

A PHASE I DESK STUDY FOR A RESIDENTIAL DEVELOPMENT AT:

FIELD FARM, FIELD ROAD, SOUTH WALSHAM, NORFOLK, NR13 6BZ



CLIENT: D & C Murrell Limited
REFERENCE: MSH/23.020/Phase1
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1. INTRODUCTION

A F Howland Associates Limited was instructed by D & C Murrell Limited (the “Client”) to carry out a Phase I Desk Study for a proposed residential development at Field Farm, Field Road, South Walsham, Norfolk NR13 6BZ (Drawing 23.020/Phase1/01). The proposed layout is provided on Chaplin Farrant drawing FFSW-CF-XX-XX-DR-A-0003 Rev. P2 appended to this report.

This report presents archive historical and environmental information and gives details of a walkover survey undertaken to confirm the current condition of the site and surrounding area. An environmental database report was commissioned to provide background information and is included in Appendix B. The information is used to develop a preliminary conceptual model using the source-pathway-receptor principle and provides a qualitative risk assessment of land contamination.

The report has been carried out in general accordance with accepted best practice and methodologies (BSI, 2017; Environment Agency, 2020; DCLG, 2013) and was prepared for the sole and exclusive use of the Client and its advisors. Other parties using the contained information do so at their own risk and any duty of care to those parties is specifically excluded subject to copyright as detailed below.

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2. SITE LOCATION

The site was located just south of the village of Pilson Green, about 1 km east of South Walsham, and approximately 15 km north east of the centre of Norwich, Norfolk. It was centred at National Grid reference 637667, 313158 and at an elevation of around 10 m above Ordnance Datum (aOD).

3. GEOLOGY

Geological mapping (BGS, 2023) indicates the site to be underlain by bedrock geology of the Crag Group. The overlying superficial deposits are mapped as diamicton of the Happisburgh Glacigenic Formation. In the far north east corner of the site the Crag is mapped at surface.

The British Geological Survey archive has been searched for historic borehole records but there are none recorded nearby.

4. HYDROLOGY

The bedrock geology of the Crag is classified as a principal aquifer. The overlying superficial deposits of the Happisburgh Glacigenic Formation are classified as a secondary B aquifer. The overlying soils have high leaching potential. The site is not located within a source protection zone. The pressure surface of the groundwater is considered to be at a level of about 0 m aOD or about 10 m from surface (Institute of Geological Sciences, 1981).

There are no significant surface water features within 250 m of the site.

There are no active groundwater or surface water abstraction licences listed within 2 km of the site.

The site is not at risk from flooding from rivers or the sea. The site lies within an area considered to have a low or negligible risk of groundwater flooding. Parts of the site are at low risk of surface water flooding.



5. REVIEW OF HISTORICAL ARCHIVES

A review of historical maps has been undertaken to identify potentially contaminating land uses on site and in the surrounding area. The maps are provided in Appendix C and a summary is presented below. Potentially contaminating historical land uses are also listed within the environmental database report. In this instance there are no additional uses to those identified below within a distance that would influence the site.

During the latter part of the nineteenth century, the site lay within the north west corner of a field located within a sparsely populated rural area dominated by fields, south of the village of Pilson Green. The site was bounded by Field Road to the west, a field boundary to the north and open to the field to the east and south.

No change to the site or immediate surrounds was seen on the mapping until the early 1990s when two sheds were shown in the western half and other buildings were shown adjacent to the south. The 2003 mapping showed a third shed on site and an additional building with silos adjacent to the west.

Aerial images dating from 1988 to 2023¹ show the development of the site. In 1988 there was just one shed present on site. By 1999 three sheds were visible and by 2003 a fourth shed had been added. This is consistent with the present-day arrangement on site. Between 2007 and 2011 the wastewater storage pit (as seen during the walkover) had been added in the east of the site.

6. HAZARDOUS GAS SOURCES

Less than 1% of the properties in the site area are likely to have a radon level at or above the Great Britain action level. Radon protection measures are not typically required in this scenario.

Another source of potentially hazardous gases can be from landfill sites, other waste treatment facilities and uncontrolled backfill of voids such as mineral extraction pits. The environmental database report indicates that there are no active, recent or historical landfill sites within 500 m of the site nor are there any surface ground workings within 250 m of the site.

There are a number of waste exemptions registered to Field Farm and these relate to deposit of waste from dredging of inland waters, burning of waste in the open, use of

¹ Google Earth and <http://www.historic-maps.norfolk.gov.uk/mapexplorer/>



waste in construction and recovery of scrap metal. Although these waste exceptions are registered to this address this does not necessarily mean that these activities have taken place at the development site but at the wider farm in general.

7. CURRENT LAND USES SURROUNDING THE SITE

Other than farming, there are no recent or current industrial activities listed within 200 m of the site.

8. WALKOVER SURVEY

A walkover survey was carried out on the 27 January 2023 to enable identification of the current land uses and other relevant details not otherwise identified from the archival information. The pertinent details are provided on Drawing 23.020/Phase1/02 in Appendix D.

The site comprised part of an active pig farm accessed from Field Road in the west. It was set within arable fields, bounded by hedging and mature trees to the north and open to an arable field to the east. The site was open to the other parts of the pig farm to the south and west. A residential property lay to the south.

There were four large steel framed barns with feed hoppers for housing pigs on site. They had concrete floors and were constructed of concrete blocks with metal cladding and corrugated cement board roofing, a potential asbestos containing material (ACM).

The sheds were mostly surrounded by an apron of concrete hardstanding. In between the sheds and along the northern and eastern edges of the site was grass and rough vegetation. In the far east of the site the rough ground was used to store a variety of farm materials such as wood pallets, plastic pipes/containers and other construction materials.

The waste from the pig sheds was currently being scraped into a central area on the concrete hardstanding. The effluent from the manure pile then flowed into a drain running alongside the barns in the north of the site and into a covered and lined wastewater pit in the east of the site. The pit was emptied regularly and the contents used as fertiliser on the surrounding fields.



There was no evidence of above or below ground fuel storage tanks. There was the occasional plastic container containing farm disinfectant on site. No other farm chemicals were seen.

9. DISCUSSION OF ENVIRONMENTAL ISSUES

It is proposed to redevelop the site for residential end use.

The site is underlain by superficial deposits classified as a secondary (B) aquifer with overlying soils of high leaching potential whilst the underlying bedrock geology is a principal aquifer. However, the site does not lie within a source protection zone and there are no groundwater abstractions nearby. There are no significant water features on site or nearby.

A review of historical sources reveals that there has been at least one barn on site since the late 1980s. Past and current use of the site as a pig farm can lead to high concentrations of ammonia and nitrates within the underlying soil and groundwater (if present). There may also be some localised contamination within the near-surface soil associated with general agricultural use of the site.

There is a wastewater pit in the east of the site. This pit is lined and emptied regularly. Whilst the pit itself is unlikely to be a source of contamination, care must be taken during its removal to prevent contamination of the surrounding soils.

No off-site potential sources of contamination, current or historical, that are likely to have impacted the site have been identified.

The cement board within the buildings is a potential ACM. Care should be taken to identify the presence of any asbestos containing materials and these should be removed off site in accordance with duty of care.

No sources of potential ground gas have been identified.



10. PRELIMINARY CONCEPTUAL MODEL

Following a review of the archival information and the walkover survey a Preliminary Conceptual Model was devised to determine the risk to appropriate targets from the potential contaminating activities assessed for the site.

The Preliminary Conceptual Model collates the evidence gained and establishes the potential linkages that may exist under the principle of “source-pathway-receptor”. This is presented in Table 1 below.

A risk category² is determined for the potential linkages and an assessment made of risk and the significance of that risk from professional judgement. Where appropriate, further work is recommended to assess whether the potential linkages are realised.

² Risk assessment classification included as Appendix E



Source of Contamination	Pathway	Receptor	Probability and Reasoning	Consequence and Reasoning	Risk Classification
Potentially contaminated soils from historical and current use	Direct contact, inhalation, ingestion	Human end-users	Likely – potential contamination sources identified past and current agricultural use, high exposure garden areas proposed	Medium – human end-users and garden areas proposed	Moderate Risk
		Construction workers	Low likelihood – potential for localised contamination identified but unlikely to be significant enough to impact construction workers	Mild – short term exposure but can be controlled by use of PPE and suitable hygiene practices	Low Risk
	Percolation and migration of leachate / mobile contaminants	Groundwater	Low likelihood – potential for localised contamination identified but significant mobile or leachable contamination not expected	Medium – site is underlain by both principal and secondary aquifers	Low/Moderate Risk
		Surface water		Medium – ponds in the wider surrounding area	Low/Moderate Risk
	Direct Contact	Water supply pipes	Low likelihood – localised contamination that could permeate plastic water supply pipes possible	Medium – human receptors	Low/Moderate Risk
		Buried concrete	Unlikely – no evidence for significant aggressive chemicals	Medium – robust receptor	Low Risk
Potentially infilled land on and off site	Gas migration and accumulation in structures	Human end-users	Unlikely – no infilled land identified	Severe - acute risk to potential end users	Low/Moderate Risk¹
		Structures			Low/Moderate Risk¹
Radon Gas		Human end-users	Unlikely – site outside of radon affected area	Medium - chronic risk to human end users	Low Risk

Notes: ¹ a moderate/low risk has been determined based on the probability and consequence however, based on the lack of a ground gas source the risk is likely to be low or negligible.

Table 1 – Preliminary Conceptual Site Model

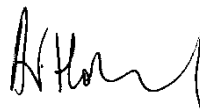


11. CONCLUSIONS AND RECOMMENDATIONS

1. A Phase I Desk Study was undertaken for a proposed residential development at Field Farm, Field Road, South Walsham, Norfolk NR13 6BZ.
2. The site is currently in use as a pig farm and there have been barns on site since the late 1980s. Prior to this it was part of a field.
3. Past and current use of the site as a pig farm is a potential source of contamination. Pig farms can also be a source of ammonia and nitrates that can impact controlled waters. There may also be localised contamination from general agricultural use of the site.
4. Geological mapping indicates the site to be underlain by a bedrock geology of the Crag Group, a principal aquifer, overlain by superficial deposits of the Happisburgh Glacigenic Formation, a secondary (B) aquifer. There are no surface water features on or adjacent to the site.
5. Human end-users have the potential to be exposed to contaminated soils within proposed garden and soft landscaped areas. A moderate risk is concluded.
6. There is a low likelihood that significant mobile or leachable contamination is present that could pose a threat to surface water or groundwater. A low to moderate risk is concluded.
7. There is a low likelihood that contamination exists on site that would have the potential to permeate water supply pipes and a low to moderate risk is concluded.
8. It is unlikely that contamination exists on site that would have the potential to be aggressive to concrete and a low risk is concluded.
9. No significant sources of ground gas have been identified and a low or negligible risk from ground gas is concluded.
10. An intrusive investigation is recommended, focusing on soils within the proposed high exposure garden and soft landscaped areas. This should include analysis for a suite of contaminants including ammonia and nitrate in soil leachate, and quantification of the risks identified in the conceptual model.
11. All asbestos containing materials should be identified and removed in accordance with duty of care and documents proving suitable removal and disposal made available for including in subsequent assessments.



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3 February 2023



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APPENDIX A: REFERENCES

BRITISH GEOLOGICAL SURVEY (BGS). 2023. <https://www.bgs.ac.uk/map-viewers/geoindex-onshore/>

BRITISH STANDARDS INSTITUTE (BSI). 2017. BS 10175:2011+A2:2017. Code of practice for investigation of potentially contaminated Sites. British Standards Institution. London.

DEPARTMENT FOR COMMUNITIES AND LOCAL GOVERNMENT (DCLG). 2013. The Building Regulations - England - Approved Document C: Site preparation and resistance to contaminants and moisture, 2004 and incorporating 2010 and 2013 amendments.

ENVIRONMENT AGENCY. 2020. Land Contamination Risk Management (LCRM). Accessed at: <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>. Environment Agency, Bristol.

INSTITUTE OF GEOLOGICAL SCIENCES. 1981. Hydrogeological Map of Southern East Anglia. 1:125,000 Scale. IGS, London.



APPENDIX B: ENVIRONMENTAL DATABASE REPORT

Reference GS-9320875



A F Howland Associates
Geotechnical Engineers

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FIELD FARM, FIELD ROAD, SOUTH WALSHAM, NORWICH, NR13 6BZ

Order Details

Date: 26/01/2023
Your ref: BJH_23_020
Our Ref: GS-9320875

Site Details

Location: 637646 313143
Area: 0.66 ha
Authority: [Broadland District Council](#)



Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.13

groundsure.com/insightuserguide

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	<u>Historical industrial land uses</u>	0	0	0	3	-
15	1.2	Historical tanks	0	0	0	0	-
15	1.3	Historical energy features	0	0	0	0	-
15	1.4	Historical petrol stations	0	0	0	0	-
16	1.5	Historical garages	0	0	0	0	-
16	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
17	2.1	<u>Historical industrial land uses</u>	0	0	0	4	-
18	2.2	Historical tanks	0	0	0	0	-
18	2.3	Historical energy features	0	0	0	0	-
18	2.4	Historical petrol stations	0	0	0	0	-
18	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
19	3.1	Active or recent landfill	0	0	0	0	-
19	3.2	Historical landfill (BGS records)	0	0	0	0	-
20	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
20	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
20	3.5	Historical waste sites	0	0	0	0	-
20	3.6	Licensed waste sites	0	0	0	0	-
20	3.7	<u>Waste exemptions</u>	0	11	0	5	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
23	4.1	<u>Recent industrial land uses</u>	0	2	0	-	-
24	4.2	Current or recent petrol stations	0	0	0	0	-
24	4.3	Electricity cables	0	0	0	0	-
24	4.4	Gas pipelines	0	0	0	0	-
24	4.5	Sites determined as Contaminated Land	0	0	0	0	-



24	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
25	4.7	Regulated explosive sites	0	0	0	0	-
25	4.8	Hazardous substance storage/usage	0	0	0	0	-
25	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
25	4.10	<u>Licensed industrial activities (Part A(1))</u>	0	6	0	0	-
26	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
26	4.12	Radioactive Substance Authorisations	0	0	0	0	-
27	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
27	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
27	4.15	Pollutant release to public sewer	0	0	0	0	-
27	4.16	List 1 Dangerous Substances	0	0	0	0	-
27	4.17	List 2 Dangerous Substances	0	0	0	0	-
28	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
28	4.19	Pollution inventory substances	0	0	0	0	-
28	4.20	Pollution inventory waste transfers	0	0	0	0	-
28	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
29	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
31	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
32	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
33	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
33	5.5	Groundwater vulnerability- local information	None (within 0m)				
34	5.6	<u>Groundwater abstractions</u>	0	0	0	4	5
36	5.7	Surface water abstractions	0	0	0	0	0
37	5.8	Potable abstractions	0	0	0	0	0
37	5.9	Source Protection Zones	0	0	0	0	-
37	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
38	6.1	Water Network (OS MasterMap)	0	0	0	-	-



38	6.2	Surface water features	0	0	0	-	-
39	6.3	<u>WFD Surface water body catchments</u>	2	-	-	-	-
39	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
40	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
41	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
41	7.2	Historical Flood Events	0	0	0	-	-
41	7.3	Flood Defences	0	0	0	-	-
42	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
42	7.5	Flood Storage Areas	0	0	0	-	-
43	7.6	Flood Zone 2	None (within 50m)				
43	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
44	8.1	<u>Surface water flooding</u>	1 in 250 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding					
46	9.1	<u>Groundwater flooding</u>	Low (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
47	10.1	<u>Sites of Special Scientific Interest (SSSI)</u>	0	0	0	0	3
48	10.2	<u>Conserved wetland sites (Ramsar sites)</u>	0	0	0	0	2
49	10.3	<u>Special Areas of Conservation (SAC)</u>	0	0	0	0	2
50	10.4	<u>Special Protection Areas (SPA)</u>	0	0	0	0	3
51	10.5	National Nature Reserves (NNR)	0	0	0	0	0
51	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
51	10.7	Designated Ancient Woodland	0	0	0	0	0
52	10.8	Biosphere Reserves	0	0	0	0	0
52	10.9	Forest Parks	0	0	0	0	0
52	10.10	Marine Conservation Zones	0	0	0	0	0
52	10.11	Green Belt	0	0	0	0	0
52	10.12	Proposed Ramsar sites	0	0	0	0	0



53	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
53	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
53	10.15	Nitrate Sensitive Areas	0	0	0	0	0
53	10.16	<u>Nitrate Vulnerable Zones</u>	2	0	0	0	1
55	10.17	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
56	10.18	<u>SSSI Units</u>	0	0	0	0	22

Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
68	11.1	World Heritage Sites	0	0	0	-	-
68	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
68	11.3	National Parks	0	0	0	-	-
68	11.4	Listed Buildings	0	0	0	-	-
69	11.5	Conservation Areas	0	0	0	-	-
69	11.6	Scheduled Ancient Monuments	0	0	0	-	-
69	11.7	Registered Parks and Gardens	0	0	0	-	-

Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
70	12.1	<u>Agricultural Land Classification</u>	Grade 2 (within 250m)				
71	12.2	Open Access Land	0	0	0	-	-
71	12.3	Tree Felling Licences	0	0	0	-	-
71	12.4	Environmental Stewardship Schemes	0	0	0	-	-
72	12.5	<u>Countryside Stewardship Schemes</u>	1	1	0	-	-

Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
73	13.1	Priority Habitat Inventory	0	0	0	-	-
73	13.2	Habitat Networks	0	0	0	-	-
73	13.3	Open Mosaic Habitat	0	0	0	-	-
73	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
74	14.1	<u>10k Availability</u>	Identified (within 500m)				
75	14.2	<u>Artificial and made ground (10k)</u>	0	0	2	4	-
77	14.3	<u>Superficial geology (10k)</u>	1	1	1	3	-



78	14.4	Landslip (10k)	0	0	0	0	-
79	14.5	<u>Bedrock geology (10k)</u>	1	0	0	2	-
80	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
81	15.1	<u>50k Availability</u>	Identified (within 500m)				
82	15.2	<u>Artificial and made ground (50k)</u>	0	0	1	3	-
83	15.3	Artificial ground permeability (50k)	0	0	-	-	-
84	15.4	<u>Superficial geology (50k)</u>	1	1	1	5	-
85	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
85	15.6	Landslip (50k)	0	0	0	0	-
85	15.7	Landslip permeability (50k)	None (within 50m)				
86	15.8	<u>Bedrock geology (50k)</u>	1	0	0	0	-
87	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
87	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
88	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence					
89	17.1	<u>Shrink swell clays</u>	Low (within 50m)				
90	17.2	<u>Running sands</u>	Very low (within 50m)				
91	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
92	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
93	17.5	<u>Landslides</u>	Very low (within 50m)				
94	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
95	18.1	Natural cavities	0	0	0	0	-
95	18.2	BritPits	0	0	0	0	-
95	18.3	Surface ground workings	0	0	0	-	-
95	18.4	Underground workings	0	0	0	0	0
96	18.5	Historical Mineral Planning Areas	0	0	0	0	-



96	18.6	Non-coal mining	0	0	0	0	0
96	18.7	Mining cavities	0	0	0	0	0
96	18.8	JPB mining areas	None (within 0m)				
96	18.9	Coal mining	None (within 0m)				
97	18.10	Brine areas	None (within 0m)				
97	18.11	Gypsum areas	None (within 0m)				
97	18.12	Tin mining	None (within 0m)				
97	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
98	19.1	Radon	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
100	20.1	BGS Estimated Background Soil Chemistry	2	1	-	-	-
100	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
100	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
101	21.1	Underground railways (London)	0	0	0	-	-
101	21.2	Underground railways (Non-London)	0	0	0	-	-
101	21.3	Railway tunnels	0	0	0	-	-
101	21.4	Historical railway and tunnel features	0	0	0	-	-
101	21.5	Royal Mail tunnels	0	0	0	-	-
102	21.6	Historical railways	0	0	0	-	-
102	21.7	Railways	0	0	0	-	-
102	21.8	Crossrail 1	0	0	0	0	-
102	21.9	Crossrail 2	0	0	0	0	-
102	21.10	HS2	0	0	0	0	-



Recent aerial photograph



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

Capture Date: 11/04/2020

Site Area: 0.66ha



Recent site history - 2017 aerial photograph



Capture Date: 28/08/2017

Site Area: 0.66ha



Recent site history - 2010 aerial photograph



Capture Date: 23/06/2010

Site Area: 0.66ha



Recent site history - 2000 aerial photograph



Capture Date: 08/06/2000

Site Area: 0.66ha



Recent site history - 1999 aerial photograph



Capture Date: 19/06/1999

Site Area: 0.66ha



OS MasterMap site plan



Site Area: 0.66ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m **3**

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
1	308m NW	Smithy	1884 - 1905	2307309

ID	Location	Land use	Dates present	Group ID
2	371m W	Unspecified Pit	1884	2297010
3	494m SE	Unspecified Pit	1884	2297011

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



1.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

0


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

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



2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

4

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

Features are displayed on the Past land use - un-grouped map on **page 17**

ID	Location	Land Use	Date	Group ID
A	308m NW	Smithy	1905	2307309
A	308m NW	Smithy	1884	2307309
1	371m W	Unspecified Pit	1884	2297010

ID	Location	Land Use	Date	Group ID
2	494m SE	Unspecified Pit	1884	2297011

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



- Site Outline
- Search buffers in metres (m)
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m **0**

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m **0**

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

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

3.5 Historical waste sites

Records within 500m **0**

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

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

3.6 Licensed waste sites

Records within 500m **0**

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

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

3.7 Waste exemptions

Records within 500m **16**

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

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

ID	Location	Site	Reference	Category	Sub-Category	Description
A	32m S	Field Farm Field Road NORWICH NR13 6BZ	EPR/SF0039KG /A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters



ID	Location	Site	Reference	Category	Sub-Category	Description
A	32m S	Field Farm Field Road NORWICH NR13 6BZ	EPR/SF0039KG /A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
A	32m S	Field Farm Field Road NORWICH NR13 6BZ	EPR/SF0039KG /A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in a secure place
A	32m S	Field Farm Field Road NORWICH NR13 6BZ	EPR/SF0039KG /A001	Treating waste exemption	Agricultural Waste Only	Recovery of scrap metal
A	32m S	Field Farm Field Road NORWICH NR13 6BZ	EPR/SF0039KG /A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
A	32m S	Field Farm Field Road NORWICH NR13 6BZ	EPR/SF0039KG /A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
A	33m S	FIELD FARM, FIELD ROAD, SOUTH WALSHAM, NORWICH, NR13 6BZ	WEX209797	Disposing of waste exemption	On a Farm	Burning waste in the open
A	33m S	FIELD FARM, FIELD ROAD, SOUTH WALSHAM, NORWICH, NR13 6BZ	WEX209797	Using waste exemption	On a Farm	Use of waste in construction
A	33m S	FIELD FARM, FIELD ROAD, SOUTH WALSHAM, NORWICH, NR13 6BZ	WEX209797	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
A	33m S	FIELD FARM, FIELD ROAD, SOUTH WALSHAM, NORWICH, NR13 6BZ	WEX065589	Disposing of waste exemption	On a farm	Burning waste in the open
A	33m S	FIELD FARM, FIELD ROAD, SOUTH WALSHAM, NORWICH, NR13 6BZ	WEX065589	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
B	421m NW	South Walsham Marshes, South Walsham, Norwich, NR13 6EG	WEX202041	Using waste exemption	On a Farm	Use of waste in construction
B	421m NW	South Walsham Marshes, South Walsham, Norwich, NR13 6EG	WEX202041	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
1	466m NE	Broadacre Farm Low Road Norwich Norfolk NR13 6EQ	EPR/XF0100GZ /A001	Disposing of waste exemption	Non- Agricultural Waste Only	Deposit of waste from a portable sanitary convenience
C	483m N	South Walsham Marshes, South Walsham, Norwich, NR13 6EG	WEX050785	Using waste exemption	On a farm	Use of waste in construction



