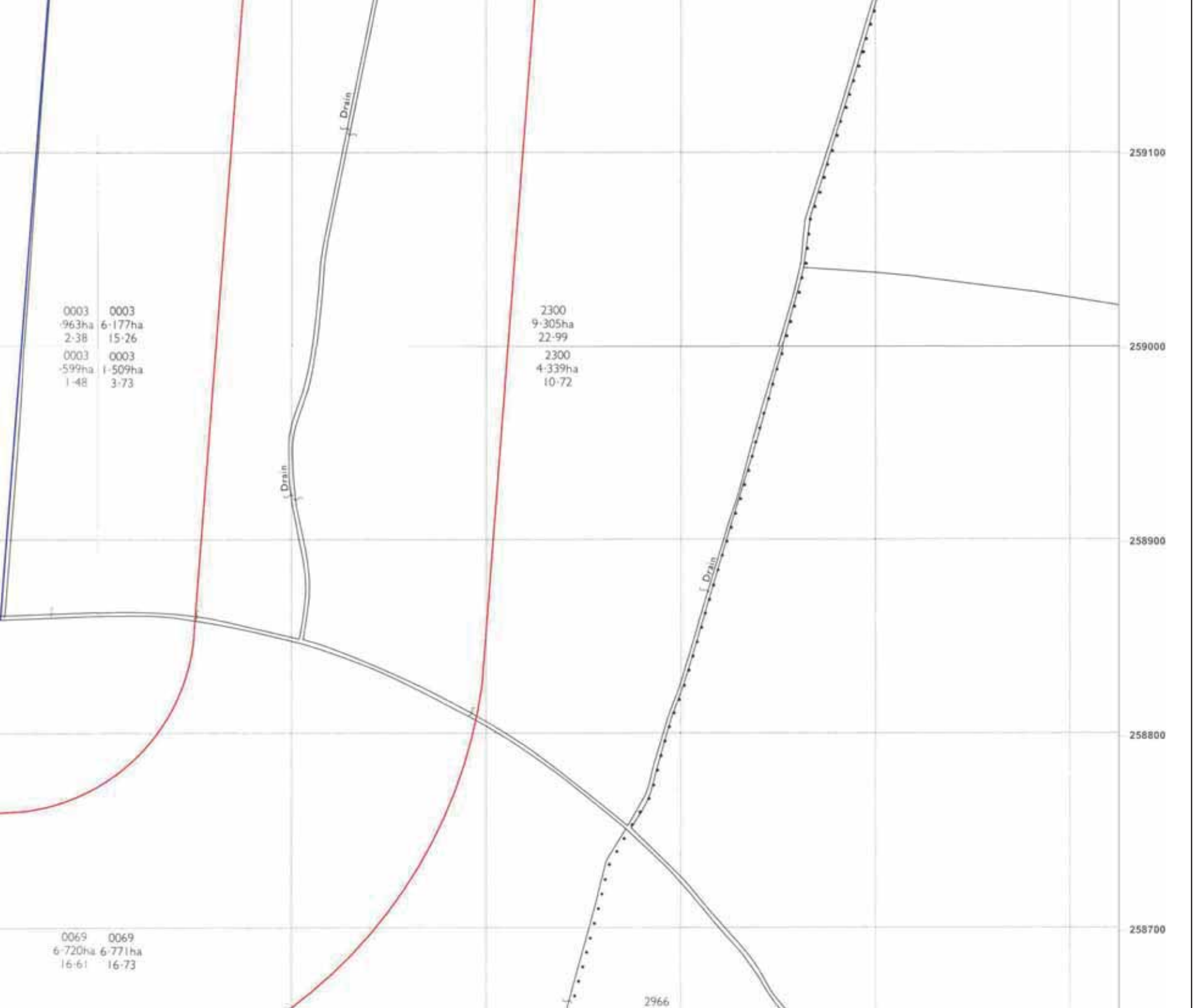

Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 538213, 25

Map Name: National Gr

Map date: **1974-1975**

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1975
Revised 1975
Edition N/A
Copyright 1977
Levelled 1971

