



Tier 1: Preliminary Risk Assessment

Project Number: G0145

Project Name: Widgeham Barn, Fressingfield

Client: Louise Howie

Date: June 2023

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Databased Information

Groundsure Enviro+Geo Insight

Historical Maps

Historical Ordnance Survey Maps



Report Summary

Geotechnical and Contamination Consulting Limited (GACC) has been instructed by Jana Toogood of Hollins Architects & Surveyors on behalf of Louise Howie (the client) to conduct a Tier 1 Preliminary Risk Assessment for the proposed development project located at Widgeham Barn, Fressingfield, IP21 5PY.

The proposed development consists of the conversion of an existing barn to a new annex/holiday let.

The geology consists of glacial clay (diamicton) over sand.

Groundwater is anticipated around 7 m bgl. The local aquifers are categorised as secondary undifferentiated aquifer and principal aquifer. The site does not lie within a groundwater source protection zone.

Surface water ditches are located more than 70 m from the site.

The site is occupied by a storage barn of brick and wooden construction with clay tile roofing.

The likely presence of made ground soils and a domestic heating oil tank were the only potential source of contamination identified on site.

Based on the quantitative risk assessment all the potential source-pathway-receptor linkages are assessed as presenting a **low risk**.

No further action is considered necessary.



1 Introduction

1.1 Project Background

Geotechnical and Contamination Consulting Limited (GAC Consulting) has been instructed by Jana Toogood of Hollins Architects & Surveyors on behalf of Louise Howie (the client) to conduct a Tier 1 Preliminary Risk Assessment for the proposed development project located at Widgeham Barn, Fressingfield, IP21 5PY.

The location of the proposed development is shown on the Site Location Plan (G0145-DR01) presented in the appendix.

1.2 Development Proposal

It is understood that the proposed project consists of the conversion of an existing barn/store/studio/workshop into an annex/holiday let.

The development proposals are detailed in the Table below.

Table 1.2; Development Proposals	
Proposed Development	Detached single storey building
Proposed Use	Annex/holiday let (Residential dwelling with private gardens and hardstanding for the purpose of assessment)
Landuse Category*	Residential with potential for homegrown produce
BS8485 Building Type**	Type A
Potable water supply	Mains supply
Notes; * Standard land-uses as defined in Environment Agencies' SR3 (Environment Agency, 2009). ** ; BS 8485:2015+A1:2019	

The existing and proposed layouts are shown in the appendix in drawings G0145-DR02 through G0145-DR05.

The site is occupied by two buildings; Widgeham Barn, a barn converted for domestic use, and the barn/store/studio/workshop that is the main subject of the proposed development and planning application.

1.3 Project objectives

The objective of this investigation was to support planning application and specifically;

- To provide a Tier 1 Preliminary Risk Assessment (a desk study and risk assessment).
- To make appropriate recommendations regarding risk identification and reduction, the need for further assessment and remedial activity.

2 Preliminary Risk Assessment

The Preliminary Risk Assessment forms the first stage of an environmental assessment and aims to identify any potentially contaminative activities, either on-site or in the surrounding area, that may have occurred historically. The assessment is completed by identifying linkages between a viable source, via a given pathway, such as might impact a given receptor. Once a link is identified, a qualitative risk assessment is undertaken to determine if the risk is acceptably low or if some further action may be required to limit potential harm.



The Preliminary Risk Assessment is guided by the Environment Agencies' LCRM guidance, BS 10175 "Investigation of Potentially Contaminated Sites", CIRIA C552 "Contaminated Land Risk Assessment a Guide to Good Practice" and others.

A 'lines of evidence' approach is adopted whereby multiple sources are consulted, constituting the desk study element of the assessment, supplemented by a walkover of the site and surrounding area.

2.1 Site Setting

2.1.1 Environmental Context

Following a review of the available information, the site setting has been assessed as follows;

Table 2.1.1; Environmental Context	
Location	Grid Ref: Easting 627025 Northing 276747 What three words: ///gambles.chins.telephone
Elevation and topography	Circa 47 m aOD. The site is generally flat and level. The wider area slopes down towards the east.
Geology	
Superficial Geology	Diamicton - Lowestoft Formation
Bedrock Geology	Sand and gravel - Norwich Crag Formation
Mining	No mining activity has been recorded in the area.
Radon	Less than 1% of buildings are affected by radon gas
Hydrology	
Surface Water Features	Two ditches lie 70 to 160 m southwest and northwest of the site. A stream lies 150 m east of the site, flowing northwest.
Flooding	The site is not at risk from flooding from rivers or the sea. There is a negligible risk of flooding from surface water. There is a low risk of flooding from groundwater.
Hydrogeology	
Groundwater Source Protection Zone (SPZ) and abstraction	The site does not lie within a groundwater source protection zone. No potable groundwater/surface water abstractions have been recorded within 250 m of the site.
Aquifer designation	Various types of aquifers underlie the site, determined by the geology; Lowestoft Formation; secondary undifferentiated aquifer Norwich Crag Formation; principal aquifer The groundwater vulnerability mapping methodology (Environment Agency, 2017); provides the following definition(s). <ul style="list-style-type: none"> - Undifferentiated aquifer: This status is assigned in cases where it has not been possible to attribute either category A or B to a rock type. - Principal aquifer: Highly permeable layers, providing a water storage/supply on a strategic scale and essential base flow to rivers.
Groundwater Vulnerability	The site is designated as falling within an area of medium groundwater vulnerability. The following definition(s) are taken from the groundwater vulnerability mapping methodology (Environment Agency, 2017); <ul style="list-style-type: none"> - High vulnerability: Areas able to easily transmit pollution to groundwater. - Medium vulnerability: Intermediate between high and low vulnerability. - Low vulnerability: Areas that provide the greatest protection to groundwater from pollution.



Table 2.1.1; Environmental Context	
Groundwater depth	Groundwater is anticipated around 7 m bgl (circa 42 m aOD).
Groundwater flow direction	Unknown; groundwater may be flowing in any direction.
Anticipated groundwater conductivity	Diamicton; 1.0E-5 to 1.0E-9 m/sec
Permits, Incidents and Registers	
Permits and Authorisations	No significant permits or authorisations have been recorded.
Pollution and contamination	No Pollution Incidents have been recorded. No Contaminated Land under Part 2A EPA has been recorded.

2.1.2 Previous Reports

We have not been made aware of any previous contaminated land reports that may provide information about the site or its immediate surroundings.

Having reviewed the planning portal, no pertinent contaminated land reports have been discovered.

2.1.3 Historical Context

Following a review of historical mapping presented in the appendix, the site and surrounding area can be seen to have consisted of a predominantly agricultural area from the time of the original mapping (1884) to the current time.

The site lies around 1 km southeast of the village of Fressingfield, on the eastern side of Laxfield Road (as currently named). Throughout the period covered by the mapping the area has consisted of agricultural fields, dotted with occasional farm buildings and cottages.

The proposed development lay to the east of one such farm, labelled after 1979 as Poplar Farm.

On the early mapping, several buildings front on to what will become Laxfield Road. These buildings are "off site." One such building was demolished by 1903 with what is believed to be the original farmhouse remaining.

To the rear (east) are several outbuildings associated with the farm. The first new identifiable development is a new outbuilding first shown on the 1:2,500 scale mapping in 1979. The resolution of the 1:10,000 scale mapping is insufficient to resolve an earlier date of construction. The layout of the outbuildings remains the same until the 2003 revision. At this time, the existing Widgeham Barn and the barn/store/studio/workshop that is the subject of this investigation were mapped. Assessment of Google Earth mapping indicates these buildings were constructed by 1999.

This brought the layout of the site and immediate surroundings to match those existing today.

The following key dates have been identified;

- First development on-site - Pre 1884
- Demolition of a building of Poplar Farm (off site) - Circa 1903
- Construction of a new outbuilding - Circa 1979
- Construction of the existing Widgeham Barn and barn/store/studio/workshop - Circa 1999

2.1.4 Site Reconnaissance Walkover

A walkover of the site was conducted on 23rd June 2023 in order to establish the current condition of the site and surrounding land to aid in identifying source-pathway-receptor linkages. The data collected during the walkover is presented in the table below.



The walkover focused on the barn/store/studio/workshop that is the subject of this investigation and not the previously converted Widgeham Barn.

Table 2.1.4: Site Reconnaissance Walkover	
Current Site Use	The subject barn consisted of a building currently used as a store, studio and workshop. In recent years, the buildings appeared to have been used for general storage.
Housekeeping	The site including inside the barn was tidy. Inside the barn, gardening materials were being stored.
Surfacing	Outside; Concrete surfacing to the south and southwest with gravel to the north and southeast. Inside; Concrete flooring covered with carpet and wood.
Description of any Buildings	A single to one and a half storey barn with masonry half storey walls with wooden siding and clay roof tiles. Rainwater guttering was of plastic.
Contaminative Sources	The only potential source of contamination was a heating oil tank located south of Widgeham Barn on the western side of the site. The tank was a modern plastic internally banded tank on a concrete pad. No staining was noted on the top or sides of the tank, near the filling opening or on the concrete pad. No other sources of contamination were noted during the walkover either on or off site. No staining of the flooring or walls was noted. No odours were noted. No other tanks or interceptors were seen or suspected to have been present historically. No asbestos containing materials were observed on the site or in the building fabric. No potentially contaminative materials storage was observed.
Demolished buildings	No evidence of demolished buildings was noted on site though from the mapping are known to have existed historically.

2.2 Qualitative Environmental Risk Assessment

The qualitative risk assessment is completed by identifying potential contaminative sources, migratory pathways and potentially sensitive receptors.

In the context of this risk assessment, the site has not been zoned, with a single proposed land use applied to the site as a whole.

2.2.1 Source – Pathway – Receptor Identification

2.2.1.1 Potential Contamination Sources

After a review of various lines of evidence (e.g. historical mapping, environmental database, site reconnaissance and regulatory contact), potential sources of contamination have been identified. These sources are summarised in the table below. Repeated sources have been omitted.

The following potential sources have been identified:

- A thin layer of general made ground arising from demolition of the historical buildings. Source ID – S1.
- Domestic oil tank associated with Widgeham Barn. Source ID – S2.



2.2.1.2 Contaminants of Concern

Potential contaminants are listed based on the potential sources identified. The “key contaminants” are tabulated below and should be considered as part of the human health and environmental risk assessment.

Table 2.2.1.2; Contaminants of Concern			
Potentially Impacted Media	Source ID		Key Contaminants and Parameters to consider
	S1	S2	
Soil	X		Metals (As, B, Be, Cd, Cr, Cu, Hg, Ni, Pb, Se, Zn, V)
		X	Petroleum Hydrocarbons (TPH-CWG, BTEX)
	X		Polycyclic Aromatic Hydrocarbons (speciated PAHs)

2.2.1.3 Potential Pathways

Pathway identification is an essential element of the risk assessment process. Pathways represent the way a contaminant may move from a source area to impact a potential receptor. A pathway may involve a straightforward process, such as touching contaminated material (i.e. direct contact) or multiple complex stages involving physical state change, migration and physical processes. Conceptualising pathways can be important as remediation often involves pathway interference.

Based on the environmental context set out in section 2.1.1, the potential source of contamination and the contaminants of potential concern, the following contaminative pathways are considered viable routes by which contaminants may impact human and environmental receptors;

Table 2.2.1.3; Potential Pathways	
Contaminated soil	
Ingestion of contaminated soil and dust (e.g. eating with dirty hands or biting fingernails)	
Ingestion of contaminated soil via eating homegrown vegetables	
Dermal absorption via contaminated soil on the skin (direct contact)	
Inhalation of contaminated dust	
Leaching and contaminated groundwater	
Ingestion of contaminated potable water via water supply pipes	
Ingestion of contaminated potable water via a source protection zone (SPZ)	
Surface run-off discharging into surface water bodies impacting aquatic environments	
Contaminated aquifer impacting aquatic environments	
Mobilisation of solid and liquid contaminants due to changes in groundwater level/flooding	

2.2.1.4 Potential Receptors

The following receptors, shown in Table 2.2.1.4, have been identified as potentially sensitive to contamination;

Table 2.2.1.4; Potential Receptors	
Human Health Receptors	
Residents, following construction	Rh1
Neighbouring residents, during and following construction	Rh2
Temporary occupation and visitors, during and following construction.	Rh3
Groundworkers, during construction	Rh4
Potable water supply: Contaminated potable water (groundwater source protection zones)	Rh5
Environmental Receptors	
Aquatic Environments - Surface waters	Re1
Aquatic Environments - Aquifers	Re2
Flora and Fauna	Re3



The risk to temporary occupants and visitors to the site (Rh3) (e.g. trespassers) is difficult to precisely assess due to the short-term nature and unpredictable interaction with contamination sources. As a conservative assessment, temporary occupants of the site are considered to be as susceptible as residents.

The risk to groundworkers (Rh4) during construction has not been considered and should be addressed through separate health and safety risk assessment and management procedures.

Though phytotoxic contaminants (e.g. copper) may pose a risk to flora (Re3), no standards are known that specifically protect flora and fauna. For simplicity, flora and fauna receptors are assumed to be less sensitive than other receptors on the site (e.g. residents/employees).

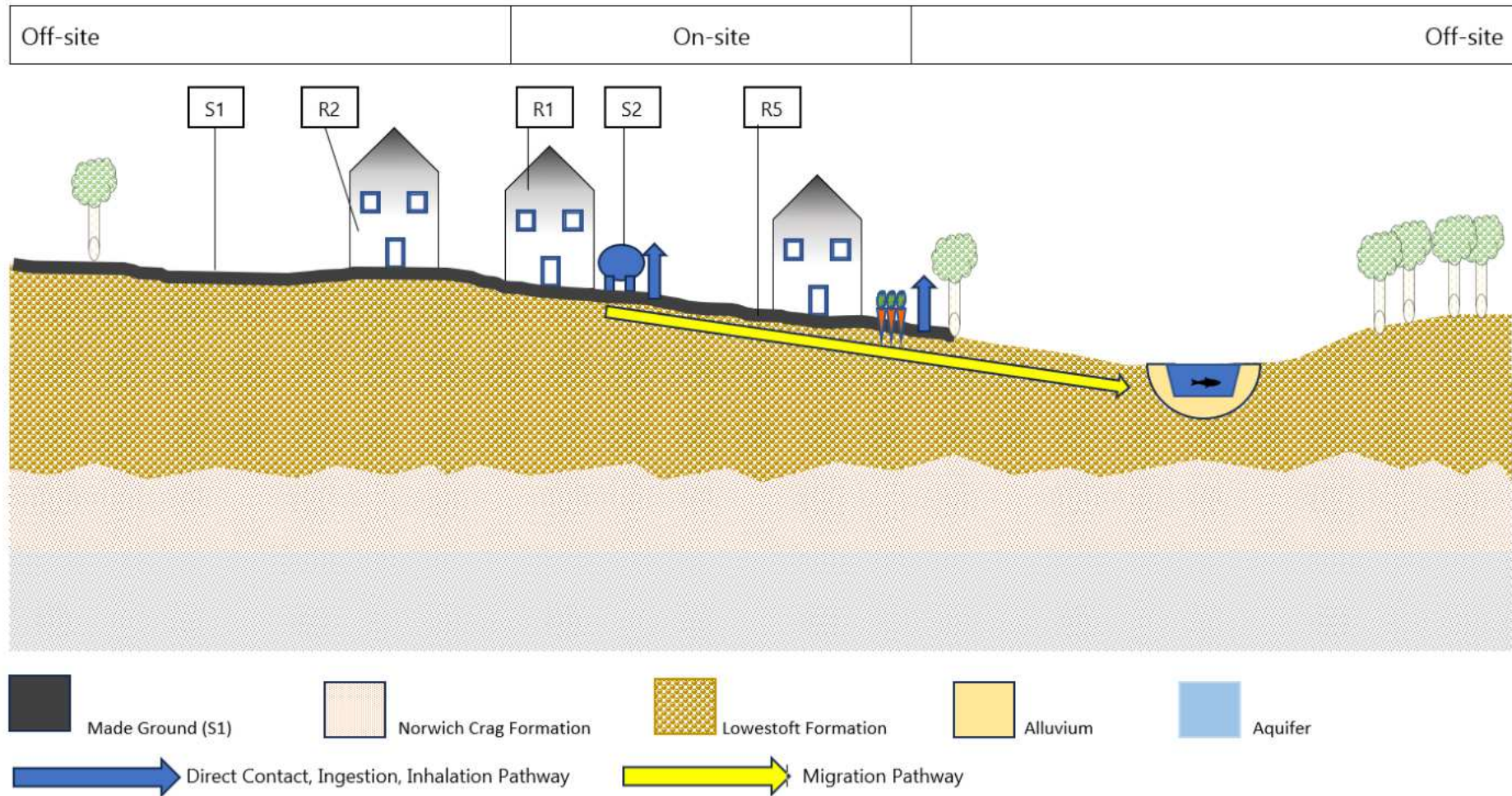
2.2.2 Conceptual Site Model

2.2.2.1 Schematic Cross-Section

The following figure aims to illustrate the site in cross-section and demonstrate the most significant source-pathway-receptor linkages, should the site be developed in its current state (without specific remediation or engineered mitigation)



Figure 2.2.2.1; Schematic Cross-Section





2.2.2.2 Qualitative Risk Assessment

Qualitative risk assessment considers the likelihood and the consequence of a given source-pathway-receptor linkage being completed, in order to determine an overall risk category.

The assessment is adapted from the methodology set out in CIRIA 552 ([CIRIA, 2001](#)). The following definitions have been adopted;

Probability; The probability of a source-pathway-receptor link being completed	
Unlikely	A source-pathway-receptor linkage is plausible; however, it is improbable that the linkage will be completed within the design life of the development.
Low Likelihood	It is less likely than likely that the source-pathway-receptor linkage will be completed within the design life of the development.
Likely	It is more likely than not that the source-pathway-receptor linkage will be completed within the design life of the development.
High Likelihood	The source-pathway-receptor linkage is either observed, very likely in the short term and almost certain to occur within the design life of the development.
Consequence; The consequences if a source-pathway-receptor link were to be completed	
Less significant	<ul style="list-style-type: none"> • Non-permanent human health effects. • Cosmetic damage to buildings, structures and services. • No or small financial loss/expenditure to resolve harm. Simple construction solutions may be required to mitigate risk. • Environmental damage that is naturally reversible in the short term.
Superficial	<ul style="list-style-type: none"> • Superficial chronic human health effects • Easily repairable damage to buildings, structures and services. • Moderate financial loss or expenditure to resolve harm. Common engineering solutions may be required to mitigate risk. • Environmental pollution that will not naturally recover in the short term.
Serious	<ul style="list-style-type: none"> • Chronic human health effects resulting in "significant" harm. • Substantial damage to buildings, structures and services. • High financial loss or expenditure to resolve harm. Complex engineering solutions may be required to mitigate risk. • Environmental pollution that will not naturally recover even in the long term.
Severe	<ul style="list-style-type: none"> • Human health effects resulting in very serious harm, cancer or death. • Catastrophic damage to buildings, structures and services. Intensive and detailed study, design and implementation of engineering solutions may be required. • Very high or unquantifiable financial loss or expenditure to resolve harm. • "Significant" environmental harm as defined by the Environmental Protection Act 1990. • Legal action, including fines and penalties, may be taken against responsible entities.



Risk category definitions	
Low Risk	An S-P-R linkage is present: However, it is generally less likely to occur, and any consequence would be relatively mild. Breaking the S-P-R linkage might not be essential; however, doing so might be advantageous in reducing liability and commercial risk.
Moderate Risk	The probability of the linkage being completed may range from unlikely to highly likely while any consequences may be mild to severe. Further investigation is likely to be necessary in order to understand the risks better and determine whether mitigation measures are required.
High Risk	The probability of the S-P-R linkage being completed is more likely than not while the consequence may be significant. Mitigation measures will most likely be required to reduce or remove the risk. Further investigation and risk assessment will aid in determining the best course of action.
Very High Risk	There is a high likelihood that the S-P-R linkage has been or will be completed and that severe harm may result. Mitigation measures will almost certainly be needed to reduce or remove the risk. Further investigation and risk assessment will aid in determining the best course of action.

The definitions above are used within the following risk matrix to apply a risk category to each source-pathway-receptor linkage.

	Consequence			
Probability	Less significant	Superficial	Serious	Severe
Unlikely	Low risk	Low risk	Moderate risk	Moderate risk
Low Likelihood	Low risk	Moderate risk	Moderate risk	Moderate risk
Likely	Moderate risk	Moderate risk	High risk	High risk
High Likelihood	Moderate risk	Moderate risk	High risk	Very high risk

The risk posed to the identified sensitive receptors from potential sources of contamination is qualitatively assessed in Table 2.2.2.2 below. Qualitative risk assessment is by its nature, subjective, and as such, it is possible to argue a range of potential consequences and resultant risk categories. The assessment is completed based on our professional judgment and aims to provide a pragmatic assessment of realistic scenarios rather than assuming best or worse case forecasting.



Table 2.2.2.2; Source-Pathway-Receptor qualitative risk assessment							
Impacted Media	Source ID	Pathways	S-P-R Inhibitor	Receptor	Probability	Consequence	Risk Category
Contaminated soil	S1, S2	Ingestion of contaminated soil and dust	-	Residents	Unlikely	Less significant	Low risk
	S1, S2	Ingestion via eating homegrown vegetables	-	Residents	Unlikely	Less significant	Low risk
	S1, S2	Dermal absorption via contaminated soil	-	Residents	Unlikely	Less significant	Low risk
	S1, S2	Inhalation of contaminated dust	-	Residents Neighbours	Unlikely	Less significant	Low risk
	S1, S2	Inhalation of asbestos fibres	No ACMs observed or suspected.	Residents Neighbours	Nil		
Leaching and contaminated groundwater	S1, S2	Ingestion of contaminated potable water via water supply pipes	-	Residents	Unlikely	Less significant	Low risk
	S1, S2	Ingestion of contaminated potable water via a source protection zone (SPZ)	No SPZ	Potable water	Nil		
	S1, S2	Surface run-off discharging into surface water bodies	Surface water >70 m from site	Aquatic environments	Unlikely	Less significant	Low risk
	S1, S2	Contaminated aquifer impacting aquatic environments	Groundwater >5 m deep. Diamicton will act as a partial aquitard with a medium groundwater vulnerability assigned	Aquatic environments	Unlikely	Less significant	Low risk
	S1, S2	Mobilisation of solid and liquid contaminants due to changes in groundwater level/flooding	Negligible flood risk	Residents Neighbours	Nil		
Permanent and volatile gasses	S2	Inhalation of volatile gas	-	Residents Neighbours	Unlikely	Superficial	Low risk
	No source identified	Explosion of volatile gas	-		Nil		
		Inhalation of permanent gases	-		Nil		
		Explosion of flammable permanent gas	-		Nil		



3 Conclusions and Recommendations

Two potential sources of contamination have been identified; general made ground (S1) and an above ground heating oil tank (S2).

