EARTH ENVIRONMENTAL & GEOTECHNICAL

Phase I GeoEnvironmental Desk Study

Broughton Shopping Park Phase 3

Bretton

January 2026

On behalf of

British Land

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PHASE I GEOENVIRONMENTAL DESK STUDY

BROUGHTON SHOPPING PARK – PHASE 3

BRETTON

FOR

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Report No. A5552/23/V3 January 2026

Report Title:	Broughton Shopping Park – Phase 3, Phase I GeoEnvironmental Desk Study	
Report Reference:	A5552/23/FDS/V3	
Client:	British Land	
Issue Date:	6th September 2023	Updated 8th January 2026
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CONTENTS

FIGURES

TABLES

APPENDICES

1.0 INTRODUCTION

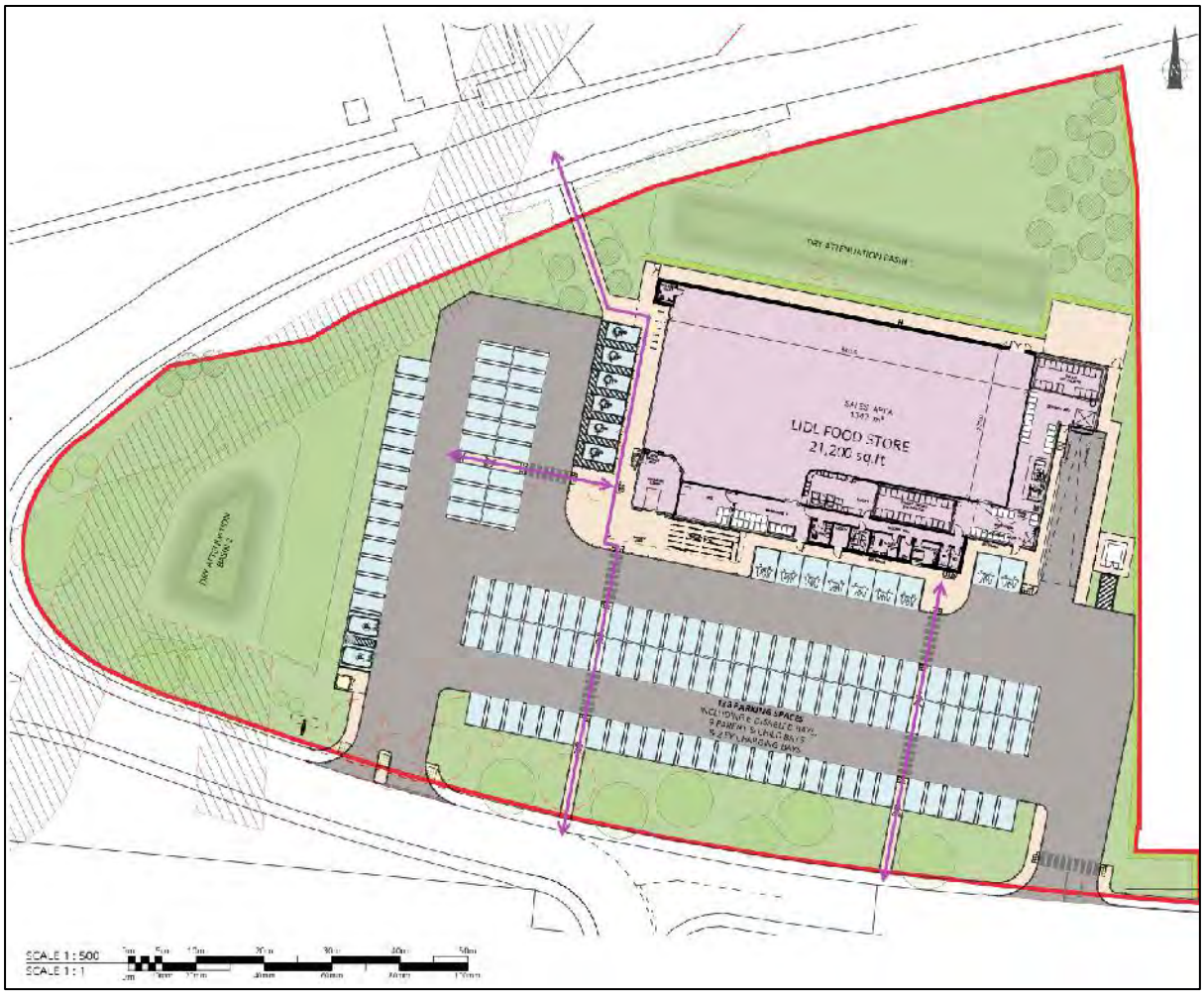
Appointment

1.1 Earth Environmental & Geotechnical Ltd have been commissioned by SWF Consulting Ltd on behalf of British Land (the Client) to undertake a Phase I Environmental Desk Study for a proposed commercial development on land to the north of Broughton Shopping Park, Bretton.

1.2 It is understood that the Client intends to construct a new Lidl Food Store, along with an associated large car parking area. The development will also include 2no. dry attenuation basins, to the north and west of the new building.

1.3 A development layout plan is shown below as Figure 1.

Figure 1 Development Layout Plan



Objective

1.4 The purpose of the Desk Study is to collate available geological and environmental data for the site (and its environment) and provide a preliminary geotechnical and geo-environmental appraisal, with a site-specific conceptual model. This enables a preliminary assessment of geo-

environmental risks to be undertaken and, if necessary, provides information for the design of a Phase 2 Ground Investigation.

Scope

1.5 The Phase I Environmental Desk Study comprises of a review of the following information sources, some of which was provided by the client.

- British Geological Survey online maps.
- Google Earth imagery.
- Environment Agency online mapping data.
- Historical Ordnance Survey maps.
- The site and surrounding areas environmental, geological, and mining data presented in the site specific GroundSure Reports (Appendix 1).
- Coal Authority Interactive Viewer.
- Flintshire Council planning portal search.

2.0 SITE LOCATION AND DESCRIPTION

2.1 The site (1.41 hectares) is an area of open space in off the Chester Road (A5104) at Broughton Shopping Park, Bretton.

2.2 The approximate National Grid Reference for the centre of the site is SJ 334947 364157. The nearest postcode is CH4 0DQ.

2.3 The site is roughly oval in shape of approximately 160m long and approximately 120m wide, located in Bretton and approximately 6km to the south-west of the Chester City Centre. The site is generally flat and level.

2.4 The site consists of vacant grassed areas with semi-mature trees along the boundaries and western portion of the site. The site is covered by rough grass, shrubs across the site borders with a number of mature trees in random places across the site and along site boundaries.

2.5 A location plan is shown below as Figure 2.

Figure 2 Site Location Plan

3.0 ENVIRONMENTAL SETTING

3.1 The geology of the site is covered by British Geological Survey (BGS) online data and the site specific GroundSure GeoInsight report (Appendix 1).

3.2 Environmental conditions are covered by Environment Agency (EA)/ Natural Resources Wales (NRW) and British Geological Survey (BGS) online data, and the site specific GroundSure EnviroInsight report (Appendix 1).

Geology

3.3 The BGS states that the site is not underlain by artificial deposits.

3.4 The site is underlain by superficial deposits of Devensian Till, comprising Diamicton, commonly known as Boulder Clay.

3.5 The solid geology beneath the site is shown to be the Kinnerton Sandstone Formation comprising sandstone.

3.6 There is 1record of a linear feature within 500m of the site boundary refers to fault located 49m to the south-west.

3.7 There are no records of landslips within 500m of the site boundary.

3.8 There is 1 borehole record identified within 250m of the site of, located 249m to the south-east, however the record is confidential.

3.9 The site is in an area where the hazard rating is negligible with regard to ground dissolution and compressible deposits, very low with regards to natural subsidence, shrink-swell clays, landslides, soluble rocks, collapsible deposits and running sands.

Ground Workings

3.10 There are no records of historical surface ground working features identified within 250m of the site boundary.

3.11 According to the BGS, there are no records of a British Pit within 500m of the site.

Mining and Other Underground Workings

3.12 There are no records of historical mining areas within 1km of the site boundary.

3.13 The site is located outside the Coal Mining Reporting area and outside the Development High Risk Area.

3.14 There are 2 records for non-coal mining areas located within 1km of the site, closest located 813m to the west of the site. Both records are related to Iron Ore (Bedded).

3.15 There are no records for non-coal cavities or natural cavities identified within 1km of the site.

Radon Potential

3.16 The property is not located in a Radon Affected Area. Less than 1% of properties are above the Action Level. Therefore, radon protection measures are not necessary.

Hydrogeology and Hydrology

3.17 The superficial deposits are classified by the BGS and Natural Resources Wales (NRW) as a Secondary Undifferentiated. The BGS states the following:

> *For 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.'*

3.18 The Kinnerton Sandstone Formation is classified by the BGS and Natural Resources Wales (NRW) as a Principal Aquifer. The BGS states the following:

> *'For Principal Aquifer: "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."*

3.19 There are 8 groundwater abstraction licence records within 2km of the site. Closest located 876m to the east of the site and refers to a historical licence for general farming and domestic use. There are no records of surface water abstraction licence records within 2km of the site.

3.20 There are no surface water abstraction licenses within 2km of the site.

3.21 There 2 potable water abstraction licenses within 2km of the site boundary, the closest record referring to an active license for potable water supply is located 1km to the south.

3.22 The site is located within Source Protection Zone, Type 3 (Total catchment). There are no records of Source Protection Zone within a confined aquifer within 500m of the site.

3.23 There are 2 water network entries within 250m of the site, the closest being located 218m to the east of the site and referring to an inland river not influenced by normal tidal action.