ID	Location	Site	Reference	Category	Sub-Category	Description
C	483m N	South Walsham Marshes, South Walsham, Norwich, NR13 6EG	WEX050785	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- 📍 Part A(1) industrial activities

4.1 Recent industrial land uses

Records within 250m

2

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 23**

ID	Location	Company	Address	Activity	Category
A	3m SW	Silo	Norfolk, NR13	Hoppers and Silos	Farming
A	8m SW	Silo	Norfolk, NR13	Hoppers and Silos	Farming

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

6

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

Features are displayed on the Current industrial land use map on **page 23**

ID	Location	Details	
B	42m SW	Operator: MURRELL Installation Name: FIELD FARM Process: INTENSIVE FARMING; > 2,000 PIGS (PRODUCTION PIGS) Permit Number: AP3432GS Original Permit Number: SP3035UK	EPR Reference: - Issue Date: 12/02/2009 Effective Date: 12/02/2009 Last date noted as effective: 02/11/2022 Status: SUPERCEDED
B	42m SW	Operator: MURRELL Installation Name: FIELD FARM PIG UNIT Process: ASSOCIATED PROCESS Permit Number: SP3032VL Original Permit Number: SP3035UK	EPR Reference: - Issue Date: - Effective Date: 15/05/2014 Last date noted as effective: 02/11/2022 Status: SURRENDER EFFECTIVE

ID	Location	Details	
B	42m SW	Operator: MURRELL Installation Name: FIELD FARM PIG UNIT Process: INTENSIVE FARMING; > 2,000 PIGS (PRODUCTION PIGS) Permit Number: SP3032VL Original Permit Number: SP3035UK	EPR Reference: - Issue Date: - Effective Date: 15/05/2014 Last date noted as effective: 02/11/2022 Status: SURRENDER EFFECTIVE
B	42m SW	Operator: MURRELL Installation Name: FIELD FARM Process: INTENSIVE FARMING; > 2,000 PIGS (PRODUCTION PIGS) Permit Number: SP3035UK Original Permit Number: SP3035UK	EPR Reference: EA/EPR/SP3035UK/V002 Issue Date: 26/10/2007 Effective Date: 26/10/2007 Last date noted as effective: 02/11/2022 Status: SUPERCEDED
B	42m SW	Operator: MURRELL Installation Name: FIELD FARM Process: ASSOCIATED PROCESS Permit Number: AP3432GS Original Permit Number: SP3035UK	EPR Reference: - Issue Date: 12/02/2009 Effective Date: 12/02/2009 Last date noted as effective: 02/11/2022 Status: SUPERCEDED
B	42m SW	Operator: MURRELL Installation Name: FIELD FARM Process: ASSOCIATED PROCESS Permit Number: SP3035UK Original Permit Number: SP3035UK	EPR Reference: EA/EPR/SP3035UK/V002 Issue Date: 26/10/2007 Effective Date: 26/10/2007 Last date noted as effective: 02/11/2022 Status: SUPERCEDED

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

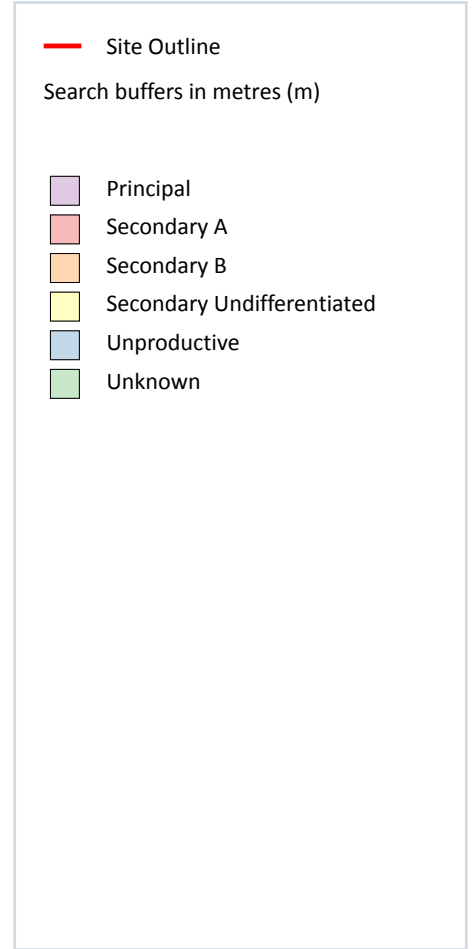
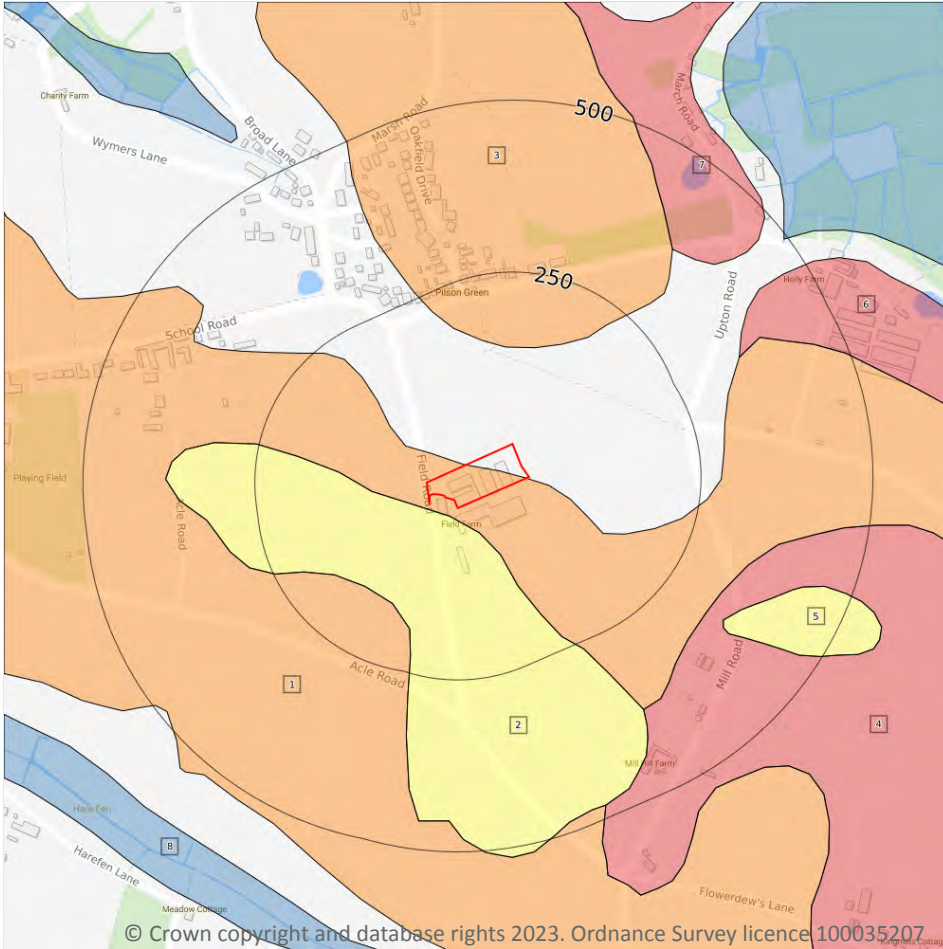
Records within 500m

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

8

Aquifer status of groundwater held within superficial geology.

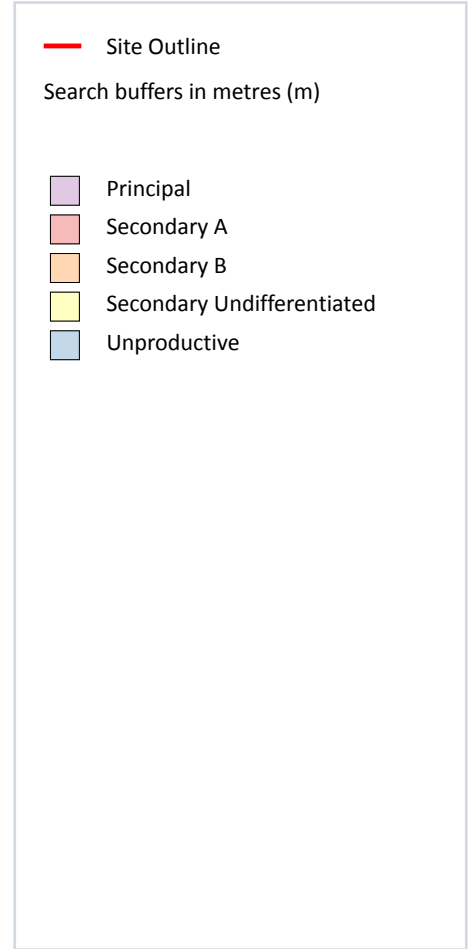
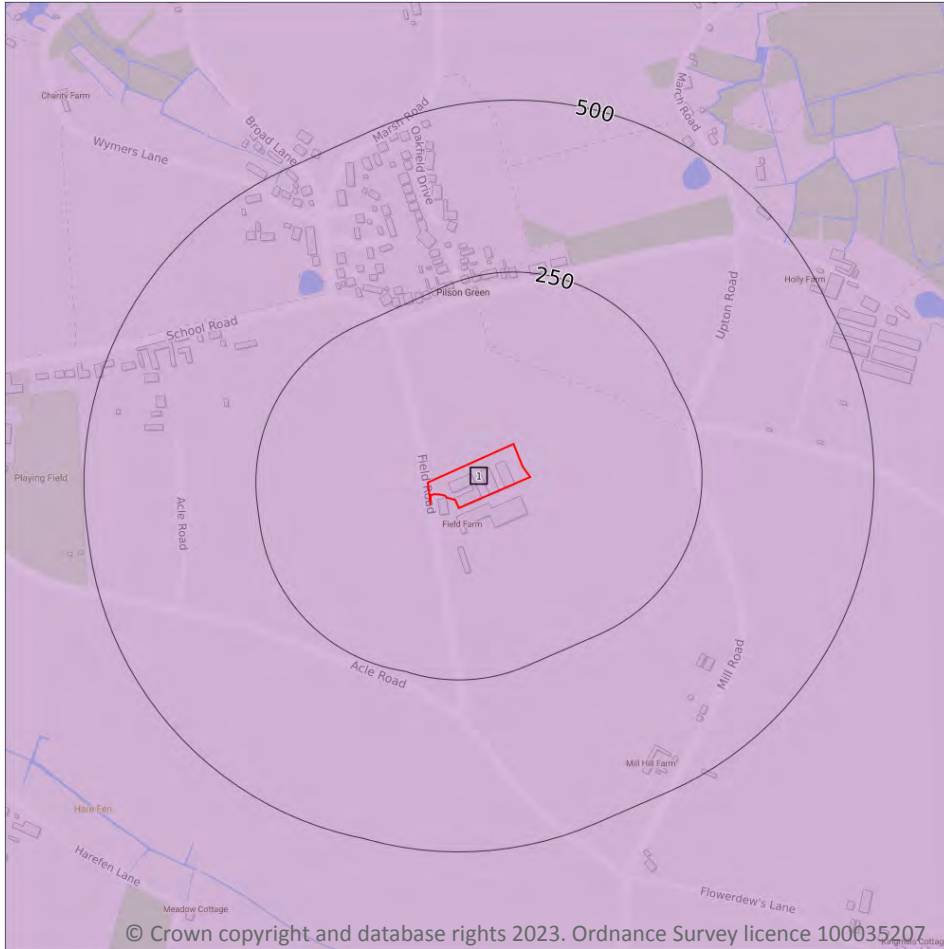
Features are displayed on the Hydrogeology map on **page 29**

ID	Location	Designation	Description
1	On site	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers
2	12m SW	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

ID	Location	Designation	Description
3	141m N	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers
4	324m SE	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
5	351m SE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
6	352m NE	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
7	366m NE	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
8	495m NE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

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

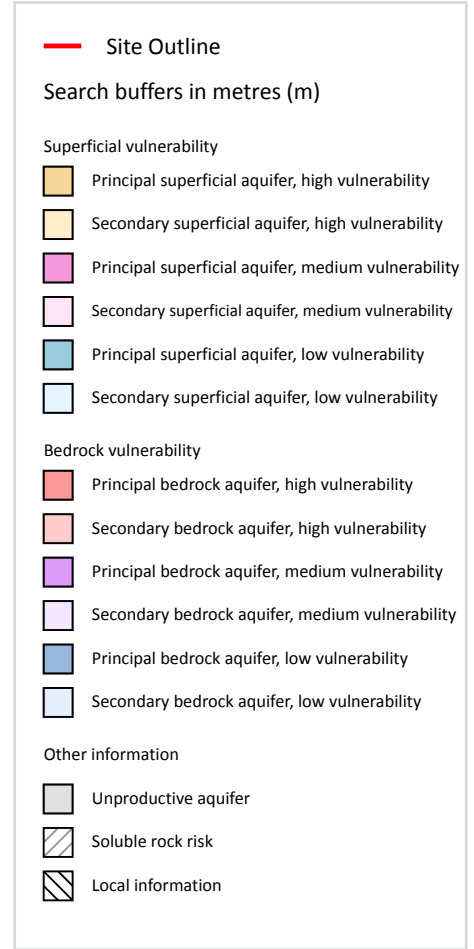
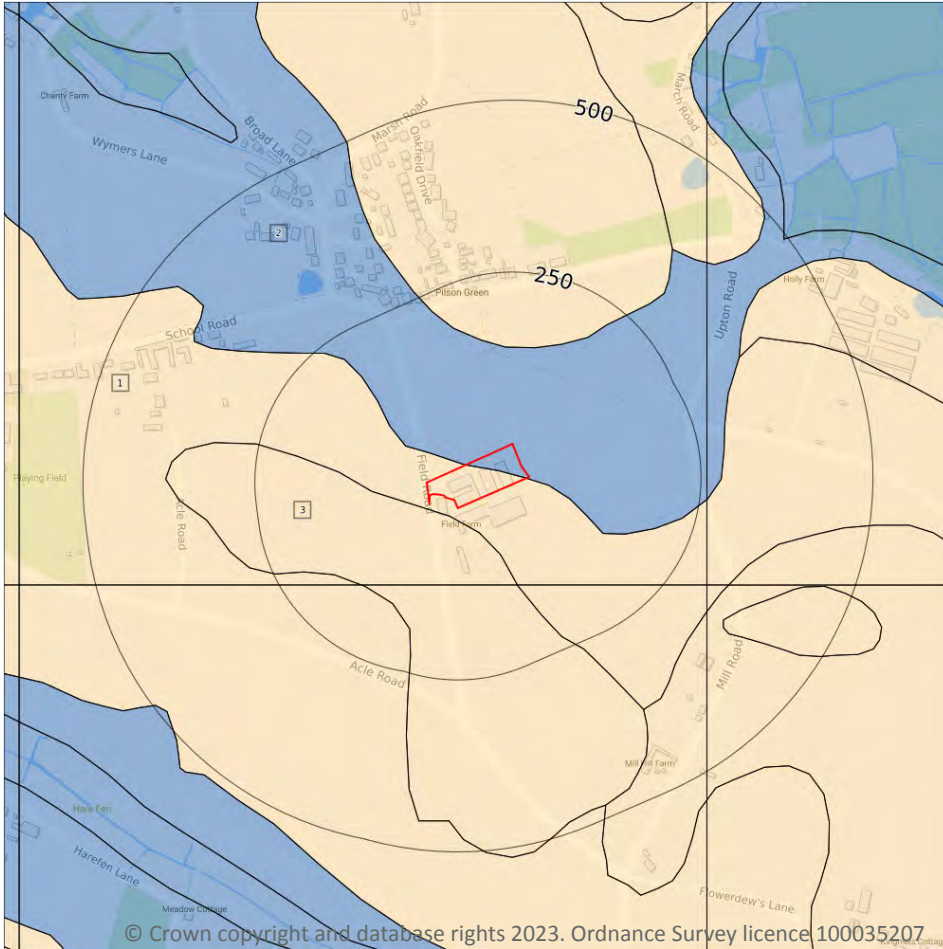
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 31**

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

3

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 32**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Low Aquifer type: Principal Flow mechanism: Intergranular
2	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: >10m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Low Aquifer type: Principal Flow mechanism: Intergranular
3	11m SW	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Medium	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

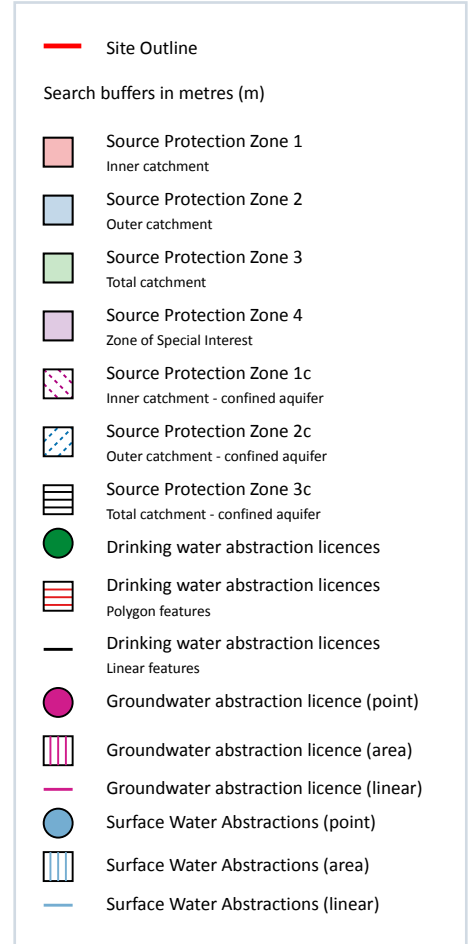
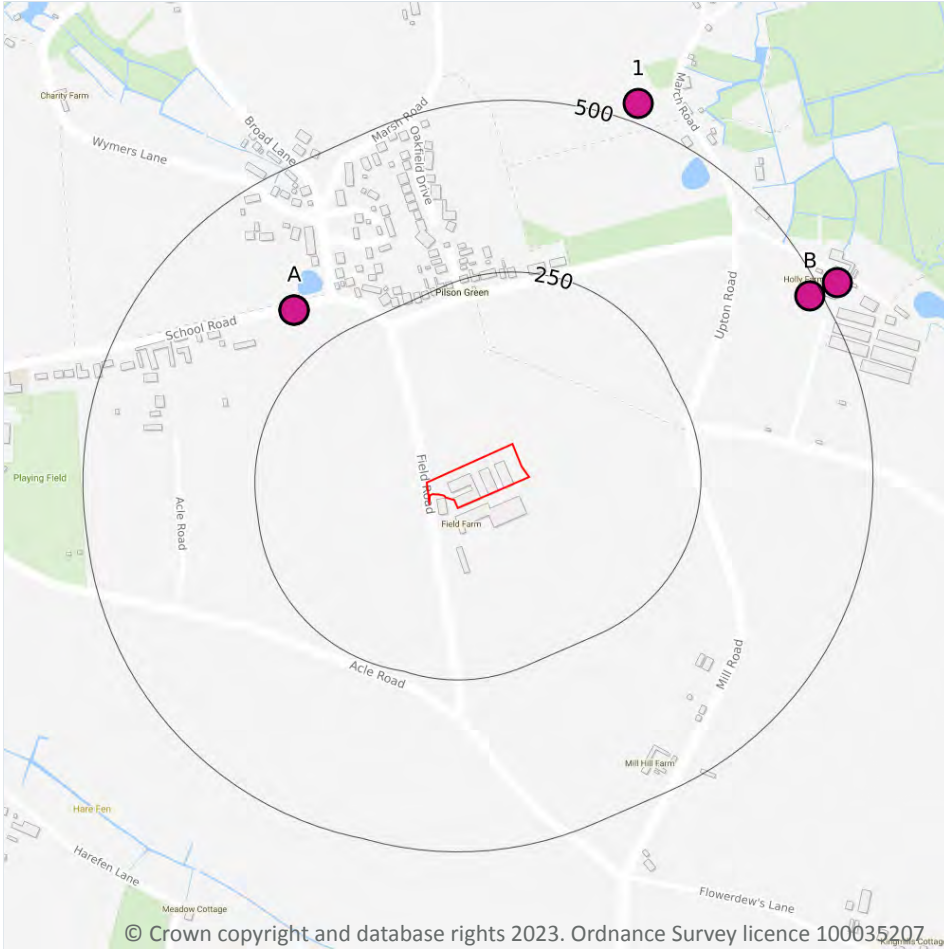
0

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

9

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 34**

ID	Location	Details	
A	316m NW	Status: Historical Licence No: 7/34/10/*G/0142 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: 11 WELLPTS AT MANOR FM,S WAL'M Data Type: Point Name: MURRELL Easting: 637400 Northing: 313400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: 31/10/2004 Issue No: 1 Version Start Date: 01/04/2000 Version End Date: -
A	316m NW	Status: Historical Licence No: 7/34/10/*G/0142A Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: 11 WELLPTS AT MANOR FM,S WAL'M Data Type: Point Name: MURRELL Easting: 637400 Northing: 313400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/04/2004 Expiry Date: 31/03/2006 Issue No: 1 Version Start Date: 01/04/2004 Version End Date: -
A	316m NW	Status: Historical Licence No: 7/34/10/*G/0142B Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: 11 WELLPTS AT MANOR FM,S WAL'M Data Type: Point Name: MURRELL Easting: 637400 Northing: 313400	Annual Volume (m ³): 6000 Max Daily Volume (m ³): 800 Original Application No: - Original Start Date: 01/04/2006 Expiry Date: 31/03/2008 Issue No: 1 Version Start Date: 01/04/2006 Version End Date: -
B	483m NE	Status: Historical Licence No: 7/34/10/*G/0039 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL AT HOLLY FM,SOUTH WALSHAM Data Type: Point Name: MARJORAM Easting: 638150 Northing: 313420	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/01/1966 Version End Date: -
1	527m NE	Status: Historical Licence No: 7/34/10/*G/0102 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELLPOINTS,LOW FM,S WALSHAM Data Type: Point Name: HUGH CRANE LTD Easting: 637900 Northing: 313700	Annual Volume (m ³): 13600 Max Daily Volume (m ³): 455 Original Application No: - Original Start Date: 01/07/1980 Expiry Date: - Issue No: 103 Version Start Date: 15/07/2004 Version End Date: -



ID	Location	Details	
B	527m NE	Status: Historical Licence No: 7/34/10/*G/0039 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL AT HOLLY FM,SOUTH WALSHAM Data Type: Point Name: MARJORAM Easting: 638190 Northing: 313440	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/01/1966 Version End Date: -
-	843m NW	Status: Historical Licence No: 7/34/10/*G/0041 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL,SOUTH OF S.WALSHAM BROAD Data Type: Point Name: JONES Easting: 637190 Northing: 313890	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/02/1966 Version End Date: -
-	1060m NW	Status: Historical Licence No: 7/34/10/*G/0041 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL,E END OF S.WALSHAM BROAD Data Type: Point Name: JONES Easting: 637210 Northing: 314140	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/02/1966 Version End Date: -
-	1859m NW	Status: Historical Licence No: 7/34/09/*G/0011 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BORE AT LEIST'S FARM,RANWORTH Data Type: Point Name: JERMY BROS Easting: 636370 Northing: 314550	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 01/12/1965 Version End Date: -

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



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

0

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

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

0

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

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	2
------------------------	----------

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 38**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Bure (Horstead Mill to St Benet's Abbey)	GB105034050931	Bure	Broadland Rivers
2	On site	Coastal Catchment	Not part of a river WB catchment	13	Bure	Broadland Rivers

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

6.4 WFD Surface water bodies

Records identified	1
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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 38**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	1141m NW	River	Bure (Horstead Mill to St Benet's Abbey)	GB105034050931	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 38**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
3	On site	Broadland Rivers Chalk & Crag	<u>GB40501G400300</u>	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