Surveyed 1975
Revised 1975
Edition N/A
Copyright 1976
Levelled 1964

Groundsure INSIGHTS

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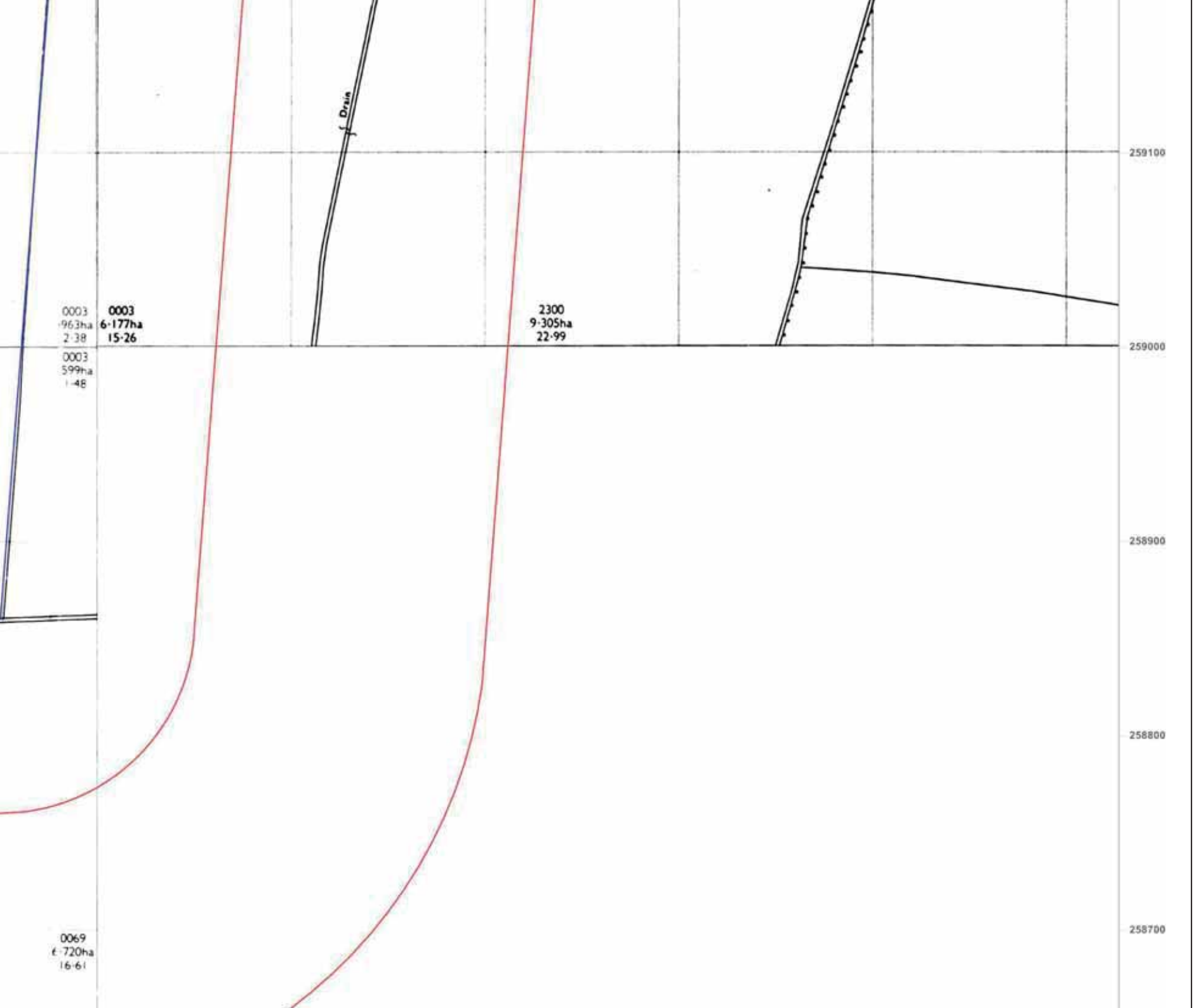

Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 538213, 25

Map Name: National Gr

Map date: **1976-1979**

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1979
Revised 1979
Edition N/A
Copyright N/A
Levelled 1971