3.24 There are no records of a Water Framework Directive (WFD) surface water body.

3.25 There is 1 record of a Water Framework Directive (WFD) groundwater body located on site. The record refers to the on-site Dee Permo-Triassic Sandstone. The water body received a poor chemical and overall rating and good quantitative rating in 2019.

Landfill & Waste Management Activity

3.26 There are no records for current Environment Agency landfill records within 1km of the site.

3.27 There are 3 records of historic Environment Agency landfill sites within 500m of the site. The closest located 201m to the north-east of the site and refers to industrial and special environmental permitting regulations waste, licenced by British Aerospace. The last recorded landfilling was in 1992. The remaining records refer to landfills located 488m and 492m northeast of the site, which boundaries appear to overlap, however are recorded to have been in operation at different times.

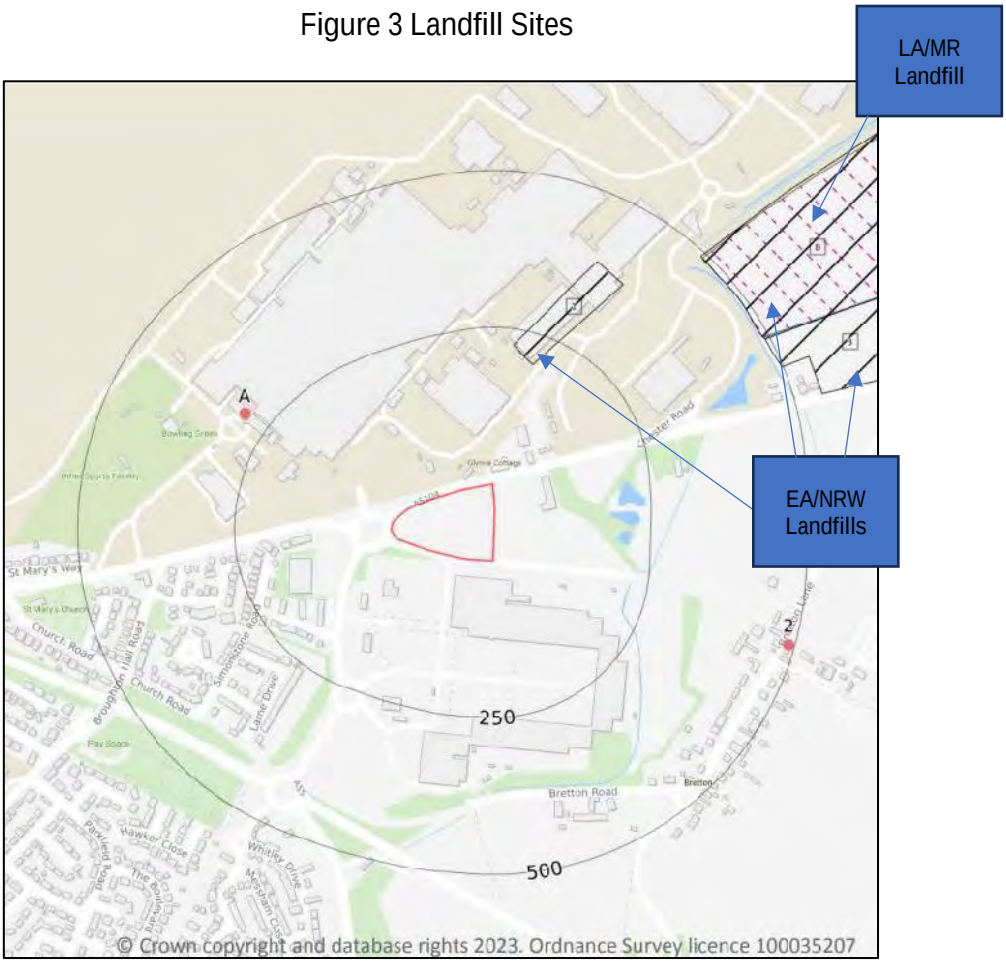
3.28 There are no records of a BGS/DoE non-operational landfill sites within 500m of the study site.

3.29 There is 1 record of landfill from the Local Authority and Historical Mapping Records within 500m of the site located 489m to the north-east of the site and refers to a landfill site, later recorded as Bretton Landfill. The extent of the landfill is shown in Figure 3.

3.30 There are 4 records of waste treatment, transfer, or disposal sites within 500m of the study site. The closest records refer to treating waste exemption (recovery of scrap metal) located 291m to the north-west of the site.

3.31 There are no records of Environment Agency/Natural Resources Wales licensed waste sites within 500m of the site.

Figure 3 Landfill Sites



Industrial Land Use Information

3.32 There are 67 records of potentially contaminative historical land uses identified within 500m of the site, the closest located 9m to the north of the site and refers to a railway station dated 1898 to 1909. Other records within the vicinity include; an airport, unspecified works, unspecified commercial/industrial, railway sidings, engineering works and stone works.

3.33 There are 15 records of potentially contaminative current land uses identified within 250m of the site. The closest record refers to an electricity substation located 44m south east of the site.

3.34 There are 37 records of historical tanks identified within 500m of the site. The closest record refers to an unspecified tank located 150m to the west of the site, dated 1989.

3.35 There are 6 records of historical energy features identified within 500m of the site. The closest record is located 108m to the north-east of the site and refers to an electricity substation recorded in 1993.

3.36 There is 1 record of a current petrol or fuel sites within 500m of the site. The record is for an open petrol station located 262m south of the site.

3.37 There are no records of historical petrol or fuel sites within 500m of the site.

3.38 There are 6 records of historical garage and motor vehicle repair site records identified within 500m of the site. The closest record is for a garage located 376m west of the site, dated 1994-1999.

3.39 There are no National Grid high voltage underground electricity transmission cables within 500m of the site.

3.40 There are no National Grid high-pressure gas transmission pipelines within 500m of the site.

3.41 There are 22 historical railway and tunnel features identified within 250m of the site. All records relate to railway sidings with the closest record being located 15m north east of the site, dated 1898.

3.42 There is 1 historical railway line identified within 250m of the site, this being located on site. The historical line runs north east to south west through the western portion of the site.

3.43 There are no current active railway lines identified within 250m of the site.

3.44 There are no underground railway lines or tunnels identified within 250m of the site.

3.45 The site is not within 5km of the route of the High Speed 2 rail project.

3.46 The site is not within 500m of the route of the Crossrail 1 rail project.

Environmental Permits, Incidents and Registers

3.47 The Groundsure Report includes records of environmental permits, incidents, and registers within 500m of the site, which are summarised in Table 1 overleaf.

Table 1: Environmental Permits, Incidents and Registers within 500m of the Site

Permit/Incident/Register	Number
Sites Determined as Contaminated Land under Part 2A EPA 1990	0
Dangerous or Hazardous (COMAH and NIHHS) Sites	1
Regulated Explosive Sites	0
Planning Hazardous Substance Consents and Enforcements	1
Historical Licensed Industrial Activities (IPC)	0
Part A (1) and IPPC Authorised Activities	38
Part A (2) and Part B Activities and Enforcements	1
Category 3 or 4 Radioactive Substance Authorisations	0
Licensed Discharge Consents	1
Pollutant Release to Surface Waters (Red List)	0
Pollutant Release to Public Sewer	0
List 1 Dangerous Substances Inventory Sites	0
List 2 Dangerous Substances Inventory Sites	0
Substantiated Pollution Incidents (Category 1 and 2)	6

3.48 There is 1 record of a Control of Major Accident Hazards (COMAH) site within 500m of the site. This is for a historical NIHHS site located at Airbus Operations Ltd, located 17m to the north.

3.49 There is 1 record of a Hazardous Substance Consent within 500m of the site, located 304m north of the site at Airbus UK Ltd. No further details are recorded.

3.50 The are 38)records of Licensed Industrial Activities (Part A(1)) within 500m of the site. The closest six (6) records relate to Broughton Aircraft Factory, located 216m north west of the site. The licence regards the combustion of waste oil and associated processes.

3.51 There is one 1 record of a Licensed Pollutant Release (Part A (2)/B) within 500m of the site. This relates to a Part B permit for the unloading of petrol into storage at a petrol station located 249m to the south.

3.52 There is 1 record for a Licensed Discharge Consent within 500m of the study site, located 453m to the north east and refers to a revoked licence for unspecified trade discharges.

3.53 There are 6 records for Substantiated Pollution Incidents (Category 1 and 2) within 500m of the study site. The closest record is located 221m to the east of the site and refers to specific waste materials, recorded in 2003, with a minor impact on land and air quality.

Environmentally Sensitive Sites

3.54 There are 4 records of Ancient Woodland within 2km of the study site. The closest is the unknown restored ancient woodland site located 704m south of the site.

3.55 There is one (1) record of Green Belt land within 2km of the study site, this relating to the Merseyside and Greater Manchester greenbelt located 1km to the south.

3.56 The site is not located within a Nitrate Vulnerable Zone.

Ecology

3.57 An ecological assessment of the site falls outside the brief of this report. Where considered necessary, advice should be sought from an ecological specialist in this respect.

Archaeology

3.58 An archaeological assessment falls outside the brief of this report. Where considered necessary, advice should be sought from an archaeological specialist in this respect.

Potential Flood Risks

3.59 Detailed assessment of flood risks is outside the scope of this report. It is recommended that a full flood risk assessment report is developed for the site prior to construction.