The composition of made ground (S1) is unknown, by definition. However, given the age and likely construction of the demolished buildings and the agricultural use of the site, it is unlikely that significant concentrations of contamination are present that may pose a significant risk to sensitive receptors.

The tank (source S2) was of modern plastic internally bunded construction on a concrete pad. No staining was noted on the top or sides of the tank, near the filling opening or on the concrete pad. It is unlikely that the source poses a significant risk to sensitive receptors.

Based on the risk assessment completed in Table 2.2.2.2, all the potential source-pathway-receptor linkages are assessed as presenting a **low risk** to potential receptors.

As such, no significant risk is considered likely to impact future users from contaminated soils and no further action is considered necessary.



4 Limitations and Closing Statement

Unless otherwise stated, a radius of approximately 250m has been adopted as the physical limit of this environmental investigation. Sources of contamination dating from before the earliest source of information (historical mapping dating from 1884) have not been assessed. No comment is made as to the impact on the site from activities outside of the physical limit (surrounding area) or from sources predating the earliest available information.

This report is prepared for the sole use of the client, as stated above, in accordance with the scope agreed under separate cover. No responsibility or liability is accepted for the use of this report either in whole or in part by third parties. Written authorisation of reliance can be provided under separate cover upon request.

The conclusions presented herein are based on information gathered from multiple sources including but not limited to the client and their representatives, in-house and existing knowledge, third parties (including historical mapping, databased information and public and private online sources) and site visits. Though an effort has been made to use reputable sources and checks made on the validity of information, the information used in this assessment is assumed to be accurate. In the event that the information used is inaccurate or misrepresented, we accept no responsibility for erroneous assessment. Should new information come to light that contradicts or enhances this assessment, we welcome the opportunity to complete a reassessment, to the satisfaction of all parties.

This report assumes the competency of the readership and is intended to facilitate sufficiently experienced and competent individuals and organisations to apply best practice within their professional field of expertise. It is not intended to act as a replacement for experience and competence. We are happy to revise any aspect of this report following discussion with appropriately experienced and competent specialists.

GACC assumes the readership understands and accepts the limitations of the scope of this investigation, including those imposed by time and budgetary considerations that may materially affect the methodology, conclusions and recommendations.

We trust the findings of this investigation meet the requirements of the project objectives, set out above, to be used in isolation or combination with other such reports to address any outstanding requirements of the project described herein.

For Geotechnical and Contamination Consulting

Philip Price, B.Sc. FGS, RSoBRA



References

- BSI Standards Publication. (2011). Investigation of potentially contaminated sites. Code of practice. (BS 10175:2011+A2:2017)
- BSI Standards Publication (2015). Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings. (BS 8485:2015+A1:2019)
- CIRIA. (2001). Contaminated Land Risk Assessment. A Guide to Good Practice. (C552)
- CL:AIRE. (2017) Petroleum Hydrocarbons in Groundwater: Guidance on Assessing Petroleum Hydrocarbons using existing hydrogeological risk assessment methodologies.
- Environment Agency. (2017). New groundwater vulnerability mapping methodology in England and Wales. (SC040016/R)
- Environment Agency. (2019). Land contamination: risk management. (LCRM)



Abbreviations

ACM	Asbestos Containing Material	Rn	Radon
aOD	above Ordnance Datum	S	south
API	American Petroleum Institute	SE	southeast
As	Arsenic	Se	Selenium
AST	Above Ground Storage Tank	SOM	Soil organic matter
B	Boron	TIC	Tentatively Identified Compounds
Be	Beryllium	TOC	Total Organic Carbon
bgl	below ground level	TPH	Total Petroleum Hydrocarbon
BGS	British Geological Survey	TPOs	Tree Protection Order
BTEX	Benzene, Toluene, Ethylbenzene & Xylenes	US EPA	United States Environmental Protection Agency
Cd	Cadmium	UST	Underground Storage Tank
CH4	Methane	V	Vanadium
CO	Carbon Monoxide	VOA	Volatile organic analysis
CO2	Carbon Dioxide	VOC	Volatile organic compounds
Cr	Chromium	W	west
CSM	Conceptual Site Model	Zn	Zinc
Cu	Copper		
CWG	Criteria Working Group		
DCE	Dichloroethane		
DNAPL	Dense non-aqueous phase liquid		
DWS	Drinking Water Standards		
E	East		
EA	Environment Agency		
ESA	Environmental Site Assessment		
EQS	Environmental Quality Standards		
GI	Ground Investigation		
H	Hydrogen		
H2S	Hydrogen sulphide		
Hg	Mercury		
LNAPL	Light non-aqueous phase liquid		
m	Metres		
m/sec	metres per second		
mb	millibar		
MTBE	Methyl tert-butyl ether		
N	North		
N2	Nitrogen		
NE	northeast		
Ni	Nickle		
NW	northwest		
O2	Oxygen		
OS	ordnance survey		
PAH	Polycyclic aromatic hydrocarbons		
Pb	Lead		
PCB	Polychlorinated biphenyls		
PCE	Perchloroethylene		
PFHxS	Perfluorohexane Sulfonate		
PFOA	Perfluorooctanesulfonic acid		
PFOS	Perfluorooctanesulfonate		
PID	Photo Ionisation Detector		
PSC	Potential Sources of Contamination		
PRA	Preliminary Risk Assessment		



Appendices

Drawings

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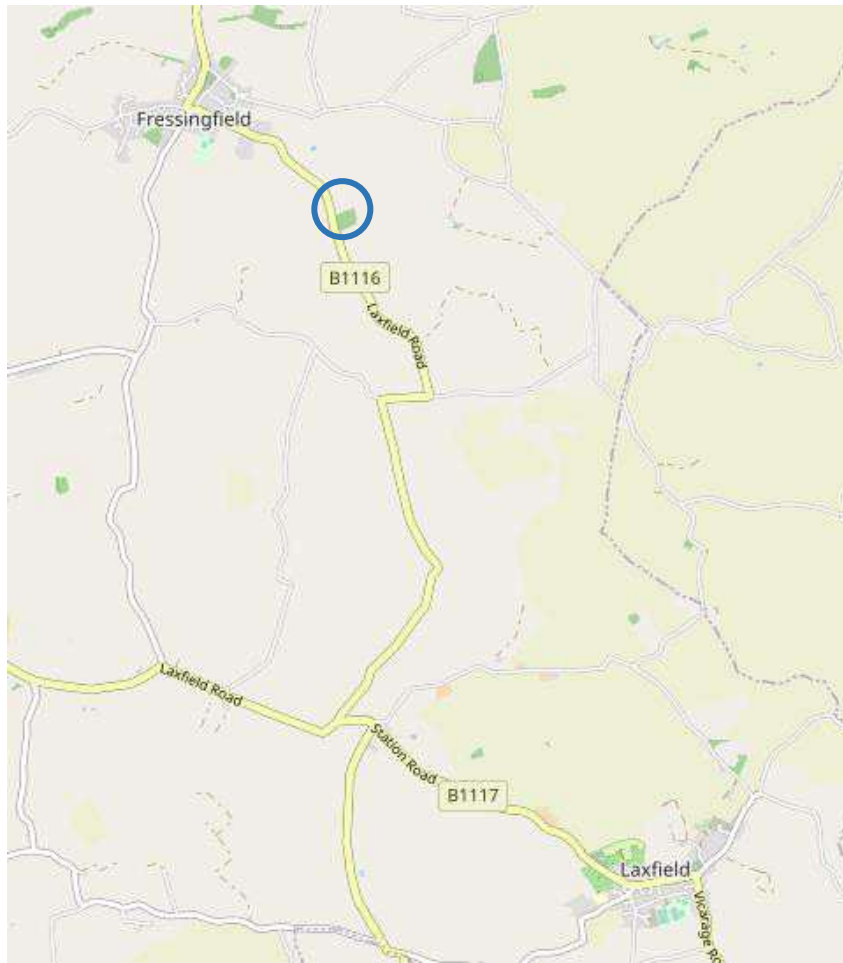


Drawings



Drawing Title: Site Location Plan

Drawing Number: G0145-DR01

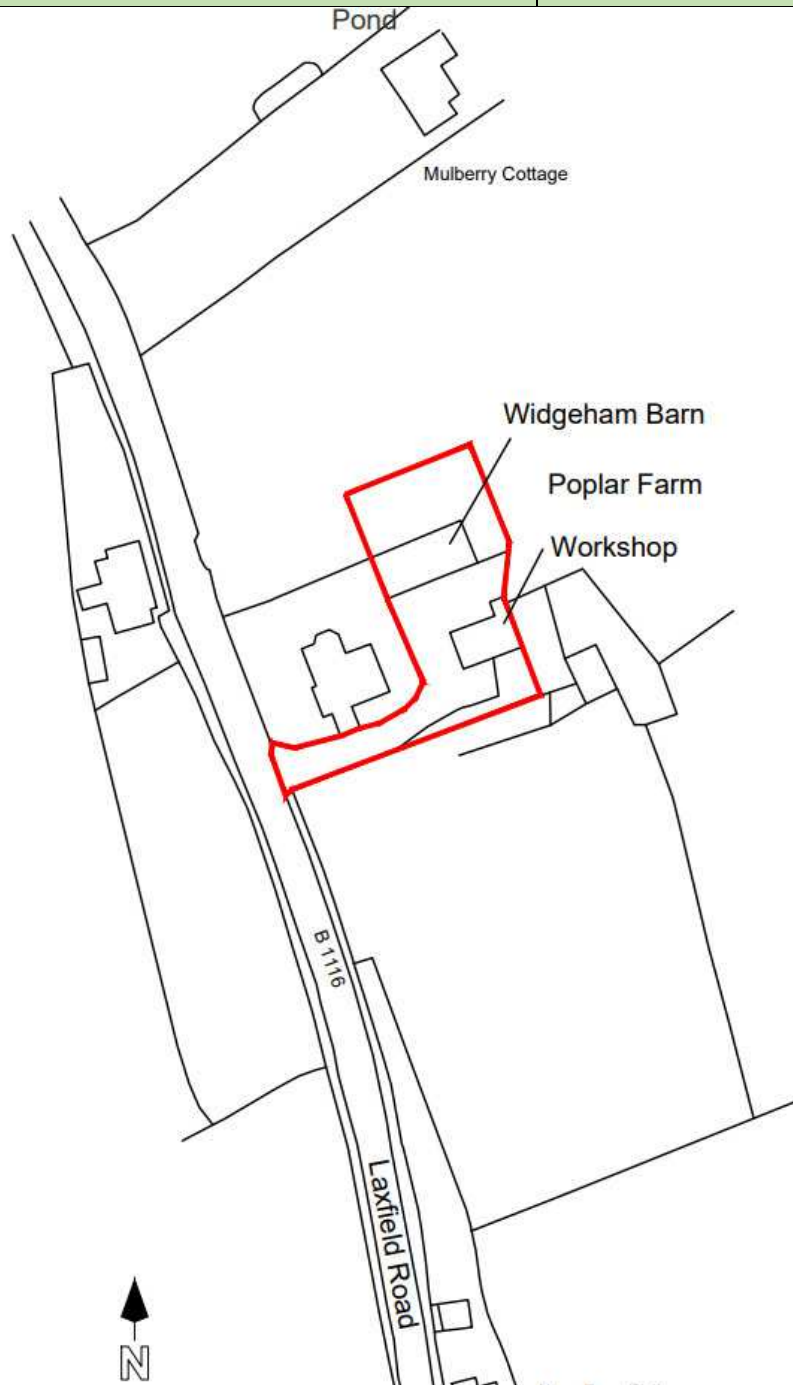


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Drawing Title: Existing Layout

Drawing Number: G0145-DR02

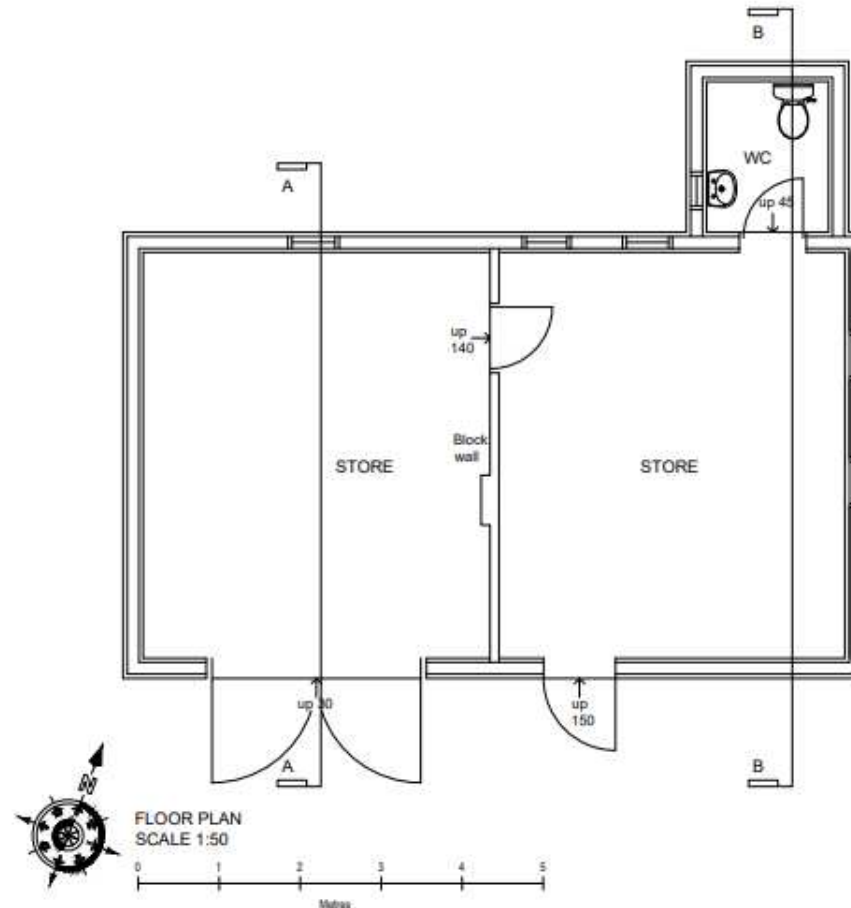


Architectural and Building Consultants Design Partnership



Drawing Title: Existing Layout

Drawing Number: G0145-DR03

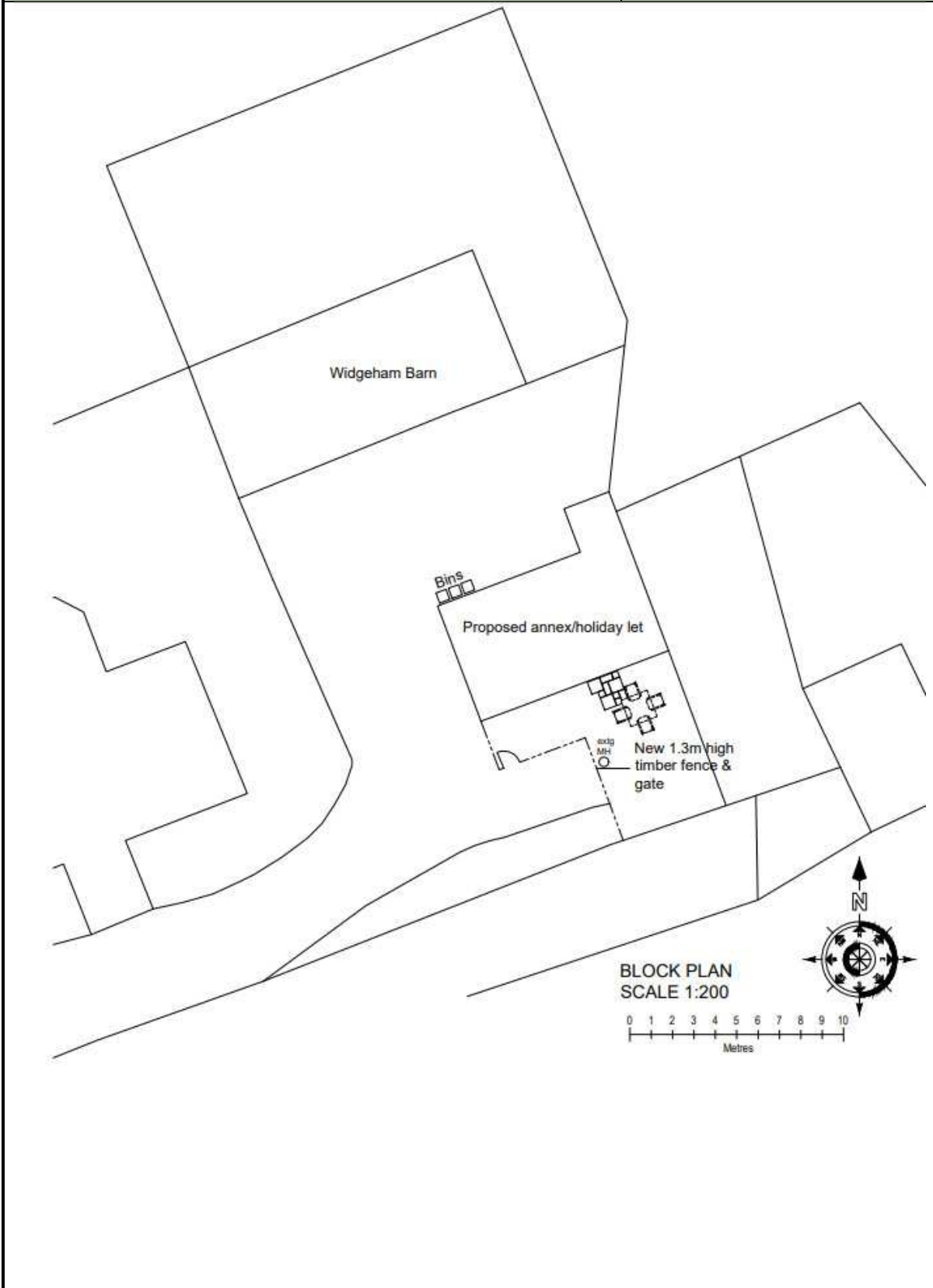


Architectural and Building Consultants Design Partnership



Drawing Title: Development Plan - Proposed Layout

Drawing Number: G0145-DR04

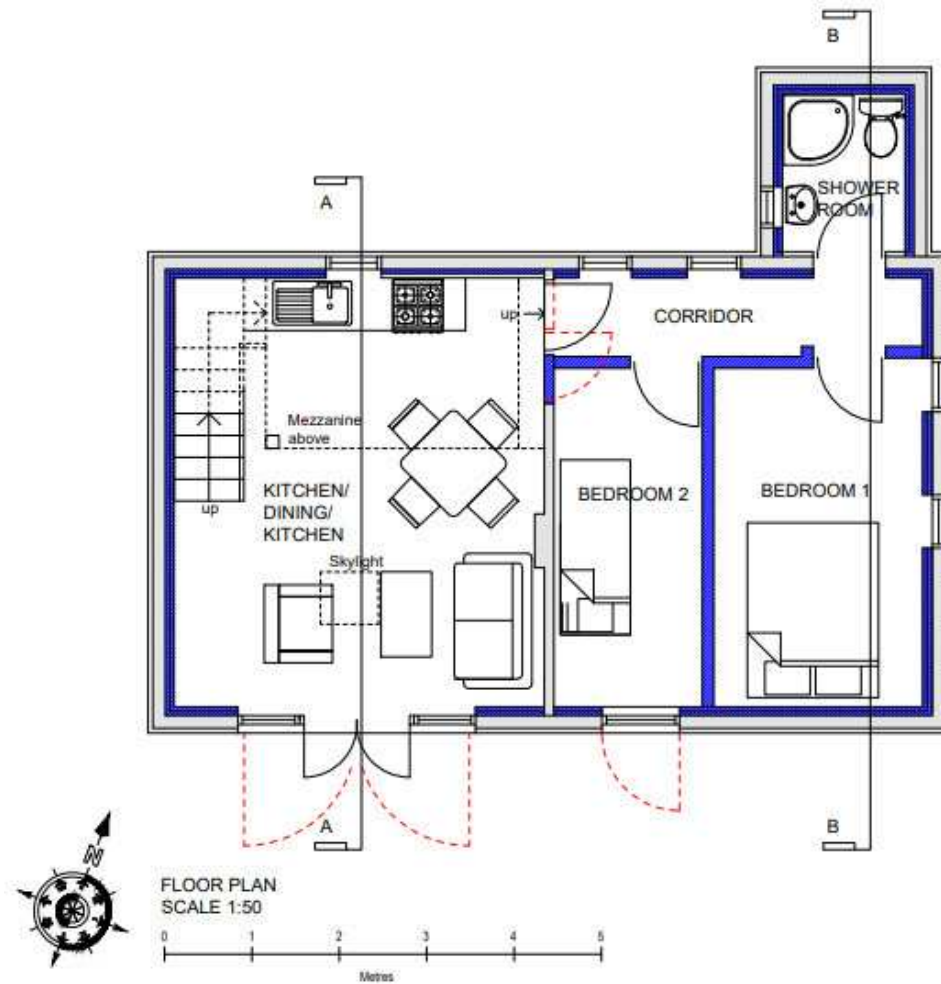


Architectural and Building Consultants Design Partnership



Drawing Title: Development Plan - Proposed Layout

Drawing Number: G0145-DR05



Architectural and Building Consultants Design Partnership



Site Reconnaissance Walkover and Photographs



Photo 1 – Barn and hardstanding – Southern and Western Elevations



Photo 2 – Plastic internally banded heating oil tank



Databased Information

WIDGEHAM BARN, LAXFIELD ROAD, FRESSINGFIELD, IP21 5PY

Order Details

Date: 21/06/2023
Your ref: G0145
Our Ref: GS-23V-49F-BM6-2B8

Site Details

Location: 627025 276747
Area: 0.08 ha
Authority: [Mid Suffolk District Council](#) ↗