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

Groundsure INSIGHTS

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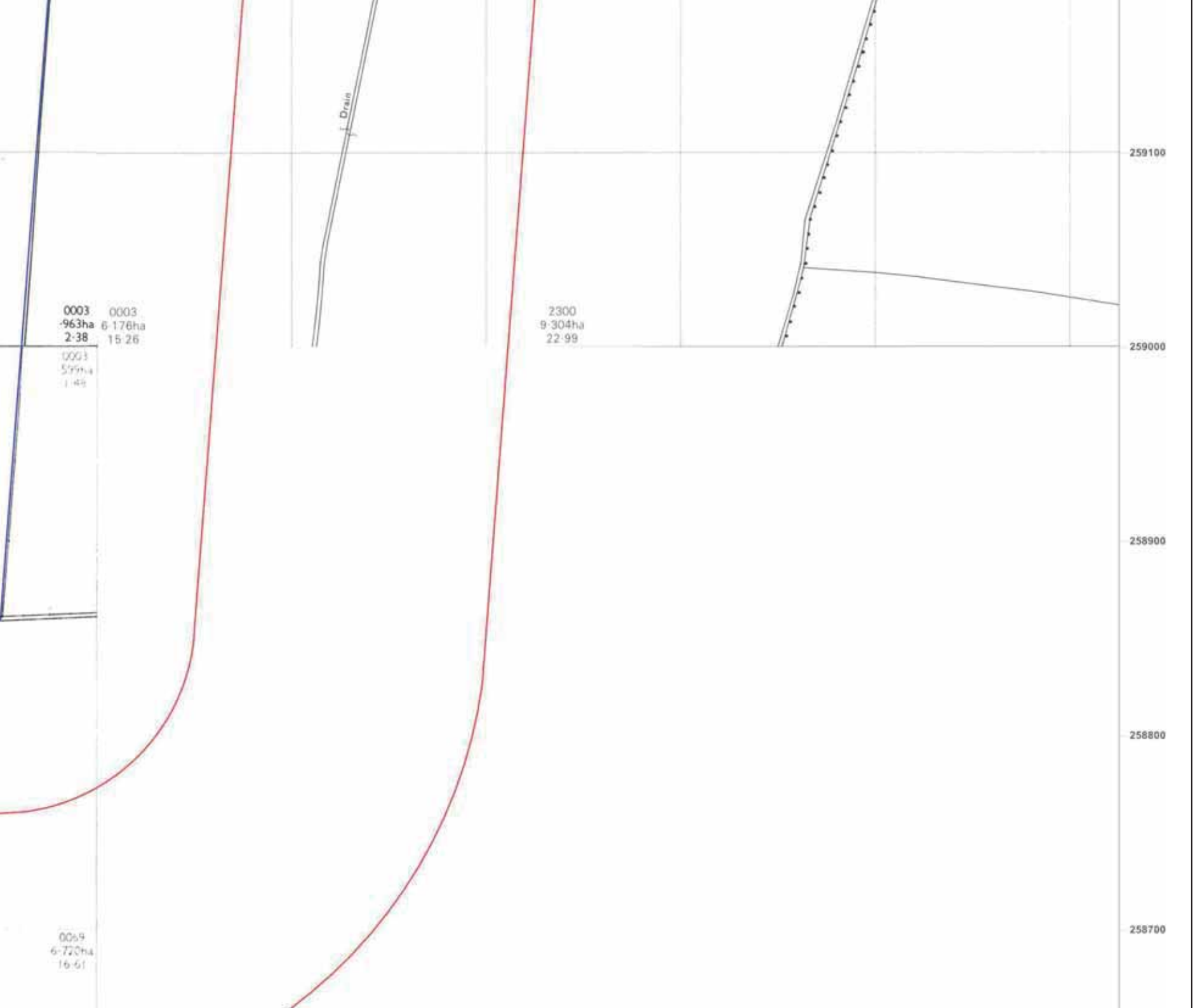

Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 538213, 25

Map Name: National Gr

Map date: **1980-1983**

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1980
Revised 1980
Edition N/A
Copyright 1981
Levelled 1971

Surveyed 1964
Revised 1983
Edition N/A
Copyright 1983
Levelled 1964

Groundsure INSIGHTS

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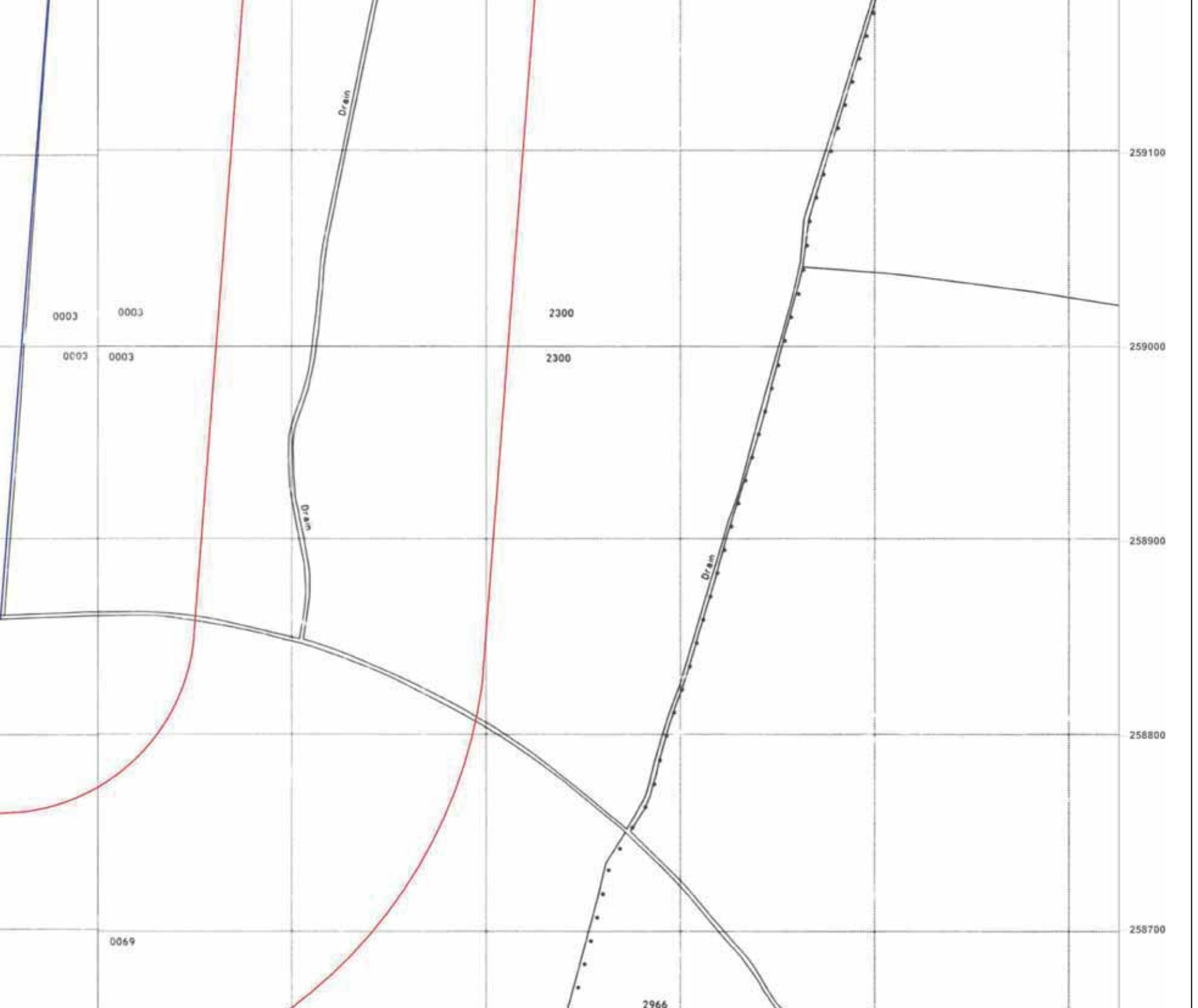

Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 538213, 25

Map Name: National Gr

Map date: **1994**

Scale: 1:2,500

Printed at: 1:2,500

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

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

Groundsure INSIGHTS

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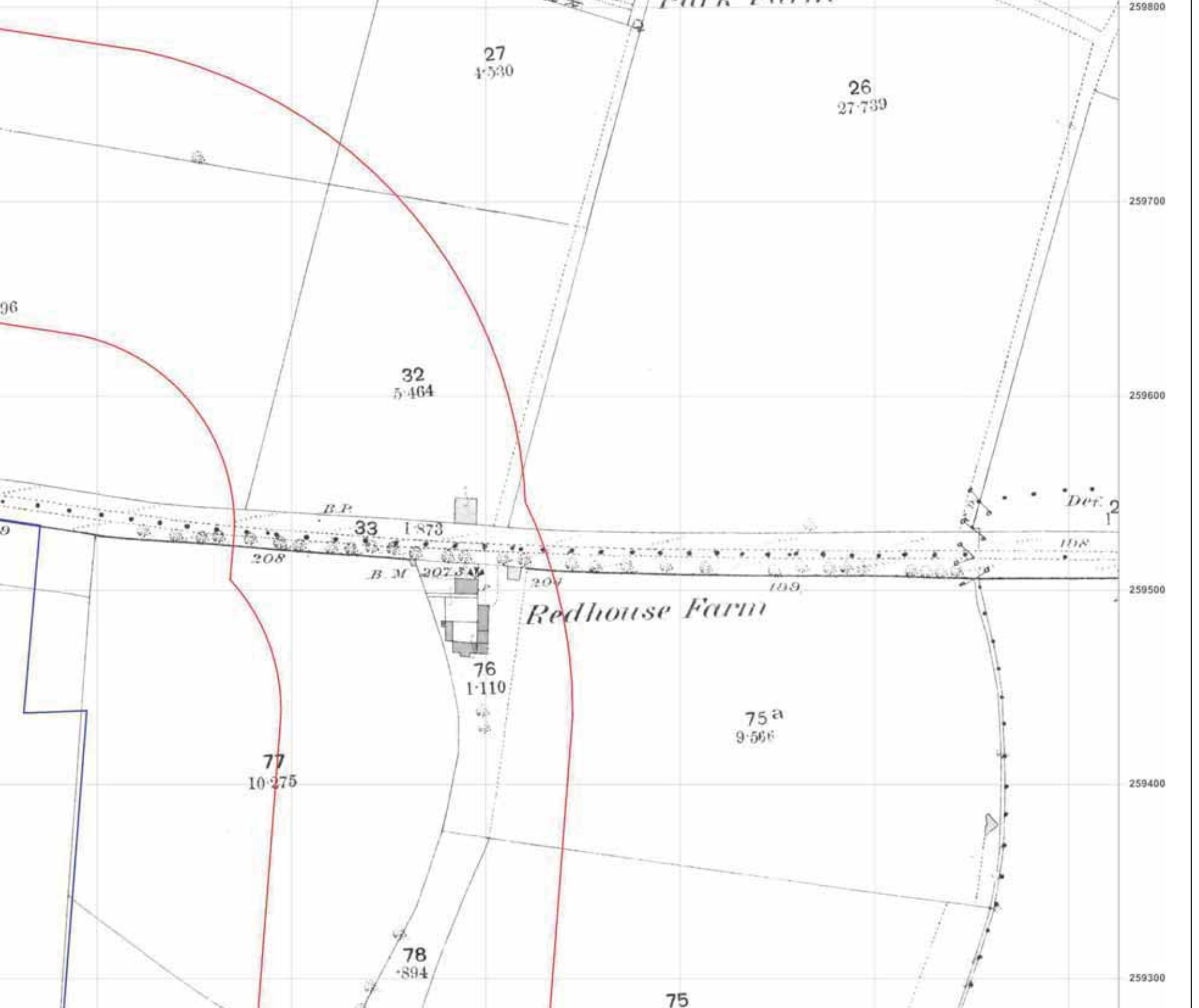