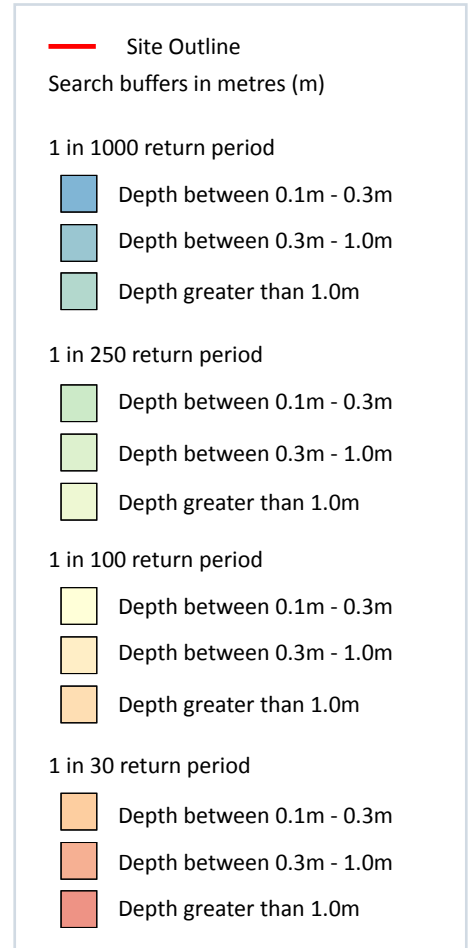
0

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

1 in 250 year, 0.1m - 0.3m

Highest risk within 50m

1 in 250 year, 0.1m - 0.3m

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

Features are displayed on the Surface water flooding map on **page 44**

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

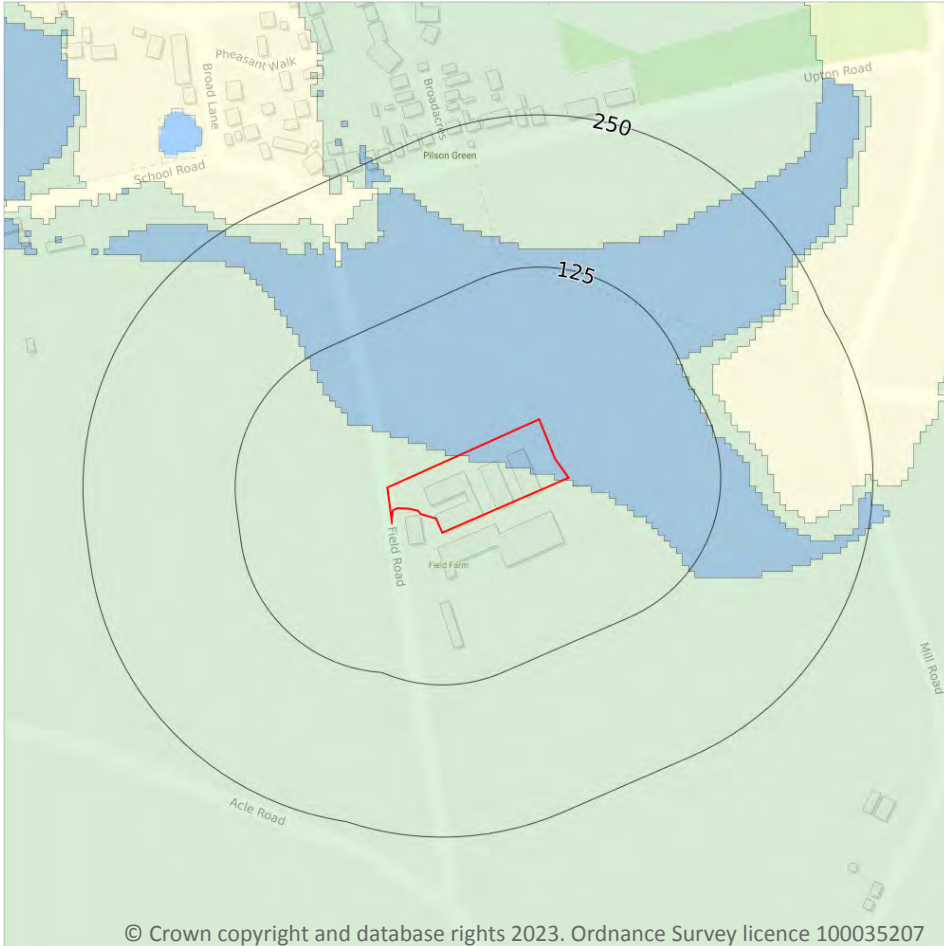
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.1m and 0.3m
1 in 250 year	Between 0.1m and 0.3m
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

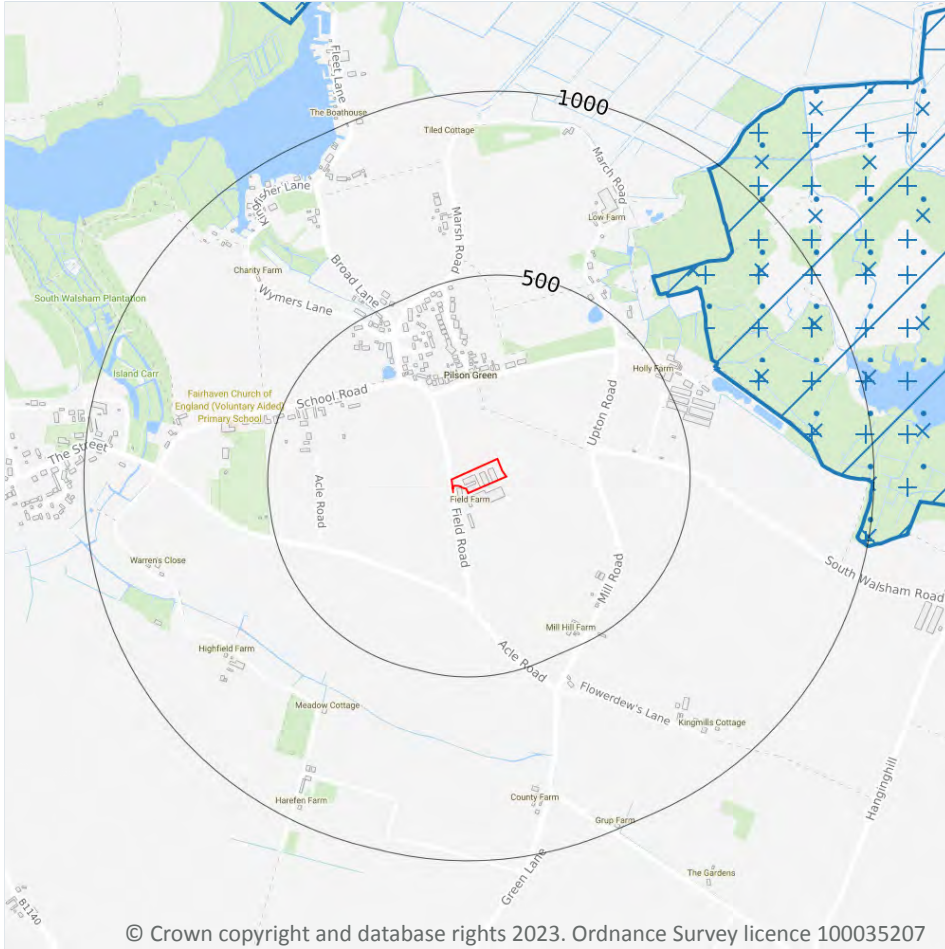
Low

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 46**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- X Sites of Special Scientific Interest (SSSI)
- + Conserved wetland sites (Ramsar sites)
- + Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

3

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 47**

ID	Location	Name	Data source
A	629m NE	Upton Broad & Marshes	Natural England



ID	Location	Name	Data source
1	1312m NW	Bure Broads and Marshes	Natural England
-	1666m N	Bure Broads and Marshes	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

2

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.

Features are displayed on the Environmental designations map on **page 47**

ID	Location	Site	Details
A	628m NE	Name: Broadland Site status: Listed Data source: Natural England	<p>Overview: Broadland is a low-lying wetland complex straddling the boundaries between east Norfolk and northern Suffolk. The area includes the river valley systems of the Bure, Yare and Waveney and their major tributaries. The open distinctive landscape comprises a complex and interlinked mosaic of wetland habitats including open water, reedbeds, carr woodland, grazing marsh and fen meadow. The region is important for recreation, tourism, agriculture and wildlife.</p> <p>Ramsar criteria: Ramsar criterion 2 The site supports a number of rare species and habitats within the biogeographical zone context, including the following Habitats Directive Annex I features: H7210 Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davalliana</i> Calcium-rich fen dominated by great fen sedge (saw sedge). H7230 Alkaline fens Calcium-rich springwater-fed fens. H91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) Alder woodland on floodplains, and the Annex II species S1016 <i>Vertigo moulinsiana</i> Desmoulin's whorl snail S1355 <i>Lutra lutra</i> Otter S1903 <i>Liparis loeselii</i> Fen orchid. The site supports outstanding assemblages of rare plants and invertebrates including nine British Red Data Book plants and 136 British Red Data Book invertebrates.</p>

ID	Location	Site	Details
B	1311m NW	Name: Broadland Site status: Listed Data source: Natural England	<p>Overview: Broadland is a low-lying wetland complex straddling the boundaries between east Norfolk and northern Suffolk. The area includes the river valley systems of the Bure, Yare and Waveney and their major tributaries. The open distinctive landscape comprises a complex and interlinked mosaic of wetland habitats including open water, reedbeds, carr woodland, grazing marsh and fen meadow. The region is important for recreation, tourism, agriculture and wildlife.</p> <p>Ramsar criteria: Ramsar criterion 2 The site supports a number of rare species and habitats within the biogeographical zone context, including the following Habitats Directive Annex I features: H7210 Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davalliana</i> Calcium-rich fen dominated by great fen sedge (saw sedge). H7230 Alkaline fens Calcium-rich springwater-fed fens. H91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) Alder woodland on floodplains, and the Annex II species S1016 <i>Vertigo moulinsiana</i> Desmoulin's whorl snail S1355 <i>Lutra lutra</i> Otter S1903 <i>Liparis loeselii</i> Fen orchid. The site supports outstanding assemblages of rare plants and invertebrates including nine British Red Data Book plants and 136 British Red Data Book invertebrates.</p>

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m	2
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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.

Features are displayed on the Environmental designations map on **page 47**

ID	Location	Name	Features of interest	Habitat description	Data source
A	629m NE	The Broad s	Calcium-rich nutrient-poor lakes, lochs and pools; Naturally nutrient-rich lakes or lochs which are often dominated by pondweed; Purple moor-grass meadows; Very wet mires often identified by an unstable 'quaking' surface; Calcium-rich fen dominated by great fen sedge (saw sedge); Calcium-rich springwater-fed fens; Alder woodland on floodplains; Great crested newt; Desmoulin's whorl snail; Ramshorn snail; Otter; Fen orchid.	Bogs, Marshes, Water fringed vegetation, Fens; Inland water bodies (Standing water, Running water); Heath, Scrub, Maquis and Garrigue, Phygrana; Dry grassland, Steppes; Humid grassland, Mesophile grassland; Broad-leaved deciduous woodland	Natural England



ID	Location	Name	Features of interest	Habitat description	Data source
B	1312m NW	The Broad s	Calcium-rich nutrient-poor lakes, lochs and pools; Naturally nutrient-rich lakes or lochs which are often dominated by pondweed; Purple moor-grass meadows; Very wet mires often identified by an unstable `quaking` surface; Calcium-rich fen dominated by great fen sedge (saw sedge); Calcium-rich springwater-fed fens; Alder woodland on floodplains; Great crested newt; Desmoulin`s whorl snail; Ramshorn snail; Otter; Fen orchid.	Bogs, Marshes, Water fringed vegetation, Fens; Inland water bodies (Standing water, Running water); Heath, Scrub, Maquis and Garrigue, Phygrana; Dry grassland, Steppes; Humid grassland, Mesophile grassland; Broad-leaved deciduous woodland	Natural England

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

10.4 Special Protection Areas (SPA)

Records within 2000m	3
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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.

Features are displayed on the Environmental designations map on **page 47**

ID	Location	Name	Species of interest	Habitat description	Data source
A	629m NE	Broad land	Great bittern; Tundra swan; Whooper swan; Eurasian wigeon; Gadwall; Northern shoveler; Eurasian marsh harrier; Hen harrier; Ruff	Heath, Scrub, Maquis and Garrigue, Phygrana; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Broad-leaved deciduous woodland; Inland water bodies (Standing water, Running water); Humid grassland, Mesophile grassland; Bogs, Marshes, Water fringed vegetation, Fens	Natural England
B	1312m NW	Broad land	Great bittern; Tundra swan; Whooper swan; Eurasian wigeon; Gadwall; Northern shoveler; Eurasian marsh harrier; Hen harrier; Ruff	Heath, Scrub, Maquis and Garrigue, Phygrana; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Broad-leaved deciduous woodland; Inland water bodies (Standing water, Running water); Humid grassland, Mesophile grassland; Bogs, Marshes, Water fringed vegetation, Fens	Natural England

ID	Location	Name	Species of interest	Habitat description	Data source
2	1605m NE	Broad land	Great bittern; Tundra swan; Whooper swan; Eurasian wigeon; Gadwall; Northern shoveler; Eurasian marsh harrier; Hen harrier; Ruff	Heath, Scrub, Maquis and Garrigue, Phygrana; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Broad-leaved deciduous woodland; Inland water bodies (Standing water, Running water); Humid grassland, Mesophile grassland; Bogs, Marshes, Water fringed vegetation, Fens	Natural England

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

10.5 National Nature Reserves (NNR)

Records within 2000m

0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

10.7 Designated Ancient Woodland

Records within 2000m

0

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

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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

10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

0

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

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

10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.



10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

3

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	Norwich Crag and Gravels	Groundwater	79	Existing

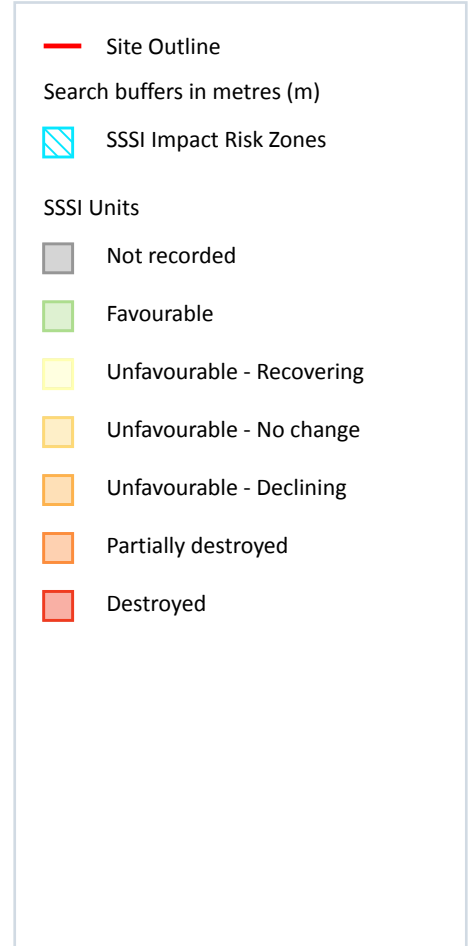
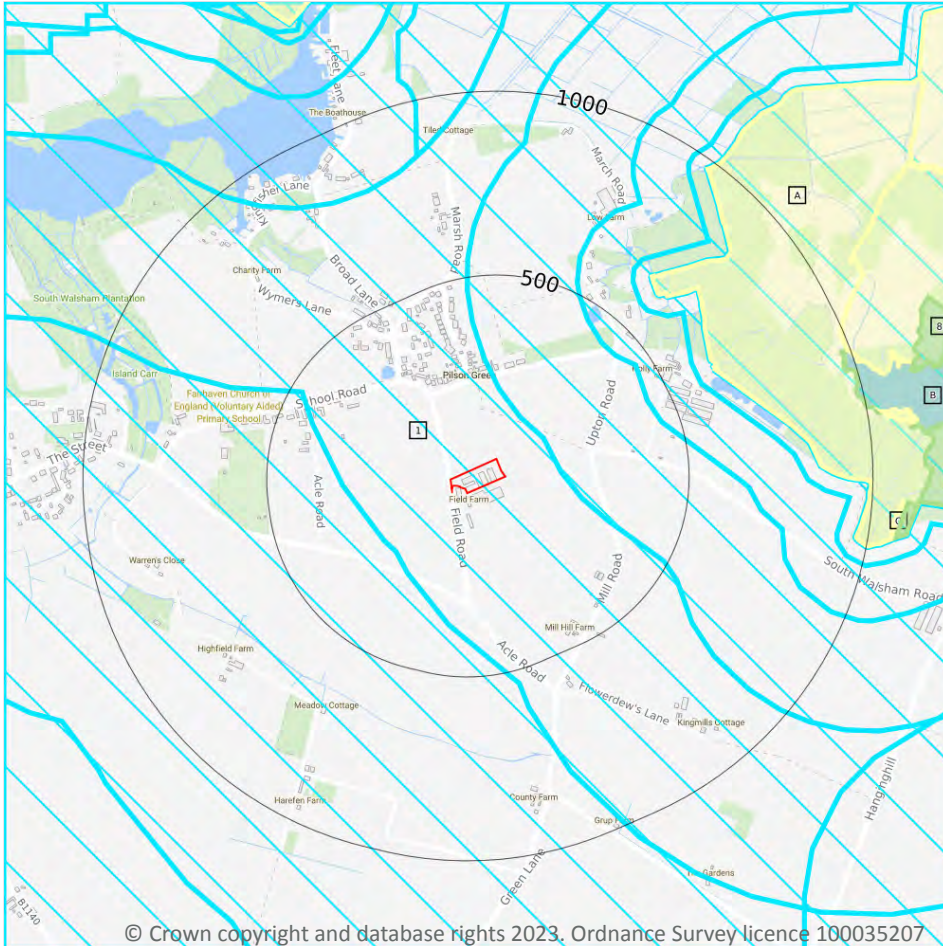


Location	Name	Type	NVZ ID	Status
On site	South Walsham Broad Eutrophic lake NVZ	Eutrophic Water	108	Existing
1676m NW	Bure Broads Eutrophic lake NVZ	Eutrophic Water	107	Existing

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 55**

ID	Location	Type of developments requiring consultation
1	On site	<p>Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.</p> <p>Residential - Residential development of 50 units or more.</p> <p>Rural residential - Any residential development of 10 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 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 500 tonnes maximum annual operational throughput. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste of more than 2m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .</p> <p>Notes: Strategic solutions for recreational impacts are in place. please contact your local planning authority as they have the information to advise on specific requirements.</p>

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

22

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 55**

ID: A
 Location: 629m NE
 SSSI name: Upton Broad & Marshes
 Unit name: Nwt - Old Fen Unit
 Broad habitat: Fen, Marsh And Swamp - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:



Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Marsh harrier, <i>Circus aeruginosus</i>	Favourable	08/03/2011
Ditches	Favourable	08/03/2011
Floodplain fen (lowland)	Favourable	08/03/2011
H3140 Hard oligo-mesotrophic waters with benthic veg of <i>Chara</i> spp.	Favourable	07/06/2010
H3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition	Favourable	07/06/2010
H6410 <i>Molinia</i> meadows on calcareous, peat or clay-silt soil	Favourable	07/06/2010
H7140 Transition mires and quaking bogs	Favourable	07/06/2010
H7210 Calcareous fens with <i>C. mariscus</i> and species of <i>C. davallianae</i>	Unfavourable - Recovering	07/06/2010
H7230 Alkaline fens	Unfavourable - Recovering	07/06/2010
H91E0 Alluvial woods with <i>A. glutinosa</i> , <i>F. excelsior</i>	Favourable	07/06/2010
Invert. assemblage W211 open water on disturbed sediments	Favourable	08/03/2011
Invert. assemblage W314 reed-fen & pools	Favourable	08/03/2011
Nationally rare and scarce dragonfly species - <i>Aeshna isosceles</i> , Norfolk Hawker	Favourable	08/03/2011
Outstanding dragonfly assemblage	Favourable	08/03/2011
Population of nationally rare butterfly species - <i>Papilio machaon britannicus</i> , Swallowtail	Favourable	08/03/2011
S1016 Desmoulin's whorl snail, <i>Vertigo moulinsiana</i>	Favourable	07/06/2010
S1355 Otter, <i>Lutra lutra</i>	Favourable	07/06/2010
S1903 Fen orchid, <i>Liparis loeselii</i>	Favourable	07/06/2010
Vascular plant assemblage	Favourable	08/03/2011
Wet woodland	Favourable	08/03/2011

ID: B
 Location: 969m E
 SSSI name: Upton Broad & Marshes
 Unit name: Upton Great Broad
 Broad habitat: Standing Open Water And Canals
 Condition: Favourable
 Reportable features:



Feature name	Feature condition	Date of assessment
H3140 Hard oligo-mesotrophic waters with benthic veg of Chara spp.	Not Recorded	01/01/1900
H3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition	Not Recorded	01/01/1900
Invert. assemblage W211 open water on disturbed sediments	Favourable	08/03/2011
Mesotrophic lakes	Favourable	08/03/2011
Outstanding dragonfly assemblage	Favourable	08/03/2011
S1355 Otter, Lutra lutra	Not Recorded	01/01/1900
Vascular plant assemblage	Favourable	08/03/2011

ID: 7
 Location: 991m E
 SSSI name: Upton Broad & Marshes
 Unit name: Nwt New Fen Unit
 Broad habitat: Fen, Marsh And Swamp - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Marsh harrier, Circus aeruginosus	Favourable	08/03/2011
Ditches	Favourable	08/03/2011
Floodplain fen (lowland)	Unfavourable - Recovering	08/03/2011
H3140 Hard oligo-mesotrophic waters with benthic veg of Chara spp.	Unfavourable - Recovering	07/06/2010
H3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition	Unfavourable - Recovering	07/06/2010
H7140 Transition mires and quaking bogs	Unfavourable - Recovering	07/06/2010
H7210 Calcareous fens with C. mariscus and species of C. davallianae	Unfavourable - Recovering	07/06/2010
H91E0 Alluvial woods with A. glutinosa, F. excelsior	Favourable	07/06/2010
Invert. assemblage W211 open water on disturbed sediments	Favourable	08/03/2011
Nationally rare and scarce dragonfly species - Aeshna isosceles, Norfolk Hawker	Favourable	08/03/2011
Outstanding dragonfly assemblage	Favourable	08/03/2011
Population of nationally rare butterfly species - Papilio machaon britannicus, Swallowtail	Favourable	08/03/2011
S1016 Desmoulin's whorl snail, Vertigo moulinsiana	Favourable	07/06/2010

Feature name	Feature condition	Date of assessment
S1355 Otter, <i>Lutra lutra</i>	Favourable	07/06/2010
Vascular plant assemblage	Favourable	08/03/2011
Wet woodland	Favourable	08/03/2011

ID: B
Location: 1042m E
SSSI name: Upton Broad & Marshes
Unit name: Nwt New Fen Unit
Broad habitat: Fen, Marsh And Swamp - Lowland
Condition: Unfavourable - Recovering
Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Marsh harrier, <i>Circus aeruginosus</i>	Favourable	08/03/2011
Ditches	Favourable	08/03/2011
Floodplain fen (lowland)	Unfavourable - Recovering	08/03/2011
H3140 Hard oligo-mesotrophic waters with benthic veg of <i>Chara</i> spp.	Unfavourable - Recovering	07/06/2010
H3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition	Unfavourable - Recovering	07/06/2010
H7140 Transition mires and quaking bogs	Unfavourable - Recovering	07/06/2010
H7210 Calcareous fens with <i>C. mariscus</i> and species of <i>C. davallianae</i>	Unfavourable - Recovering	07/06/2010
H91E0 Alluvial woods with <i>A. glutinosa</i> , <i>F. excelsior</i>	Favourable	07/06/2010
Invert. assemblage W211 open water on disturbed sediments	Favourable	08/03/2011
Nationally rare and scarce dragonfly species - <i>Aeshna isosceles</i> , Norfolk Hawker	Favourable	08/03/2011
Outstanding dragonfly assemblage	Favourable	08/03/2011
Population of nationally rare butterfly species - <i>Papilio machaon britannicus</i> , Swallowtail	Favourable	08/03/2011
S1016 Desmoulin's whorl snail, <i>Vertigo moulinsiana</i>	Favourable	07/06/2010
S1355 Otter, <i>Lutra lutra</i>	Favourable	07/06/2010
Vascular plant assemblage	Favourable	08/03/2011
Wet woodland	Favourable	08/03/2011