4.0 SITE HISTORY WALKOVER SURVEY

4.1 A walkover survey was completed on 11th August 2023.

4.2 The photographs and notes from this survey are appended to this report as Appendix 2 and Appendix 3, respectively.

4.3 The site is accessible by foot via the northern and southern boundaries.

4.4 The vehicle access points are overgrown with rough vegetation.

4.5 The site is covered with rough grass, shrubs across the site borders and number of mature trees in along site boundaries and in the western portion of the site.

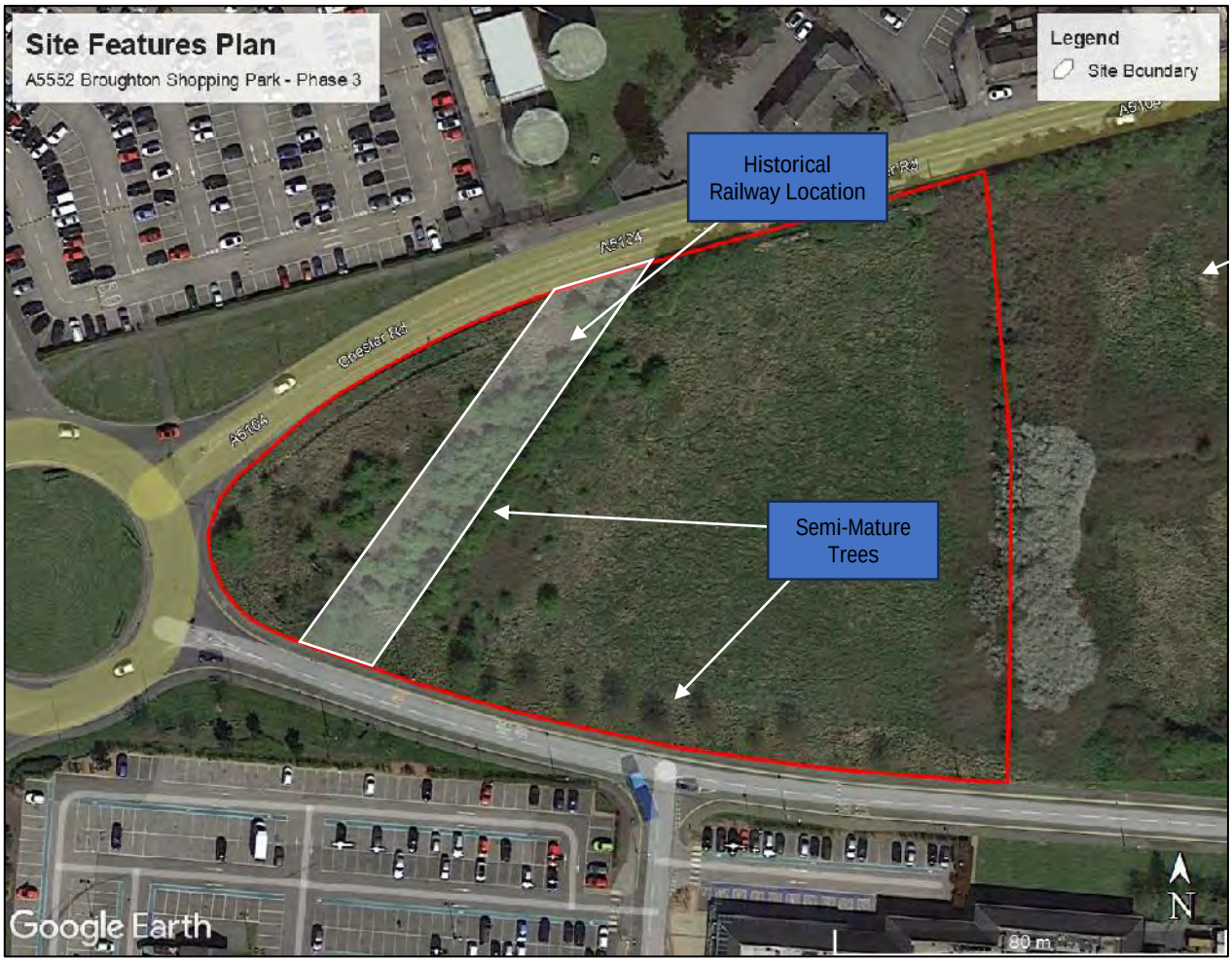
4.6 The site is generally bordered by a timber panel fence.

4.7 The site is generally flat and level across it's extent.

4.8 The surrounding land uses are primarily commercial with a vacant plot of land to the east.

4.9 A site features plan is presented as Figure 4 overleaf.

Figure 4 Site Features Plan



5.0 SITE HISTORY

5.1 The historical development of the site has been determined by reference historical plans and Google Earth imagery. The reviewed historical plans comprise only readily available records and may be limited; however, the information available to date indicates that additional searches are unlikely to add to our understanding of the site. The earliest available historical mapping covering the site dates back to 1869.

5.2 The site history is summarised in Table 2, below, followed by selected extracts from maps and aerial photographs.

Table 2: Summary of Site History

Date	On-Site History	Surrounding Land Use History
1869 1:10,560 1870 1:2,500 1898 1:10,560 1899 1:2,500	The Chester and Mold Branch of the London and North Western Railway runs through the western portion of the site in a NE-SW orientation. A mile post is labelled adjacent to the railway line.	The surrounding land uses are primarily agricultural with occasional commercial and residential properties. A road runs along the northern site boundary. A level crossing is present adjacent to the north. A Broughton Hall Railway Station is present ~18m north of the site. Ponds are present ~25m west, 60m north, 105m north east, 145m south east and 200m east of the site. A works is present ~90m north east of the site.
1909 1:10,560 1911 1:2,500	A signal post is now labelled on site adjacent to the railway line.	No significant changes.
1938 1:10,560 1948 1:10,560	No significant changes.	No significant changes.
1963-1968 1:10,560 1965-1967 1:2,500	No significant changes.	A large works is now present ~80m north of the site with an airfield beyond.
1980-1983 1:2,500 1982 1:10,000	The railway line is now labelled as dismantled and is shown to terminate at the northern site boundary.	No significant changes.
1988-1990 1:2,500	Sinks are labelled adjacent to the dismantled railway near the northern site boundary.	No significant changes.
1993-1994 1:2,500	No significant changes.	A roundabout is now present adjacent to the west.
2003 1:1,250	The dismantled railway and sinks are no longer present on the mapping.	Broughton Shopping Park is present to the south.

Date	On-Site History	Surrounding Land Use History
Google Earth 2003, 2005, 2006, 2007, 2009, 2010	The aerial imagery shows the site to a vacant grassed plot of land with a line of trees running through the western portion of the site.	
2010 1:10,000	No significant changes.	No significant changes.
Google Earth 2011, 2015, 2016, 2018, 2019, 2020, 2021, 2022	No significant changes.	No significant changes.
2023 1:10,000	No significant changes.	No significant changes.

Figure 5: OS Map Extract 1870

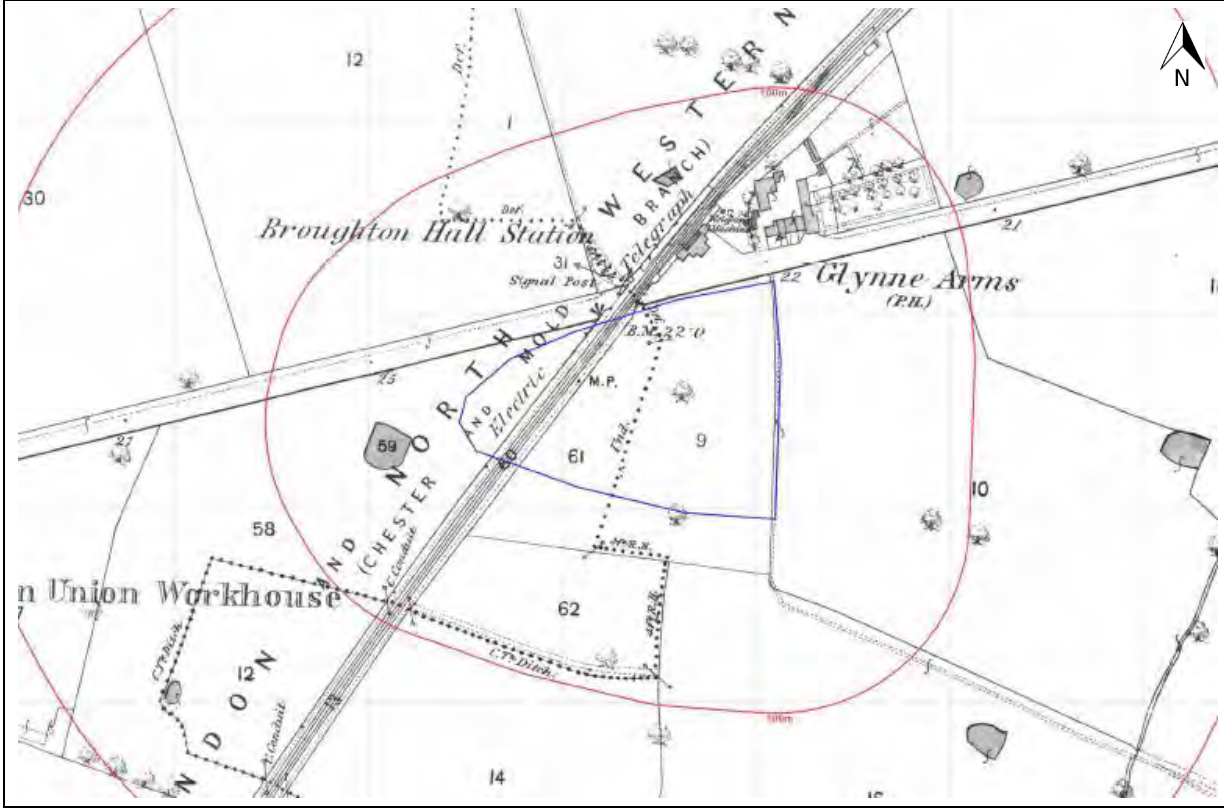


Figure 6: OS Map Extract 1965-1967

Figure 7: OS Map Extract 2003

Figure 8: Aerial Photograph 2022

6.0 PRELIMINARY CONTAMINATION RISK ASSESSMENT

Introduction

6.1 The following paragraphs outline a Preliminary Risk Assessment (PRA) for the site based on the above desk study information as defined by DEFRA and the EA Model Procedures for the Management of Land Contamination, CLR11(2004).