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	538213, 25

Map Name:	County Seri
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

Groundsure INSIGHTS

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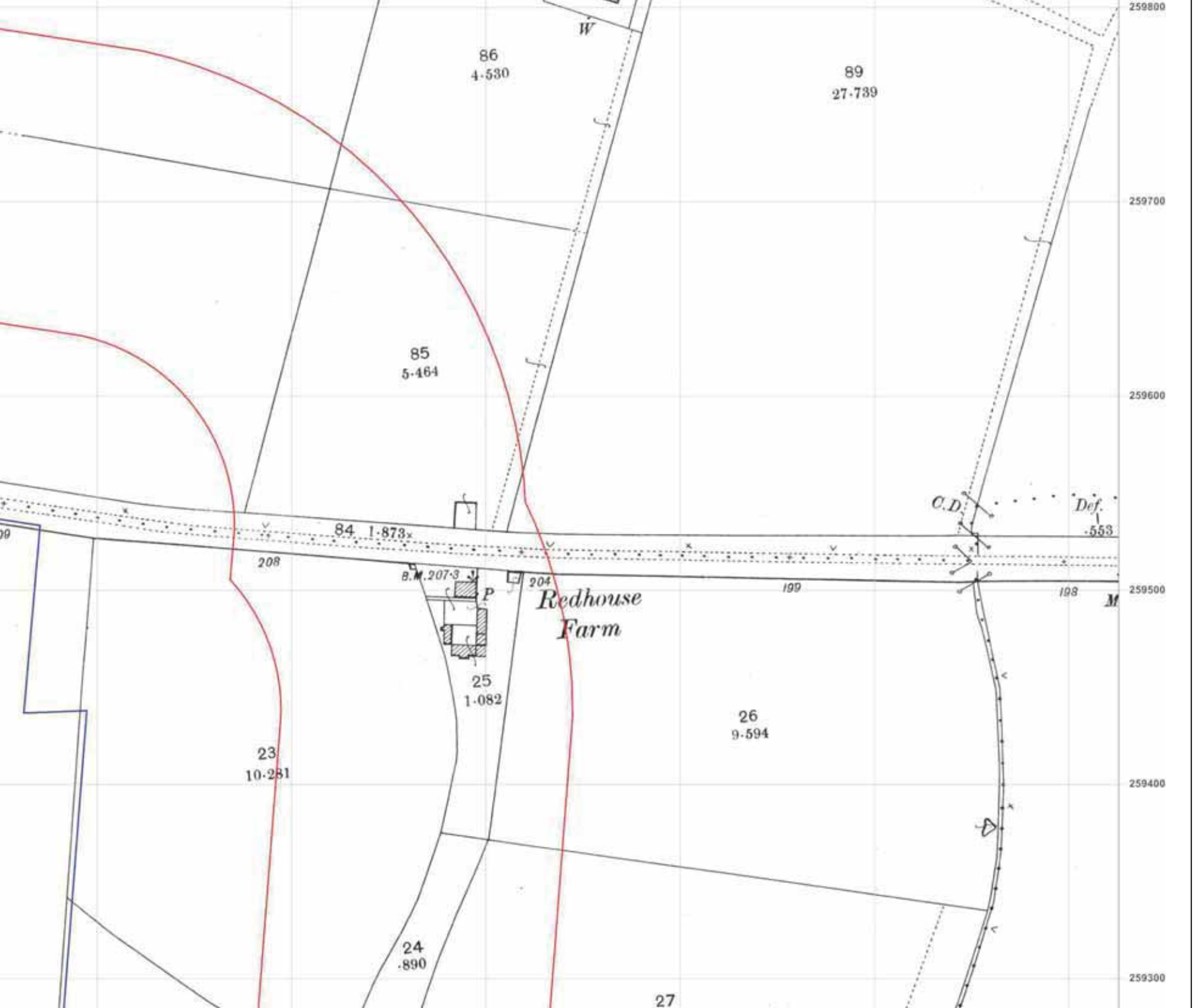