Summary of findings

[p. 2 >](#)

Aerial image

[p. 9 >](#)

OS MasterMap site plan

[p.13 >](#)

groundsure.com/insightuserguide ↗

Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	Historical industrial land uses	0	0	0	0	-
14	1.2	Historical tanks	0	0	0	0	-
14	1.3	Historical energy features	0	0	0	0	-
15	1.4	Historical petrol stations	0	0	0	0	-
15	1.5	Historical garages	0	0	0	0	-
15	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
16	2.1	Historical industrial land uses	0	0	0	0	-
16	2.2	Historical tanks	0	0	0	0	-
16	2.3	Historical energy features	0	0	0	0	-
16	2.4	Historical petrol stations	0	0	0	0	-
17	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
18	3.1	Active or recent landfill	0	0	0	0	-
18	3.2	Historical landfill (BGS records)	0	0	0	0	-
18	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
18	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
18	3.5	Historical waste sites	0	0	0	0	-
19	3.6	Licensed waste sites	0	0	0	0	-
19	3.7	Waste exemptions	0	0	0	0	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
20	4.1	Recent industrial land uses	0	0	0	-	-
20	4.2	Current or recent petrol stations	0	0	0	0	-
20	4.3	Electricity cables	0	0	0	0	-
20	4.4	Gas pipelines	0	0	0	0	-
20	4.5	Sites determined as Contaminated Land	0	0	0	0	-



21	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
21	4.7	Regulated explosive sites	0	0	0	0	-
21	4.8	Hazardous substance storage/usage	0	0	0	0	-
21	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
21	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
22	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
22	4.12	Radioactive Substance Authorisations	0	0	0	0	-
22	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
22	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
22	4.15	Pollutant release to public sewer	0	0	0	0	-
23	4.16	List 1 Dangerous Substances	0	0	0	0	-
23	4.17	List 2 Dangerous Substances	0	0	0	0	-
23	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
23	4.19	Pollution inventory substances	0	0	0	0	-
23	4.20	Pollution inventory waste transfers	0	0	0	0	-
24	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
25 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
27 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
28 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
29	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
29	5.5	Groundwater vulnerability- local information	None (within 0m)				
30	5.6	Groundwater abstractions	0	0	0	0	0
30	5.7	Surface water abstractions	0	0	0	0	0
30	5.8	Potable abstractions	0	0	0	0	0
30	5.9	Source Protection Zones	0	0	0	0	-
31	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
32 >	6.1 >	Water Network (OS MasterMap) >	0	0	6	-	-



33 >	6.2 >	Surface water features >	0	0	5	-	-
33 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
34 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
34 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
35	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
35	7.2	Historical Flood Events	0	0	0	-	-
35	7.3	Flood Defences	0	0	0	-	-
36	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
36	7.5	Flood Storage Areas	0	0	0	-	-
37	7.6	Flood Zone 2	None (within 50m)				
37	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
38	8.1	Surface water flooding	Negligible (within 50m)				
Page	Section	Groundwater flooding >					
39 >	9.1 >	Groundwater flooding >	Low (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
40 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	1
41	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
41	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
41	10.4	Special Protection Areas (SPA)	0	0	0	0	0
41	10.5	National Nature Reserves (NNR)	0	0	0	0	0
42	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
42 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	1
42	10.8	Biosphere Reserves	0	0	0	0	0
42	10.9	Forest Parks	0	0	0	0	0
43	10.10	Marine Conservation Zones	0	0	0	0	0
43	10.11	Green Belt	0	0	0	0	0
43	10.12	Proposed Ramsar sites	0	0	0	0	0



43	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
43	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
44	10.15	Nitrate Sensitive Areas	0	0	0	0	0
44 >	10.16 >	Nitrate Vulnerable Zones >	1	0	0	0	1
45 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
46 >	10.18 >	SSSI Units >	0	0	0	0	1
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
47	11.1	World Heritage Sites	0	0	0	-	-
48	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
48	11.3	National Parks	0	0	0	-	-
48 >	11.4 >	Listed Buildings >	0	0	1	-	-
49	11.5	Conservation Areas	0	0	0	-	-
49	11.6	Scheduled Ancient Monuments	0	0	0	-	-
49	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
50 >	12.1 >	Agricultural Land Classification >	Grade 3 (within 250m)				
51	12.2	Open Access Land	0	0	0	-	-
51	12.3	Tree Felling Licences	0	0	0	-	-
51	12.4	Environmental Stewardship Schemes	0	0	0	-	-
51 >	12.5 >	Countryside Stewardship Schemes >	0	1	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
52	13.1	Priority Habitat Inventory	0	0	0	-	-
52	13.2	Habitat Networks	0	0	0	-	-
52	13.3	Open Mosaic Habitat	0	0	0	-	-
52	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
53 >	14.1 >	10k Availability >	Identified (within 500m)				
54	14.2	Artificial and made ground (10k)	0	0	0	0	-
55	14.3	Superficial geology (10k)	0	0	0	0	-



55	14.4	Landslip (10k)	0	0	0	0	-
56	14.5	Bedrock geology (10k)	0	0	0	0	-
56	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	<u>Geology 1:50,000 scale</u> >	On site	0-50m	50-250m	250-500m	500-2000m
<u>57</u> >	<u>15.1</u> >	<u>50k Availability</u> >	Identified (within 500m)				
58	15.2	Artificial and made ground (50k)	0	0	0	0	-
58	15.3	Artificial ground permeability (50k)	0	0	-	-	-
<u>59</u> >	<u>15.4</u> >	<u>Superficial geology (50k)</u> >	1	0	1	1	-
<u>60</u> >	<u>15.5</u> >	<u>Superficial permeability (50k)</u> >	Identified (within 50m)				
60	15.6	Landslip (50k)	0	0	0	0	-
60	15.7	Landslip permeability (50k)	None (within 50m)				
<u>61</u> >	<u>15.8</u> >	<u>Bedrock geology (50k)</u> >	1	0	0	1	-
<u>62</u> >	<u>15.9</u> >	<u>Bedrock permeability (50k)</u> >	Identified (within 50m)				
62	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
63	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	<u>Natural ground subsidence</u> >					
<u>64</u> >	<u>17.1</u> >	<u>Shrink swell clays</u> >	Low (within 50m)				
<u>65</u> >	<u>17.2</u> >	<u>Running sands</u> >	Very low (within 50m)				
<u>66</u> >	<u>17.3</u> >	<u>Compressible deposits</u> >	Negligible (within 50m)				
<u>67</u> >	<u>17.4</u> >	<u>Collapsible deposits</u> >	Very low (within 50m)				
<u>68</u> >	<u>17.5</u> >	<u>Landslides</u> >	Very low (within 50m)				
<u>69</u> >	<u>17.6</u> >	<u>Ground dissolution of soluble rocks</u> >	Negligible (within 50m)				
Page	Section	Mining and ground workings	On site	0-50m	50-250m	250-500m	500-2000m
71	18.1	BritPits	0	0	0	0	-
71	18.2	Surface ground workings	0	0	0	-	-
71	18.3	Underground workings	0	0	0	0	0
71	18.4	Underground mining extents	0	0	0	0	-
72	18.5	Historical Mineral Planning Areas	0	0	0	0	-



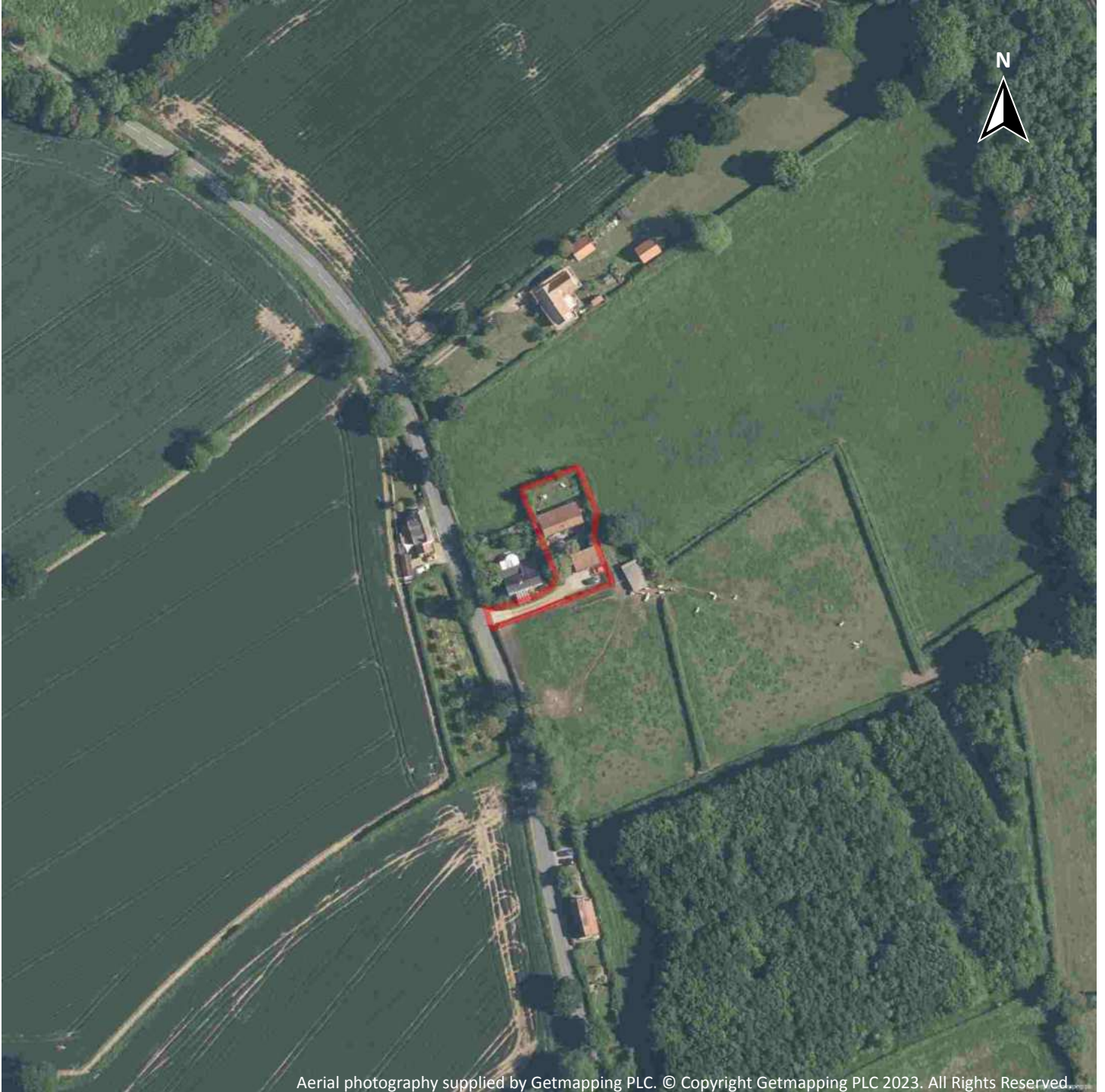
72	18.6	Non-coal mining	0	0	0	0	0
72	18.7	JPB mining areas	None (within 0m)				
72	18.8	The Coal Authority non-coal mining	0	0	0	0	-
73	18.9	Researched mining	0	0	0	0	-
73	18.10	Mining record office plans	0	0	0	0	-
73	18.11	BGS mine plans	0	0	0	0	-
73	18.12	Coal mining	None (within 0m)				
73	18.13	Brine areas	None (within 0m)				
74	18.14	Gypsum areas	None (within 0m)				
74	18.15	Tin mining	None (within 0m)				
74	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
75	19.1	Natural cavities	0	0	0	0	-
75	19.2	Mining cavities	0	0	0	0	0
75	19.3	Reported recent incidents	0	0	0	0	-
75	19.4	Historical incidents	0	0	0	0	-
76	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
77 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
79 >	21.1 >	BGS Estimated Background Soil Chemistry >	2	0	-	-	-
79	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
79	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
80	22.1	Underground railways (London)	0	0	0	-	-
80	22.2	Underground railways (Non-London)	0	0	0	-	-
80	22.3	Railway tunnels	0	0	0	-	-
80	22.4	Historical railway and tunnel features	0	0	0	-	-
80	22.5	Royal Mail tunnels	0	0	0	-	-



81	22.6	Historical railways	0	0	0	-	-
81	22.7	Railways	0	0	0	-	-
81	22.8	Crossrail 1	0	0	0	0	-
81	22.9	Crossrail 2	0	0	0	0	-
81	22.10	HS2	0	0	0	0	-



Recent aerial photograph



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Capture Date: 13/06/2021

Site Area: 0.08ha



Recent site history - 2018 aerial photograph



Capture Date: 04/05/2018

Site Area: 0.08ha



Recent site history - 2014 aerial photograph



Capture Date: 18/05/2014

Site Area: 0.08ha



Recent site history - 1999 aerial photograph

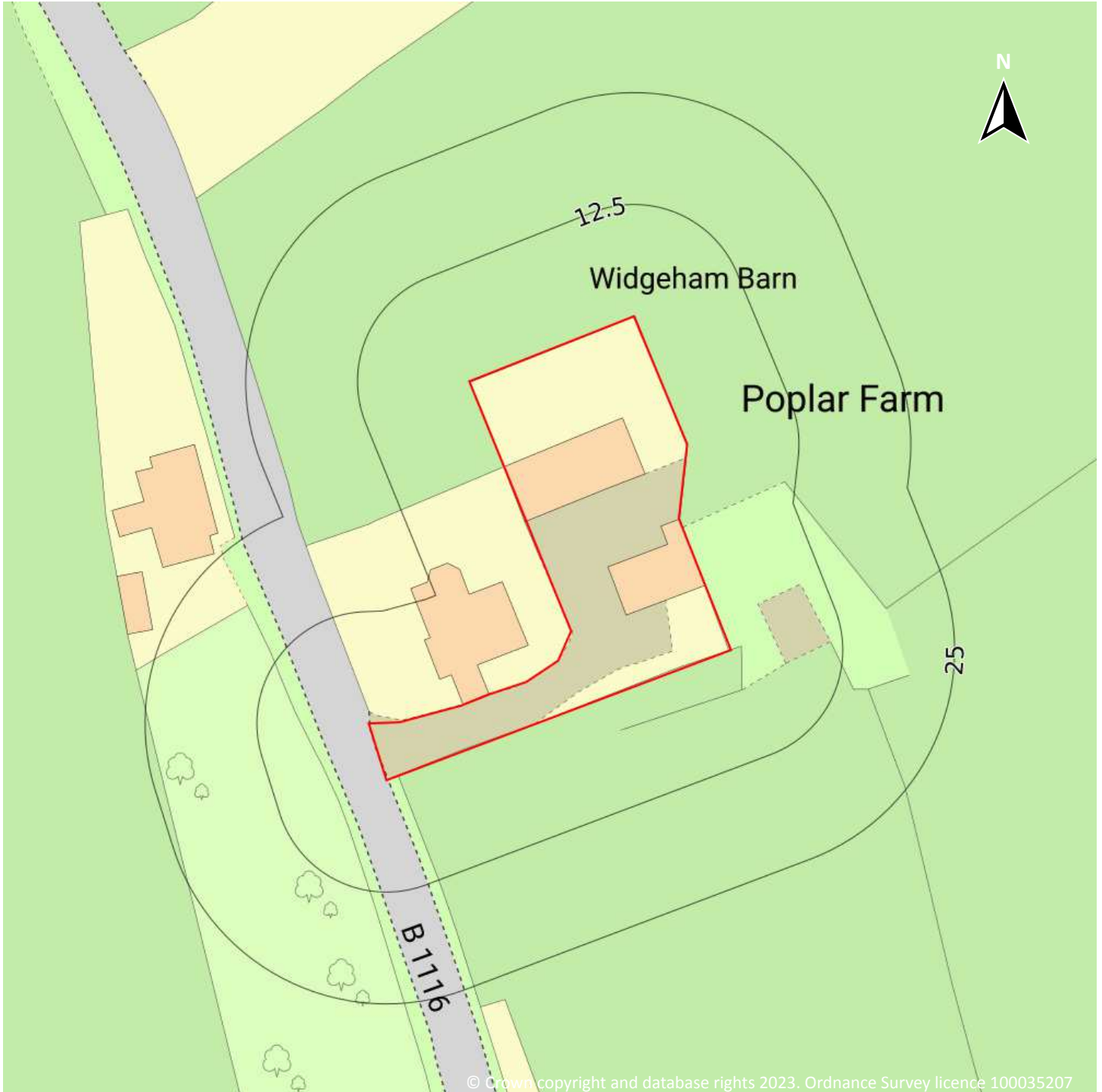


Capture Date: 26/06/1999

Site Area: 0.08ha



OS MasterMap site plan



Site Area: 0.08ha



1 Past land use

1.1 Historical industrial land uses

Records within 500m

0

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

0

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

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



2 Past land use - un-grouped

2.1 Historical industrial land uses

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



2.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

0

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

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

3.5 Historical waste sites

Records within 500m

0

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

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



3.6 Licensed waste sites

Records within 500m

0

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

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

3.7 Waste exemptions

Records within 500m

0

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

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



4 Current industrial land use

4.1 Recent industrial land uses

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

Current potentially contaminative industrial sites.

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

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

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

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

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

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

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

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

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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



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

Records within 500m 0

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

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m 0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m 0

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

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m 0

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

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

4.15 Pollutant release to public sewer

Records within 500m 0

Discharges of Special Category Effluents to the public sewer.

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



4.16 List 1 Dangerous Substances

Records within 500m

0

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

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

4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

0

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

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

4.19 Pollution inventory substances

Records within 500m

0

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

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

4.20 Pollution inventory waste transfers

Records within 500m

0

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

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



4.21 Pollution inventory radioactive waste

Records within 500m

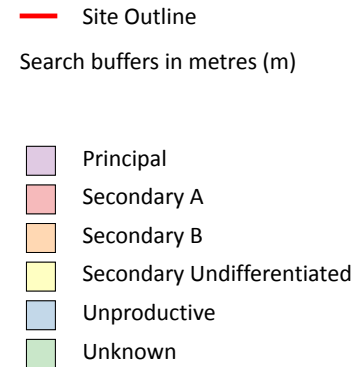
0

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

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



5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m

2

Aquifer status of groundwater held within superficial geology.

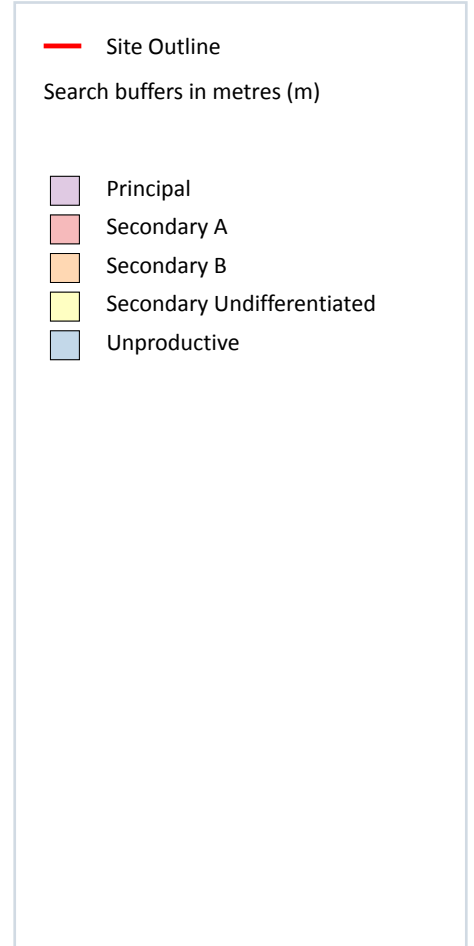
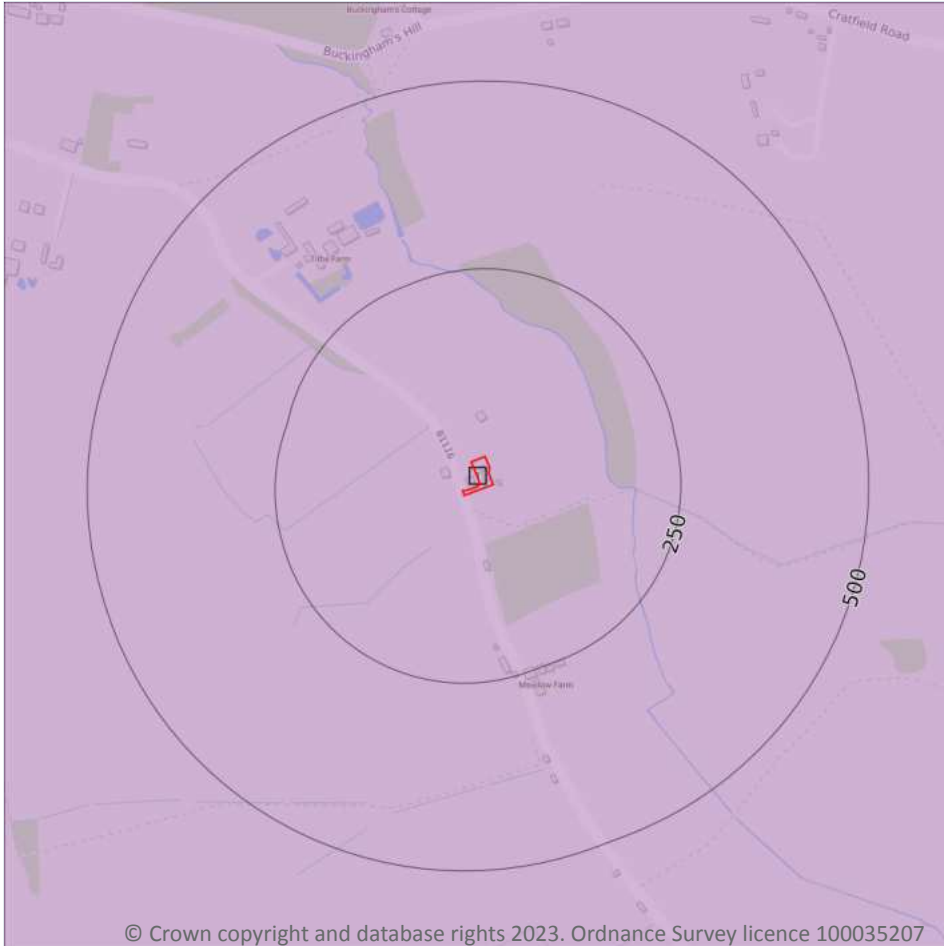
Features are displayed on the Hydrogeology map on [page 25 >](#)