ID: C
 Location: 1063m E
 SSSI name: Upton Broad & Marshes
 Unit name: J Well
 Broad habitat: Fen, Marsh And Swamp - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
H91E0 Alluvial woods with <i>A. glutinosa</i> , <i>F. excelsior</i>	Favourable	07/06/2010
S1016 Desmoulin's whorl snail, <i>Vertigo moulinsiana</i>	Unfavourable - Recovering	07/06/2010
S1355 Otter, <i>Lutra lutra</i>	Favourable	07/06/2010
Wet woodland	Unfavourable - Recovering	08/03/2011

ID: C
 Location: 1075m E
 SSSI name: Upton Broad & Marshes
 Unit name: Walker
 Broad habitat: Fen, Marsh And Swamp - Lowland
 Condition: Favourable
 Reportable features:

Feature name	Feature condition	Date of assessment
H7210 Calcareous fens with <i>C. mariscus</i> and species of <i>C. davallianae</i>	Favourable	07/06/2010
H91E0 Alluvial woods with <i>A. glutinosa</i> , <i>F. excelsior</i>	Favourable	07/06/2010
S1016 Desmoulin's whorl snail, <i>Vertigo moulinsiana</i>	Favourable	07/06/2010
S1355 Otter, <i>Lutra lutra</i>	Favourable	07/06/2010
Wet woodland	Favourable	08/03/2011

ID: E
 Location: 1127m E
 SSSI name: Upton Broad & Marshes
 Unit name: Beeby
 Broad habitat: Fen, Marsh And Swamp - Lowland
 Condition: Favourable
 Reportable features:

Feature name	Feature condition	Date of assessment
Wet woodland	Favourable	20/09/2011

ID: 8
 Location: 1142m E
 SSSI name: Upton Broad & Marshes
 Unit name: Walker
 Broad habitat: Fen, Marsh And Swamp - Lowland
 Condition: Favourable
 Reportable features:

Feature name	Feature condition	Date of assessment
H7210 Calcareous fens with <i>C. mariscus</i> and species of <i>C. davallianae</i>	Favourable	07/06/2010
H91E0 Alluvial woods with <i>A. glutinosa</i> , <i>F. excelsior</i>	Favourable	07/06/2010
S1016 Desmoulin's whorl snail, <i>Vertigo moulinsiana</i>	Favourable	07/06/2010
S1355 Otter, <i>Lutra lutra</i>	Favourable	07/06/2010
Wet woodland	Favourable	08/03/2011

ID: -
 Location: 1236m E
 SSSI name: Upton Broad & Marshes
 Unit name: Hill And Holt
 Broad habitat: Fen, Marsh And Swamp - Lowland
 Condition: Favourable
 Reportable features:

Feature name	Feature condition	Date of assessment
H91E0 Alluvial woods with <i>A. glutinosa</i> , <i>F. excelsior</i>	Favourable	20/09/2011
S1016 Desmoulin's whorl snail, <i>Vertigo moulinsiana</i>	Favourable	20/09/2011
S1355 Otter, <i>Lutra lutra</i>	Favourable	20/09/2011
Wet woodland	Favourable	20/09/2011

ID: -
 Location: 1281m E
 SSSI name: Upton Broad & Marshes
 Unit name: Hill And Holt
 Broad habitat: Fen, Marsh And Swamp - Lowland
 Condition: Favourable
 Reportable features:

Feature name	Feature condition	Date of assessment
H91E0 Alluvial woods with <i>A. glutinosa</i> , <i>F. excelsior</i>	Favourable	20/09/2011
S1016 Desmoulin's whorl snail, <i>Vertigo moulinsiana</i>	Favourable	20/09/2011
S1355 Otter, <i>Lutra lutra</i>	Favourable	20/09/2011
Wet woodland	Favourable	20/09/2011

ID: 12
 Location: 1312m NW
 SSSI name: Bure Broads and Marshes
 Unit name: C Cator
 Broad habitat: Fen, Marsh And Swamp - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Assemblages of breeding birds - Lowland fen without open water	Favourable	08/03/2011
Floodplain fen (lowland)	Unfavourable - Recovering	08/03/2011
H3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition	Unfavourable - Recovering	08/02/2010
H7210 Calcareous fens with <i>C. mariscus</i> and species of <i>C. davallianae</i>	Unfavourable - Recovering	08/02/2010
H91E0 Alluvial woods with <i>A. glutinosa</i> , <i>F. excelsior</i>	Favourable	08/02/2010
Invert. assemblage W126 seepage	Unfavourable - Recovering	08/03/2011
Lowland mire grassland and rush pasture	Unfavourable - Recovering	08/03/2011
S1016 Desmoulin's whorl snail, <i>Vertigo moulinsiana</i>	Favourable	21/12/2004
S1355 Otter, <i>Lutra lutra</i>	Favourable	21/12/2004
Standing Open Water - Broads	Unfavourable - Recovering	08/02/2010
Vascular plant assemblage	Favourable	08/03/2011
Wet woodland	Unfavourable - Recovering	08/03/2011



ID: 15
 Location: 1379m NE
 SSSI name: Upton Broad & Marshes
 Unit name: Mb Idb
 Broad habitat: Fen, Marsh And Swamp - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Unfavourable - Recovering	21/01/2016
Invert. assemblage W211 open water on disturbed sediments	Favourable	08/03/2011
Nationally rare and scarce dragonfly species - Aeshna isosceles, Norfolk Hawker	Favourable	08/03/2011
Outstanding dragonfly assemblage	Favourable	08/03/2011
Vascular plant assemblage	Unfavourable - Recovering	08/03/2011

ID: 16
 Location: 1388m NE
 SSSI name: Upton Broad & Marshes
 Unit name: Nwt New Grazing Marshes
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Unfavourable - Recovering	21/01/2016
H3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition	Unfavourable - Recovering	17/12/2008
Invert. assemblage W211 open water on disturbed sediments	Favourable	08/03/2011
Mesotrophic lakes	Not Recorded	01/01/1900
Nationally rare and scarce dragonfly species - Aeshna isosceles, Norfolk Hawker	Favourable	08/03/2011
Outstanding dragonfly assemblage	Favourable	08/03/2011
S1355 Otter, Lutra lutra	Favourable	06/04/2004
Vascular plant assemblage	Unfavourable - Recovering	08/03/2011

ID: -
 Location: 1465m E
 SSSI name: Upton Broad & Marshes
 Unit name: Upton Little Broad
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
H3140 Hard oligo-mesotrophic waters with benthic veg of Chara spp.	Unfavourable - Recovering	18/08/2009
H3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition	Unfavourable - Recovering	18/08/2009
Invert. assemblage W211 open water on disturbed sediments	Favourable	18/08/2009
Mesotrophic lakes	Unfavourable - Recovering	18/08/2009
Outstanding dragonfly assemblage	Favourable	18/08/2009
S1355 Otter, Lutra lutra	Favourable	18/08/2009

ID: -
 Location: 1631m E
 SSSI name: Upton Broad & Marshes
 Unit name: J Well
 Broad habitat: Fen, Marsh And Swamp - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
H91E0 Alluvial woods with A. glutinosa, F. excelsior	Favourable	07/06/2010
S1016 Desmoulin's whorl snail, Vertigo moulinsiana	Unfavourable - Recovering	07/06/2010
S1355 Otter, Lutra lutra	Favourable	07/06/2010
Wet woodland	Unfavourable - Recovering	08/03/2011

ID: -
 Location: 1711m E
 SSSI name: Upton Broad & Marshes
 Unit name: Arnes
 Broad habitat: Fen, Marsh And Swamp - Lowland
 Condition: Favourable
 Reportable features:

Feature name	Feature condition	Date of assessment
Wet woodland	Favourable	08/03/2011

ID: -
 Location: 1851m E
 SSSI name: Upton Broad & Marshes
 Unit name: J Well
 Broad habitat: Fen, Marsh And Swamp - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
H91E0 Alluvial woods with <i>A. glutinosa</i> , <i>F. excelsior</i>	Favourable	07/06/2010
S1016 Desmoulin's whorl snail, <i>Vertigo moulinsiana</i>	Unfavourable - Recovering	07/06/2010
S1355 Otter, <i>Lutra lutra</i>	Favourable	07/06/2010
Wet woodland	Unfavourable - Recovering	08/03/2011

ID: -
 Location: 1858m E
 SSSI name: Upton Broad & Marshes
 Unit name: D A Clare
 Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
 Condition: Favourable
 Reportable features:

Feature name	Feature condition	Date of assessment
Wet woodland	Favourable	08/03/2011

ID: -
 Location: 1885m N
 SSSI name: Bure Broads and Marshes
 Unit name: Ranworth Flood
 Broad habitat: Standing Open Water And Canals
 Condition: Favourable
 Reportable features:

Feature name	Feature condition	Date of assessment
Eutrophic lakes	Favourable	08/03/2011

Feature name	Feature condition	Date of assessment
H3140 Hard oligo-mesotrophic waters with benthic veg of Chara spp.	-	-
H3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition	-	-
S1355 Otter, Lutra lutra	Favourable	12/01/2006

ID: -
 Location: 1989m NE
 SSSI name: Upton Broad & Marshes
 Unit name: Hewitt
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Unfavourable - Recovering	21/01/2016
H3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition	Unfavourable - Recovering	06/04/2004
Invert. assemblage W211 open water on disturbed sediments	Favourable	08/03/2011
Mesotrophic lakes	Not Recorded	01/01/1900
Nationally rare and scarce dragonfly species - Aeshna isosceles, Norfolk Hawker	Favourable	08/03/2011
Outstanding dragonfly assemblage	Favourable	08/03/2011
S1355 Otter, Lutra lutra	Favourable	06/04/2004
Vascular plant assemblage	Unfavourable - Recovering	08/03/2011

ID: -
 Location: 1989m E
 SSSI name: Upton Broad & Marshes
 Unit name: Prior
 Broad habitat: Standing Open Water And Canals
 Condition: Favourable
 Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Favourable	21/01/2016
H3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition	Favourable	21/01/2016

Feature name	Feature condition	Date of assessment
Invert. assemblage W211 open water on disturbed sediments	Favourable	08/03/2011
Mesotrophic lakes	Not Recorded	01/01/1900
Nationally rare and scarce dragonfly species - Aeshna isosceles, Norfolk Hawker	Favourable	08/03/2011
Outstanding dragonfly assemblage	Favourable	08/03/2011
S1355 Otter, Lutra lutra	Favourable	06/04/2004
Vascular plant assemblage	Favourable	21/01/2016

ID: -
 Location: 1993m E
 SSSI name: Upton Broad & Marshes
 Unit name: Mathews
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Unfavourable - Recovering	21/01/2016
H3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition	Unfavourable - Recovering	06/04/2004
Invert. assemblage W211 open water on disturbed sediments	Favourable	08/03/2011
Mesotrophic lakes	Not Recorded	01/01/1900
Nationally rare and scarce dragonfly species - Aeshna isosceles, Norfolk Hawker	Favourable	08/03/2011
Outstanding dragonfly assemblage	Favourable	08/03/2011
S1355 Otter, Lutra lutra	Favourable	06/04/2004
Vascular plant assemblage	Unfavourable - Recovering	08/03/2011

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

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

0

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



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

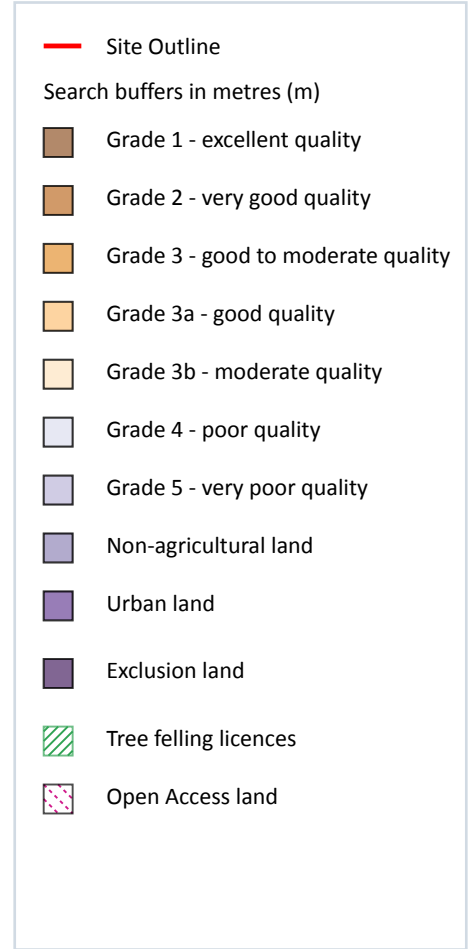
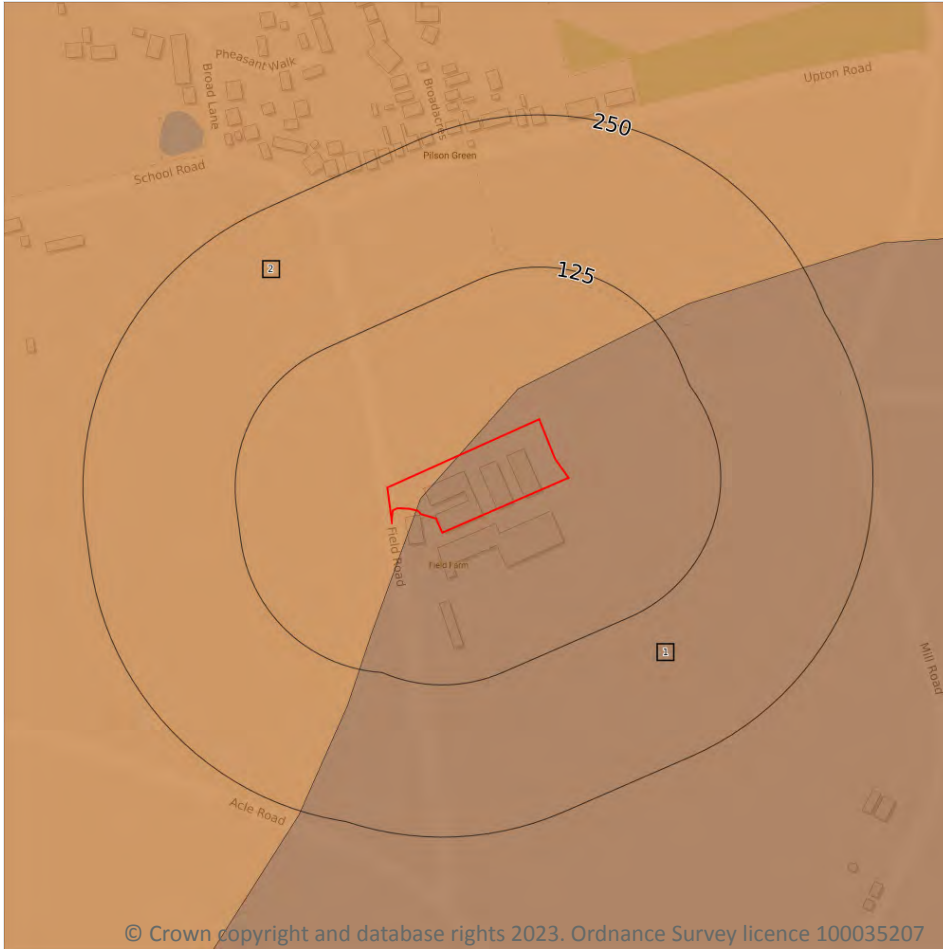
0

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

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



12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m

2

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

Features are displayed on the Agricultural designations map on **page 70**

ID	Location	Classification	Description
1	On site	Grade 1	Excellent quality agricultural land. Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

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

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**2**

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
On site	356549	Countryside Stewardship (Middle Tier)	01/01/2017	31/12/2021
5m SW	356549	Countryside Stewardship (Middle Tier)	01/01/2017	31/12/2021

This data is sourced from Natural England.



13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0
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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
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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

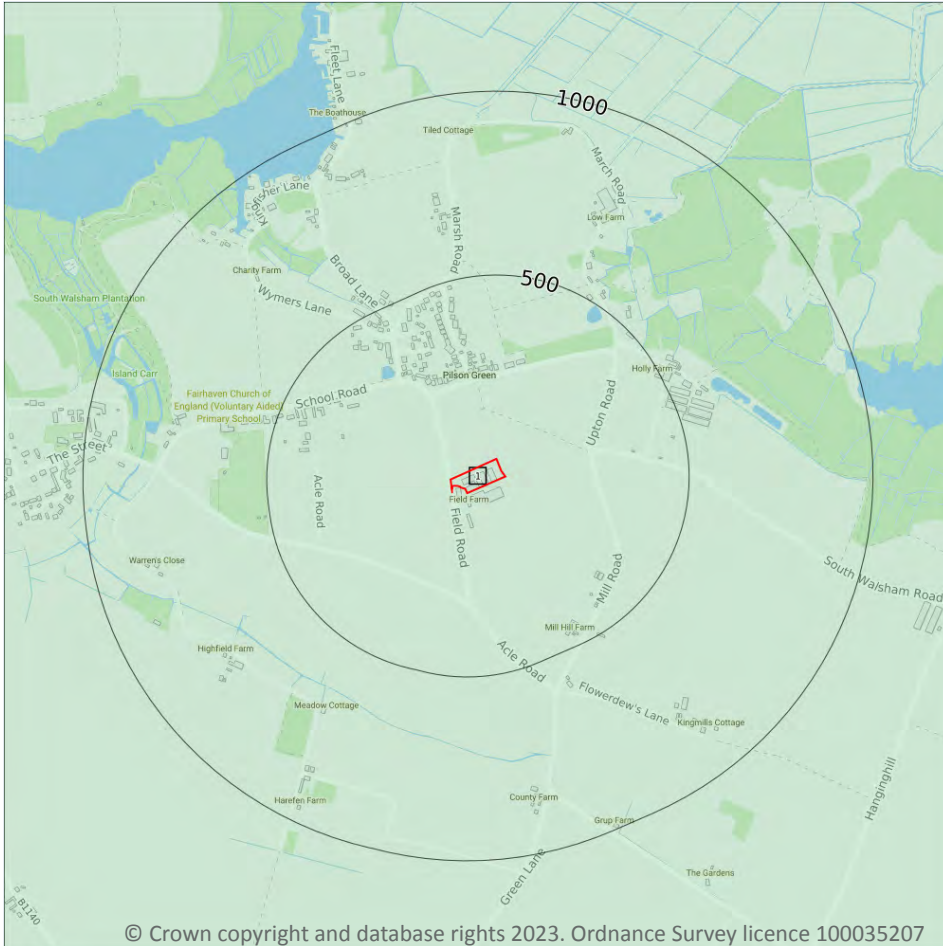
Records within 250m	0
---------------------	---

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.

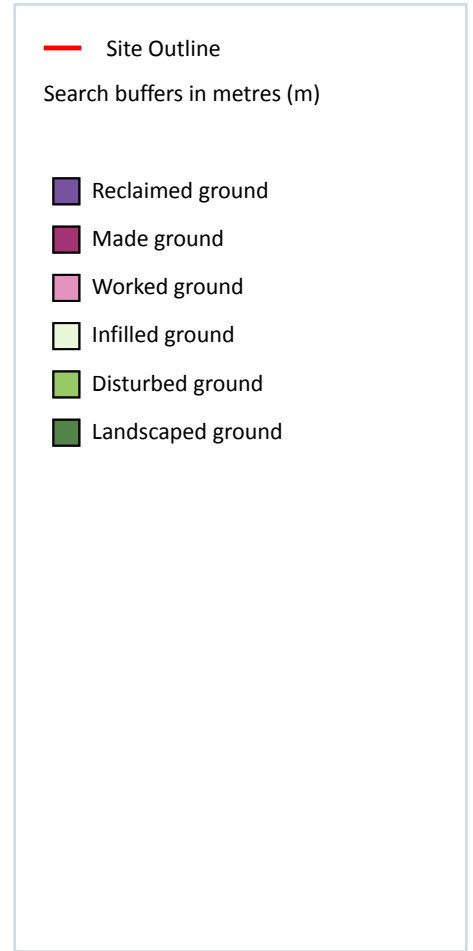
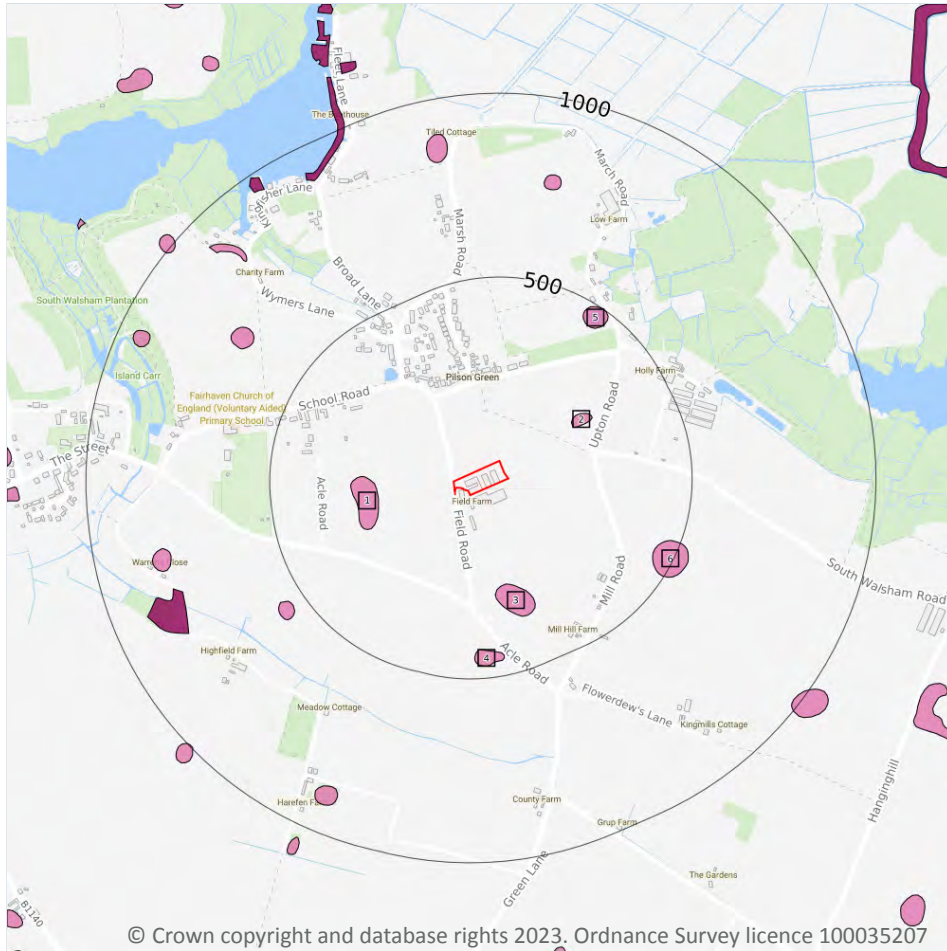
Features are displayed on the Geology 1:10,000 scale - Availability map on **page 74**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	TG31SE