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	538213, 25

Map Name:	County Seri
Map date:	**1902**
Scale:	1:2,500
Printed at:	1:2,500

Surveyed 1902
Revised 1902
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

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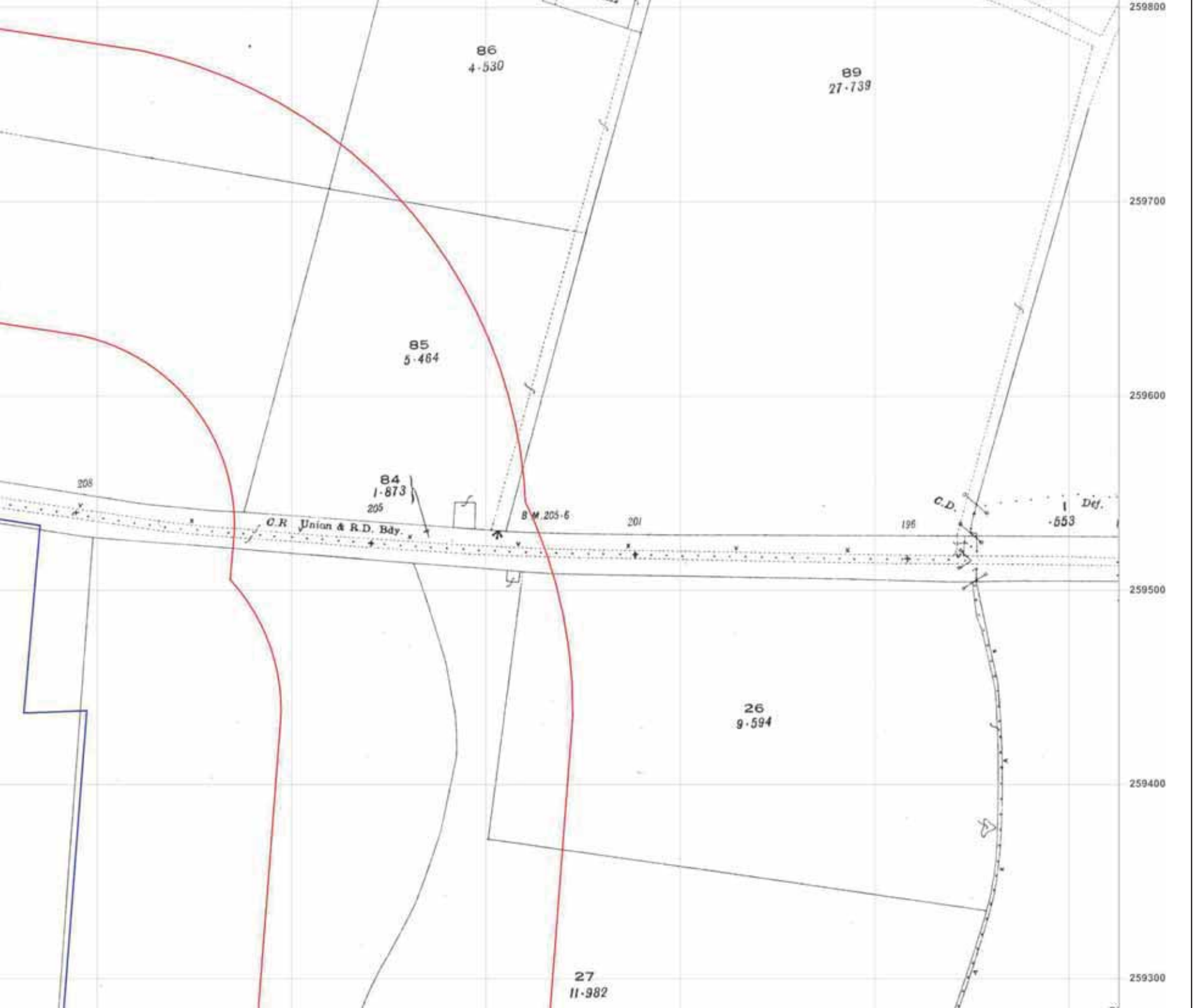

Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_5671
Report Ref: EMS-5671
Grid Ref: 538213, 25

Map Name: County Seri

Map date: **1926**

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1926
Revised 1926
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