ID	Location	Designation	Description
1	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	119m E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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



Bedrock aquifer



5.2 Bedrock aquifer

Records within 500m

1

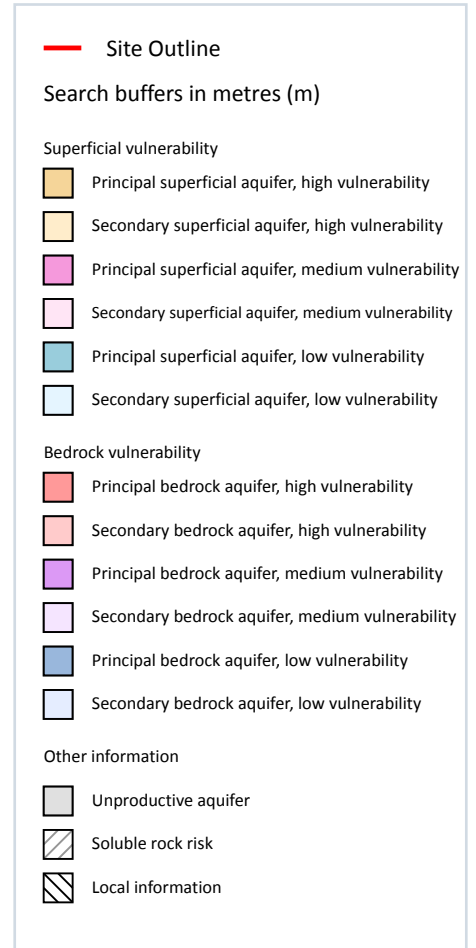
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on [page 27 >](#)

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

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

Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

2

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

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

Features are displayed on the Groundwater vulnerability map on [page 28 >](#)

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Intergranular
2	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Intergranular

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

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

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

5.5 Groundwater vulnerability- local information

Records on site

0

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

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



Abstractions and Source Protection Zones

5.6 Groundwater abstractions

Records within 2000m

0

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

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

5.7 Surface water abstractions

Records within 2000m

0

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

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

5.8 Potable abstractions

Records within 2000m

0

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

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

5.9 Source Protection Zones

Records within 500m

0

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

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



5.10 Source Protection Zones (confined aquifer)

Records within 500m

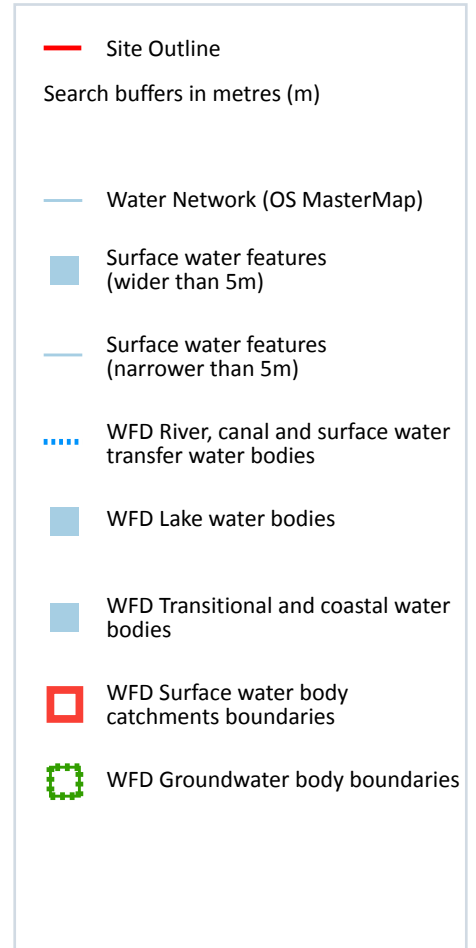
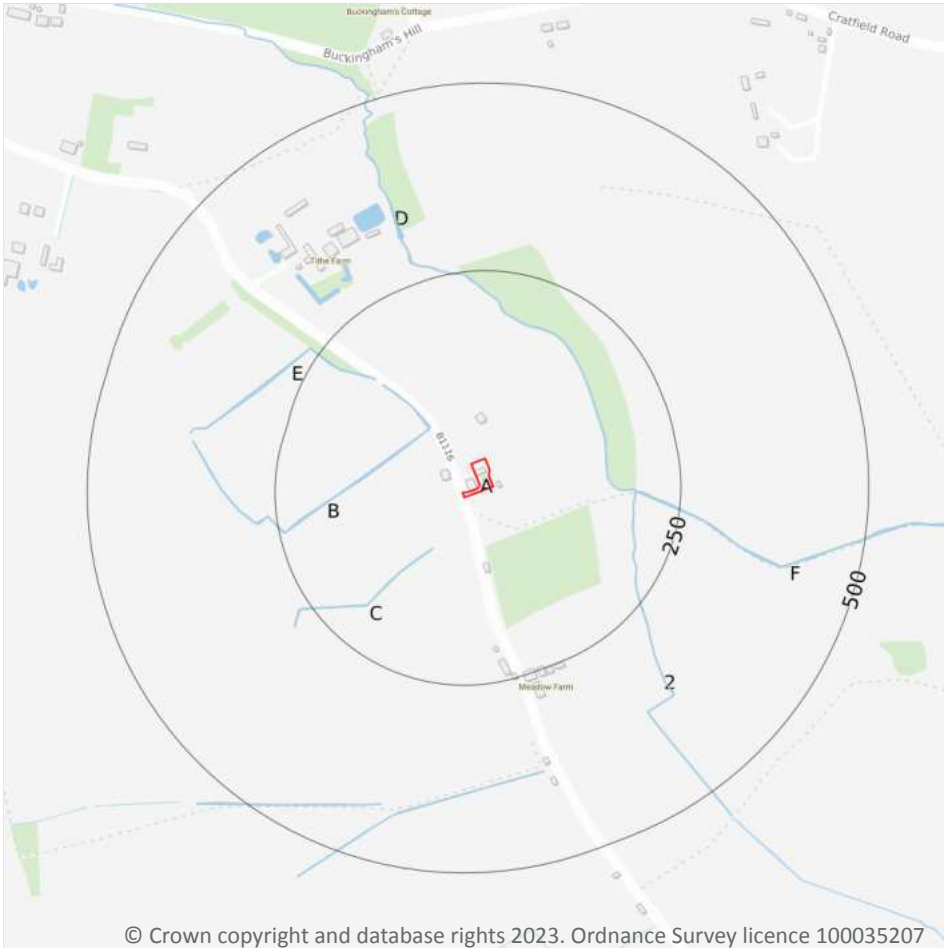
0

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

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



6 Hydrology



6.1 Water Network (OS MasterMap)

Records within 250m

6

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

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

ID	Location	Type of water feature	Ground level	Permanence	Name
B	72m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
C	79m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	152m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	169m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
2	188m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	189m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

5

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

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

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

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

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River	Tributary of Waveney	GB105034045741	Waveney	Broadland Rivers



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

6.4 WFD Surface water bodies

Records identified

1

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

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

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	950m N	River	Tributary of Waveney	GB105034045741 ↗	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

Records on site

1

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

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

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Broadland Rivers Chalk & Crag	GB40501G400300 ↗	Poor	Poor	Poor	2019

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



7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m

0

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

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

7.2 Historical Flood Events

Records within 250m

0

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

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

7.3 Flood Defences

Records within 250m

0

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

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



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

0

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

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



8 Surface water flooding

8.1 Surface water flooding

Highest risk on site

Negligible

Highest risk within 50m

Negligible

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

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

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

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

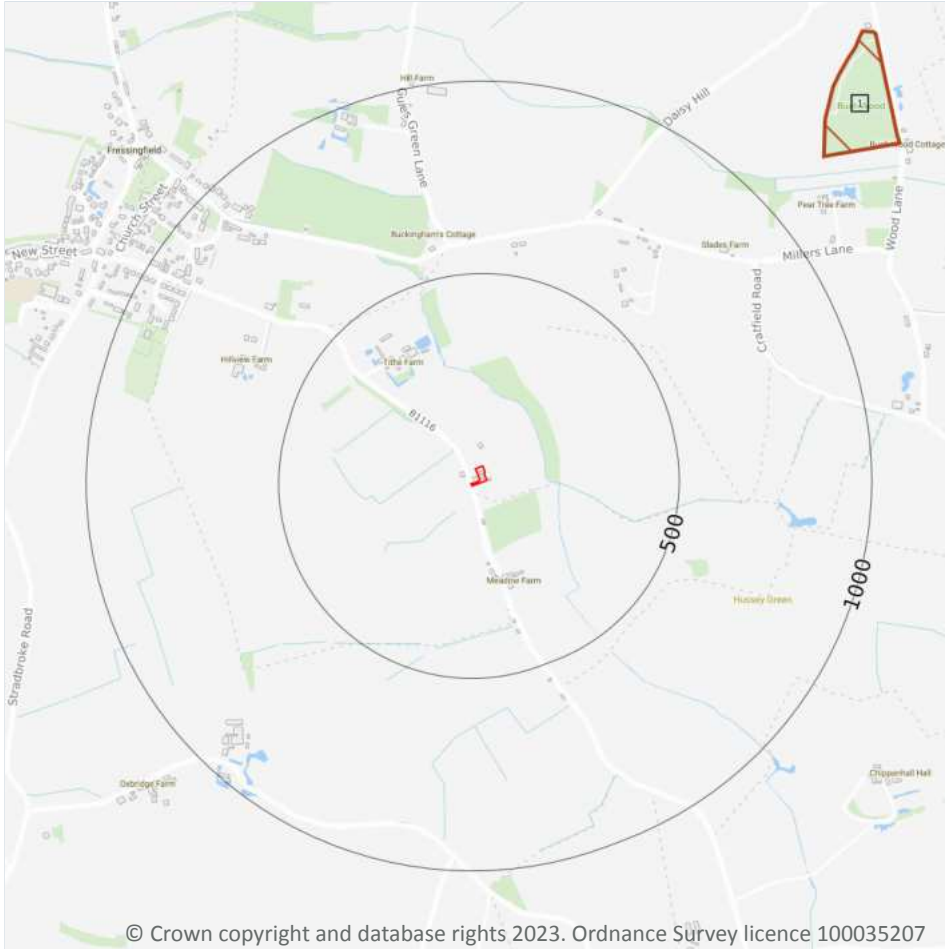
Low

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

Features are displayed on the Groundwater flooding map on [page 39](#) >

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

1

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

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

ID	Location	Name	Data source
-	1767m SE	Chippenhall Green	Natural England

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m

0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m

0

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

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



10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

10.7 Designated Ancient Woodland

Records within 2000m

1

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

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

ID	Location	Name	Woodland Type
1	1197m NE	Bush Wood	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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

10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.



10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

0

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

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

10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.



10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

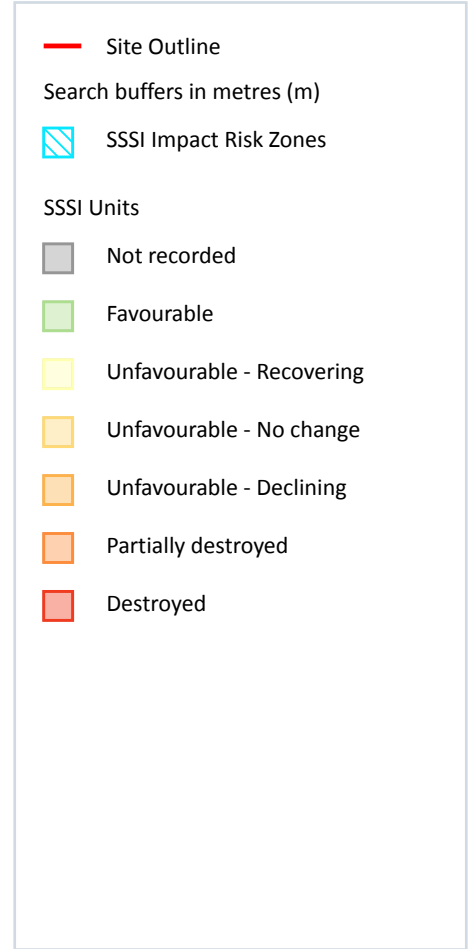
2

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

Location	Name	Type	NVZ ID	Status
On site	River Waveney NVZ	Surface Water	396	Existing
747m S	River Waveney NVZ	Surface Water	396	Existing

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

SSSI Impact Zones and Units



10.17 SSSI Impact Risk Zones

Records on site

1

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

Features are displayed on the SSSI Impact Zones and Units map on [page 45](#) >

ID	Location	Type of developments requiring consultation
1	On site	<p>Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil & gas exploration/extraction.</p> <p>Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).</p> <p>Combustion - General combustion processes >20mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Landfill. incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.</p>

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	1
-----------------------------	----------

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

Features are displayed on the SSSI Impact Zones and Units map on [page 45 >](#)

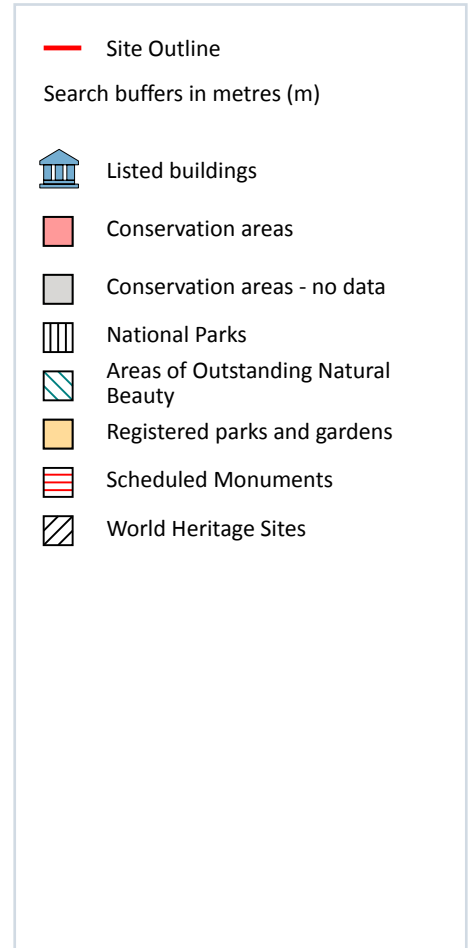
ID: -
 Location: 1767m SE
 SSSI name: Chippenhall Green
 Unit name: Chippenhall Green
 Broad habitat: Neutral Grassland - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Lowland neutral grassland (MG5)	Unfavourable - Recovering	20/12/2010
Lowland wet neutral grassland (MG11, MG13)	Unfavourable - Recovering	20/12/2010

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



11 Visual and cultural designations



11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

1

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

Features are displayed on the Visual and cultural designations map on [page 47 >](#)

ID	Location	Name	Grade	Reference Number	Listed date
1	54m N	Two Cottages 300 Metres South East Of Tithe Farmhouse	II	1352177	21/10/1987

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



11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

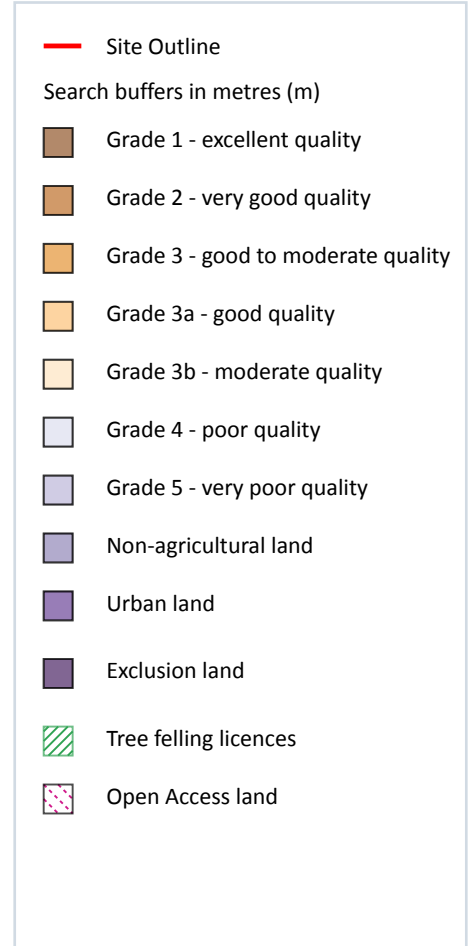
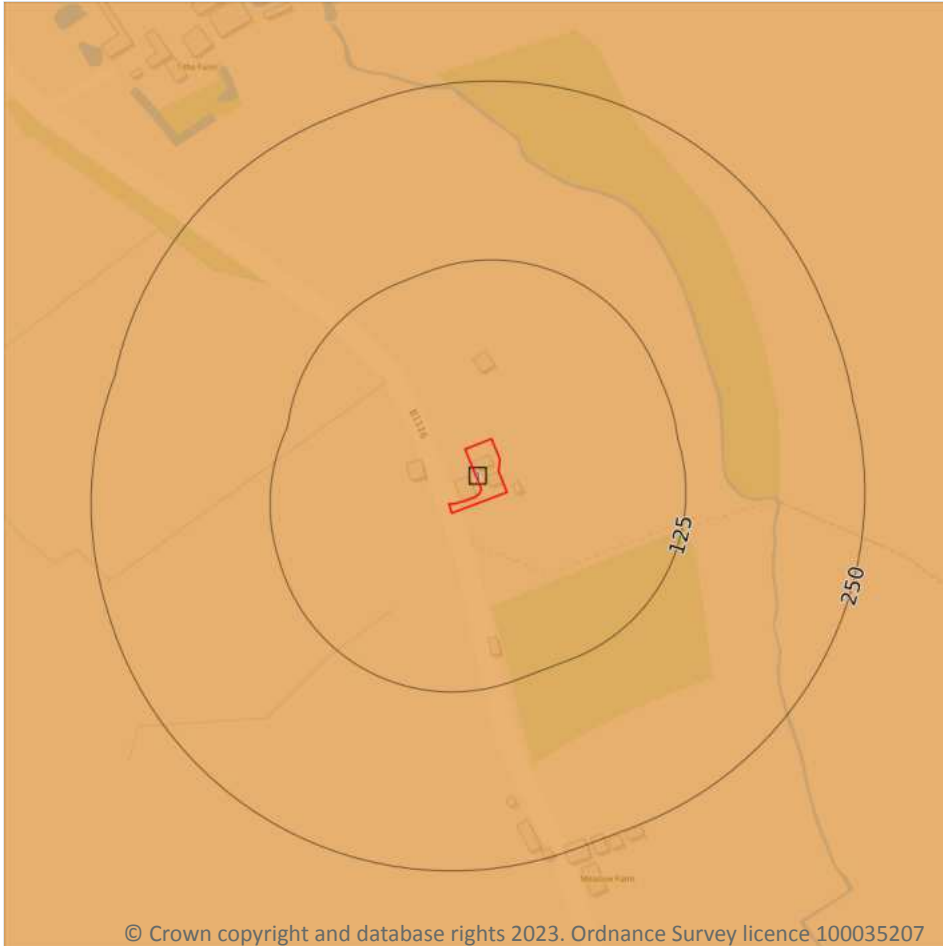
0

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

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



12 Agricultural designations



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12.1 Agricultural Land Classification

Records within 250m

1

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

Features are displayed on the Agricultural designations map on [page 50](#) >

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

This data is sourced from Natural England.



12.2 Open Access Land

Records within 250m

0

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

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

12.3 Tree Felling Licences

Records within 250m

0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

1

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

Location	Reference	Scheme	Start Date	End Date
24m SW	514674	Countryside Stewardship (Middle Tier)	01/01/2018	31/12/2022

This data is sourced from Natural England.



13 Habitat designations

13.1 Priority Habitat Inventory

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

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

This data is sourced from Natural England.

13.2 Habitat Networks

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

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

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

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

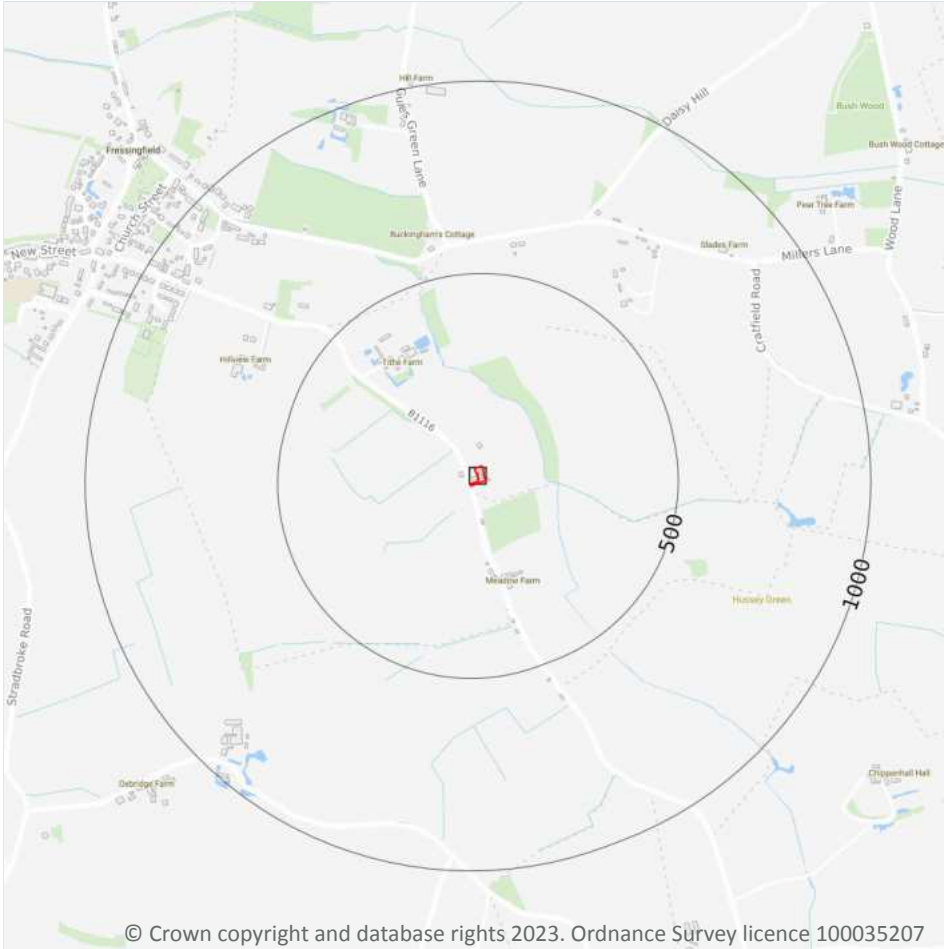
Records within 250m	0
---------------------	---

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on [page 53](#) >

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

This data is sourced from the British Geological Survey.