6.2 Table 5 provides a Preliminary Conceptual Model (PCM) which considers the source-pathway-receptor linkages present alongside the likelihood, severity and risk level as defined within Table 3 and Table 4 below. The assessment of probability, a modified risk table, and certain consequence definitions are based on CIRIA C552 and CLR11.

6.3 Table 5 considers whether a pollution linkage is potentially present and provides a preliminary qualitative assessment of risk based on the information currently available. Where a possible linkage is identified, it does not necessarily mean that a significant risk exists but indicates that further information is required through appropriate site investigation to substantiate the conceptual model.

6.4 The PCM/PRA is based on a proposed commercial end use.

Table 3: Consequence, Probability and Risk

Probability	Consequence,	Risk
High Likelihood- There is a pollution linkage and an event either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution	Very High – acute risk to the human health likely to result in significant harm. Risk of severe or irreversible effect on ground/surface water quality. Catastrophic damage to buildings / property.	Very High – there is a high potential that the source-pathway-receptor scenarios may give rise to harm to human health, or the environment and remedial action is likely to be required.
Likely – there is a pollution linkage, and all the elements are present, which means that it is probable 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.	High – Severe or irreversible effect on human health. Temporary severe or irreversible effect on ground/surface water quality. Reduction of water quality rendering groundwater or surface water unfit to drink and/or substantial adverse impact on groundwater dependant environmental receptors.	High – it is likely that the source-pathway-receptor scenarios may give rise to an impact on human health or the environment, which may require remediation and/or control measures to mitigate risks
Low likelihood– there is a pollutant linkage and circumstances are possible for 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	Moderate – Long term or short-term moderate effect on human health. Moderate effect on ground/surface water quality, reversible with time. Reduced reliability of a supply at a groundwater or surface water abstraction source	Moderate – it is possible that the source-pathway-receptor scenarios may give rise to an impact on human health or the environment, however it is either relatively unlikely that such would be severe, or if any harm were to occur it is more likely that harm would be mild.
Unlikely – there is a pollution linkage, but circumstances are such that it is doubtful that an event would occur even in the very long term.	Low – Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.) Slight effect on ground/surface water quality, reversible with time. Marginal reduced reliability of a supply at a groundwater or surface water abstraction source.	Low – it is possible that harm could arise at the source, however it is likely that this would at worst be mild.
		Very Low – it is unlikely that the source-pathway-receptor scenarios will give rise to an impact on human health or the environment.

Table 4: Estimation of Level of Risk by Comparison of Consequence and Probability

		Consequence			
		High	Moderate	Low	Very low
Probability	High Likelihood	Very High	High risk	Moderate risk	Moderate to low risk
	Likely	High risk	Moderate risk	Moderate to low risk	Low risk
	Low Likelihood	Moderate risk	Moderate to low risk	Low risk	Very low risk
	Unlikely	Moderate to low risk	Low risk	Very low risk	Very low risk

Potential Sources

6.5 Historically the site was crossed by a railway since the earliest historical mapping in 1869. The railway line was later dismantled in the 1970s. Sinks and a probable drainage ditch that ran adjacent to the railway line were shown on the mapping until the early 2000s. The site is then shown to be vacant to the modern-day.

6.6 There is potential for the presence of contamination associated with the following:

- Made Ground from railway line and nearby developments.
- If ash ballast was used in the railway construction, then metals, phenols, sulphates, and polycyclic aromatic hydrocarbons (PAHs) may be present.
- Fuel oils, lubricating oils and greases may be present from locomotives.
- Grounds gas from a nearby landfill site.

Potential Receptors

6.7 The following receptors have been considered for the construction and operational stages of the proposed redevelopment.

- Current site users;
- Adjacent land users;
- Future land users;
- Construction workers during site development works;
- Groundwater within the underlying aquifer and nearby surface water course.

Potential Pathways

6.8 The following pathways have been considered for the construction and operational stages of the proposed redevelopment.

- Dermal contact, ingestion, inhalation pathways of potentially contaminated soils;
- Downward vertical migration of leachate to shallow groundwater;
- Vertical or lateral migration of ground gas.

Table 5: Preliminary Conceptual Model

Source	Pathway	Receptor	Probability	Consequence	Risk	Comment
Made Ground from railway and nearby development.	Dermal contact, ingestion, and inhalation of soils dust	Current Site Users	Unlikely	Moderate	Low	Current site is not in use, Therefore the risk to current site users via direct exposure is considered to be LOW. This assessment is based on the sensitivity of the receptor and the potential for contamination to be present beneath the site.
		Adjacent land users	Unlikely	Moderate	Low	The risk is considered LOW and usual dust control measures should be implemented as part of good site working practices during construction to reduce dust generation.
		Future land users	Low Likelihood	Moderate	Moderate to Low	The proposed development will include landscaped areas. The risk to future site users via direct exposure is considered to be MODERATE to LOW. This assessment is based on the sensitivity of the receptor and the potential for contamination to be present beneath the landscaped areas.
		Construction Workers	Low Likelihood	Moderate	Moderate to Low	Construction workers are likely to be exposed to potentially contaminated Made Ground materials during construction works, however exposure duration will be short-term only. Assuming appropriate health and safety measures are adopted (in line with CDM and other relevant health and safety guidance) a LOW risk to construction workers is anticipated.
	Downward vertical migration of leachate to shallow groundwater	Groundwater within the Underlying Aquifer & Nearby Watercourse	Unlikely	Moderate	Low	Shallow groundwater may be present beneath the site but there are no nearby abstraction licenses, The risk to groundwater is therefore considered LOW.
	Vertical or lateral migration of ground gas	Current Site Users	Unlikely	Moderate	Low	It is unlikely for there to be significant amounts of Made Ground soils present beneath the site. The site is currently not in use. The risk to current site users from ground gas is therefore considered LOW.
		Adjacent land users	Unlikely	Moderate	Low	It is unlikely for there to be significant amounts of Made Ground soils present beneath the site. The risk to adjacent site users from ground gas is therefore considered LOW.
		Future land users	Unlikely	Moderate	Moderate	It is unlikely for there to be significant amounts of Made Ground soils present beneath the site. The risk to future site users from ground gas is therefore considered MODERATE.
		Construction Workers	Unlikely	Moderate	Low	Construction workers may be exposed to ground gas/depleted oxygen conditions in confined spaces and excavations; however, the duration will be short term.

Source	Pathway	Receptor	Probability	Consequence	Risk	Comment
						The risk to construction workers from ground gas is considered to be LOW.
Asbestos Containing Material (ACM)		Current Site Users	Unlikely	Moderate	Low	Asbestos may be present in the Made Ground soils beneath the site. There are no current site users. The risk is therefore considered LOW.
		Adjacent land users	Low Likelihood	Moderate	Moderate to Low	Asbestos may be present in the Made Ground soils beneath the site. Disturbance of soil during the construction phase may allow fibres to become airborne. The risk is therefore considered MODERATE to LOW. Dust control measures (dampening down) should be implemented as part of good site working practices in order to reduce the risk to LOW.
		Future land users	Low Likelihood	Moderate	Moderate to Low	The proposed development includes landscaped areas. Disturbance of potential ACM by future users may allow fibres to become airborne. The risk is therefore considered MODERATE to LOW. A contamination assessment of the existing on-site soils and appropriate remediation, if required, will reduce the risk to LOW.
		Construction Workers	Low Likelihood	Moderate	Moderate to Low	Construction workers will be exposed to potential asbestos in soils during the construction phase. The risk is considered MODERATE to LOW. A contamination assessment of the existing on-site soils would be required to determine the level of risk and necessary mitigation measures.

7.0 GEOTECHNICAL HAZARDS ASSOCIATED WITH THE DEVELOPMENT

7.1 In addition to the environmental hazards there are also geotechnical hazards associated with the stability of the ground including load bearing capacity, slope stability and effects of ground mining activities. Local Authorities follow PPW (2024) which requires that a site be suitable for its new use taking into account of ground conditions and land instability, including from natural hazards to former activities such as mining. A summary of the geotechnical considerations is provided below in Table 6.

Table 6: Summary of Geotechnical Hazards

Geohazards	
Highly Compressible Ground	Negligible risk.
Collapsible Soils	Very low risk.
Swelling Clay	Very low risk.
Running Sand	Very low risk.
Ground Dissolution	Negligible risk.
Landslip	Very low risk.
Mining & Quarrying	Site is not located in Coal Mining Reporting area or Development High Risk Area. No records of other mining practices are recorded on site
Geotechnical Design Considerations	
Site Clearance	Site is currently unoccupied covered with rough grass and rough vegetation.
Trees	Some mature trees are present in the western portion of the site
Existing Buildings/Obstructions	No building currently on site or any obvious obstructions.
Foundations	The depth and type of proposed foundations would depend on the ground conditions present on site. Deep Made Ground deposits are not expected to underlie the site. An intrusive geotechnical investigation is recommended prior to any construction works to determine the appropriate foundation design for the proposed development.
Floor Slabs	Again, an intrusive geotechnical investigation is recommended prior to any construction works to discover the most suitable floor slab design for the on-site ground conditions.
Groundwater	Exact groundwater conditions are not known at this stage. For more detailed knowledge of the groundwater regime, an intrusive geotechnical investigation would be needed. However, it is recorded that the site is underlain by Secondary Undifferentiated and Principal Aquifer. The highest risk of groundwater flooding on site is recorded as high.