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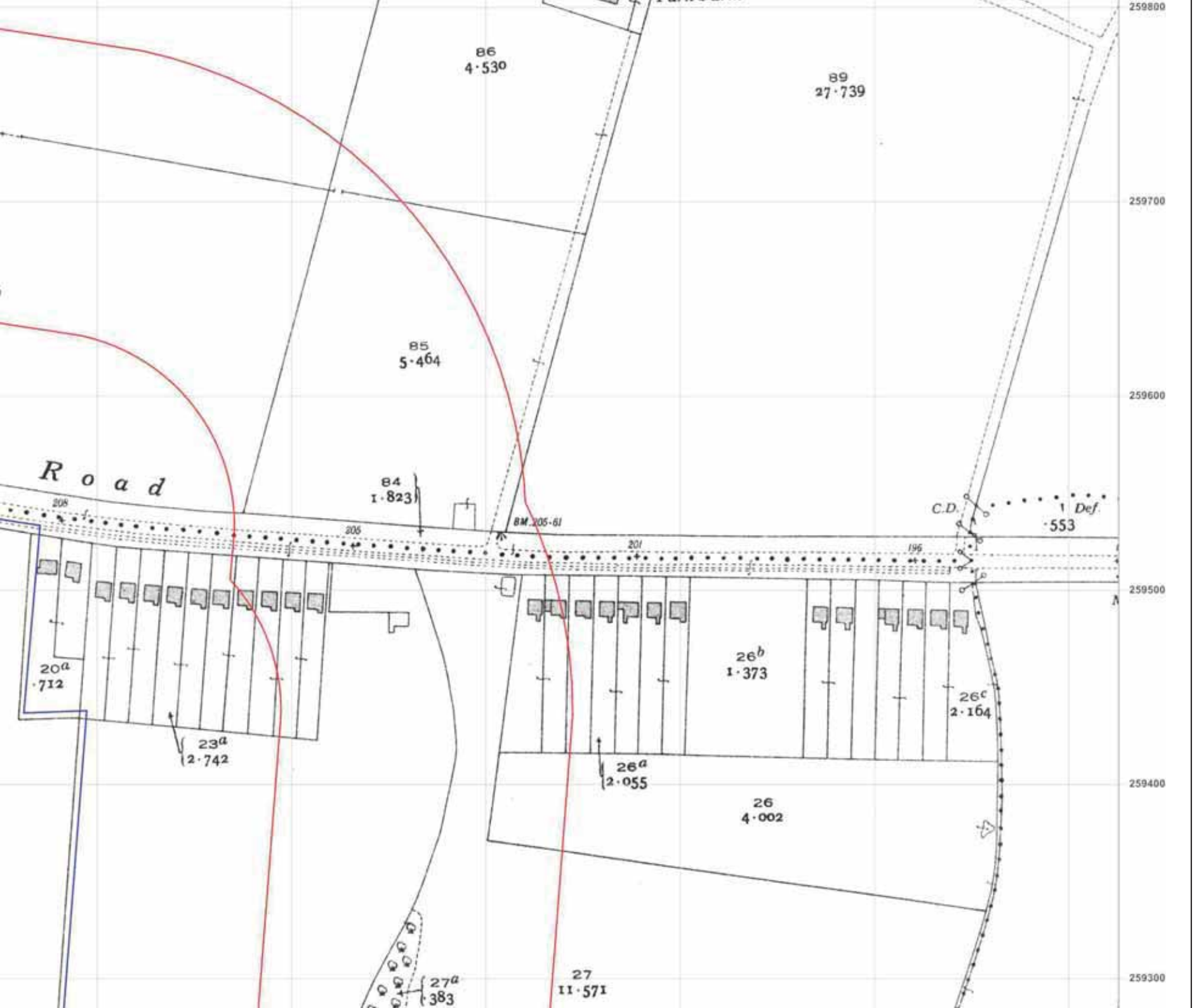

Site Details:

Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	538213, 25
Map Name:	County Seri
Map date:	**1938**
Scale:	1:2,500
Printed at:	1:2,500

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

Groundsure INSIGHTS

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 538213, 25

Map Name: National Gr

Map date: **1974-1975**

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1975
Revised 1975
Edition N/A
Copyright 1977
Levelled 1971