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

14.2 Artificial and made ground (10k)

Records within 500m

0

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

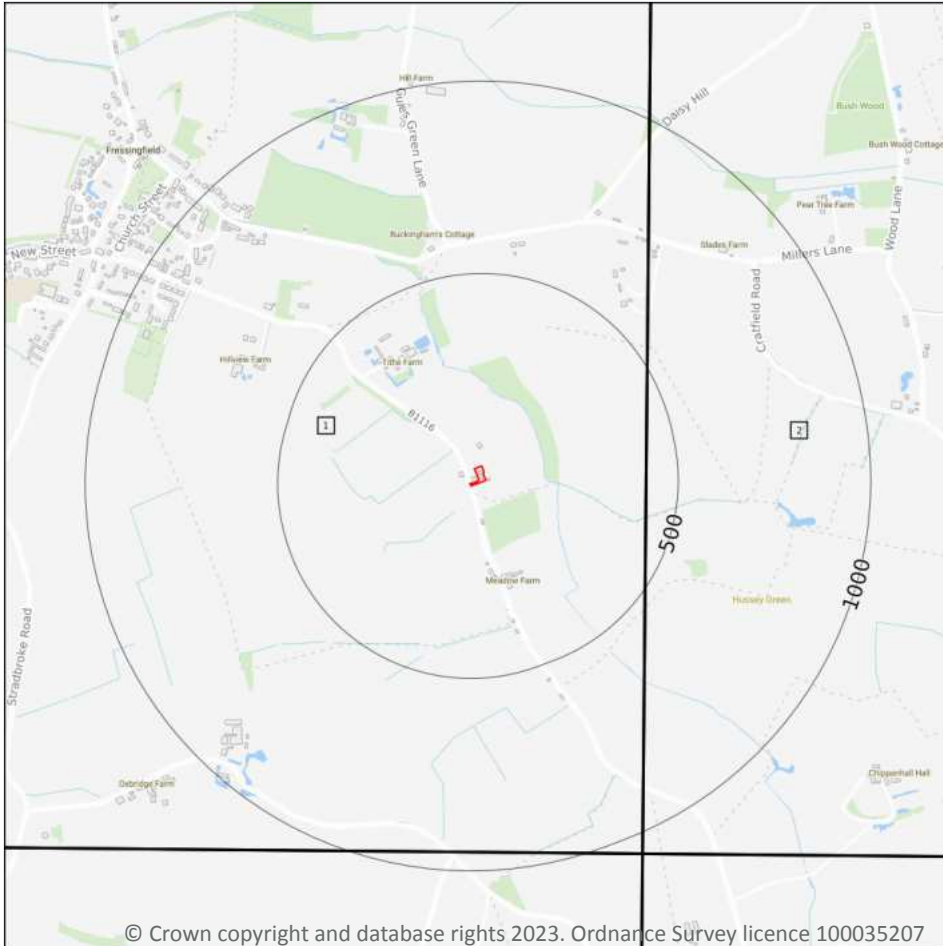
0

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

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline
 Search buffers in metres (m)

□ Geological map tile

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15.1 50k Availability

Records within 500m

2

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 57](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	EW175_diss_v4
2	417m E	Full	Full	Full	No coverage	EW176_lowestoft_v4

This data is sourced from the British Geological Survey.



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

15.2 Artificial and made ground (50k)

Records within 500m

0

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



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

15.4 Superficial geology (50k)

Records within 500m

3

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 59](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	LOFT-DMTN	LOWESTOFT FORMATION	DIAMICTON
2	119m E	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	416m E	LOFT-DMTN	LOWESTOFT FORMATION	DIAMICTON

This data is sourced from the British Geological Survey.



15.5 Superficial permeability (50k)

Records within 50m **1**

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	Moderate	Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m **0**

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

This data is sourced from the British Geological Survey.

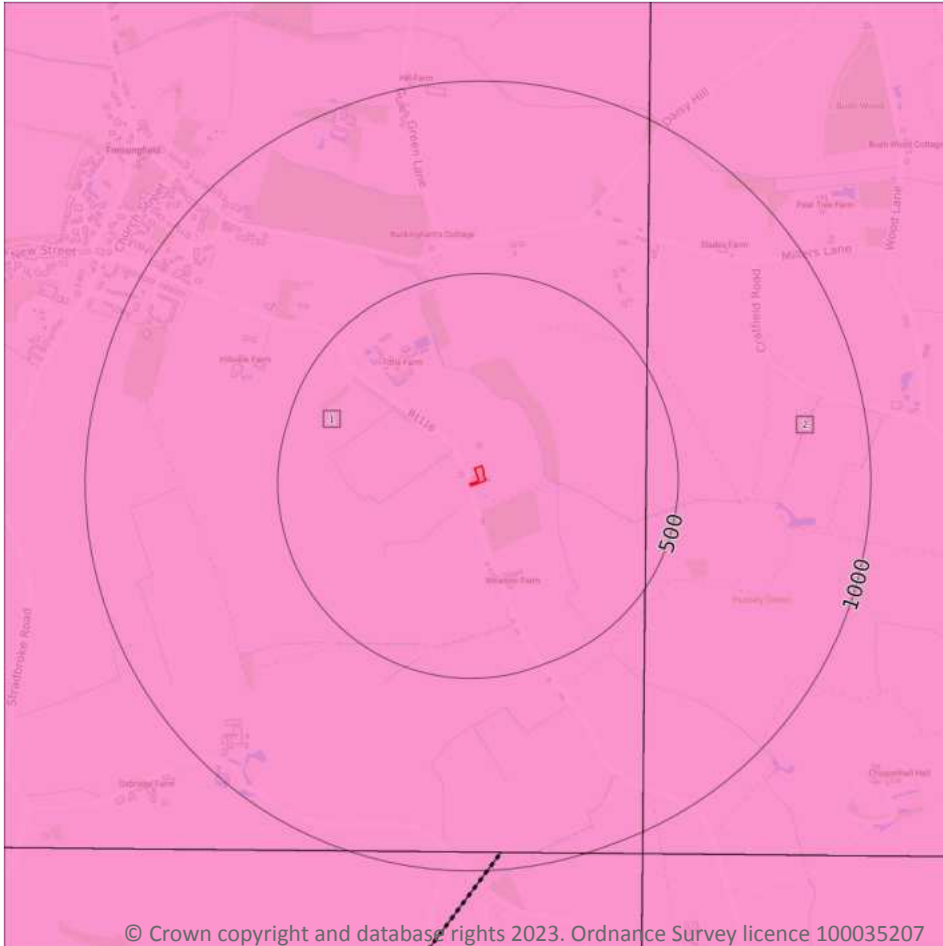
15.7 Landslip permeability (50k)

Records within 50m **0**

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



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

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15.8 Bedrock geology (50k)

Records within 500m

2

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 61](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	NCG-S	NORWICH CRAG FORMATION - SAND	-
2	416m E	CRAG-S	CRAG GROUP - SAND	-

This data is sourced from the British Geological Survey.



15.9 Bedrock permeability (50k)

Records within 50m

1

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

0

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.



16 Boreholes

16.1 BGS Boreholes

Records within 250m

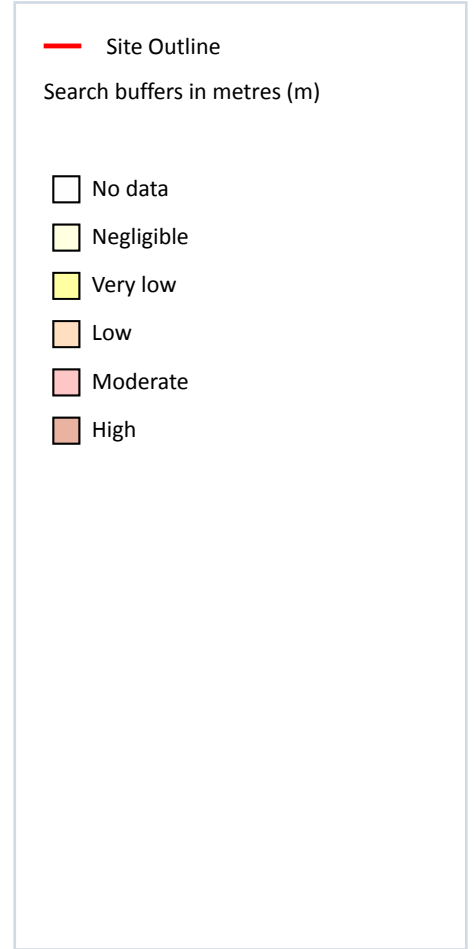
0

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

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

1

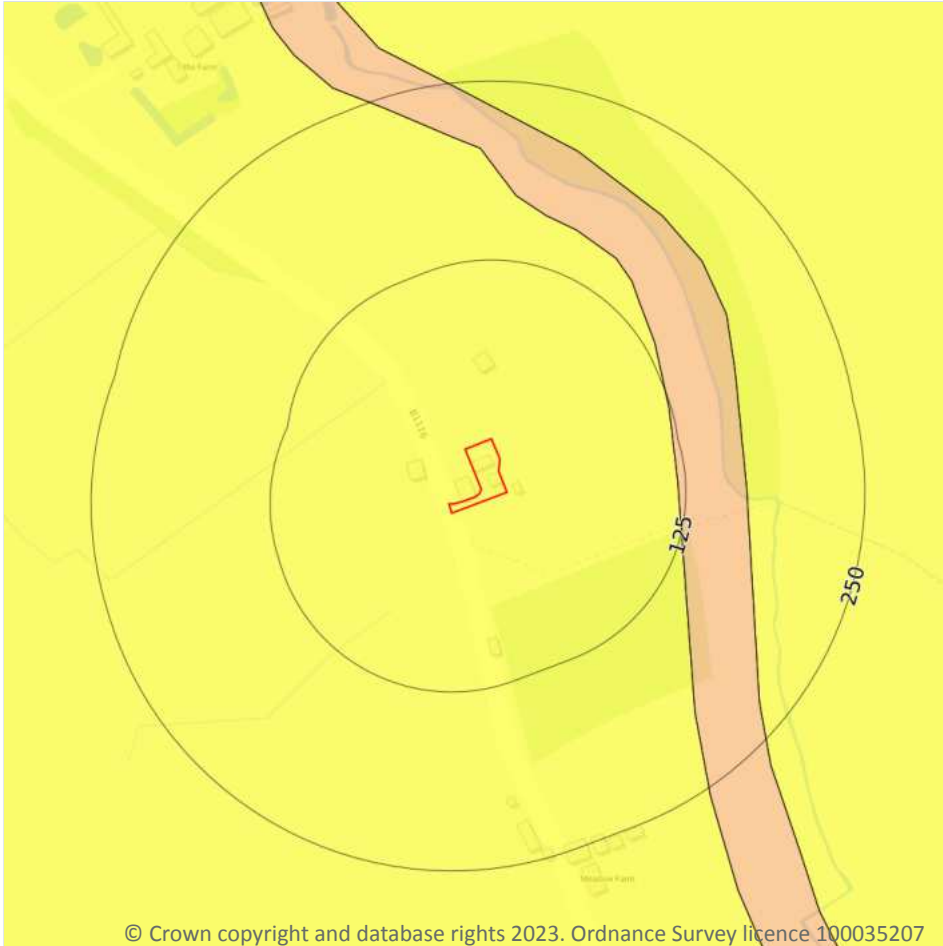
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 64 >](#)

Location	Hazard rating	Details
On site	Low	Ground conditions predominantly medium plasticity.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



— Site Outline

Search buffers in metres (m)

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

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17.2 Running sands

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Running sands map on [page 65 >](#)

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 66 >](#)

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 67 >](#)

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



17.5 Landslides

Records within 50m

1

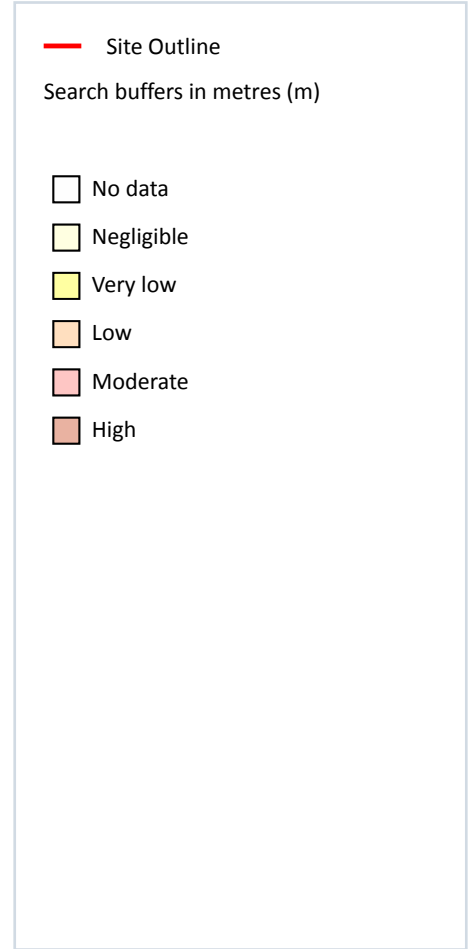
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on [page 68](#) >

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 69](#)

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

This data is sourced from the British Geological Survey.



18 Mining and ground workings

18.1 BritPits

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m

0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

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

This data is sourced from Groundsure.



18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

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

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

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

This data is sourced from The Coal Authority.



18.9 Researched mining

Records within 500m

0

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

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

0

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m

0

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

This data is sourced from Groundsure.

18.12 Coal mining

Records on site

0

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

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site

0

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

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



18.14 Gypsum areas

Records on site	0
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Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

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

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

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

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

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

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



This data is sourced from Groundsure.

19.5 National karst database

Records within 500m

0

This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

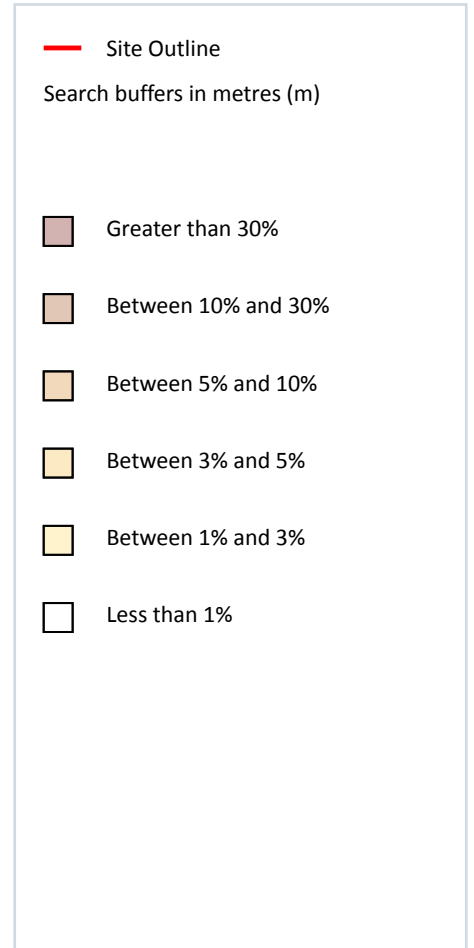
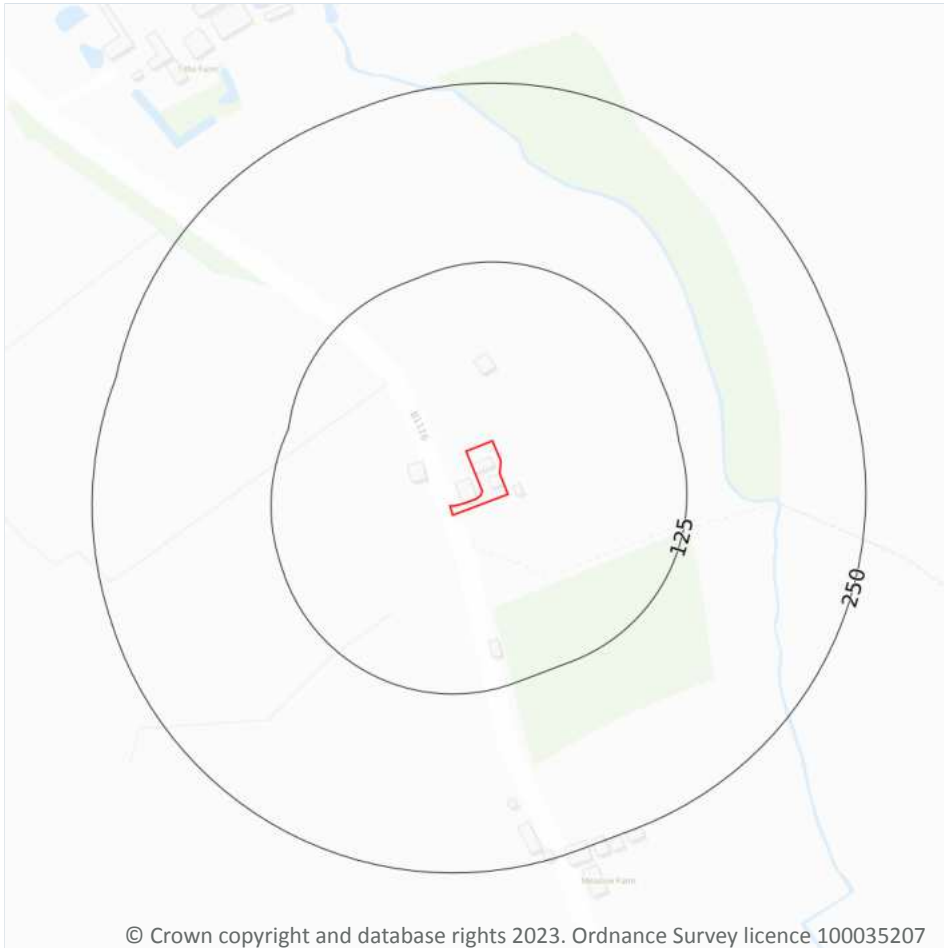
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.