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

6

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

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 75**

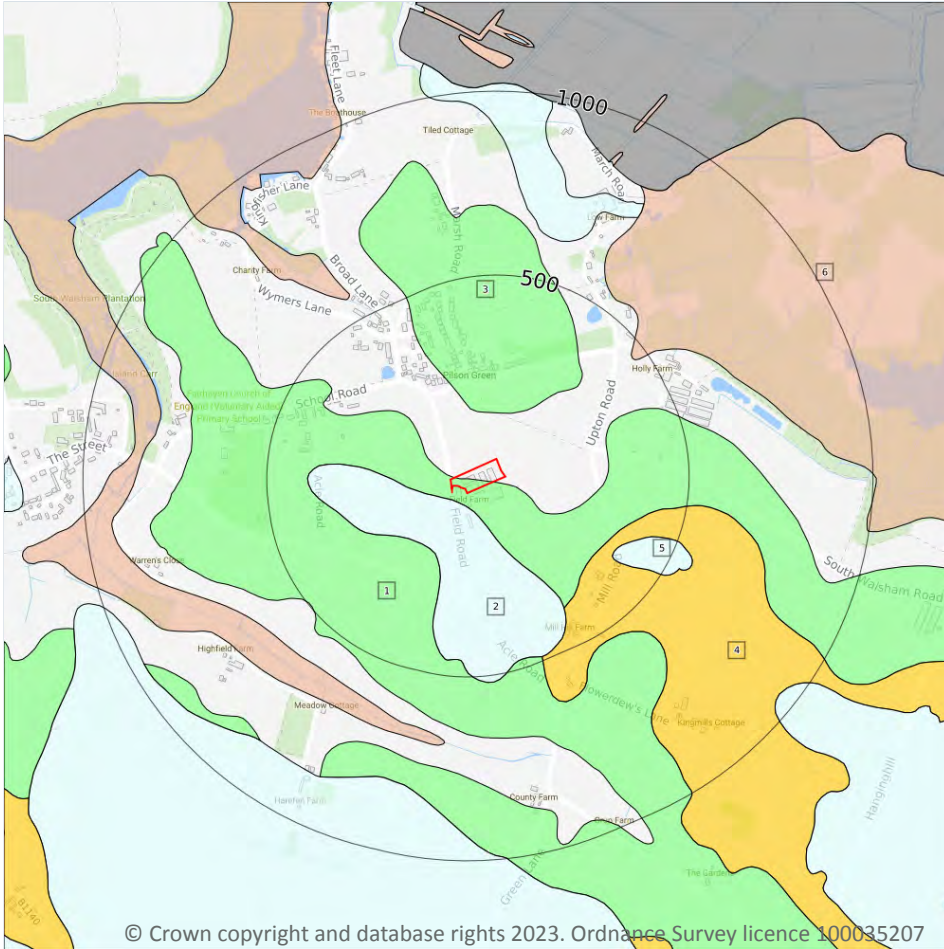
ID	Location	LEX Code	Description	Rock description
1	209m W	WGR-UKNOWN	Worked Ground (Undivided)	Unknown/unclassified Entry
2	221m NE	WGR-UKNOWN	Worked Ground (Undivided)	Unknown/unclassified Entry
3	260m S	WGR-UKNOWN	Worked Ground (Undivided)	Unknown/unclassified Entry
4	422m S	WGR-UKNOWN	Worked Ground (Undivided)	Unknown/unclassified Entry

ID	Location	LEX Code	Description	Rock description
5	440m NE	WGR-UKNOWN	Worked Ground (Undivided)	Unknown/unclassified Entry
6	442m E	WGR-UKNOWN	Worked Ground (Undivided)	Unknown/unclassified Entry

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



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

14.3 Superficial geology (10k)

Records within 500m

6

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 77**

ID	Location	LEX Code	Description	Rock description
1	On site	HPGL-DMTN	Happisburgh Glacigenic Formation - Diamicton	Diamicton
2	28m SW	LOFT-DMTN	Lowestoft Formation - Diamicton	Diamicton
3	125m N	HPGL-DMTN	Happisburgh Glacigenic Formation - Diamicton	Diamicton

ID	Location	LEX Code	Description	Rock description
4	322m SE	HPGL-XSV	Happisburgh Glacigenic Formation - Sand And Gravel	Sand And Gravel
5	360m SE	LOFT-DMTN	Lowestoft Formation - Diamicton	Diamicton
6	460m NE	BRYD-P	Breydon Formation - Peat	Peat

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



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

14.5 Bedrock geology (10k)

Records within 500m

3

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 79**

ID	Location	LEX Code	Description	Rock age
1	On site	NCG-SAGR	Norwich Crag Formation - Sand And Gravel	Pleistocene Epoch - Pliocene Epoch [Obsolete definition]
2	327m E	WRCG-SAGR	Wroxham Crag Formation - Sand And Gravel	Cromerian Age - Pre-Pastonian Age

ID	Location	LEX Code	Description	Rock age
3	359m NE	WRCG-SAGR	Wroxham Crag Formation - Sand And Gravel	Cromerian Age - Pre-Pastonian Age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

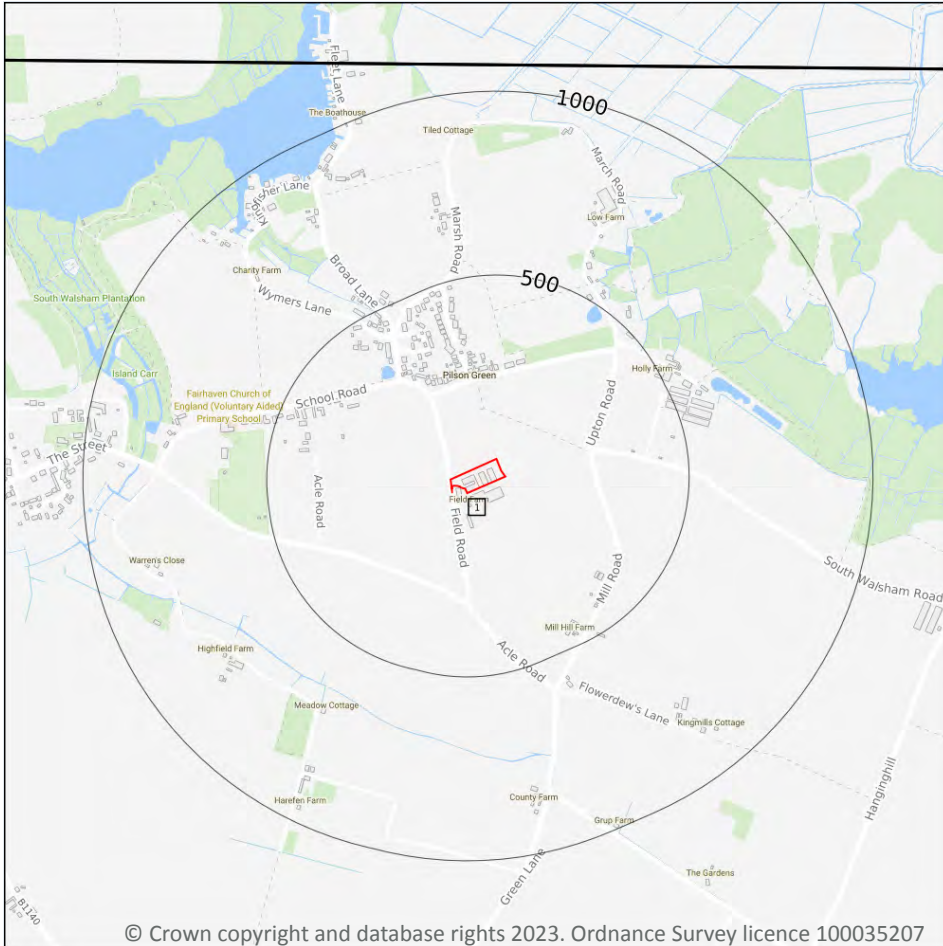
Records within 500m

0

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

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



— Site Outline
 Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

1

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

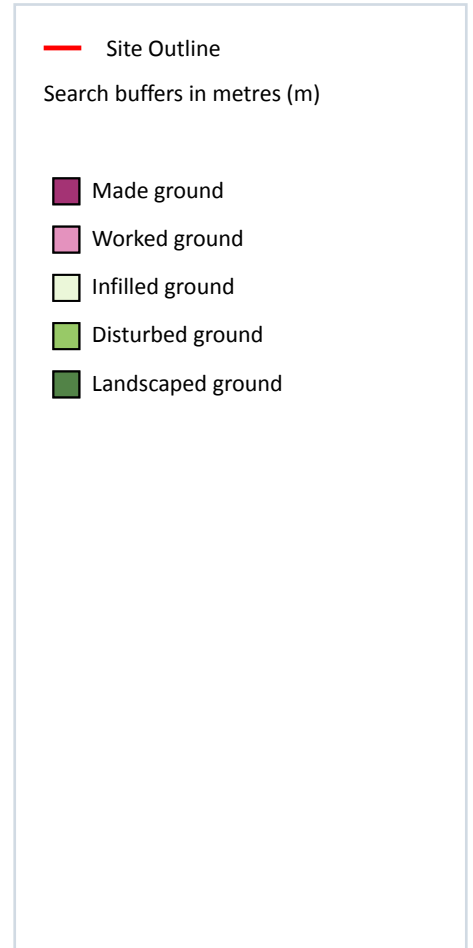
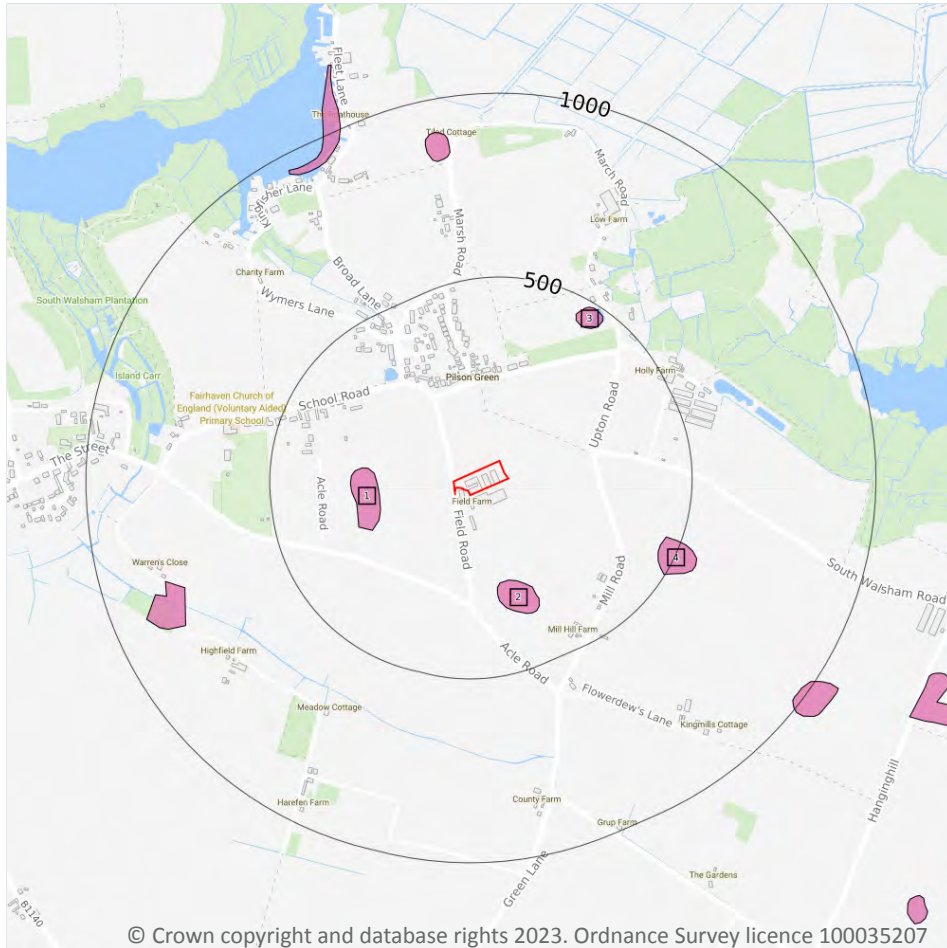
Features are displayed on the Geology 1:50,000 scale - Availability map on **page 81**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	EW162_great_yarmouth_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

4

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.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 82**

ID	Location	LEX Code	Description	Rock description
1	205m W	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
2	252m S	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
3	430m NE	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
4	451m E	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

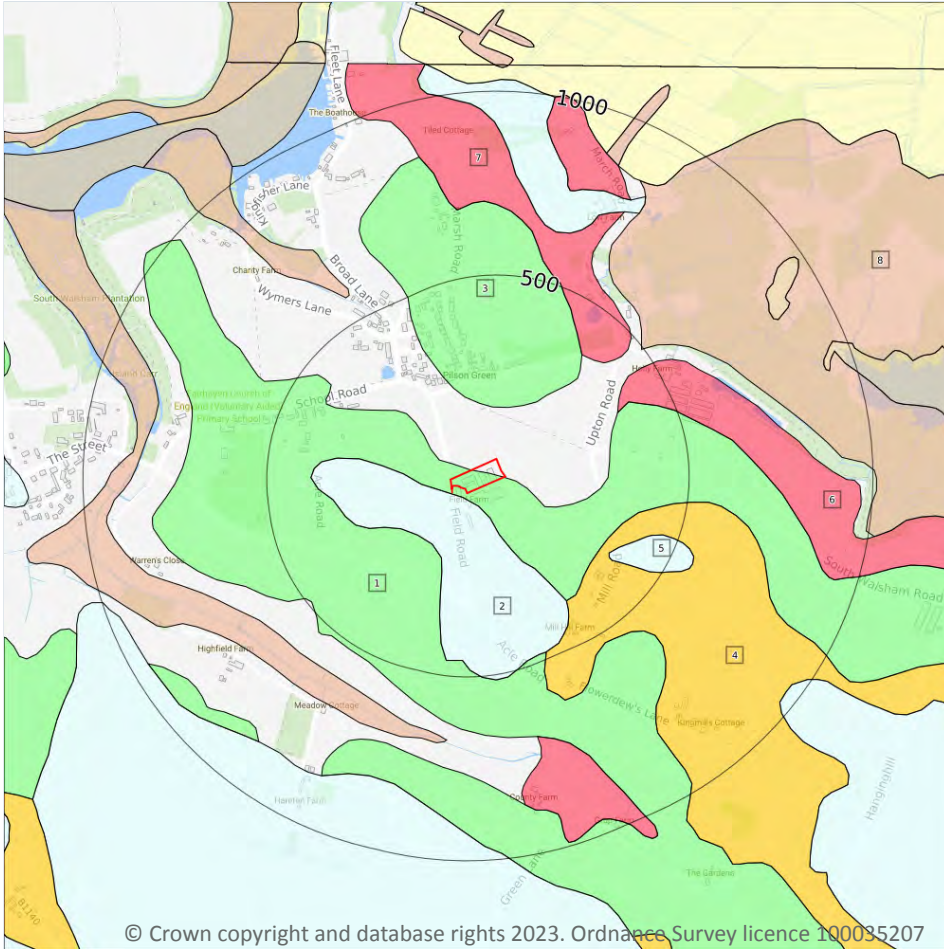
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



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

15.4 Superficial geology (50k)

Records within 500m

8

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 84**

ID	Location	LEX Code	Description	Rock description
1	On site	HPGL-DMTN	HAPPISBURGH GLACIGENIC FORMATION	DIAMICTON
2	12m SW	LOFT-DMTN	LOWESTOFT FORMATION	DIAMICTON
3	141m N	HPGL-DMTN	HAPPISBURGH GLACIGENIC FORMATION	DIAMICTON



ID	Location	LEX Code	Description	Rock description
4	324m SE	HPGL-S	HAPPISBURGH GLACIGENIC FORMATION	SAND
5	351m SE	LOFT-DMTN	LOWESTOFT FORMATION	DIAMICTON
6	352m NE	CRBY-XSV	CRAG GROUP AND BYTHAM SAND AND GRAVEL FORMATION (UNDIFFERENTIATED)	SAND AND GRAVEL
7	366m NE	CRBY-XSV	CRAG GROUP AND BYTHAM SAND AND GRAVEL FORMATION (UNDIFFERENTIATED)	SAND AND GRAVEL
8	495m NE	BRYD-P	BREYDON FORMATION	PEAT

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	2
---------------------------	----------

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	High	Low
12m SW	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)

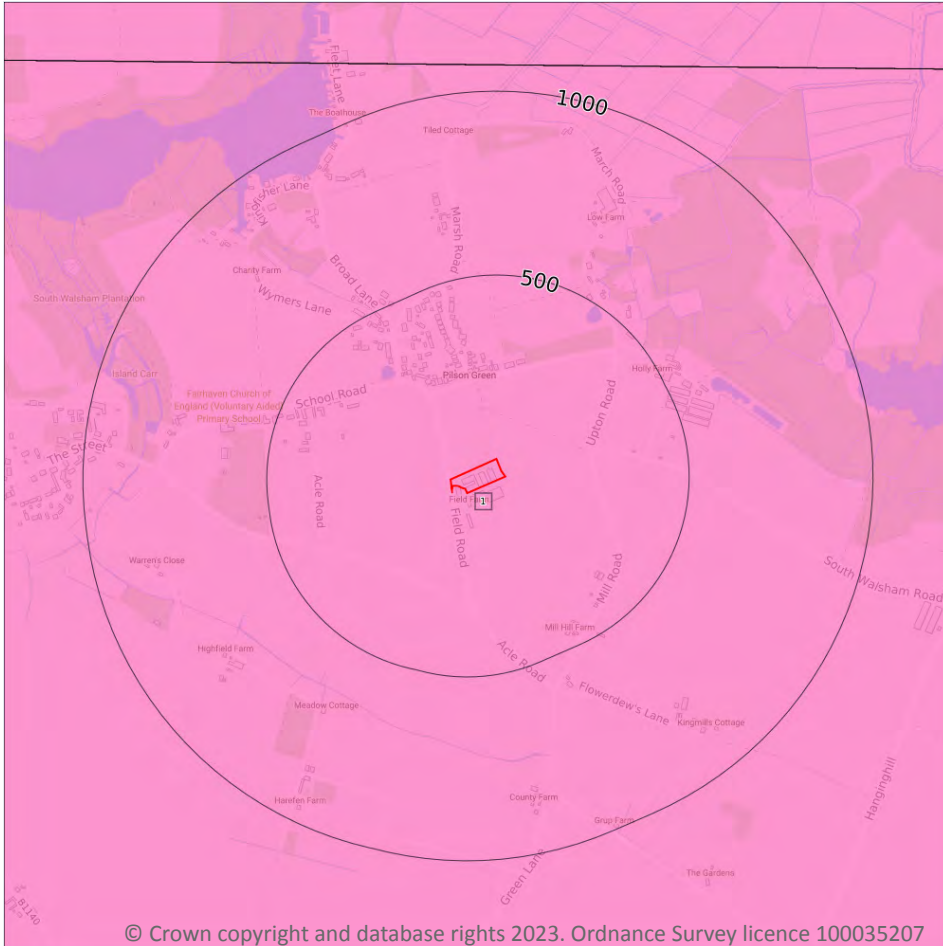
Records within 50m	0
---------------------------	----------

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.

15.8 Bedrock geology (50k)

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 86**

ID	Location	LEX Code	Description	Rock age
1	On site	CRAG-XSV	CRAG GROUP - SAND AND GRAVEL	-

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	Very 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

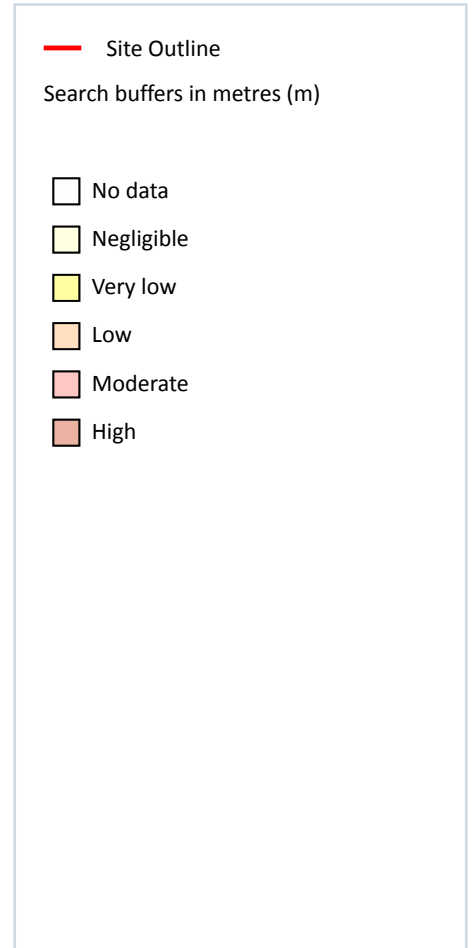
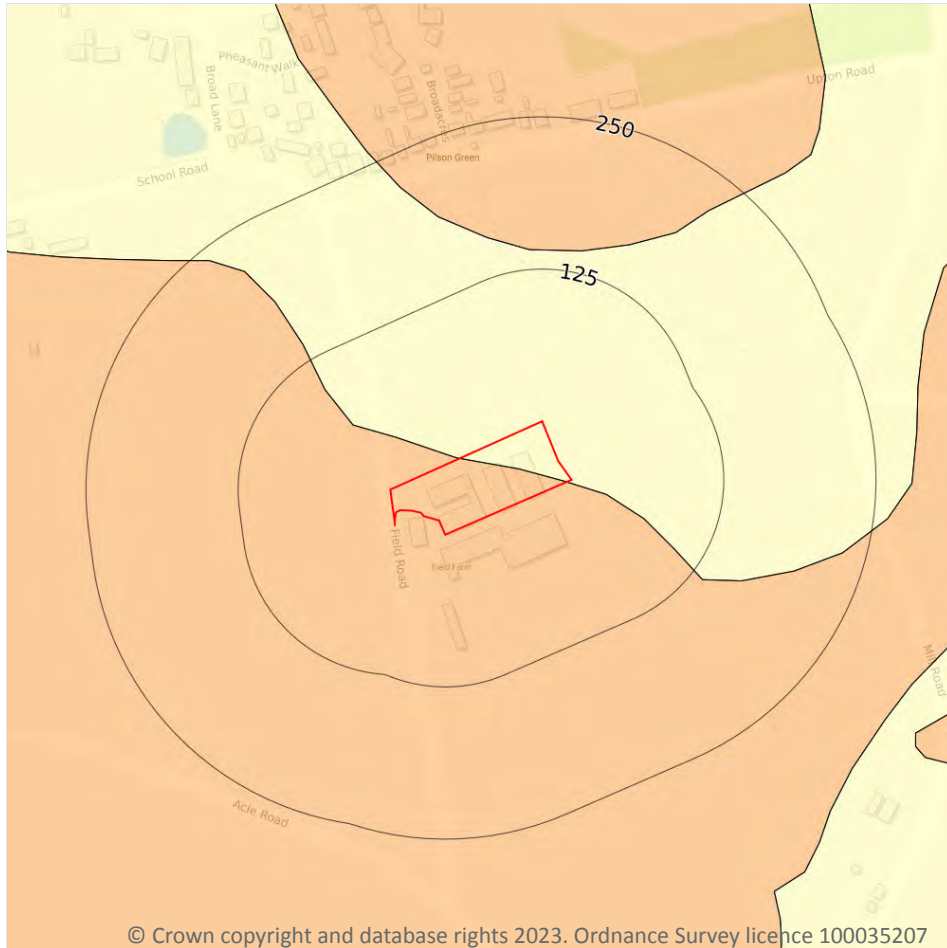
0