Geotechnical Design Considerations	
Earthworks	It is unlikely that any major earthworks will be required on the site.
Slopes	No significant slopes have been observed.
Retaining Walls	It is unlikely retaining walls will be required due to the flat lying nature of the site.
Chemically aggressive ground conditions	Chemically aggressive ground conditions are not expected at this site. However, an intrusive geotechnical investigation would be necessary to confirm this.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

8.1 Currently the site is vacant covered by grass and rough vegetation with semi-mature trees on the boundaries and western portion of the site.

8.2 Historically the site has contained a railway line. The railway line was dismantled in the 1970s and is no longer present.

8.3 It is understood that the Client intends to construct a new Lidl Food Store with associated car parking.

8.4 The site is underlain by superficial deposits of Devensian Till, comprising Diamicton.

8.5 The solid geology is recorded to be the Kinnerton Sandstone Formation, comprising sandstone.

8.6 The property is not located in a Radon Affected Area, as less than 1% of the properties are above the Action Level.

8.7 The overall risk from soil contamination to commercial end users and construction workers is concluded to be LOW.

8.8 The risk to controlled waters is concluded to be LOW based on the proximity to surface controlled waters.

8.9 Given the anticipated extent and age of made ground, the risk from ground gas to end users is considered to be LOW.

8.10 The site is recorded to lie within a Zone 2 floodplain. Also, the highest risk of surface water flooding on site is recorded to be a 1 in 30-year return period with a depth between 0.1m-1.0m.

8.11 The highest risk of groundwater flooding occurring on-site is high.

Recommendations

8.12 An intrusive investigation should be undertaken to establish geotechnical parameters for the design of foundations, floor slabs and pavement construction for the proposed new structures and surrounding area.

8.13 As part of the geotechnical investigation, it is recommended that samples of soil are recovered for contamination testing and to confirm whether there are any potential risks to construction workers and site end users.

8.14 A ground gas assessment should be provided as part of any site investigation.

8.15 A Flood Risk Assessment will need to be developed for the site.

APPENDIX 1

GROUNDSURE REPORTS

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

334954 , 364156,

Order Details

Date: 09/08/2023

Your ref: A5552

Our Ref: GS-A7D-CAT-WIY-W5B

Site Details

Location: 334947 364157

Area: 1.41 ha

Authority: Sir y Fflint - Flintshire County Council ↗

Contact us with any questions at:
info@groundsure.com ↗
01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	27	5	18	-
17 >	1.2 >	Historical tanks >	0	0	7	12	-
18 >	1.3 >	Historical energy features >	0	0	2	2	-
19	1.4	Historical petrol stations	0	0	0	0	-
19 >	1.5 >	Historical garages >	0	0	0	3	-
20	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
21 >	2.1 >	Historical industrial land uses >	0	35	10	22	-
24 >	2.2 >	Historical tanks >	0	0	15	22	-
26 >	2.3 >	Historical energy features >	0	0	2	4	-
26	2.4	Historical petrol stations	0	0	0	0	-
26 >	2.5 >	Historical garages >	0	0	0	6	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
28	3.1	Active or recent landfill	0	0	0	0	-
28	3.2	Historical landfill (BGS records)	0	0	0	0	-
29 >	3.3 >	Historical landfill (LA/mapping records) >	0	0	0	1	-
29 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	1	2	-
30	3.5	Historical waste sites	0	0	0	0	-
30	3.6	Licensed waste sites	0	0	0	0	-
30 >	3.7 >	Waste exemptions >	0	0	0	4	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
32 >	4.1 >	Recent industrial land uses >	0	1	14	-	-
33 >	4.2 >	Current or recent petrol stations >	0	0	0	1	-
34	4.3	Electricity cables	0	0	0	0	-
34	4.4	Gas pipelines	0	0	0	0	-
34	4.5	Sites determined as Contaminated Land	0	0	0	0	-

34 >	4.6 >	Control of Major Accident Hazards (COMAH) >	0	1	0	0	-
35	4.7	Regulated explosive sites	0	0	0	0	-
35 >	4.8 >	Hazardous substance storage/usage >	0	0	0	1	-
35	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
35 >	4.10 >	Licensed industrial activities (Part A(1)) >	0	0	6	32	-
41 >	4.11 >	Licensed pollutant release (Part A(2)/B) >	0	0	1	0	-
42	4.12	Radioactive Substance Authorisations	0	0	0	0	-
42 >	4.13 >	Licensed Discharges to controlled waters >	0	0	0	1	-
42	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
42	4.15	Pollutant release to public sewer	0	0	0	0	-
43	4.16	List 1 Dangerous Substances	0	0	0	0	-
43	4.17	List 2 Dangerous Substances	0	0	0	0	-
43 >	4.18 >	Pollution Incidents (EA/NRW) >	0	0	1	5	-
44	4.19	Pollution inventory substances	0	0	0	0	-
44	4.20	Pollution inventory waste transfers	0	0	0	0	-
44	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
45 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
47 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
49 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
50	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
50	5.5	Groundwater vulnerability- local information	None (within 0m)				
51 >	5.6 >	Groundwater abstractions >	0	0	0	0	8
53	5.7	Surface water abstractions	0	0	0	0	0
54 >	5.8 >	Potable abstractions >	0	0	0	0	2
54 >	5.9 >	Source Protection Zones >	1	0	0	0	-
55	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
56 >	6.1 >	Water Network (OS MasterMap) >	0	0	2	-	-

57 >	6.2 >	Surface water features >	0	0	5	-	-
57 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
57	6.4	WFD Surface water bodies	0	0	0	-	-
58 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
59	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
60 >	7.2 >	Historical Flood Events >	1	0	0	-	-
60	7.3	Flood Defences	0	0	0	-	-
60	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
60	7.5	Flood Storage Areas	0	0	0	-	-
61 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
62 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
63 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
65 >	9.1 >	Groundwater flooding >	High (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
66	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
67	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
67	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
67	10.4	Special Protection Areas (SPA)	0	0	0	0	0
67	10.5	National Nature Reserves (NNR)	0	0	0	0	0
68	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
68 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	4
68	10.8	Biosphere Reserves	0	0	0	0	0
69	10.9	Forest Parks	0	0	0	0	0
69	10.10	Marine Conservation Zones	0	0	0	0	0
69 >	10.11 >	Green Belt >	0	0	0	0	1
69	10.12	Proposed Ramsar sites	0	0	0	0	0

70	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
70	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
70	10.15	Nitrate Sensitive Areas	0	0	0	0	0
70 >	**10.16 >**	**Nitrate Vulnerable Zones >**	0	0	0	0	7
72 >	**10.17 >**	**SSSI Impact Risk Zones >**	1	-	-	-	-
73	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
74	11.1	World Heritage Sites	0	0	0	-	-
74	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
74	11.3	National Parks	0	0	0	-	-
74	11.4	Listed Buildings	0	0	0	-	-
75	11.5	Conservation Areas	0	0	0	-	-
75	11.6	Scheduled Ancient Monuments	0	0	0	-	-
75	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	**Agricultural designations >**	On site	0-50m	50-250m	250-500m	500-2000m
76 >	**12.1 >**	**Agricultural Land Classification >**	Grade 2 (within 250m)				
77	12.2	Open Access Land	0	0	0	-	-
77	12.3	Tree Felling Licences	0	0	0	-	-
77	12.4	Environmental Stewardship Schemes	0	0	0	-	-
77	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
78	13.1	Priority Habitat Inventory	0	0	0	-	-
78	13.2	Habitat Networks	0	0	0	-	-
78	13.3	Open Mosaic Habitat	0	0	0	-	-
78	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
79 >	**14.1 >**	**10k Availability >**	Identified (within 500m)				
80	14.2	Artificial and made ground (10k)	0	0	0	0	-
81	14.3	Superficial geology (10k)	0	0	0	0	-

81	14.4	Landslip (10k)	0	0	0	0	-
82	14.5	Bedrock geology (10k)	0	0	0	0	-
82	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
83 >	15.1 >	50k Availability >	Identified (within 500m)				
84 >	15.2 >	Artificial and made ground (50k) >	0	0	0	1	-
85	15.3	Artificial ground permeability (50k)	0	0	-	-	-
86 >	15.4 >	Superficial geology (50k) >	1	0	1	0	-
87 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
87	15.6	Landslip (50k)	0	0	0	0	-
87	15.7	Landslip permeability (50k)	None (within 50m)				
88 >	15.8 >	Bedrock geology (50k) >	1	1	0	0	-
89 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
89 >	15.10 >	Bedrock faults and other linear features (50k) >	0	1	0	0	-
Page	Section	**Boreholes >**	On site	0-50m	50-250m	250-500m	500-2000m
90 >	16.1 >	BGS Boreholes >	0	0	1	-	-
Page	Section	**Natural ground subsidence >**					
91 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
92 >	17.2 >	Running sands >	Very low (within 50m)				
93 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
94 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
95 >	17.5 >	Landslides >	Very low (within 50m)				
96 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	**Mining and ground workings >**	On site	0-50m	50-250m	250-500m	500-2000m
98	18.1	BritPits	0	0	0	0	-
99	18.2	Surface ground workings	0	0	0	-	-
99	18.3	Underground workings	0	0	0	0	0
99	18.4	Underground mining extents	0	0	0	0	-
99	18.5	Historical Mineral Planning Areas	0	0	0	0	-