20 Radon



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20.1 Radon

Records on site

1

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

Features are displayed on the Radon map on [page 77 >](#)

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

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



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

2

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

22.1 Underground railways (London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m

0

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

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m

0

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



This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

Terms and conditions

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



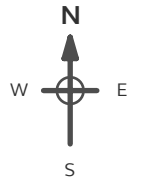


Historical Maps

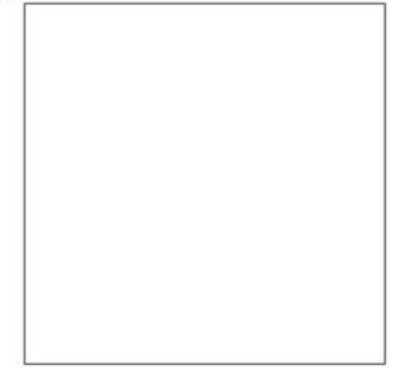
Site Details:
 WIDGEHAM BARN, LAXFIELD ROAD, FRESSINGFIELD, IP21 5PY

Client Ref: G0145
Report Ref: GS-PVY-GNN-ZPQ-K6A
Grid Ref: 627019, 276755

Map Name: County Series
Map date: 1884
Scale: 1:2,500
Printed at: 1:2,500



Surveyed 1884
 Revised 1884
 Edition N/A
 Copyright N/A
 Levelled N/A

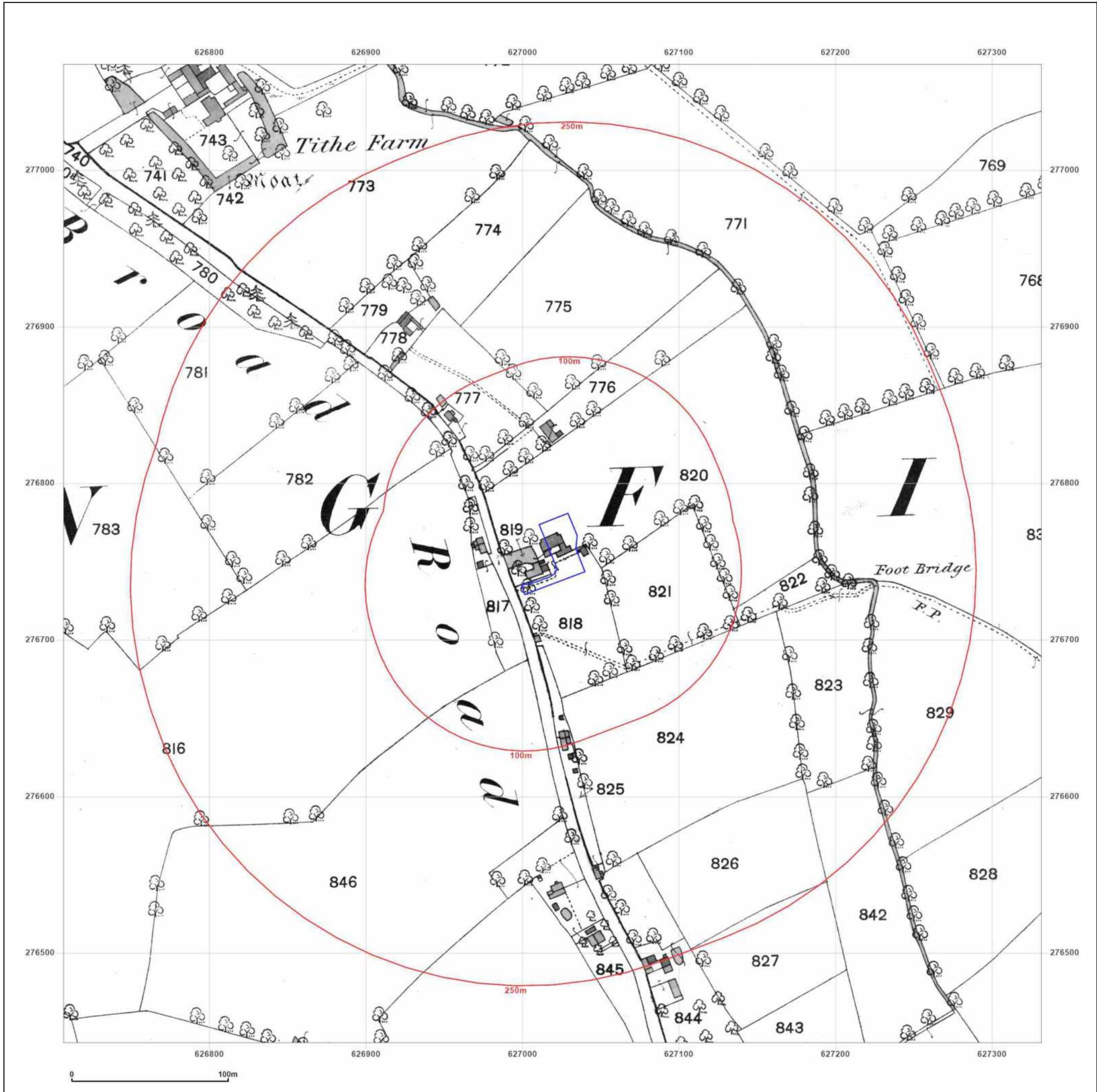


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Production date: 21 June 2023

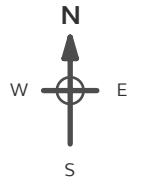
Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



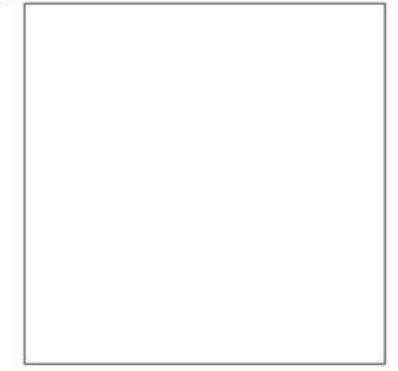
Site Details:
 WIDGEHAM BARN, LAXFIELD ROAD, FRESSINGFIELD, IP21 5PY

Client Ref: G0145
Report Ref: GS-PVY-GNN-ZPQ-K6A
Grid Ref: 627019, 276755

Map Name: County Series
Map date: 1903
Scale: 1:2,500
Printed at: 1:2,500



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

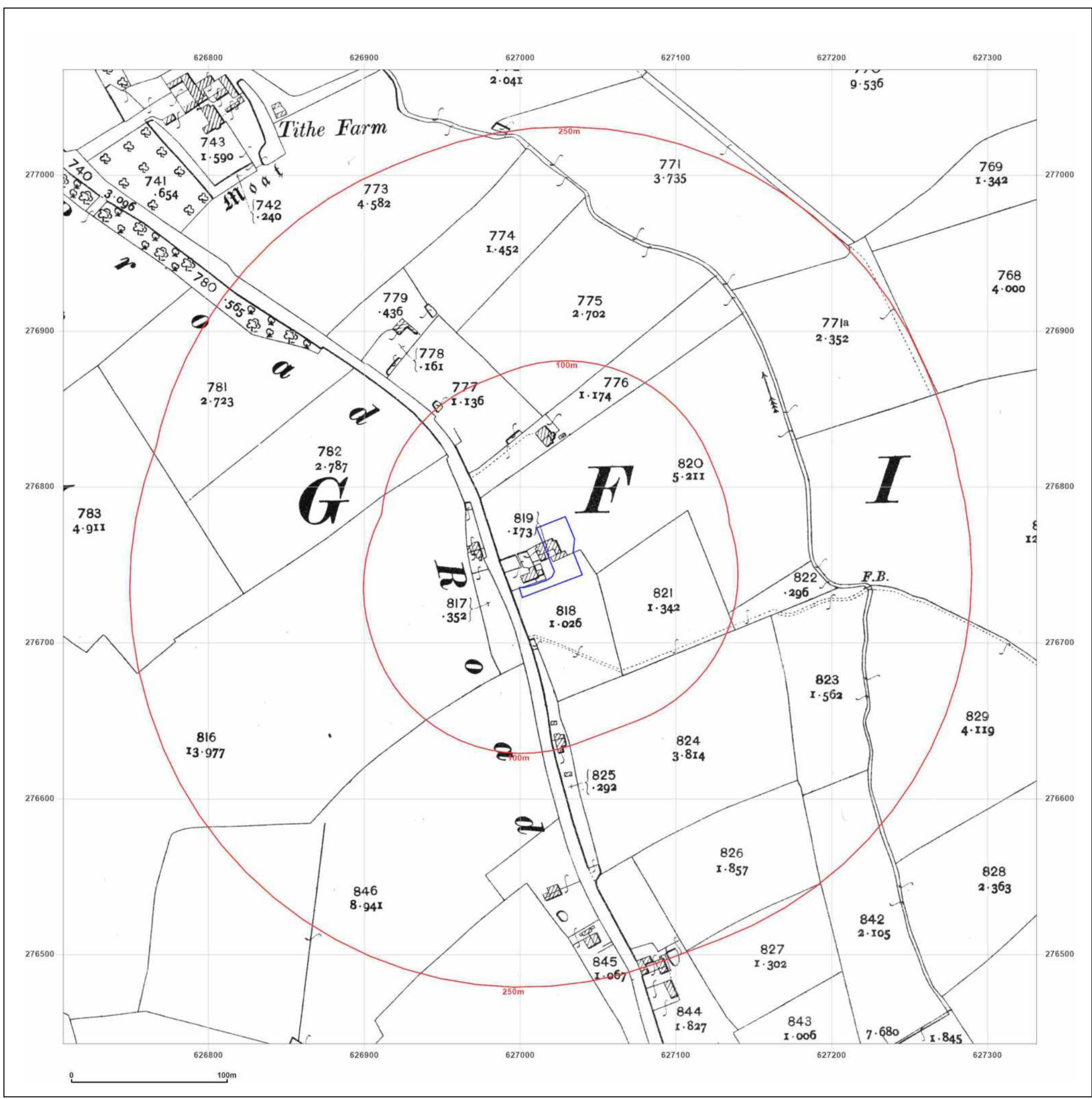


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Site Details:

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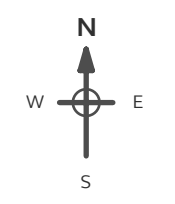
Client Ref: G0145
Report Ref: GS-PVY-GNN-ZPQ-K6A
Grid Ref: 627019, 276755

Map Name: National Grid

Map date: 1979

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1978
 Revised 1978
 Edition N/A
 Copyright 1979
 Levelled 1970

Surveyed 1978
 Revised 1978
 Edition N/A
 Copyright 1979
 Levelled 1968

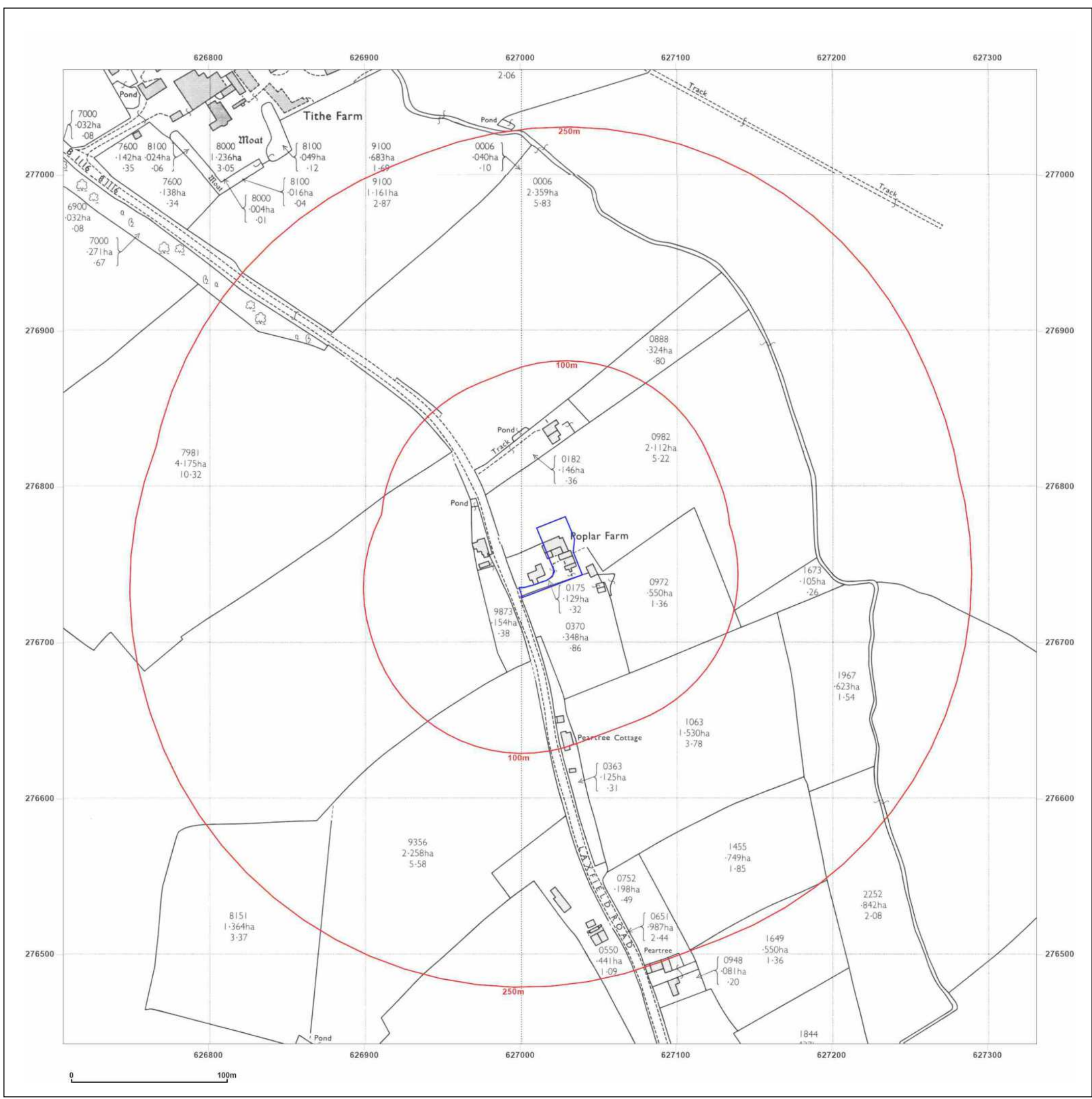


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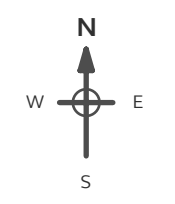


Site Details:

WIDGEHAM BARN, LAXFIELD ROAD, FRESSINGFIELD, IP21 5PY

Client Ref: G0145
Report Ref: GS-PVY-GNN-ZPQ-K6A
Grid Ref: 627019, 276755

Map Name: National Grid
Map date: 1979
Scale: 1:2,500
Printed at: 1:2,500



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

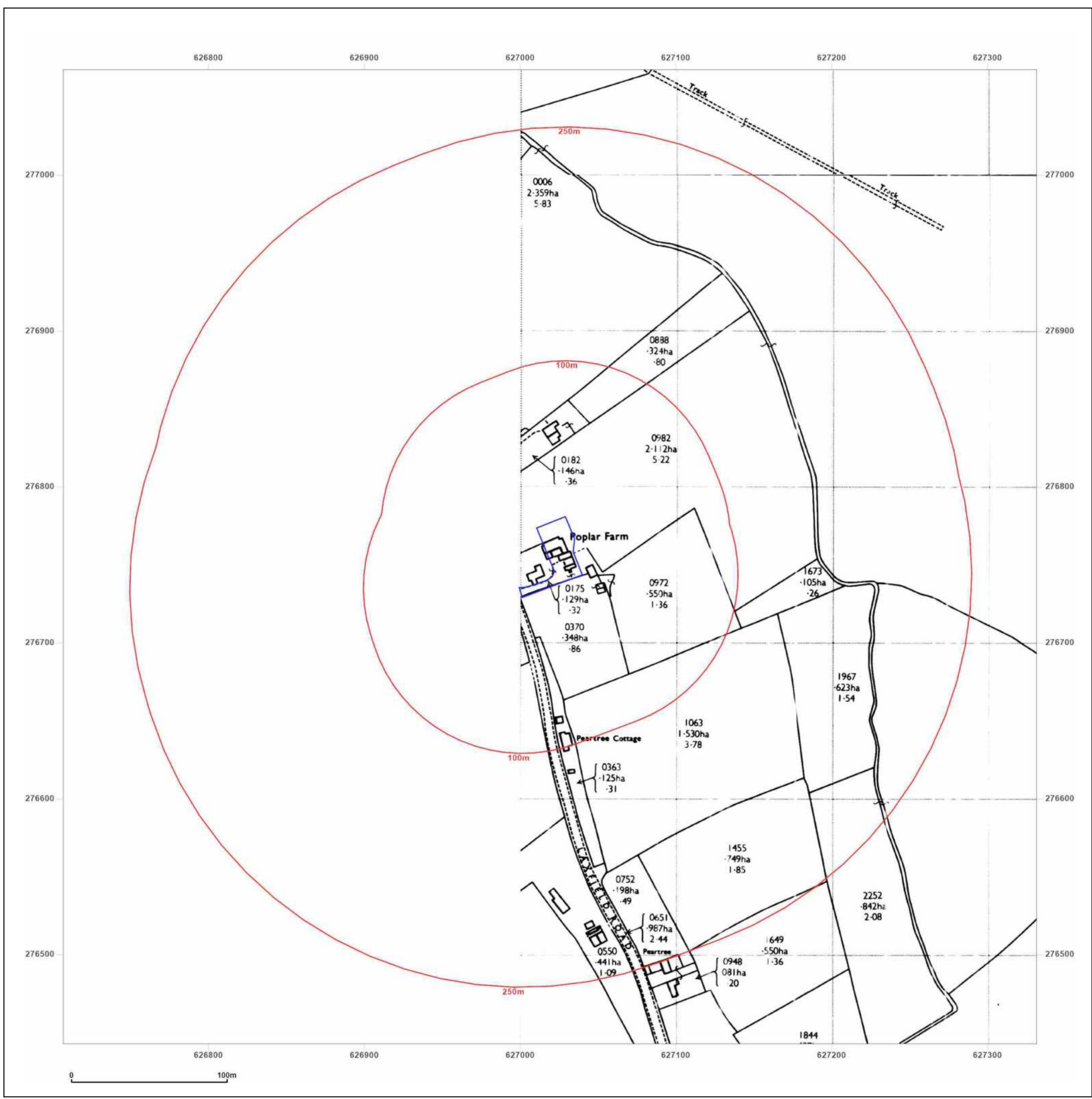


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Site Details:

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Client Ref: G0145
Report Ref: GS-PVY-GNN-ZPQ-K6A
Grid Ref: 627019, 276755