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

2

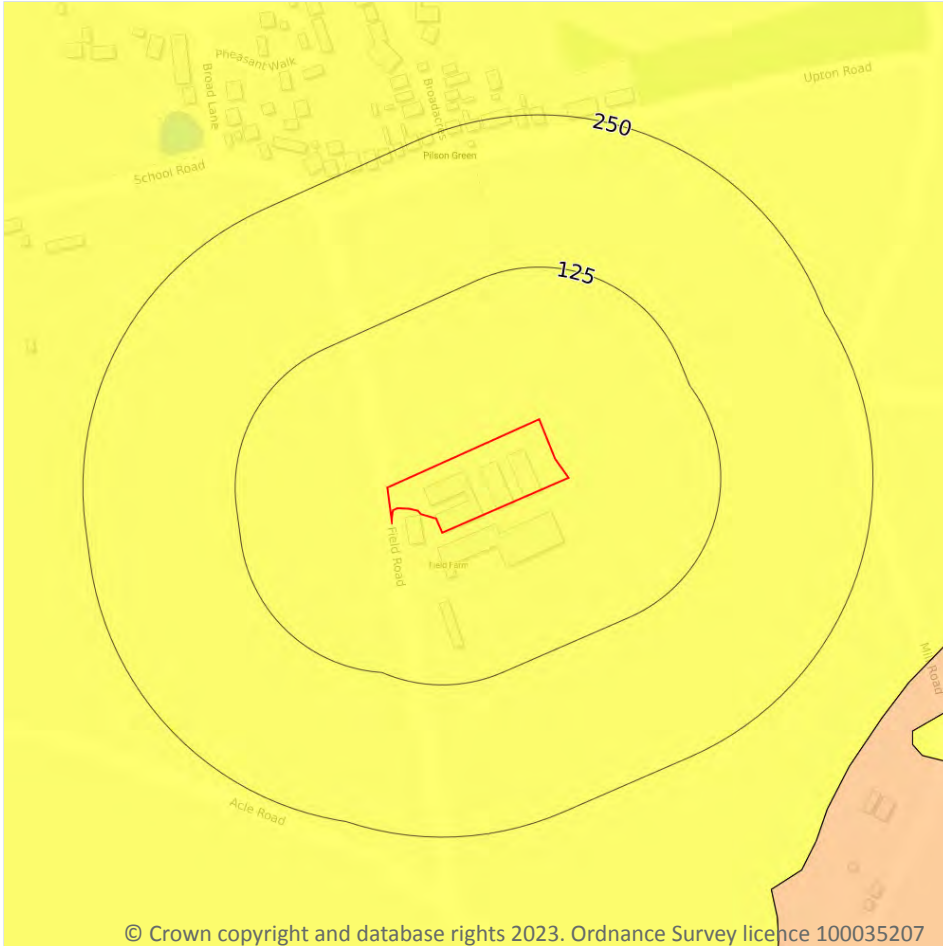
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 89**

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Low	Ground conditions predominantly medium plasticity.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

1

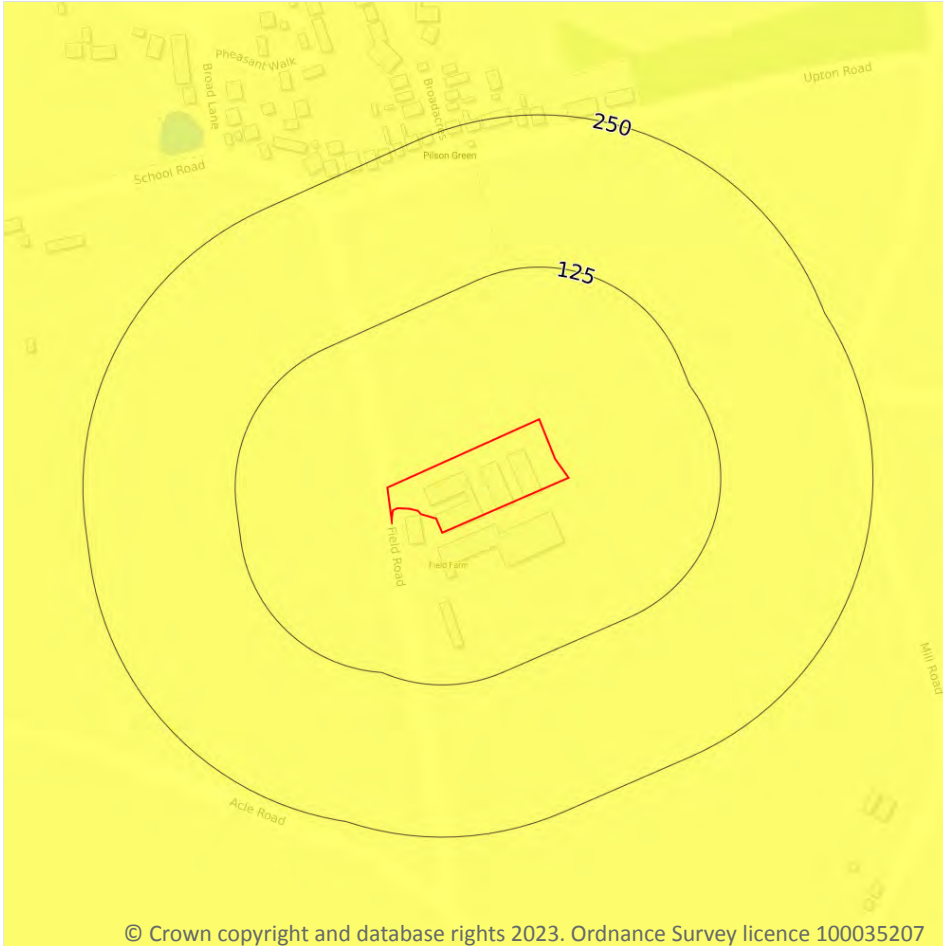
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 90**

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 - Collapsible deposits



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— Site Outline
Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m

1

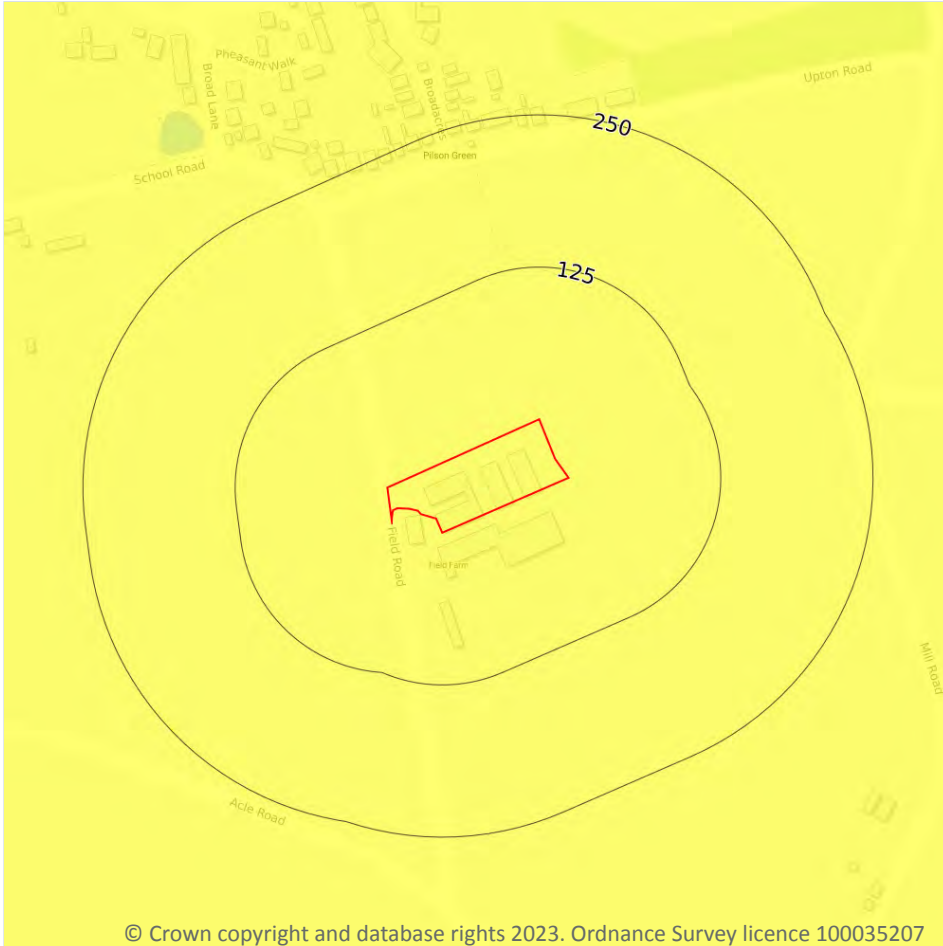
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

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

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

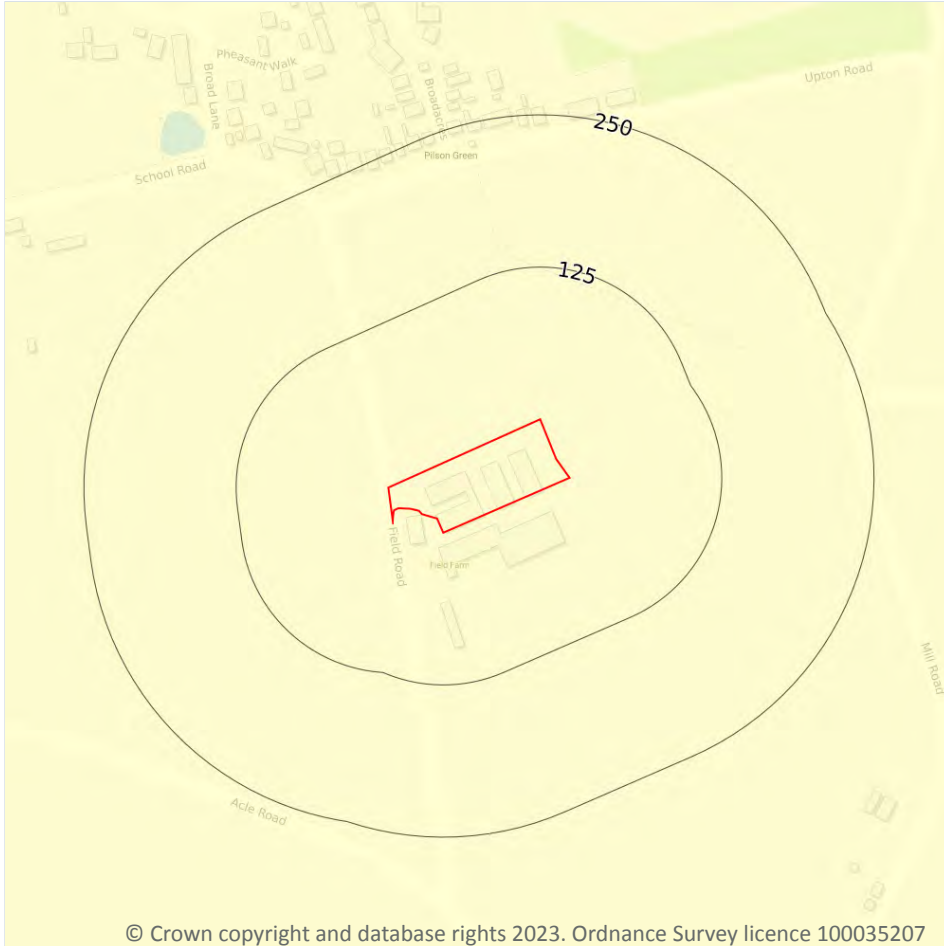
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 93**

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 94**

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

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities

18.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

0

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

This is data is sourced from Ordnance Survey/Groundsure.



18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

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

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site

0

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

This data is sourced from the Coal Authority.



18.10 Brine areas

Records on site	0
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The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

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

18.11 Gypsum areas

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

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0
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Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

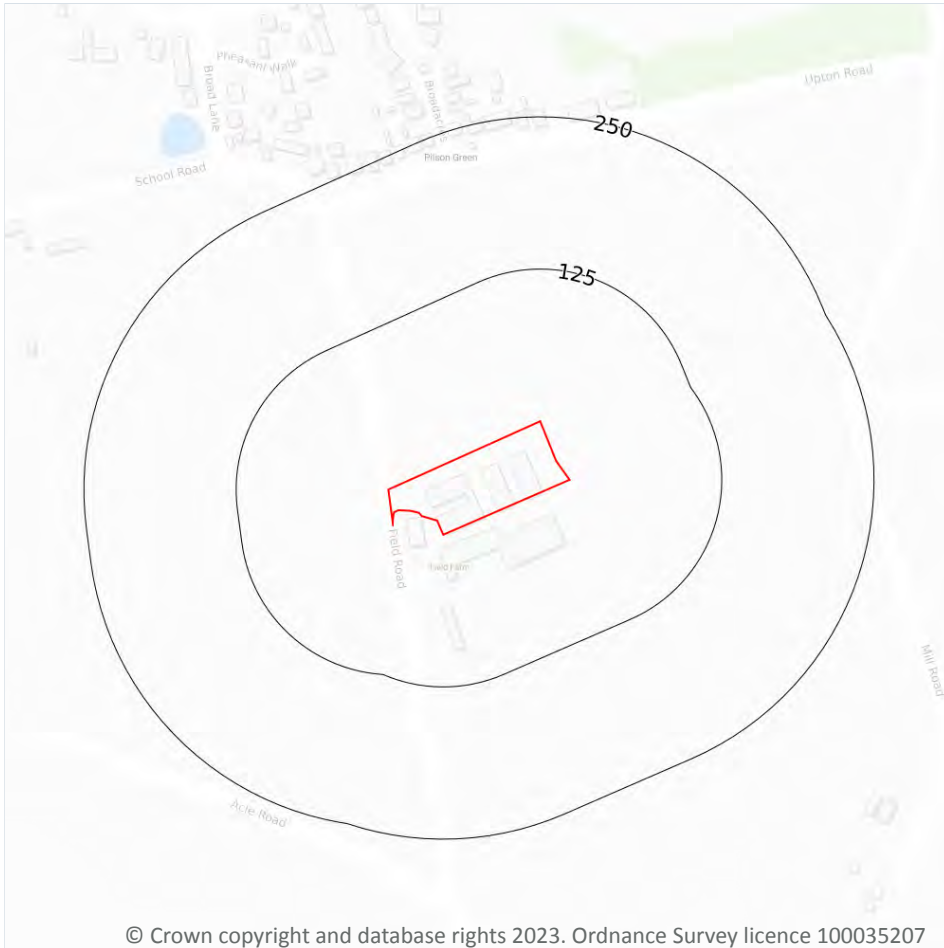
18.13 Clay mining

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

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

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

19 Radon



— Site Outline
Search buffers in metres (m)

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

19.1 Radon

Records on site

1

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 98**

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



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



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

3

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 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
12m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m 0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m 0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m 0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m 0

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

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m 0

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



This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

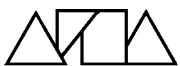
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APPENDIX C: HISTORICAL MAPPING

Reference GS-9320874



Site Details:

FIELD FARM, FIELD ROAD,
SOUTH WALSHAM, NORWICH,
NR13 6BZ

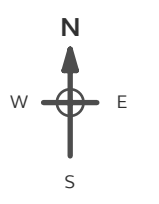
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Report Ref: GS-9320874
Grid Ref: 637667, 313158

Map Name: County Series

Map date: 1886

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1886
Revised 1886
Edition N/A
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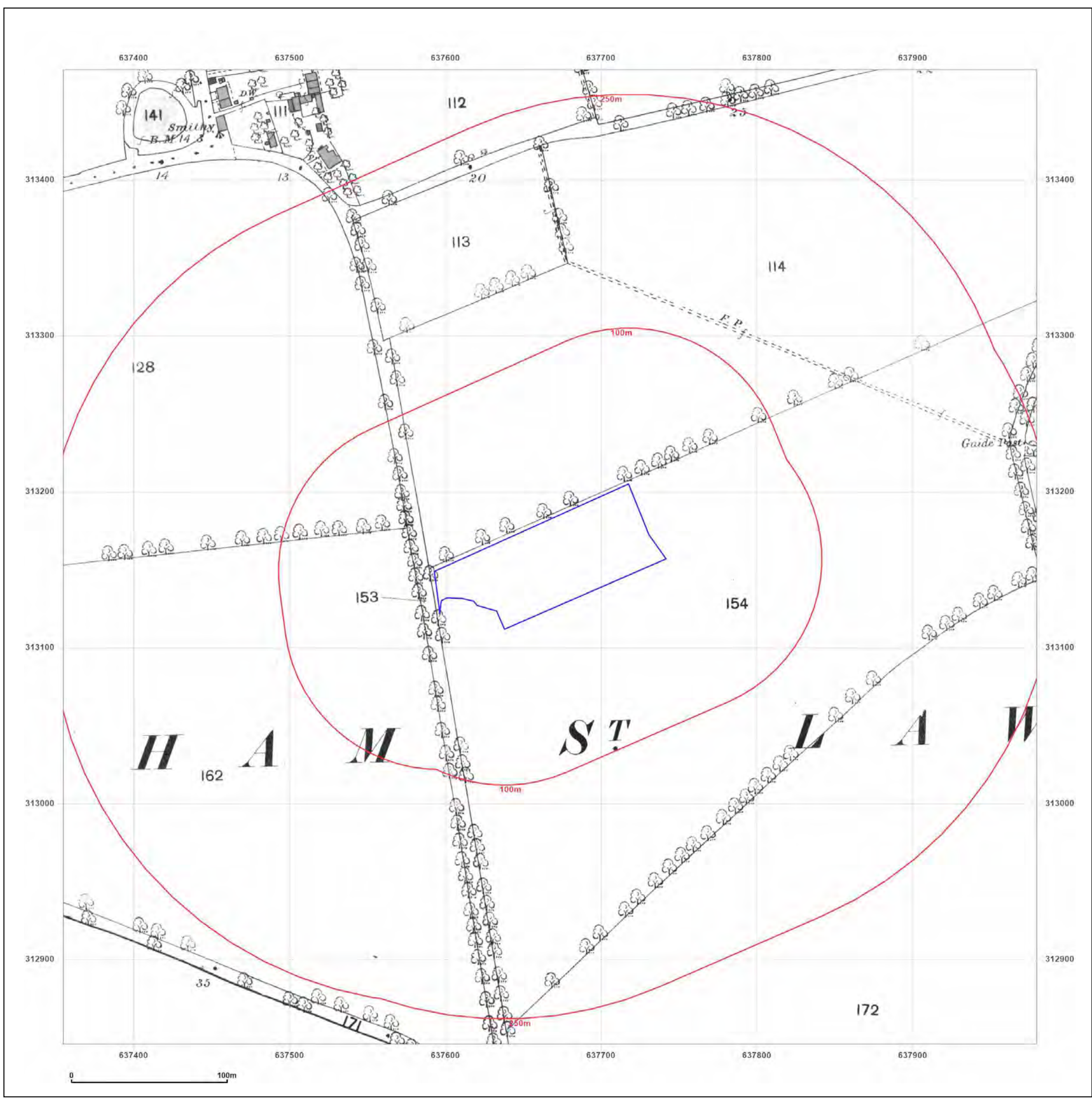


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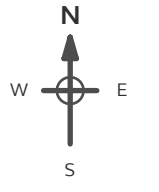
Map legend available at:
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Site Details:
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Client Ref: BJH_23_020
Report Ref: GS-9320874
Grid Ref: 637667, 313158

Map Name: County Series
Map date: 1905
Scale: 1:2,500
Printed at: 1:2,500



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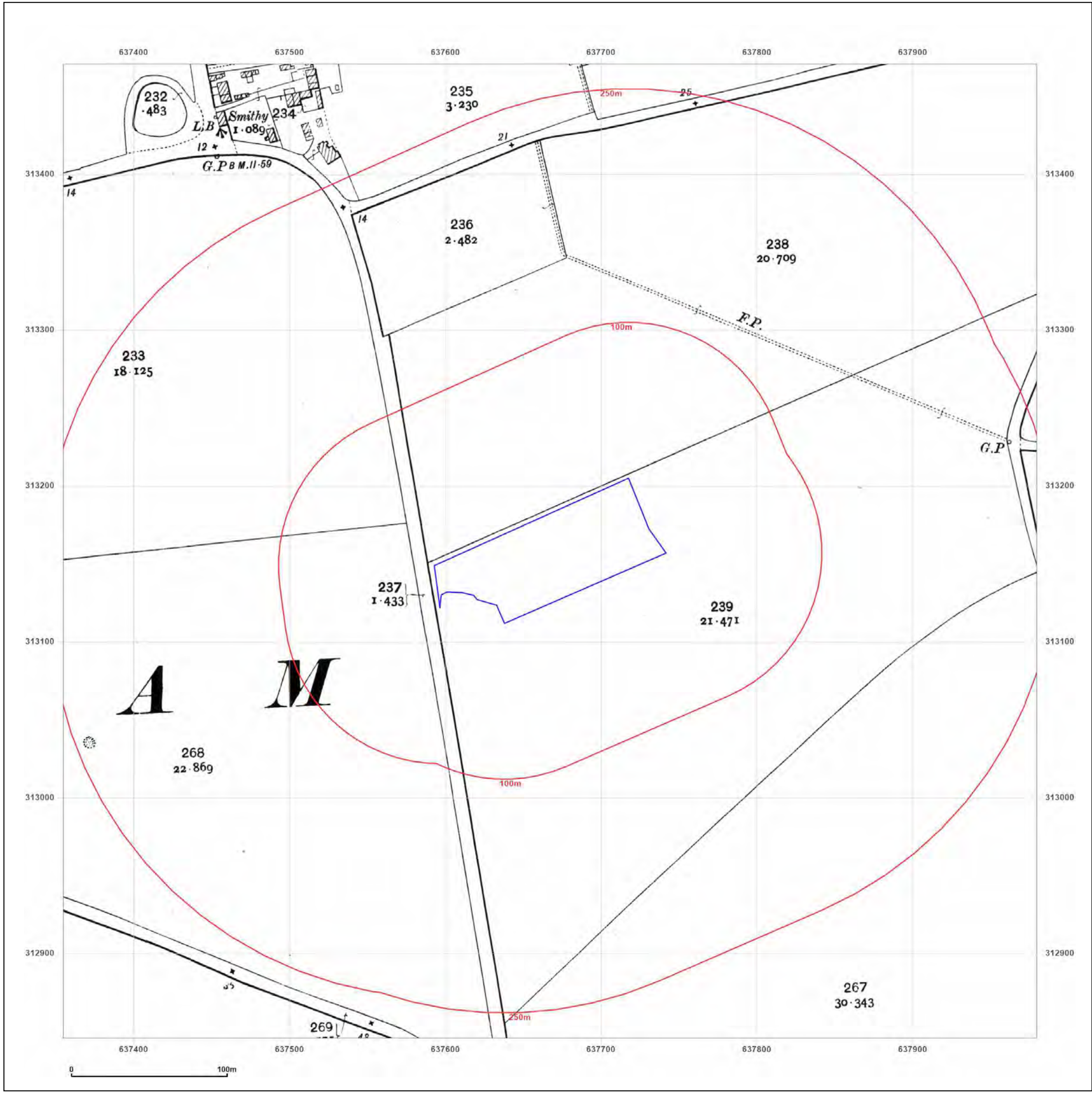
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Site Details:

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NR13 6BZ

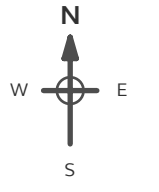
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Map Name: National Grid

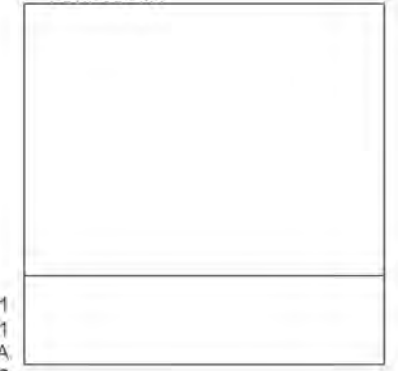
Map date: 1972

Scale: 1:2,500

Printed at: 1:2,500



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Edition N/A
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Site Details:

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NR13 6BZ

Client Ref: BJH_23_020
Report Ref: GS-9320874
Grid Ref: 637667, 313158

Map Name: National Grid

Map date: 1991-1994

Scale: 1:2,500

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Site Details:

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NR13 6BZ

Client Ref: BJH_23_020
Report Ref: GS-9320874
Grid Ref: 637667, 313158

Map Name: National Grid

Map date: 1994

Scale: 1:2,500

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Site Details:

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NR13 6BZ

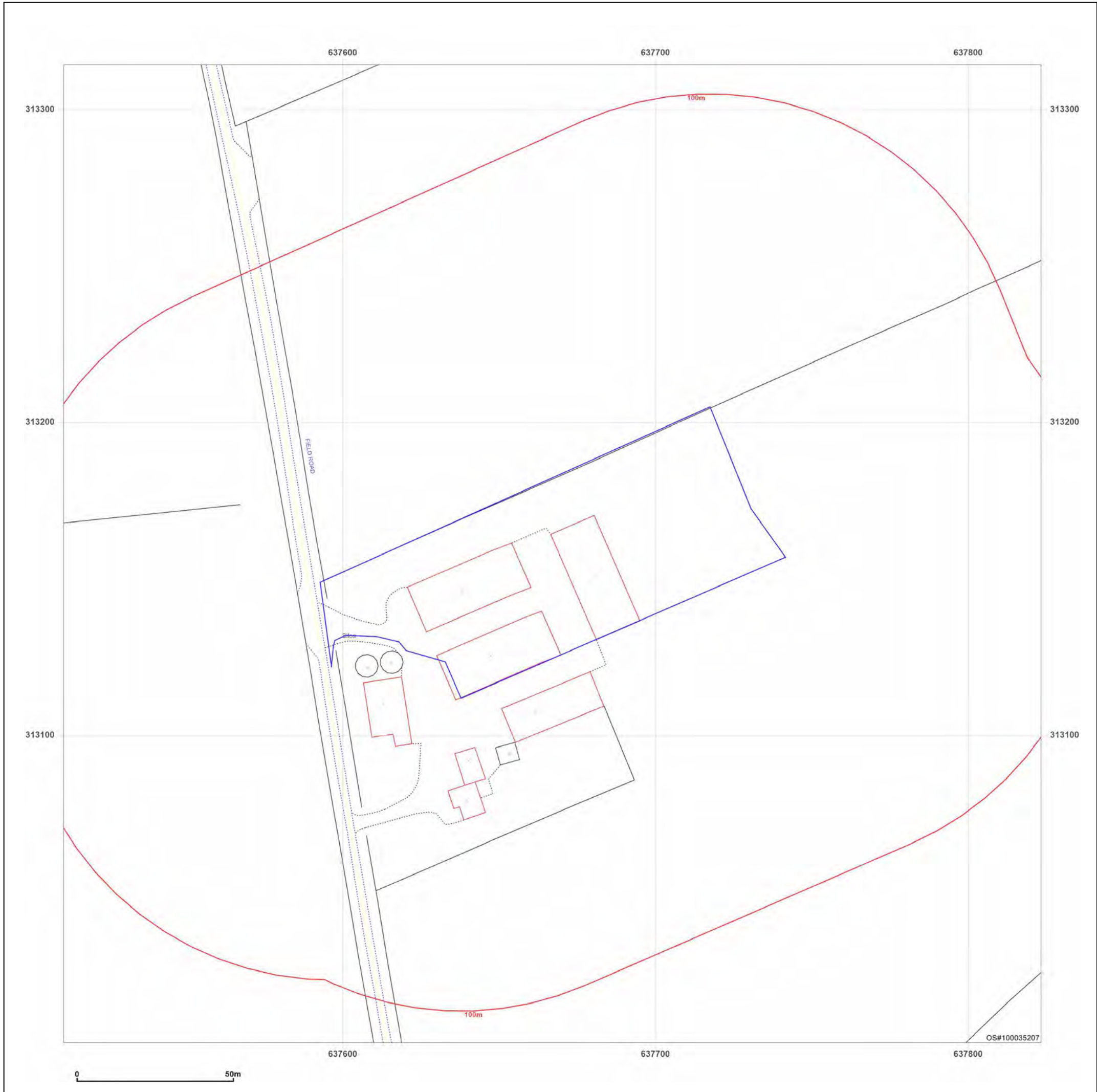
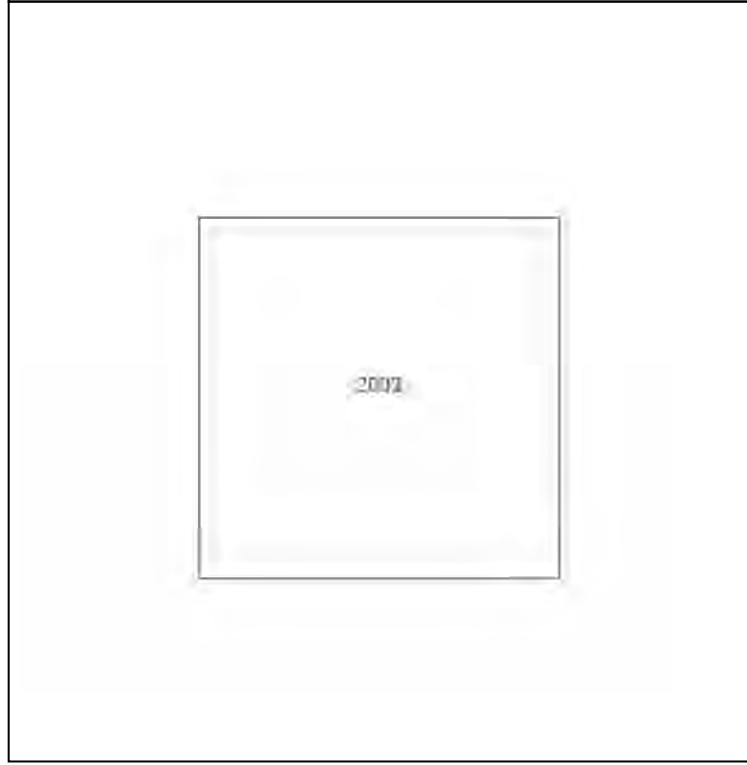
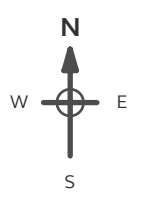
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Report Ref: GS-9320874
Grid Ref: 637667, 313158

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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Site Details:

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NR13 6BZ

Client Ref: BJH_23_020
Report Ref: GS-9320874
Grid Ref: 637667, 313158

Map Name: County Series

Map date: 1884

Scale: 1:10,560

Printed at: 1:10,560



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Site Details:

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NR13 6BZ

Client Ref: BJH_23_020
Report Ref: GS-9320874
Grid Ref: 637667, 313158

Map Name: County Series

Map date: 1900-1905

Scale: 1:10,560

Printed at: 1:10,560



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

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

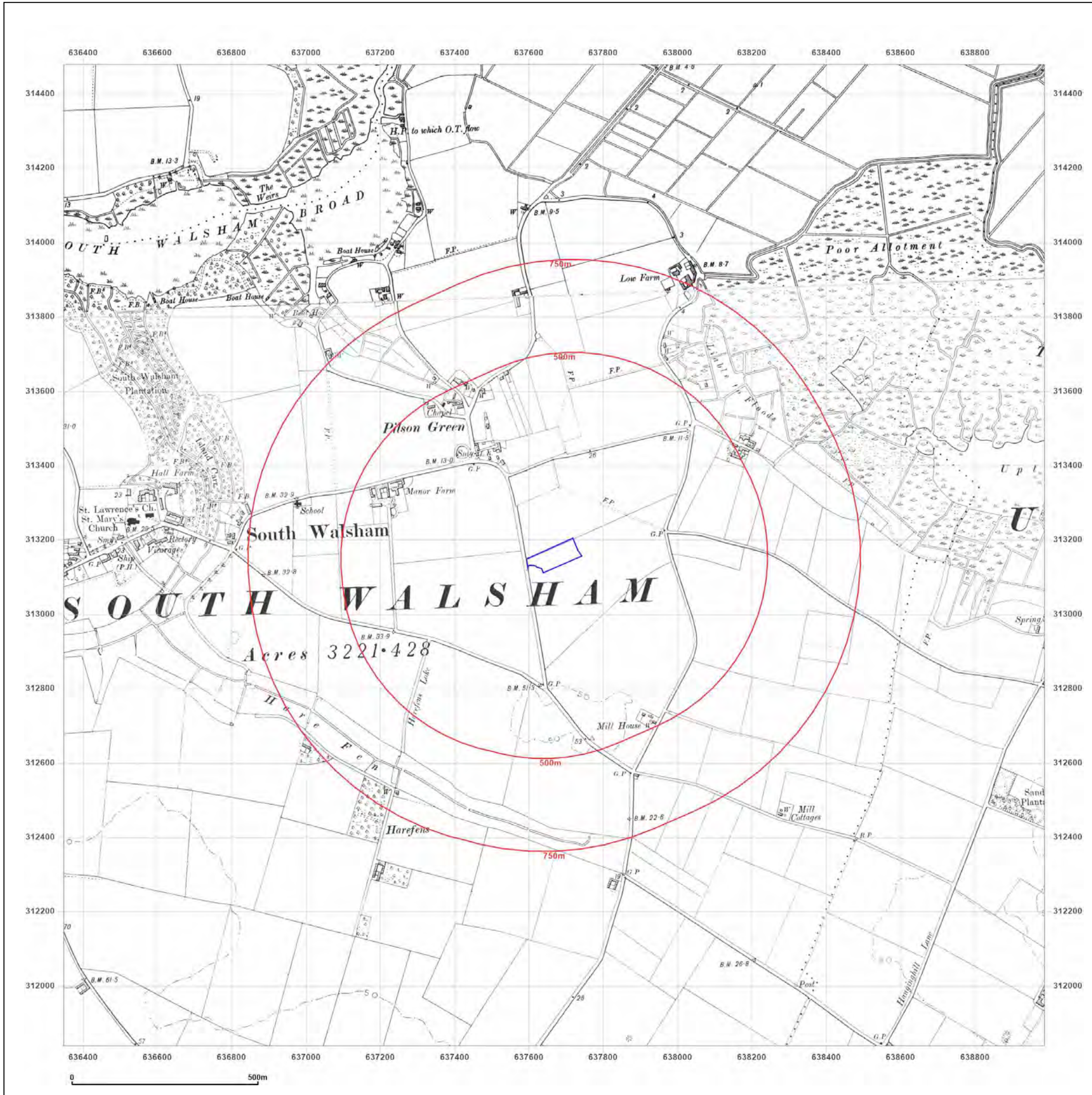


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Site Details:

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NR13 6BZ

Client Ref: BJH_23_020
Report Ref: GS-9320874
Grid Ref: 637667, 313158

Map Name: County Series

Map date: 1946

Scale: 1:10,560

Printed at: 1:10,560



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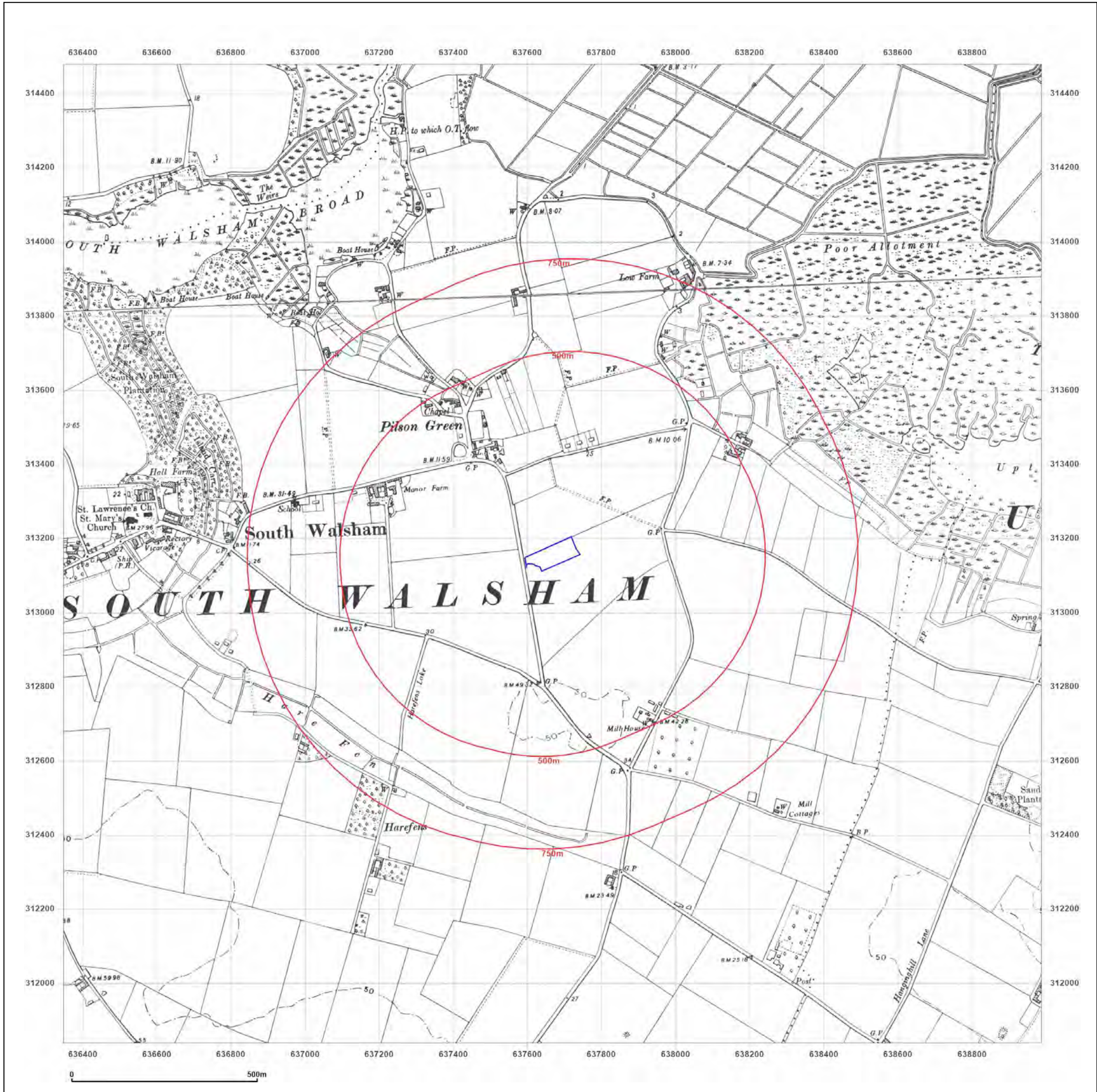


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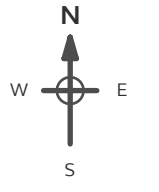
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Site Details:
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 NR13 6BZ

Client Ref: BJH_23_020
Report Ref: GS-9320874
Grid Ref: 637667, 313158

Map Name: Provisional
Map date: 1952
Scale: 1:10,560
Printed at: 1:10,560



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 Revised 1952
 Edition N/A
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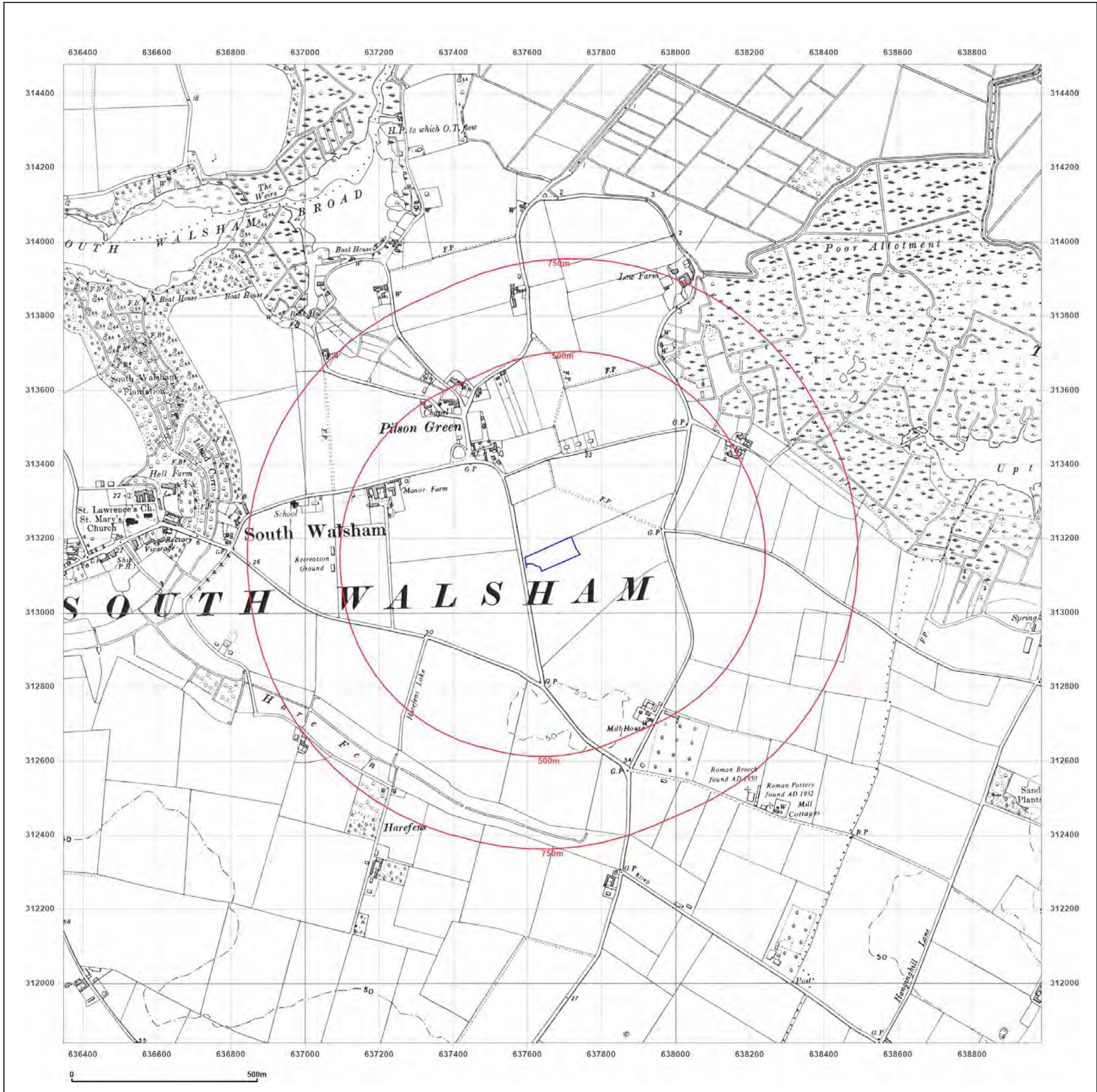


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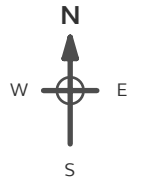
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Site Details:
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Client Ref: BJH_23_020
Report Ref: GS-9320874
Grid Ref: 637667, 313158

Map Name: National Grid
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Printed at: 1:10,000



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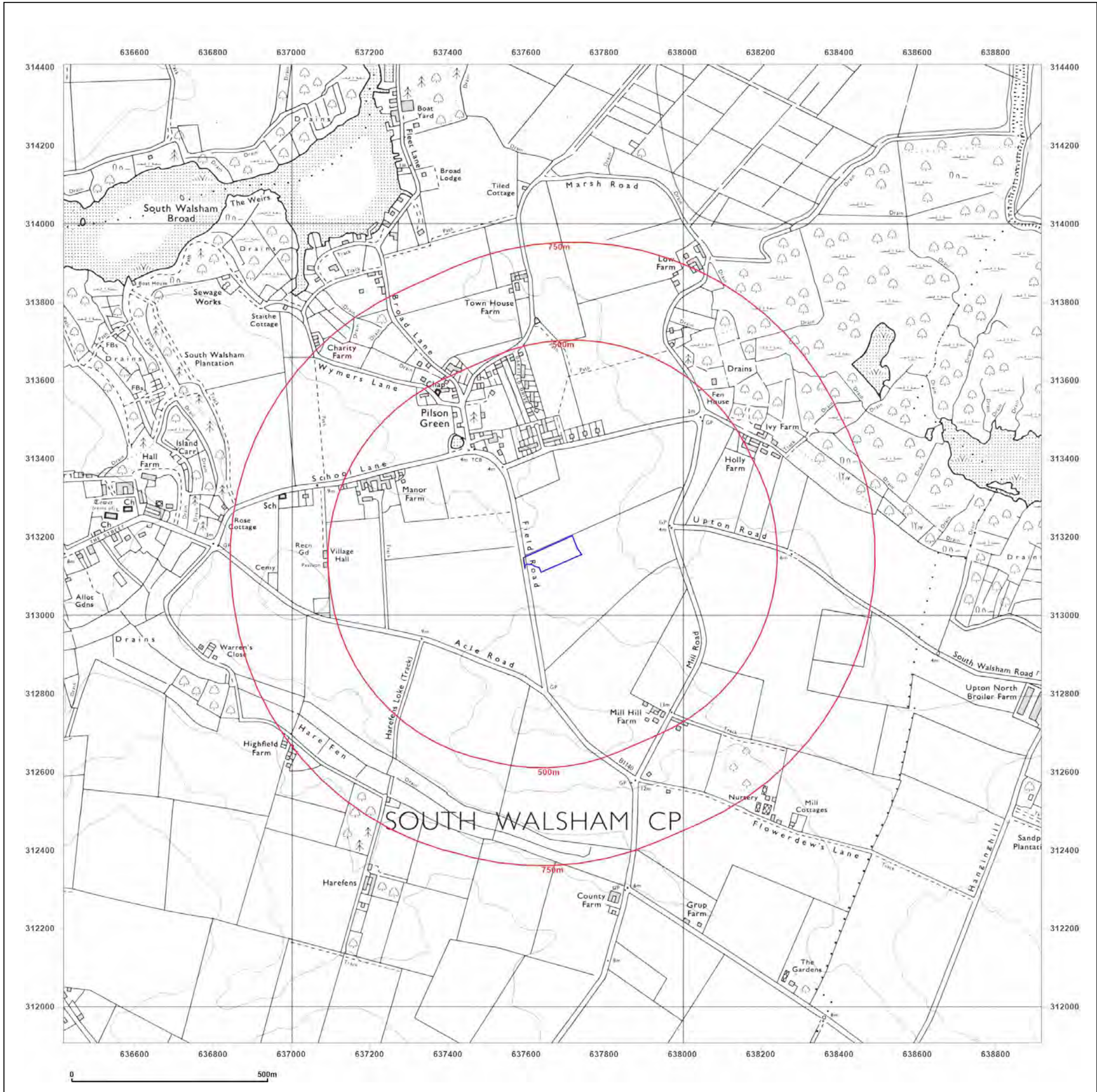
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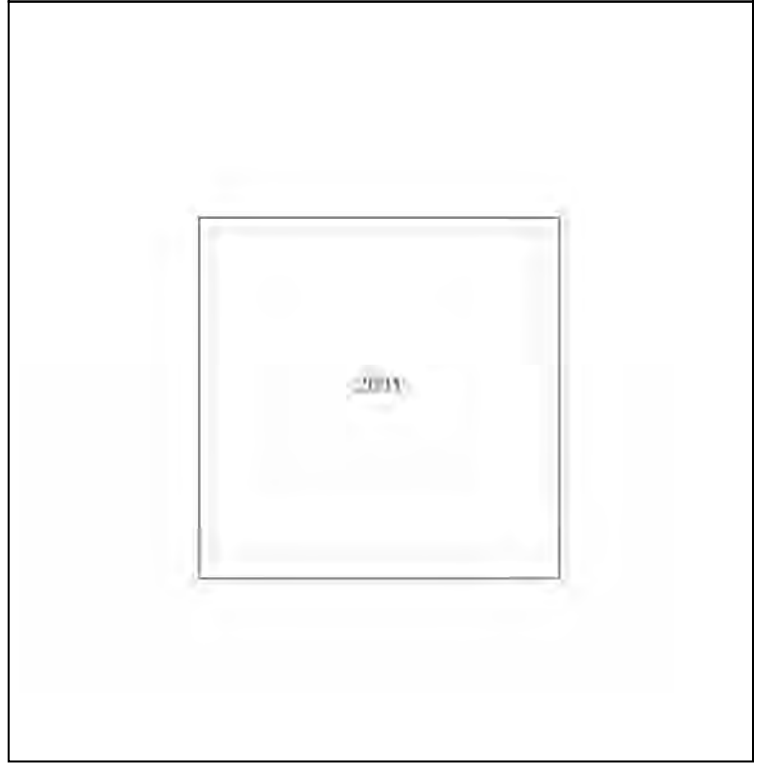
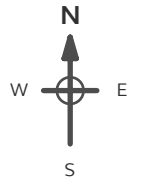
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Site Details:
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 SOUTH WALSHAM, NORWICH,
 NR13 6BZ