99 >	18.6 >	Non-coal mining >	0	0	0	0	2
100 >	18.7 >	JPB mining areas >	Identified (within 0m)				
100	18.8	The Coal Authority non-coal mining	0	0	0	0	-
101	18.9	Researched mining	0	0	0	0	-
101	18.10	Mining record office plans	0	0	0	0	-
101	18.11	BGS mine plans	0	0	0	0	-
101	18.12	Coal mining	None (within 0m)				
101	18.13	Brine areas	None (within 0m)				
102	18.14	Gypsum areas	None (within 0m)				
102	18.15	Tin mining	None (within 0m)				
102	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
103	19.1	Natural cavities	0	0	0	0	-
103	19.2	Mining cavities	0	0	0	0	0
103	19.3	Reported recent incidents	0	0	0	0	-
103	19.4	Historical incidents	0	0	0	0	-
104	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
105 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
107 >	21.1 >	BGS Estimated Background Soil Chemistry >	2	1	-	-	-
107	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
107	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects >	On site	0-50m	50-250m	250-500m	500-2000m
108	22.1	Underground railways (London)	0	0	0	-	-
108	22.2	Underground railways (Non-London)	0	0	0	-	-
109	22.3	Railway tunnels	0	0	0	-	-
109 >	22.4 >	Historical railway and tunnel features >	0	15	7	-	-
110	22.5	Royal Mail tunnels	0	0	0	-	-

110 >	**22.6 >**	**Historical railways >**	1	0	0	-	-
110	22.7	Railways	0	0	0	-	-
111	22.8	Crossrail 1	0	0	0	0	-
111	22.9	Crossrail 2	0	0	0	0	-
111	22.10	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 10/04/2020

Site Area: 1.41ha

Recent site history - 2017 aerial photograph

Capture Date: 07/05/2017

Site Area: 1.41ha

Recent site history - 2013 aerial photograph

Capture Date: 04/06/2013

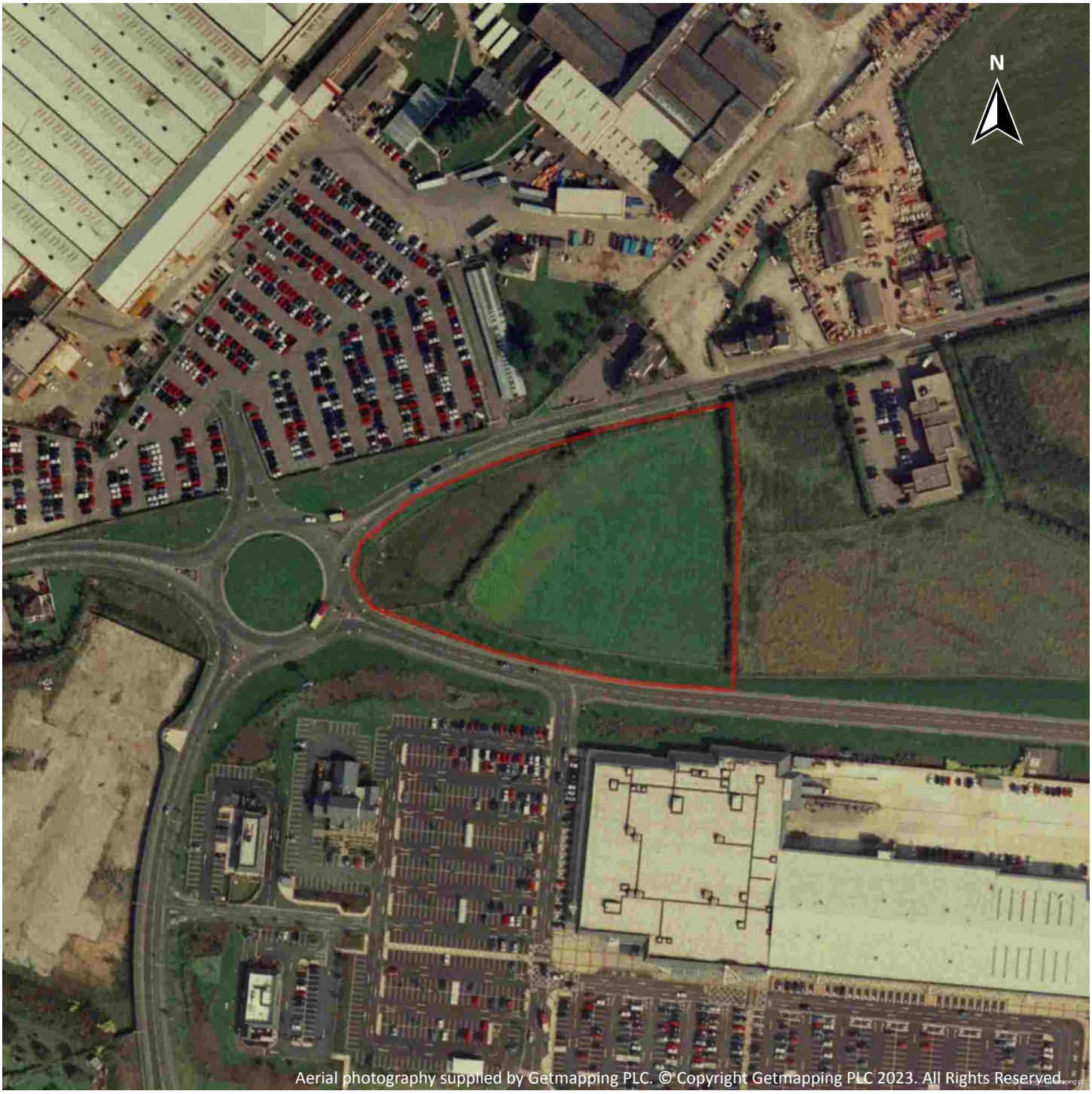
Site Area: 1.41ha

Recent site history - 2009 aerial photograph

Capture Date: 01/06/2009

Site Area: 1.41ha

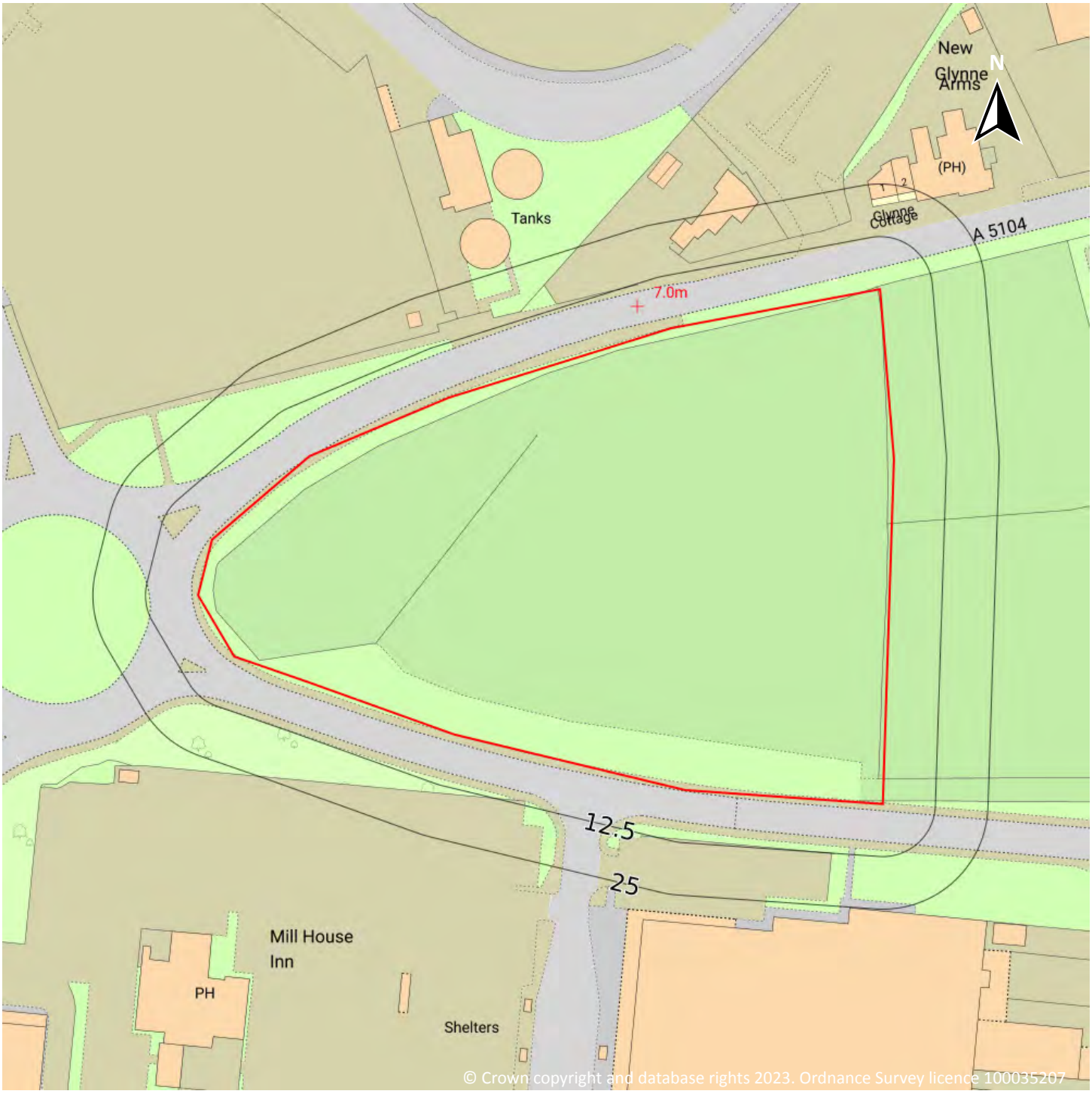
Recent site history - 2000 aerial photograph