Map Name: National Grid

Map date: 1993-1994

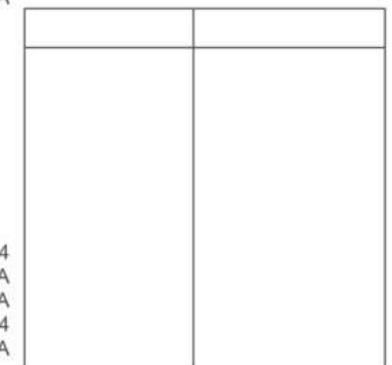
Scale: 1:2,500

Printed at: 1:2,500



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

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



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

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

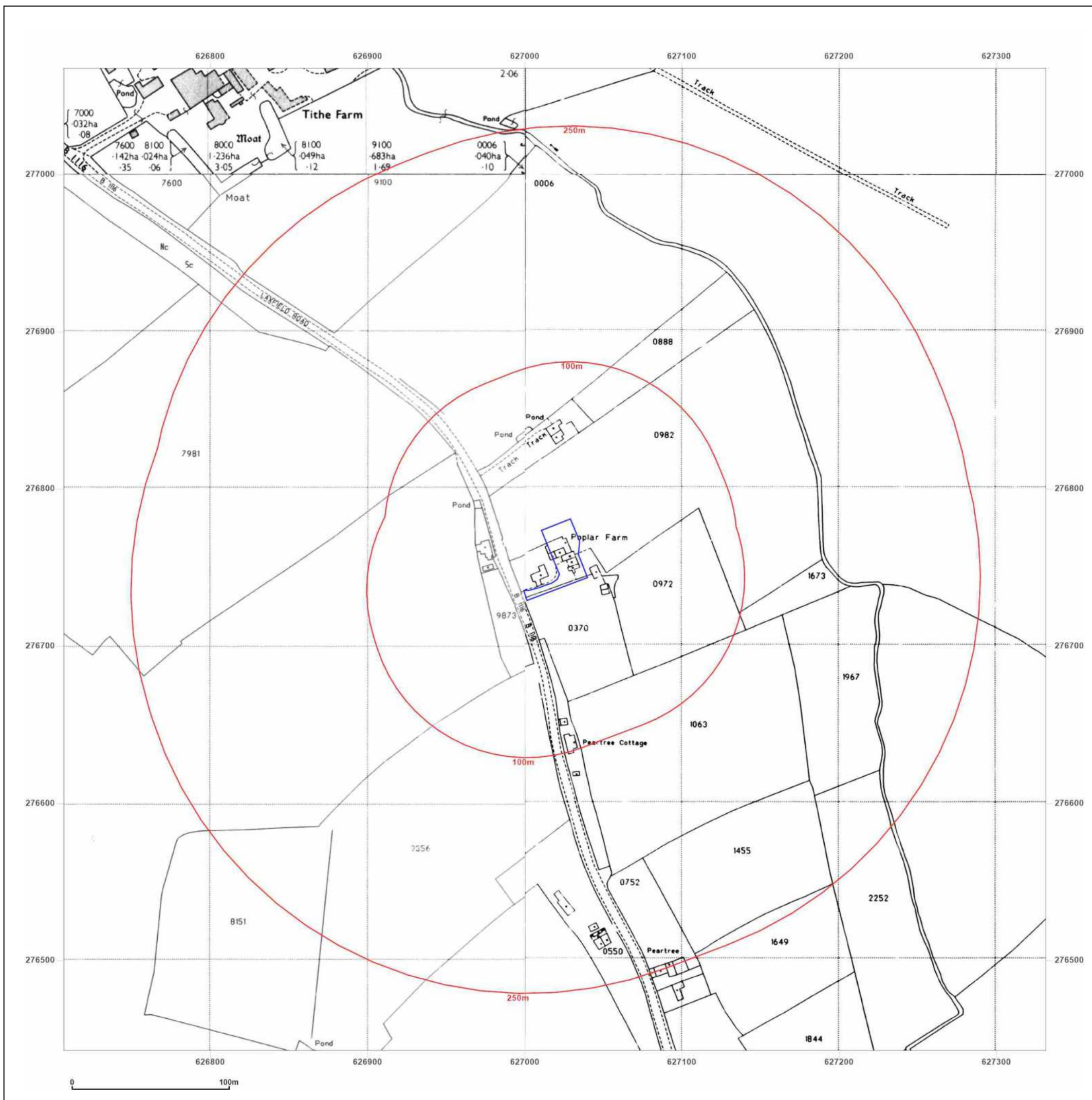


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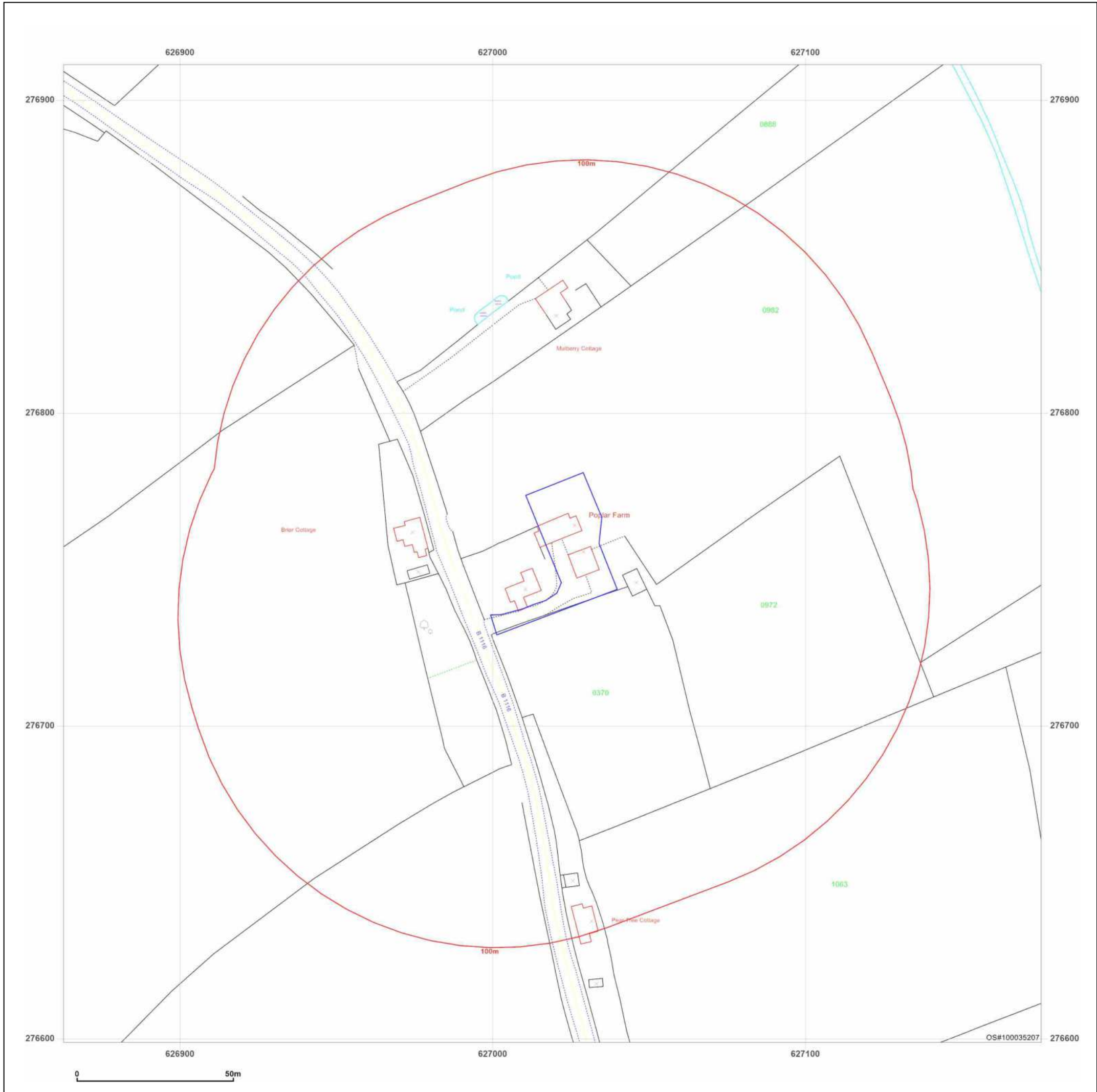
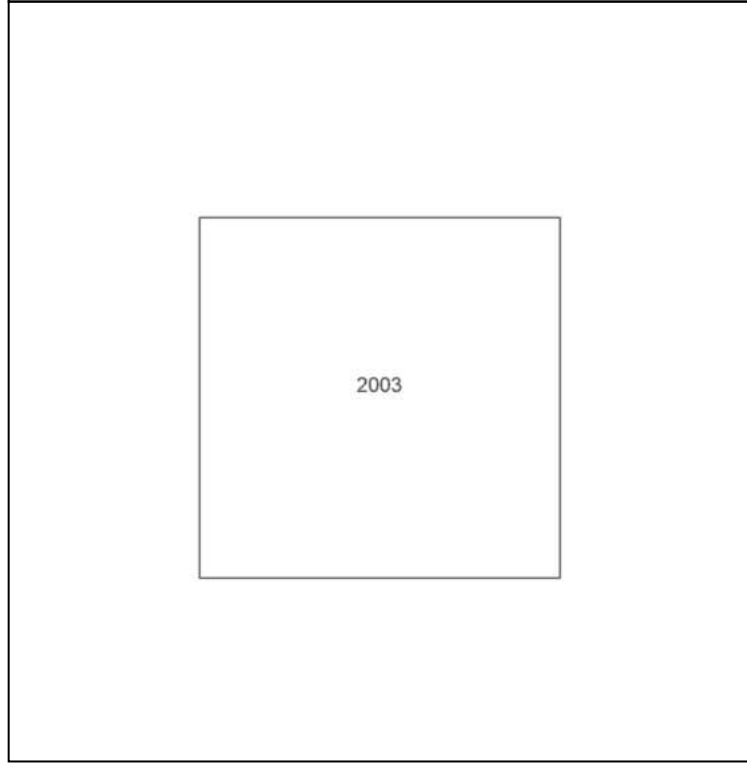
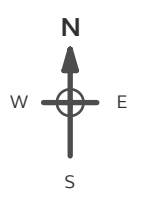


Site Details:

WIDGEHAM BARN, LAXFIELD ROAD, FRESSINGFIELD, IP21 5PY

Client Ref: G0145
Report Ref: GS-PVY-GNN-ZPQ-K6A
Grid Ref: 627019, 276755

Map Name: LandLine
Map date: 2003
Scale: 1:1,250
Printed at: 1:1,250



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Site Details:

WIDGEHAM BARN, LAXFIELD ROAD, FRESSINGFIELD, IP21 5PY

Client Ref: G0145
Report Ref: GS-PVY-GNN-ZPQ-K6A
Grid Ref: 627019, 276755

Map Name: County Series

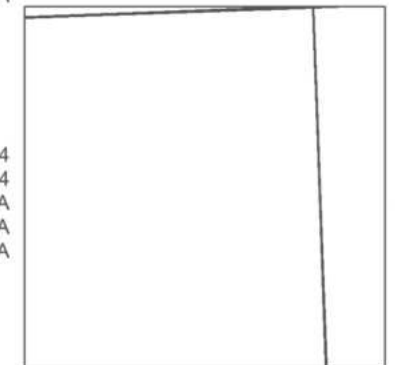
Map date: 1883-1884

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1884
 Revised 1884
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1884
 Revised 1884
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1883
 Revised 1883
 Edition N/A
 Copyright N/A
 Levelled N/A

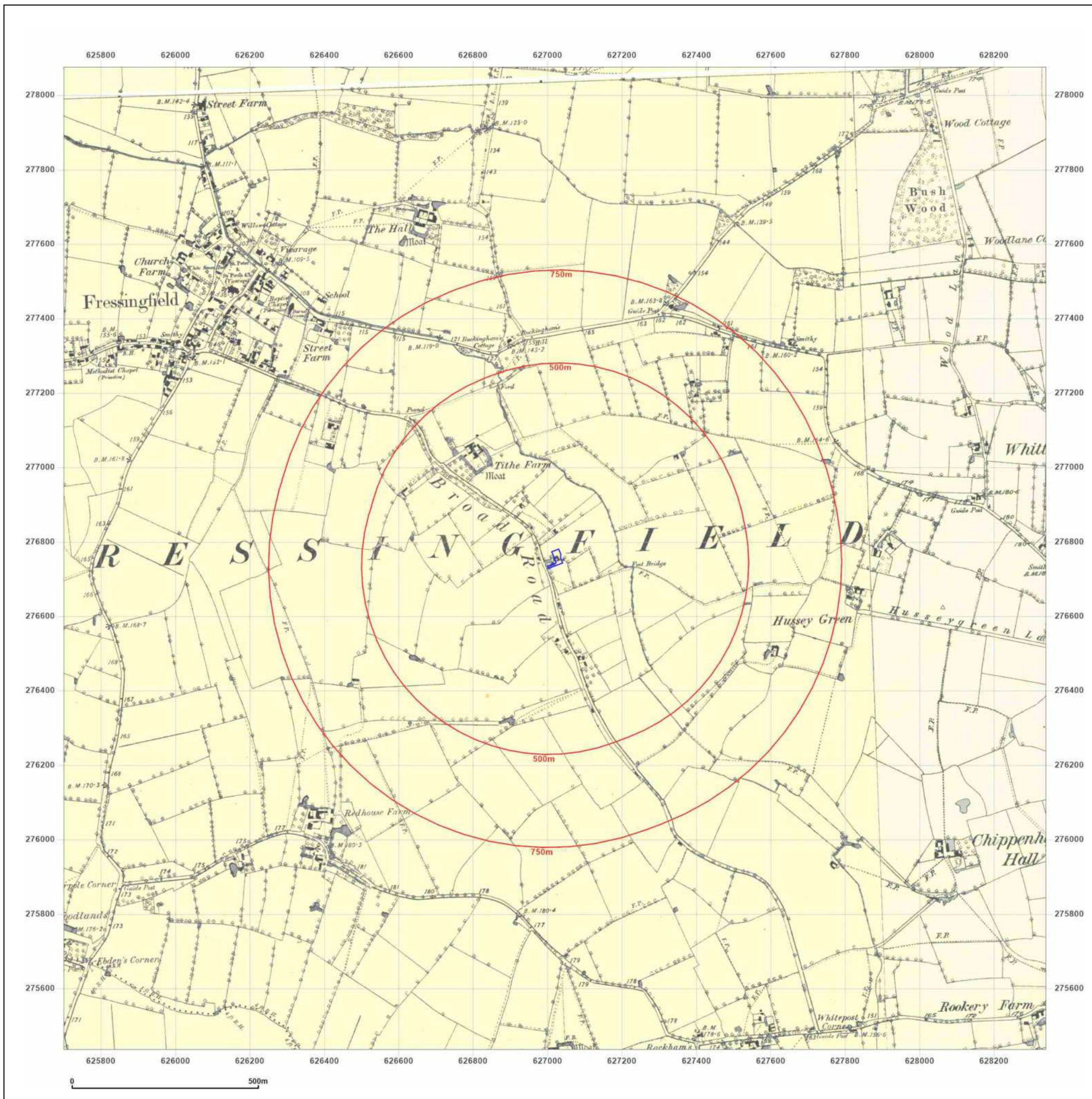


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Site Details:

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Client Ref: G0145
Report Ref: GS-PVY-GNN-ZPQ-K6A
Grid Ref: 627019, 276755

Map Name: County Series

Map date: 1885-1888

Scale: 1:10,560

Printed at: 1:10,560

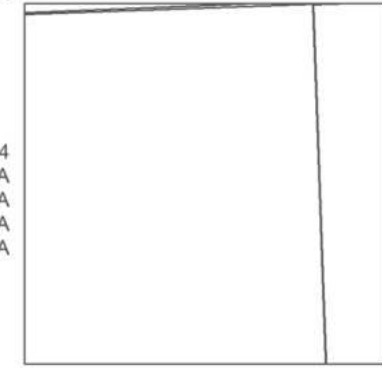


Surveyed 1884
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1884
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

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

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

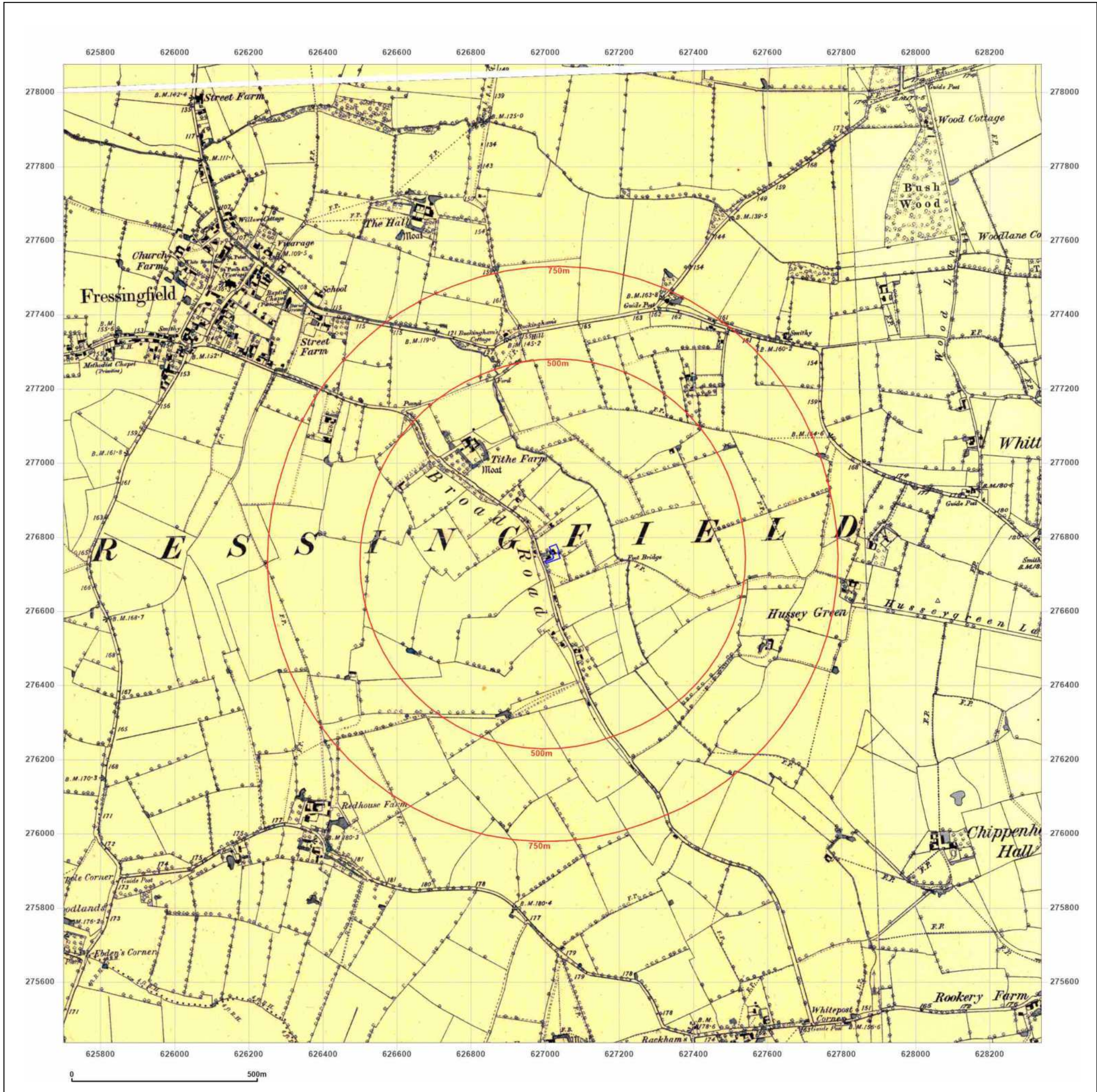


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Client Ref: G0145
Report Ref: GS-PVY-GNN-ZPQ-K6A
Grid Ref: 627019, 276755

Map Name: County Series

Map date: 1903-1905

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1884
 Revised 1905
 Edition 1905
 Copyright N/A
 Levelled N/A

Surveyed 1882
 Revised 1903
 Edition N/A
 Copyright N/A
 Levelled N/A

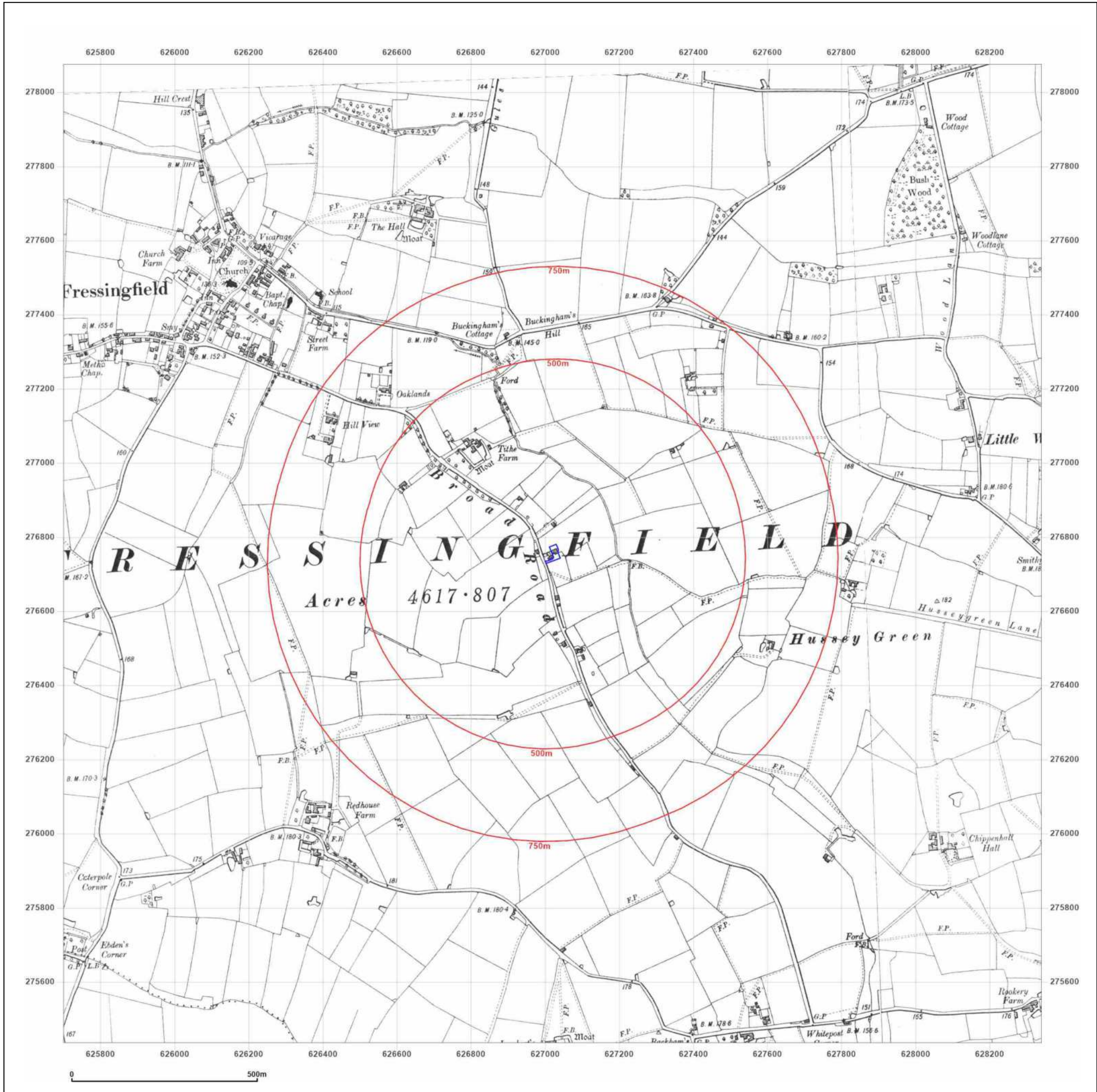


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Client Ref: G0145
Report Ref: GS-PVY-GNN-ZPQ-K6A
Grid Ref: 627019, 276755

Map Name: County Series

Map date: 1946-1947

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1884
 Revised 1946
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1882
 Revised 1947
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1884
 Revised 1947
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1882
 Revised 1947
 Edition N/A
 Copyright N/A
 Levelled N/A

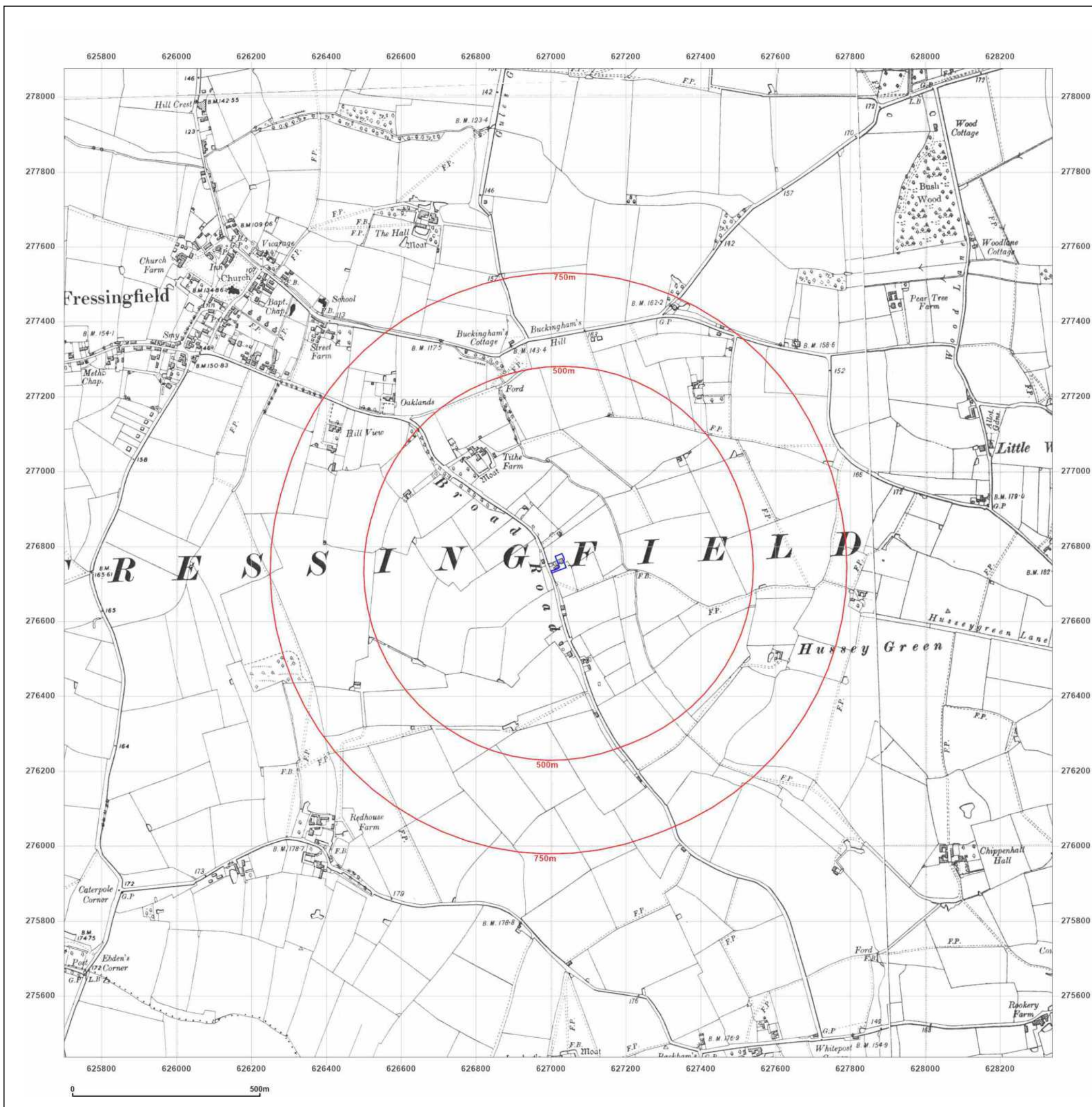


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Site Details:

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Client Ref: G0145
Report Ref: GS-PVY-GNN-ZPQ-K6A
Grid Ref: 627019, 276755

Map Name: Provisional

Map date: 1952

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1952
 Revised 1952
 Edition N/A
 Copyright N/A
 Levelled N/A