Groundsure INSIGHTS

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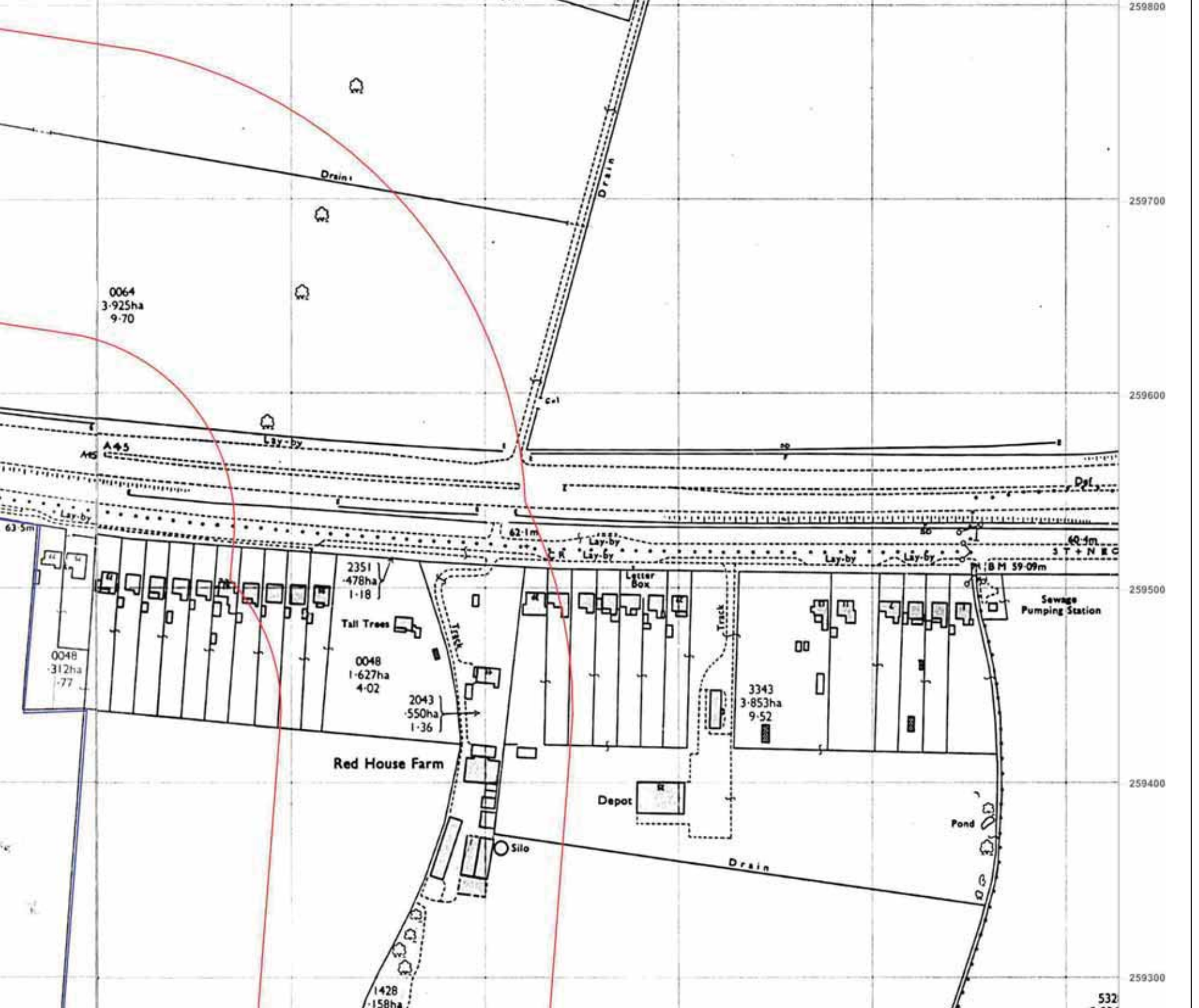

Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 538213, 25

Map Name: National Gr

Map date: 1979

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1979
Revised 1979
Edition N/A
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Levelled 1971

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Site Details:

Hardwick,CB23 7QF

Client Ref: EMS_56716
Report Ref: EMS-56716
Grid Ref: 538213, 25

Map Name: National Gr

Map date: 1980-1982

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1980
Revised 1980
Edition N/A
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Hardwick,CB23 7QF

Client Ref:	EMS_56716
Report Ref:	EMS-56716
Grid Ref:	538213, 25
Map Name:	National Gr
Map date:	**1994**
Scale:	1:2,500
Printed at:	1:2,500

Surveyed 1994
Revised N/A
Edition N/A
Copyright 1994
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Appendix 2 – UXO Risk Map

UNEXPLODED BOMB RISK MAP

SITE LOCATION

Location: CB23 7RE,
Map Centre: 537515,259233

LEGEND

- **High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- **Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- **Low:** Areas indicated as having 15 bombs per 1000acre or less.

miltary | **industry** | **UXO find**
transport | **dock** | **Luftwaffe targets**
utilities | **other**

How to use your Unexploded Bomb (UXB) risk map?

The map indicates the potential for Unexploded Bombs (UXB) to be present as a result of World War Two (WWII) bombing.

You can incorporate the map into your preliminary risk assessment* for potential Unexploded Ordnance (UXO) for a site. Using this map, you can make an informed decision as to whether more in-depth detailed risk assessment* is necessary.

What do I do if my site is in a moderate or high risk area?

Generally, we recommend that a detailed UXO desk study and risk assessment is undertaken for sites in a moderate or high UXB risk area.

More often than not, this further detailed research will conclude that the potential for a significant UXO hazard to be present on your site is actually low.

Never plan site work or undertake a risk assessment using these maps alone. More detail is required, particularly where there may be a source of UXO from other military operations which are not reflected on these maps.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirms that there is a low potential for UXO to be present on your site then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

A low risk really means that there is no greater probability of encountering UXO than anywhere else in the UK.

If you are unsure whether other sources of UXO may be present, you can ask for one of our **pre-desk study assessments (PDSA)**

If I have any questions, who do I contact?

tel: **+44 (0) 1993 886682**

email: **uxo@zetica.com**

web: **www.zeticauxo.com**

The information in this UXB risk map is derived from a number of sources and should be used in conjunction with the accompanying notes on our website: **(https://zeticauxo.com/downloads-and-resources/risk-maps/)**

It is important to note that this map is not a UXO risk assessment and should not be reported as such when reproduced.

*Preliminary and detailed UXO risk assessments are advocated as good practice by industry guidance such as CIRIA C681 'Unexploded Ordnance (UXO), a guide for the construction industry'.

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