Capture Date: 04/09/2000

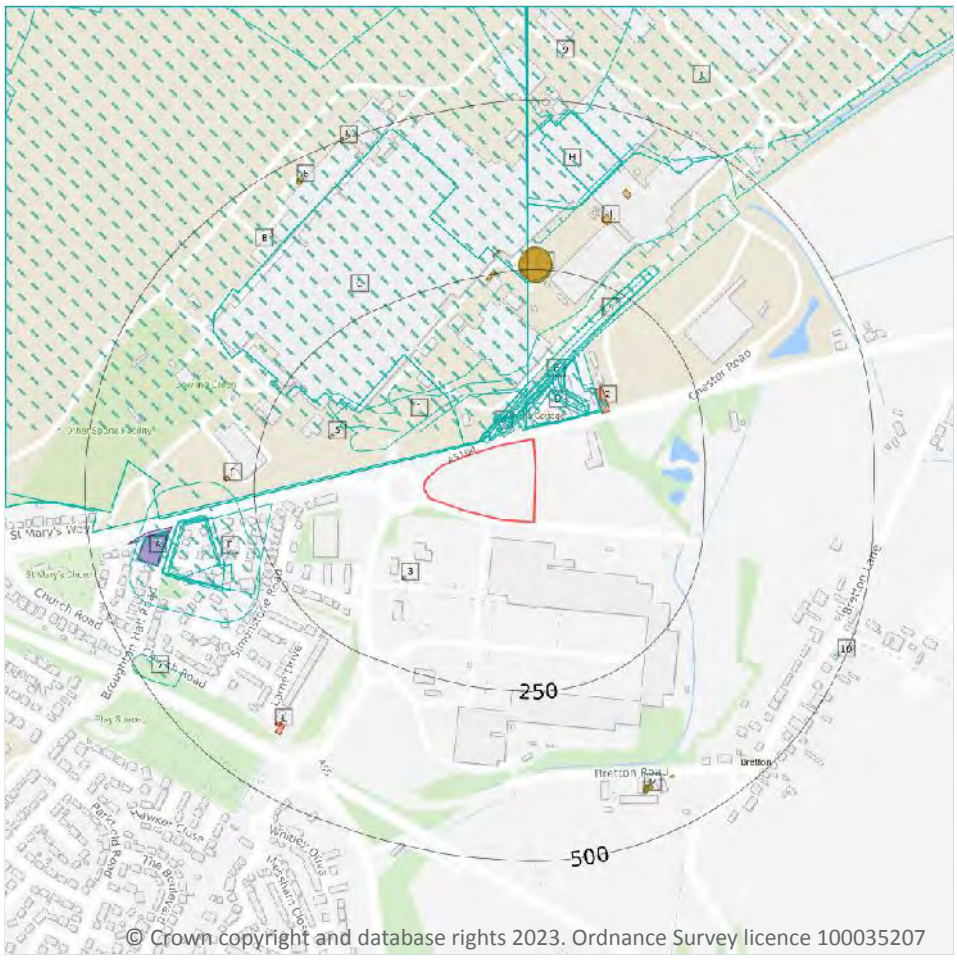
Site Area: 1.41ha

OS MasterMap site plan



Site Area: 1.41ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

1.1 Historical industrial land uses

Records within 500m	50

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 15 >**

ID	Location	Land use	Dates present	Group ID
A	9m N	Railway Station	1909	945687

ID	Location	Land use	Dates present	Group ID
A	9m N	Railway Building	1898	819530
A	10m N	Railway Station	1869 - 1898	903543
A	11m N	Railway Station	1898 - 1938	984983
A	13m N	Railway Station	1948	844989
A	13m N	Railway Station	1869	931973
B	13m N	Airport	1982 - 1989	906935
B	13m N	Airport	1991	986474
B	13m N	Airport	1969	991563
B	14m N	Airfield	1960	888073
B	14m N	Airfield	1966	917925
C	14m N	Unspecified Works	1966	830091
C	14m N	Unspecified Commercial/Industrial	1969	932807
C	14m N	Unspecified Commercial/Industrial	1982 - 1991	961725
D	15m NE	Railway Sidings	1898	963354
A	16m N	Railway Station	1969	893577
D	17m NE	Engineering Works	1909	932673
D	17m NE	Engineering Works	1938	929858
D	18m NE	Stone Works	1964	806883
D	19m NE	Engineering Works	1938 - 1948	869554
D	27m NE	Railway Sidings	1898 - 1909	848808
E	30m NE	Railway Sidings	1938 - 1948	989743
E	30m NE	Railway Sidings	1964 - 1968	854412
A	33m N	Railway Building	1966	819529
E	34m N	Railway Sidings	1909	921209
D	35m N	Railway Sidings	1938	860298
D	47m N	Railway Sidings	1869	931607
1	60m NW	Railway Sidings	1969 - 1982	889847
4	121m NE	Railway Sidings	1938	848522

ID	Location	Land use	Dates present	Group ID
F	224m W	Hospital	1982 - 1991	936513
G	232m N	Unspecified Tank	1982 - 1990	873965
G	232m N	Unspecified Tank	1968	938291
F	261m W	Unspecified Workhouse	1869	960150
H	289m N	Unspecified Factory	1990	821299
F	304m W	Unspecified Workhouse	1898	863176
F	304m W	Unspecified Workhouse	1914	894583
F	313m W	Union Workhouse	1909	832196
F	314m W	Workhouse	1869	794981
F	319m W	Hospital	1969	990217
F	320m W	Mental Hospital	1938	827834
J	343m N	Airport	1968	964663
J	343m N	Airport	1982 - 1990	964858
J	352m N	Airfield	1964	880188
H	372m N	Aircraft Factory	1968	961512
H	372m N	Aircraft Factory	1982	977723
K	381m W	Garage	1991	925165
K	389m W	Garage	1969 - 1982	903422
7	447m SW	Unspecified Heap	1982 - 1991	930257
9	475m N	Airfield	1948	883826
10	485m SE	Unspecified Tank	1869	823919

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	19

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

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
5	150m W	Unspecified Tank	1989 - 1999	139817
G	232m N	Unspecified Tank	1990 - 1994	135423
G	235m N	Unspecified Tank	1965	148067
G	235m N	Unspecified Tank	1965	142194
G	236m N	Unspecified Tank	1965 - 1989	146446
G	239m N	Unspecified Tank	1999	137844
G	242m N	Unspecified Tank	1989 - 1999	137787
G	275m N	Unspecified Tank	1994 - 1999	125374
6	286m W	Unspecified Tank	1989 - 1999	130356
I	334m NE	Tanks	1990 - 1993	143401
I	381m NE	Tanks	1990 - 1993	131740
M	422m SE	Tanks	1981	132660
M	423m SE	Tanks	1965 - 1983	142703
M	424m SE	Unspecified Tank	1993	109585
M	424m SE	Tanks	1992	142395
M	425m SE	Unspecified Tank	1965 - 1972	131594
8	464m NW	Tanks	1989 - 1999	126947
N	497m NW	Unspecified Tank	1989	147997
N	499m NW	Unspecified Tank	1994 - 1999	128655

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**4**

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

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
2	108m NE	Electricity Substation	1993	60401
3	120m SW	Electricity Substation	1999	60400
L	397m SW	Electricity Substation	1965 - 1983	72309
L	399m SW	Electricity Substation	1993	81047

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	3

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

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
K	376m W	Garage	1994 - 1999	26480
K	380m W	Garage	1965	22120
K	381m W	Garage	1965 - 1989	24396

This data is sourced from Ordnance Survey / Groundsure.