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Printed at: 1:10,000



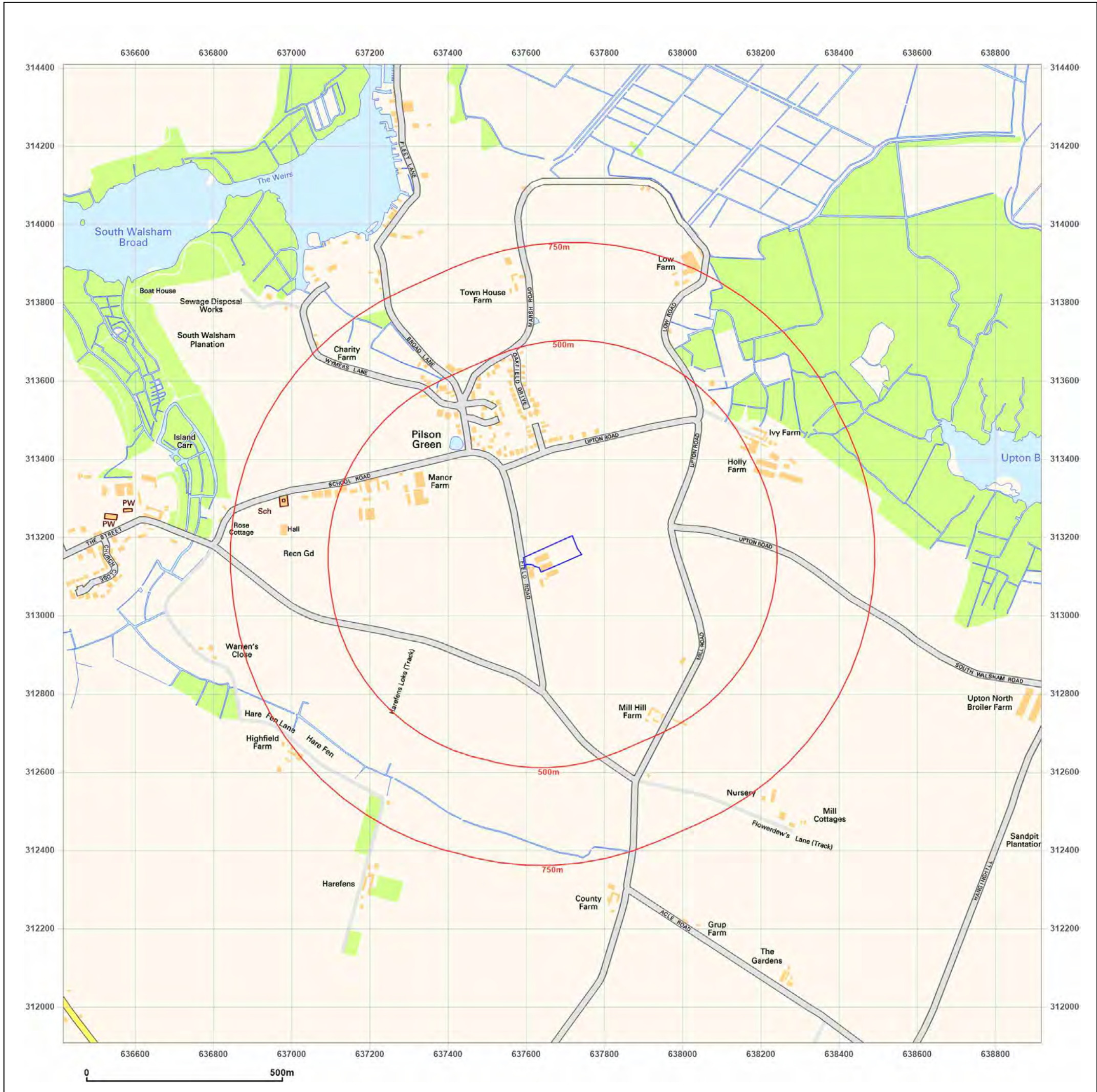
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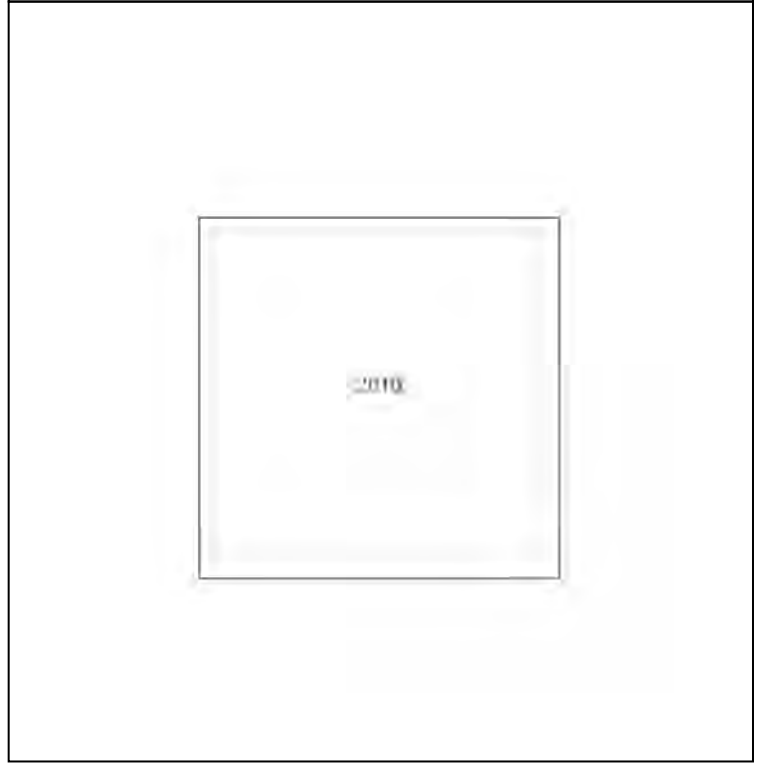
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Site Details:
 FIELD FARM, FIELD ROAD,
 SOUTH WALSHAM, NORWICH,
 NR13 6BZ

Client Ref: BJH_23_020
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Grid Ref: 637667, 313158

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Printed at: 1:10,000



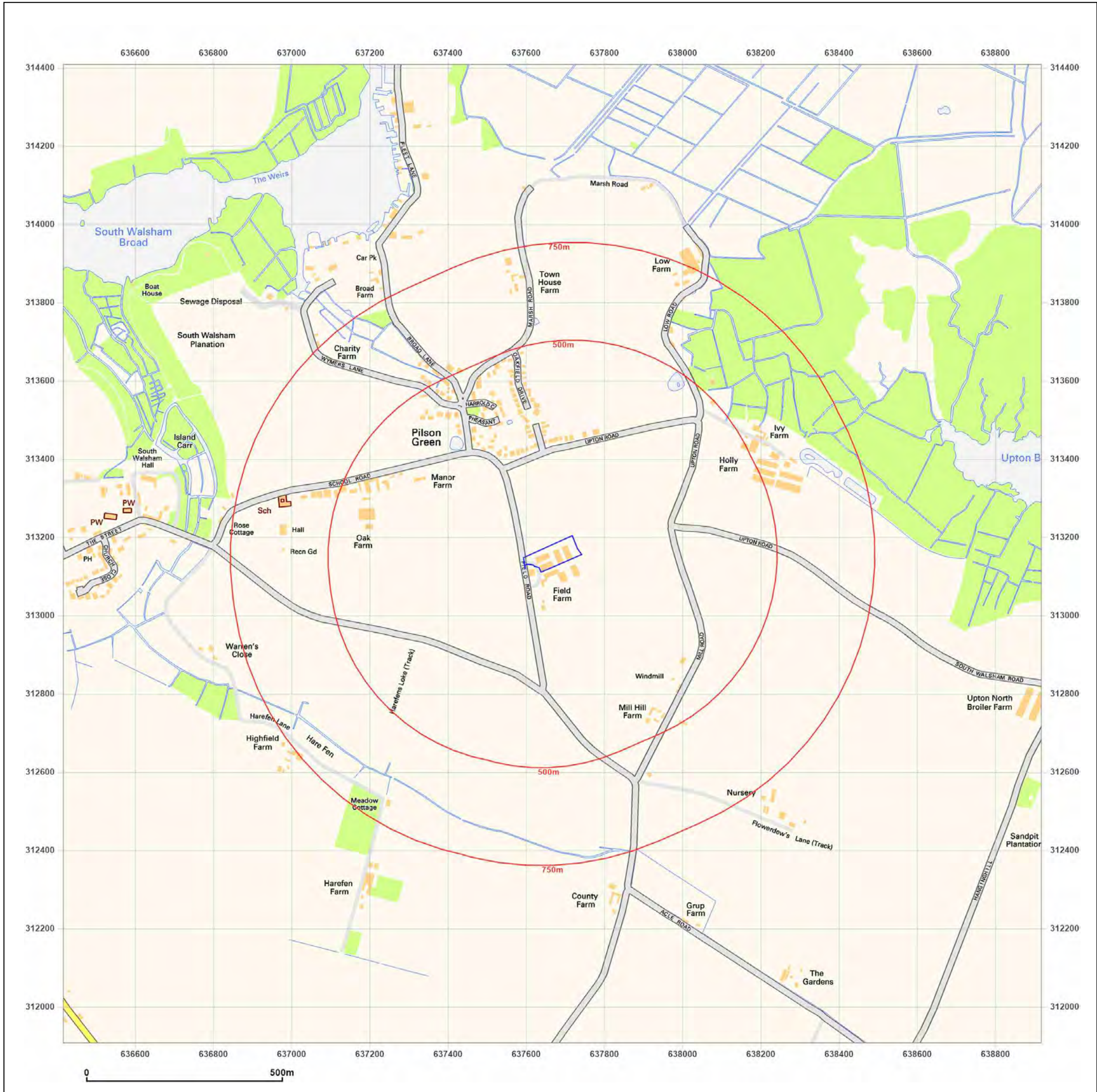
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Site Details:

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NR13 6BZ

Client Ref: BJH_23_020
Report Ref: GS-9320874
Grid Ref: 637667, 313158

Map Name: National Grid

Map date: 2023

Scale: 1:10,000

Printed at: 1:10,000

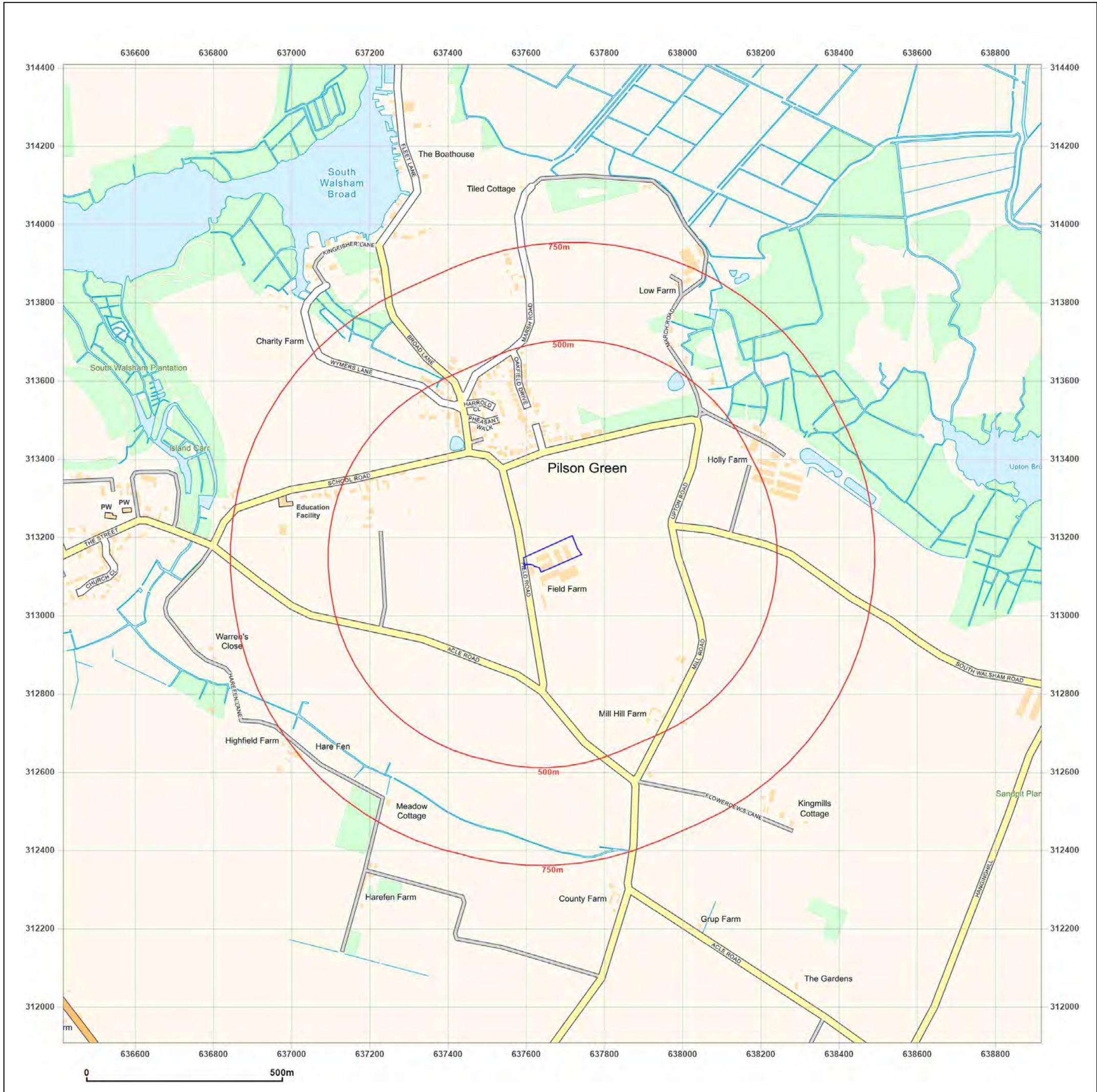


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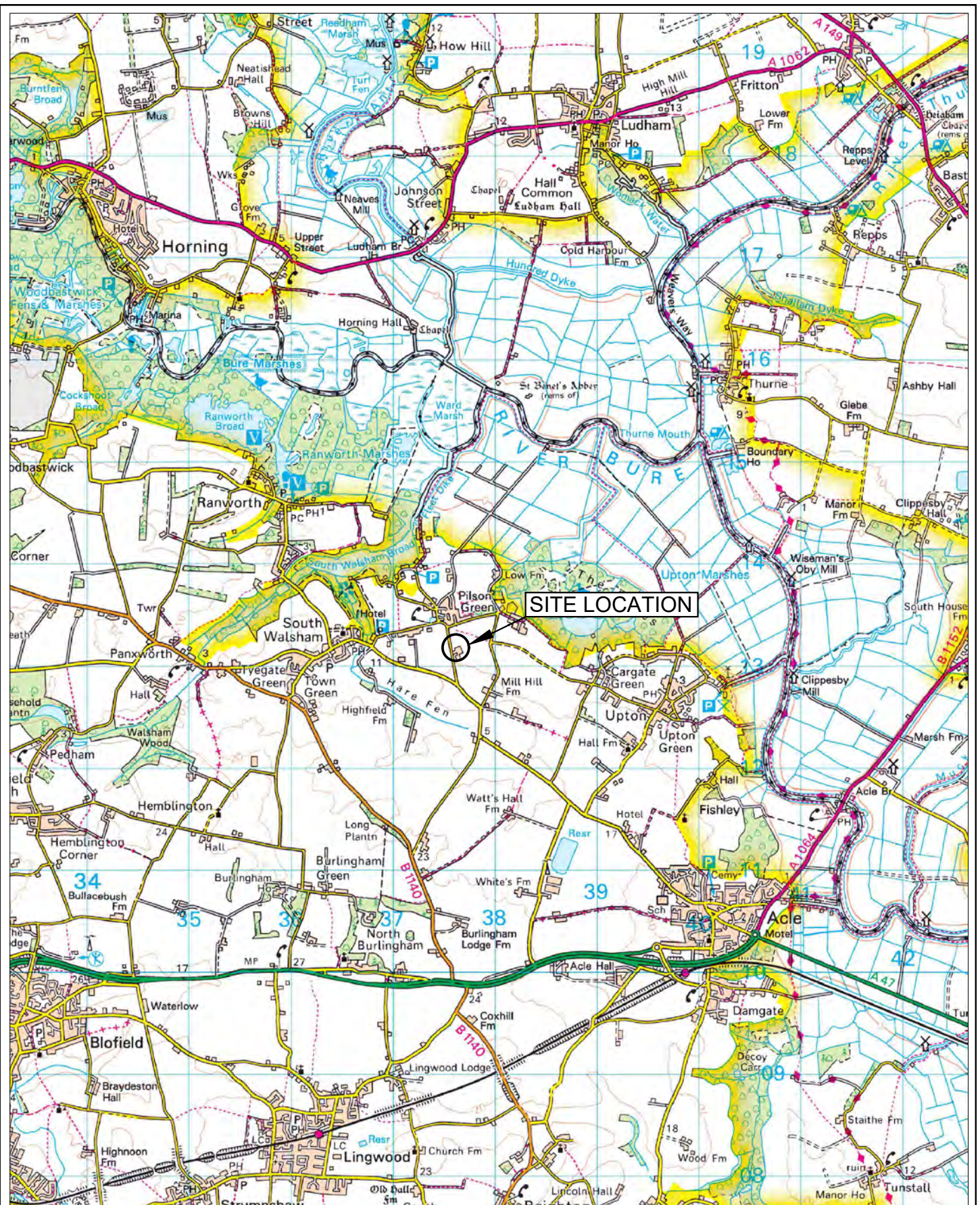
APPENDIX D: DRAWINGS

Drawing 23.020/Phasel/01 Site Location Plan

Drawing 23.020/Phasel/02 Relevant Feature Plan

Drawing FFSW-CF-XX-XX-DR-A-0003 Rev. P2 Proposed Site Plan (Chaplin Farrant)





North



Circle indicates approximate location of site



A F Howland Associates
Geotechnical Engineers

Site: FIELD FARM, FIELD ROAD, SOUTH WALSHAM,
NORFOLK, NR13 6BZ

SITE LOCATION PLAN

Client : D & C Murrell Limited

Date : February 2023

Dwg : 23.020/Phase1/01

Scale 1: 50,000 @ A4

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Photo 1 – view north across western part of site



Photo 2 – view north east along southern boundary



Photo 3 – view between two sheds



Photo 4 – view south towards house



Photo 8 – view south west along northern boundary



Photo 9 – view south west along northern boundary



Photo 10 – view south west along southern boundary



Photo 5 – wastewater pit



Photo 6 – eastern part of site

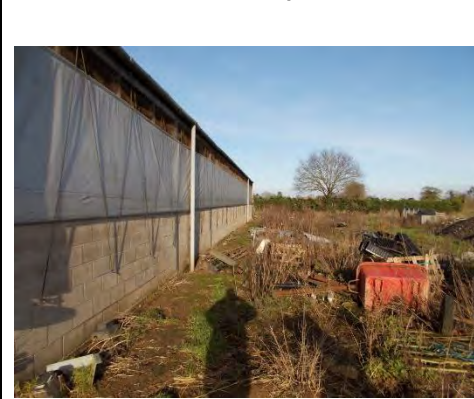


Photo 7 – view between sheds



A F Howland Associates Ltd.
The Old Exchange
Newmarket Road
Cringford
Norwich
NR4 6UF
Tel: 01603 250754
Website: www.howland.co.uk Email: admin@howland.co.uk

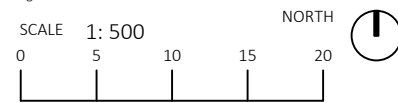
Client: D & C Murrell Limited
Site: Field Farm, Field Road, South Walsham, Norfolk
Job No.: 23.020
Drawing Title: Relevant Feature Plan
Drawing No.: 23.020/Phase1/02
Date: February 2023





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P 0013	D changed

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FFSW-CF---DR-A-0003 P2

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RB RB WMC

51 Yarmouth Road, OB NO
Norwich, NR7 0ET 6878
01603 700000

A:
C W
www.chapinfarrant.com



APPENDIX E: RISK ASSESSMENT CLASSIFICATION

Classification	Definition	Examples
High Likelihood	There is a pollution linkage and an event which would either appear very likely in the short term and almost inevitable over the long term, or, there is evidence at the receptor of harm or pollution.	Free product visible on surface of sensitive water body or in the soil. On site or adjacent gassing 'landfill site'.
Likely	There is a pollution linkage and all the elements are present and in the right place which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.	Potentially contaminative land use i.e. 'Brownfield' site, fuel storage depot, factory, petrol station etc. Sensitive receptors to be introduced as part of site redevelopment. Potentially infilled land identified on site or off-site with credible migration pathway.
Low Likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.	Potential source of contamination identified i.e. historical land use as allotments or domestic above ground fuel storage tanks, areas of burning garden waste. Possible off-site infilled land.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term.	No significant potential sources of contamination identified e.g. 'Greenfield' site. No potential sources of ground gas.

TABLE E1: CLASSIFICATION OF PROBABILITY

Classification	Definition	Examples
Severe	Short term (acute) risk to human health. Short term risk of pollution of sensitive water resource. Catastrophic damage to buildings/property. A short term risk to a particular ecosystem.	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Credible source of ground gas.
Medium	Chronic damage to Human Health. Pollution of sensitive water resources. A significant change in a particular ecosystem, or organism forming part of such ecosystem.	Concentrations of a contaminant from site exceeds the generic, or site specific assessment criteria. Leaching of contaminants from a site to a Secondary or Principal aquifer.
Mild	Pollution of non-sensitive water resources. Significant damage to buildings/structures and crops ("significant harm" as defined in the Circular on Contaminated Land, DETR, 2000). Damage to sensitive buildings/structures or the environment.	Concentrations of a contaminant do not exceed the generic, or site specific assessment criteria. Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as Personal Protective Equipment, etc).	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme.

TABLE E2: CLASSIFICATION OF CONSEQUENCE



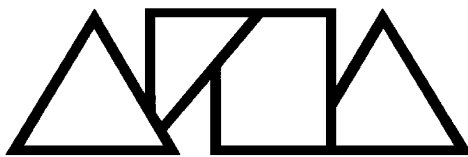
Classification	Definition
Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard or there is evidence that severe harm is occurring. The risk, if realised, is likely to result in a substantial liability. Urgent investigation and remediation will be required.
High Risk	Harm or chronic damage is likely to arise to a designated receptor from an identified hazard. Investigation is required and remediation is likely to be required to ensure the site is suitable for a proposed use.
Moderate Risk	It is possible that harm or chronic damage could arise to a designated receptor from an identified hazard. However, it is relatively unlikely that any such harm would be severe. Investigation and remediation are likely to be required to ensure the site is suitable for a proposed use.
Low/Moderate Risk	It is possible that harm or chronic damage could arise to a designated receptor from an identified hazard. Investigation is likely to be required. However, circumstances are such that investigation may prove the consequence to be mild and the site suitable for use without remediation.
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard but it is likely that this harm, if realised, would at worst be mild. Investigation is unlikely to be required.
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe. Investigation is not required.

TABLE E3: DESCRIPTION OF RISK

		CONSEQUENCE			
		Severe	Medium	Mild	Minor
PROBABILITY	High likelihood	Very High	High	Moderate	Low/Moderate
	Likely	High	Moderate	Low/Moderate	Low
	Low likelihood	Moderate	Low/Moderate	Low	Very Low
	Unlikely	Low/Moderate	Low	Very Low	Very Low

TABLE E4: DETERMINATION OF RISK





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Newmarket Road
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NR4 6UF

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Fax: 01603 250749

Email: admin@howland.co.uk

www: <http://www.howland.co.uk>