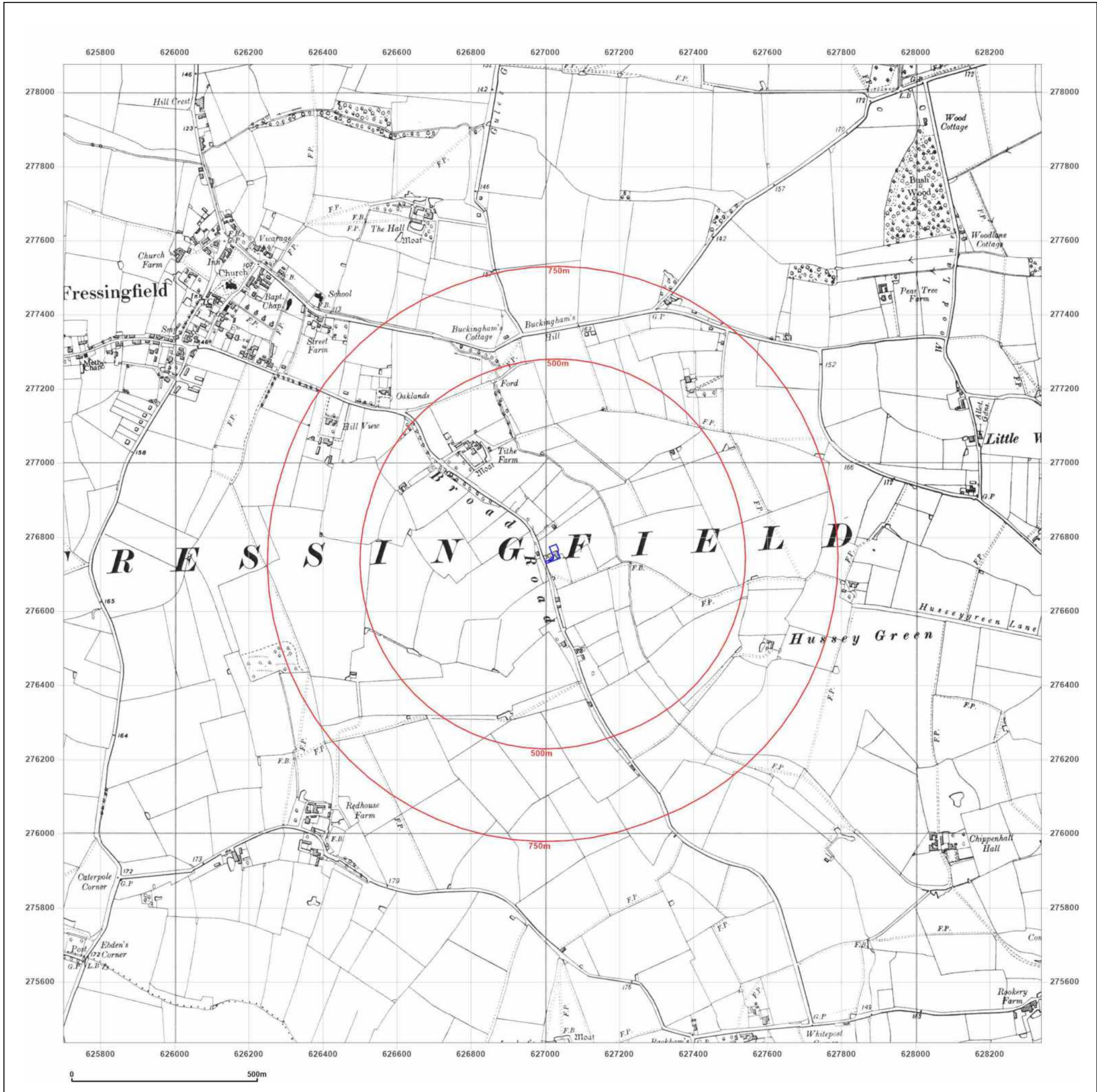


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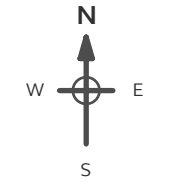
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Report Ref: GS-PVY-GNN-ZPQ-K6A
Grid Ref: 627019, 276755

Map Name: National Grid

Map date: 1983

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1978
 Revised 1983
 Edition N/A
 Copyright N/A
 Levelled N/A

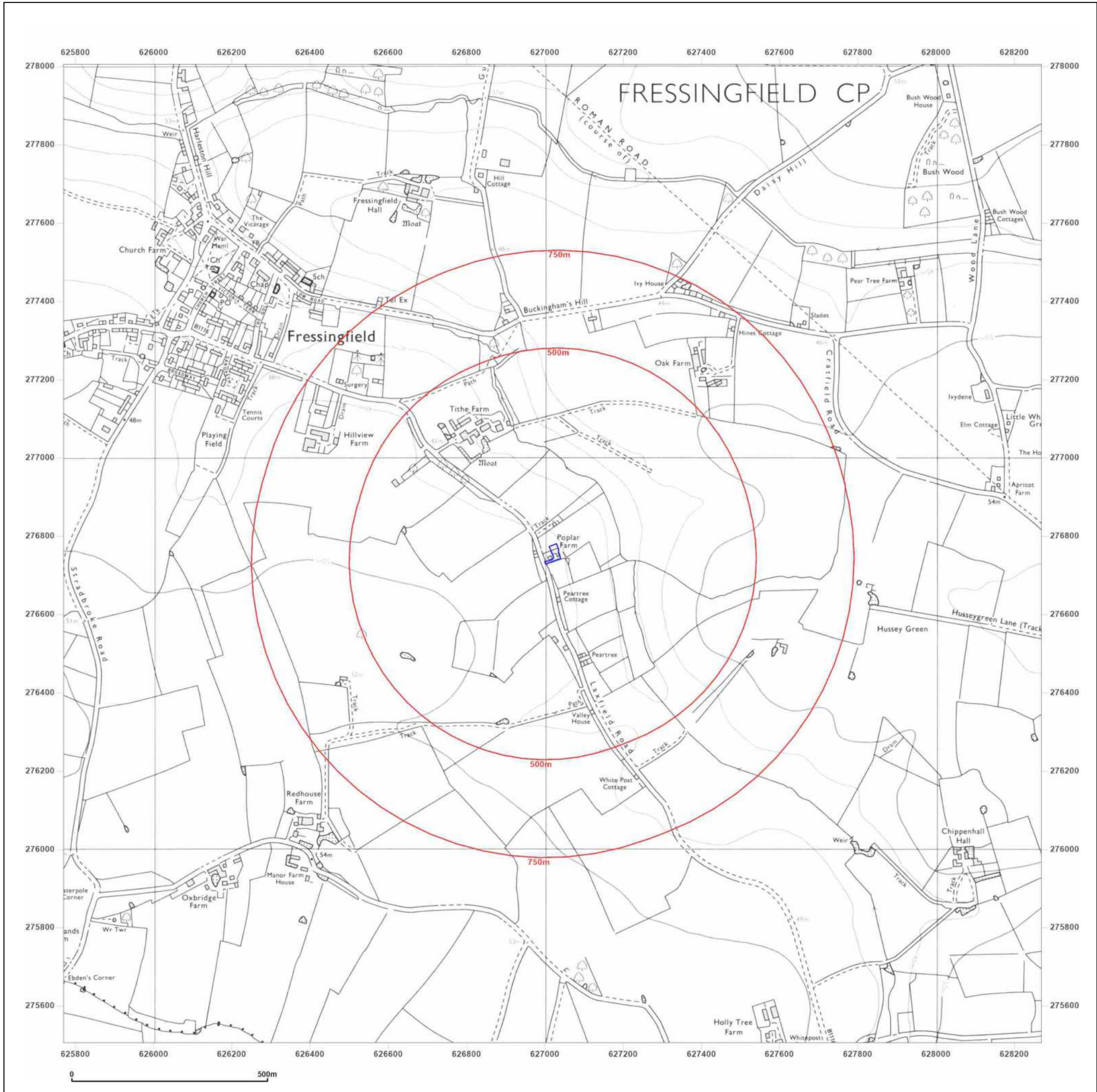


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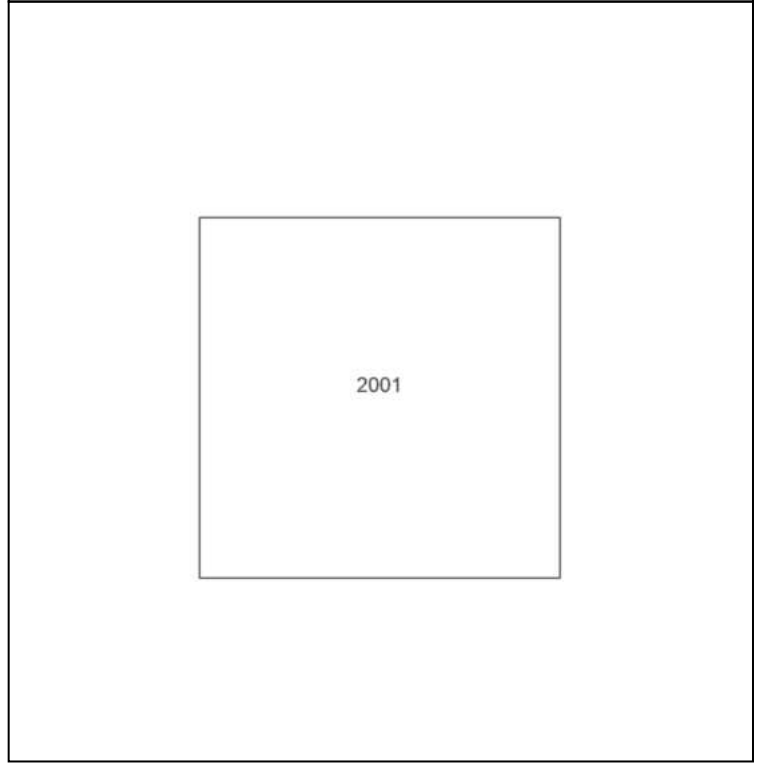
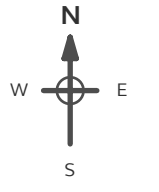
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Site Details:
 WIDGEHAM BARN, LAXFIELD ROAD, FRESSINGFIELD, IP21 5PY

Client Ref: G0145
Report Ref: GS-PVY-GNN-ZPQ-K6A
Grid Ref: 627019, 276755

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



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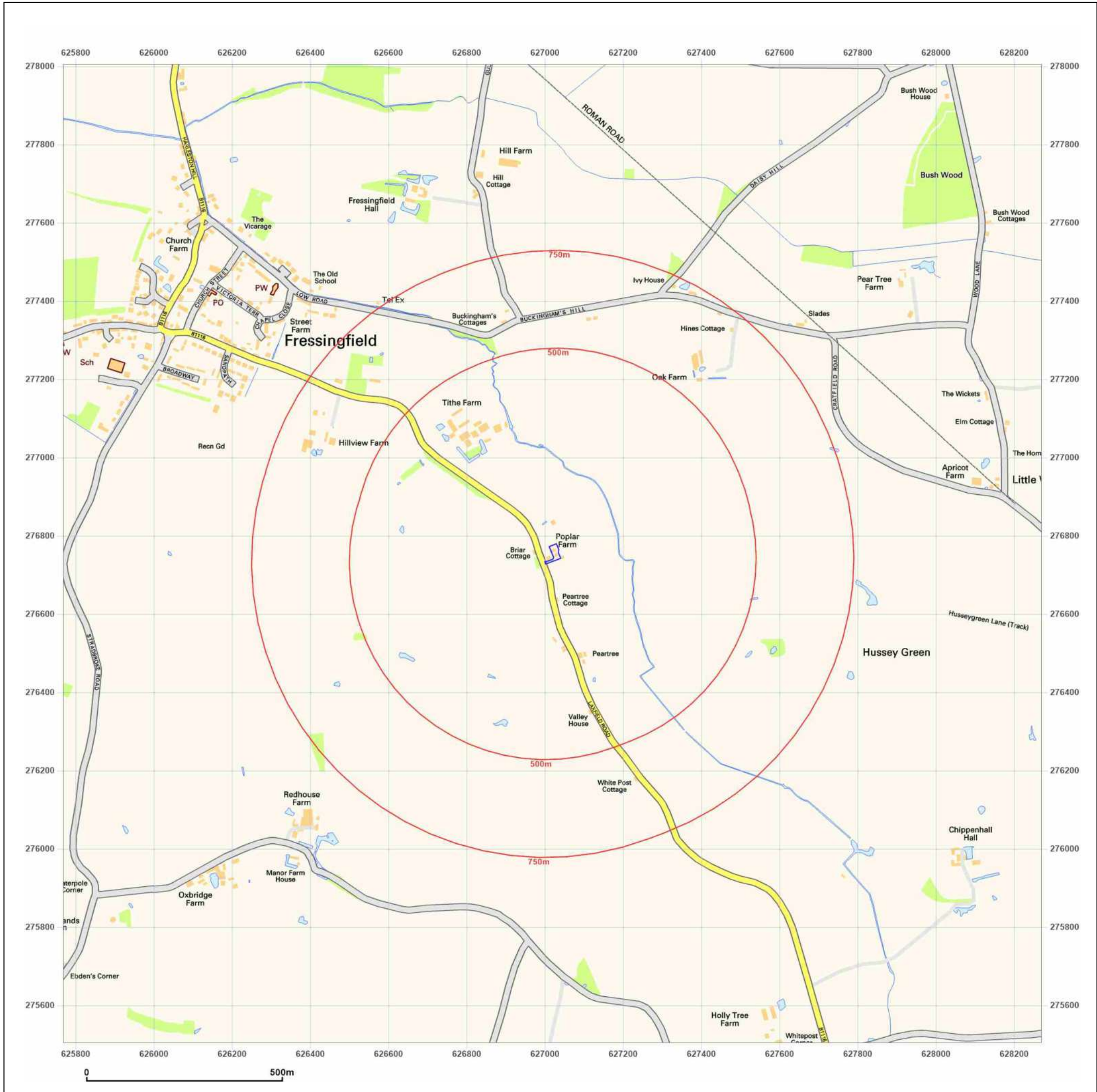


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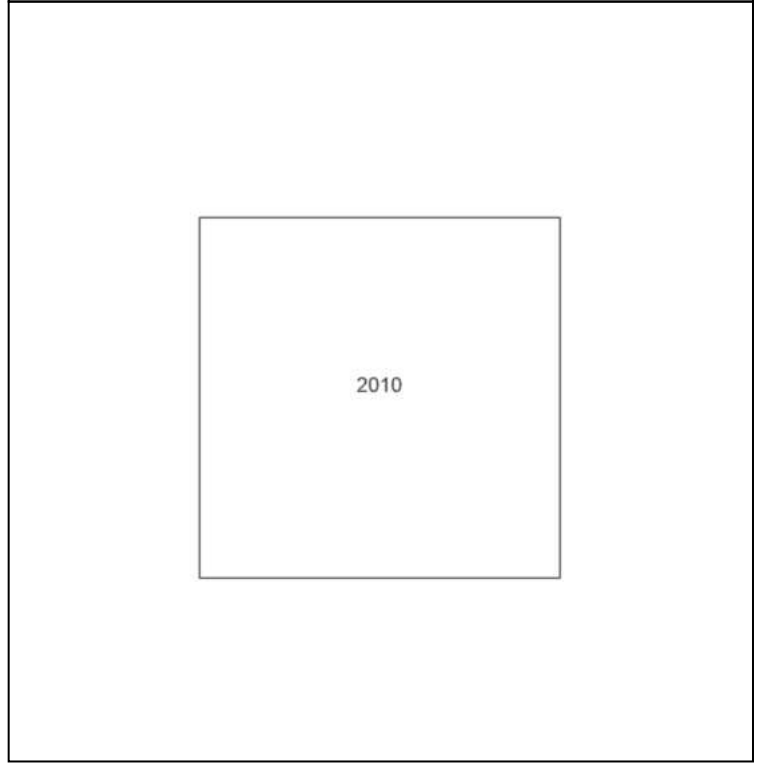
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Site Details:
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Client Ref: G0145
Report Ref: GS-PVY-GNN-ZPQ-K6A
Grid Ref: 627019, 276755

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

Powered by

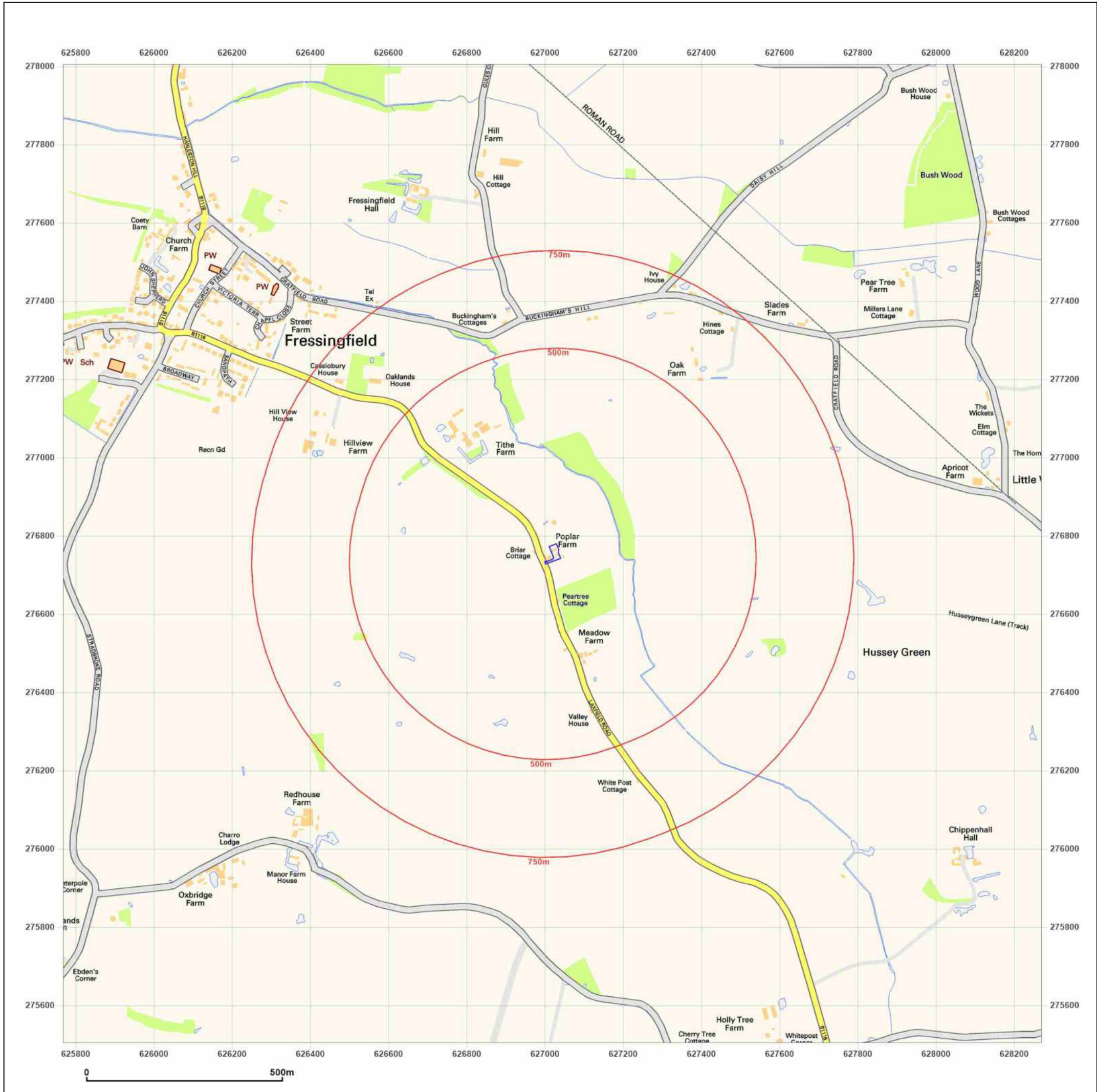


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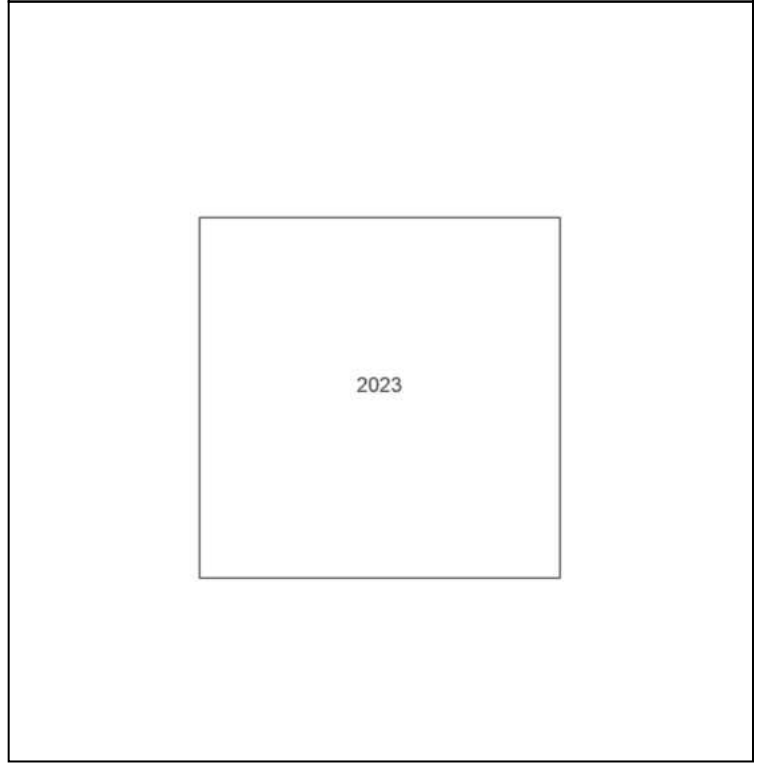
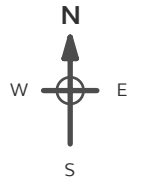
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Site Details:
 WIDGEHAM BARN, LAXFIELD ROAD, FRESSINGFIELD, IP21 5PY

Client Ref: G0145
Report Ref: GS-PVY-GNN-ZPQ-K6A
Grid Ref: 627019, 276755

Map Name: National Grid
Map date: 2023
Scale: 1:10,000
Printed at: 1:10,000



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