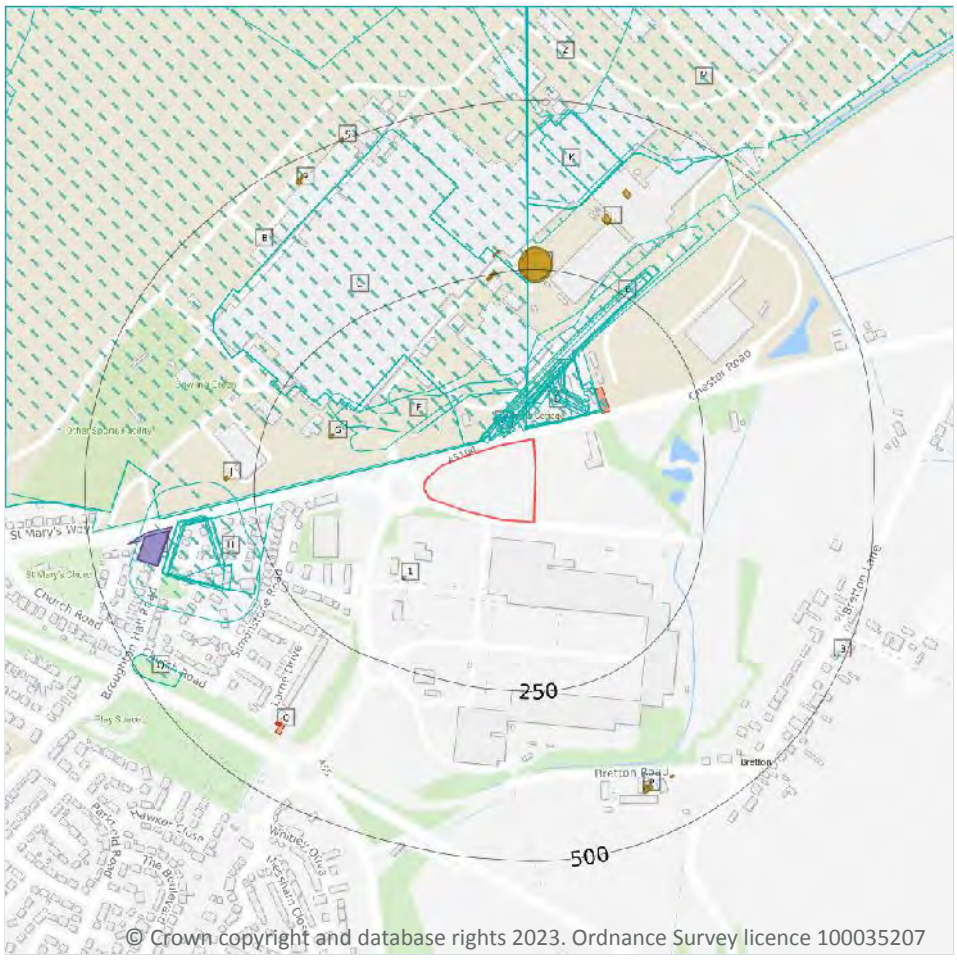
1.6 Historical military land

Records within 500m	0

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

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

2 Past land use - un-grouped



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

2.1 Historical industrial land uses

Records within 500m	67

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 21 >**

ID	Location	Land Use	Date	Group ID
A	9m N	Railway Station	1909	945687
A	9m N	Railway Building	1898	819530
A	10m N	Railway Station	1869	903543

ID	Location	Land Use	Date	Group ID
A	11m N	Railway Station	1938	984983
A	11m N	Railway Station	1909	984983
A	11m N	Railway Station	1898	984983
A	13m N	Railway Station	1948	844989
A	13m N	Railway Station	1869	931973
B	13m N	Airport	1991	986474
B	13m N	Airport	1969	991563
B	13m N	Airport	1982	906935
A	14m N	Railway Station	1898	903543
B	14m N	Airfield	1966	917925
C	14m N	Unspecified Commercial/Industrial	1991	961725
C	14m N	Unspecified Commercial/Industrial	1969	932807
C	14m N	Unspecified Commercial/Industrial	1982	961725
C	14m N	Unspecified Works	1966	830091
D	15m NE	Railway Sidings	1898	963354
A	16m N	Railway Station	1969	893577
D	17m NE	Engineering Works	1909	932673
D	17m NE	Engineering Works	1938	929858
D	18m NE	Stone Works	1964	806883
D	19m NE	Engineering Works	1948	869554
A	20m N	Railway Station	1938	984983
D	20m NE	Engineering Works	1909	932673
D	27m NE	Railway Sidings	1909	848808
D	27m NE	Railway Sidings	1898	848808
D	30m NE	Railway Sidings	1938	989743
E	30m NE	Railway Sidings	1968	854412
A	33m N	Railway Building	1966	819529
D	34m N	Railway Sidings	1909	921209

ID	Location	Land Use	Date	Group ID
D	34m NE	Railway Sidings	1948	989743
D	35m N	Railway Sidings	1938	860298
E	41m NE	Railway Sidings	1964	854412
D	47m N	Railway Sidings	1869	931607
D	58m NE	Engineering Works	1938	869554
F	60m NW	Railway Sidings	1969	889847
F	60m NW	Railway Sidings	1982	889847
F	70m NW	Railway Sidings	1966	854412
E	121m NE	Railway Sidings	1938	848522
H	224m W	Hospital	1991	936513
H	224m W	Hospital	1982	936513
I	232m N	Unspecified Tank	1990	873965
I	232m N	Unspecified Tank	1982	873965
I	232m N	Unspecified Tank	1968	938291
H	261m W	Unspecified Workhouse	1869	960150
K	289m N	Unspecified Factory	1990	821299
H	304m W	Unspecified Workhouse	1914	894583
H	304m W	Unspecified Workhouse	1898	863176
H	305m W	Unspecified Workhouse	1898	863176
H	313m W	Union Workhouse	1909	832196
H	314m W	Workhouse	1869	794981
H	319m W	Hospital	1969	990217
H	320m W	Mental Hospital	1938	827834
M	343m N	Airport	1990	964858
M	343m N	Airport	1982	964858
M	343m N	Airport	1968	964663
M	352m N	Airfield	1964	880188
K	372m N	Aircraft Factory	1968	961512

ID	Location	Land Use	Date	Group ID
K	372m N	Aircraft Factory	1982	977723
N	381m W	Garage	1991	925165
N	389m W	Garage	1969	903422
N	389m W	Garage	1982	903422
Q	447m SW	Unspecified Heap	1991	930257
Q	447m SW	Unspecified Heap	1982	930257
2	475m N	Airfield	1948	883826
3	485m SE	Unspecified Tank	1869	823919

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**37**

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

Features are displayed on the Past land use - un-grouped map on **page 21 >**

ID	Location	Land Use	Date	Group ID
G	150m W	Unspecified Tank	1989	139817
G	151m W	Unspecified Tank	1994	139817
G	151m W	Unspecified Tank	1999	139817
I	232m N	Unspecified Tank	1993	135423
I	235m N	Unspecified Tank	1965	148067
I	235m N	Unspecified Tank	1965	142194
I	235m N	Unspecified Tank	1990	135423
I	236m N	Unspecified Tank	1980	146446
I	236m N	Unspecified Tank	1965	146446
I	236m N	Unspecified Tank	1989	146446
I	239m N	Unspecified Tank	1994	135423
I	239m N	Unspecified Tank	1999	137844

ID	Location	Land Use	Date	Group ID
I	242m N	Unspecified Tank	1994	137787
I	242m N	Unspecified Tank	1999	137787
I	243m N	Unspecified Tank	1989	137787
I	275m N	Unspecified Tank	1994	125374
I	275m N	Unspecified Tank	1999	125374
J	286m W	Unspecified Tank	1989	130356
J	289m W	Unspecified Tank	1994	130356
J	289m W	Unspecified Tank	1999	130356
L	334m NE	Tanks	1993	143401
L	336m NE	Tanks	1990	143401
L	381m NE	Tanks	1993	131740
L	381m NE	Tanks	1990	131740
P	422m SE	Tanks	1981	132660
P	423m SE	Tanks	1965	142703
P	423m SE	Tanks	1983	142703
P	424m SE	Unspecified Tank	1993	109585
P	424m SE	Tanks	1992	142395
P	425m SE	Unspecified Tank	1965	131594
P	425m SE	Unspecified Tank	1972	131594
R	464m NW	Tanks	1989	126947
R	465m NW	Tanks	1994	126947
R	465m NW	Tanks	1999	126947
S	497m NW	Unspecified Tank	1989	147997
S	499m NW	Unspecified Tank	1994	128655
S	499m NW	Unspecified Tank	1999	128655

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	6

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'.

Features are displayed on the Past land use - un-grouped map on **page 21 >**

ID	Location	Land Use	Date	Group ID
D	108m NE	Electricity Substation	1993	60401
1	120m SW	Electricity Substation	1999	60400
O	397m SW	Electricity Substation	1981	72309
O	399m SW	Electricity Substation	1993	81047
O	399m SW	Electricity Substation	1983	72309
O	399m SW	Electricity Substation	1965	72309

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	6

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'.

Features are displayed on the Past land use - un-grouped map on **page 21 >**

ID	Location	Land Use	Date	Group ID
N	376m W	Garage	1999	26480
N	376m W	Garage	1994	26480

ID	Location	Land Use	Date	Group ID
N	380m W	Garage	1965	22120
N	381m W	Garage	1989	24396
N	381m W	Garage	1980	24396
N	381m W	Garage	1965	24396

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill

Site Outline

Search buffers in metres (m)

Historical landfill (EA/NRW)

Historical landfill (LA/OS)

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	1

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

Features are displayed on the Waste and landfill map on **page 28 >**

ID	Location	Site address	Source	Data type
B	489m NE	Landfill Site	1993 mapping	Polygon

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	3

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

Features are displayed on the Waste and landfill map on **page 28 >**

ID	Location	Details		
1	201m NE	Site Address: British Aerospace, Broughton Licence Holder Address: -	Waste Licence: Yes Site Reference: 107 Waste Type: Industrial, Special Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: British Aerospace First Recorded - Last Recorded: 31/12/1992
B	488m NE	Site Address: Bretton Landfill, The Pump House, Mills Road, Asltney, Flintshire Licence Holder Address: Bretton Landfill Site, Broughton Mills Road, Saltney	Waste Licence: Yes Site Reference: 161, NOW-441-L Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: WW1/L/BRO001 Licence Issue: 10/01/1991 Licence Surrender: 19/11/2003	Operator: Broughton Mill Limited Licence Holder: Broughton Mill Limited First Recorded 31/10/1991 Last Recorded: 30/01/1999

ID	Location	Details		
3	492m NE	Site Address: Land on the Westerly Side of Broughton Mills Road, Broughton, Flintshire Licence Holder Address: -	Waste Licence: Yes Site Reference: 132/84, R9/3 Waste Type: Inert, Commercial, Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 19/11/1979 Licence Surrender: 27/03/1990	Operator: - Licence Holder: J K Dickin-Roberts First Recorded 19/11/1979 Last Recorded: 31/12/1992

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	**4**

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.

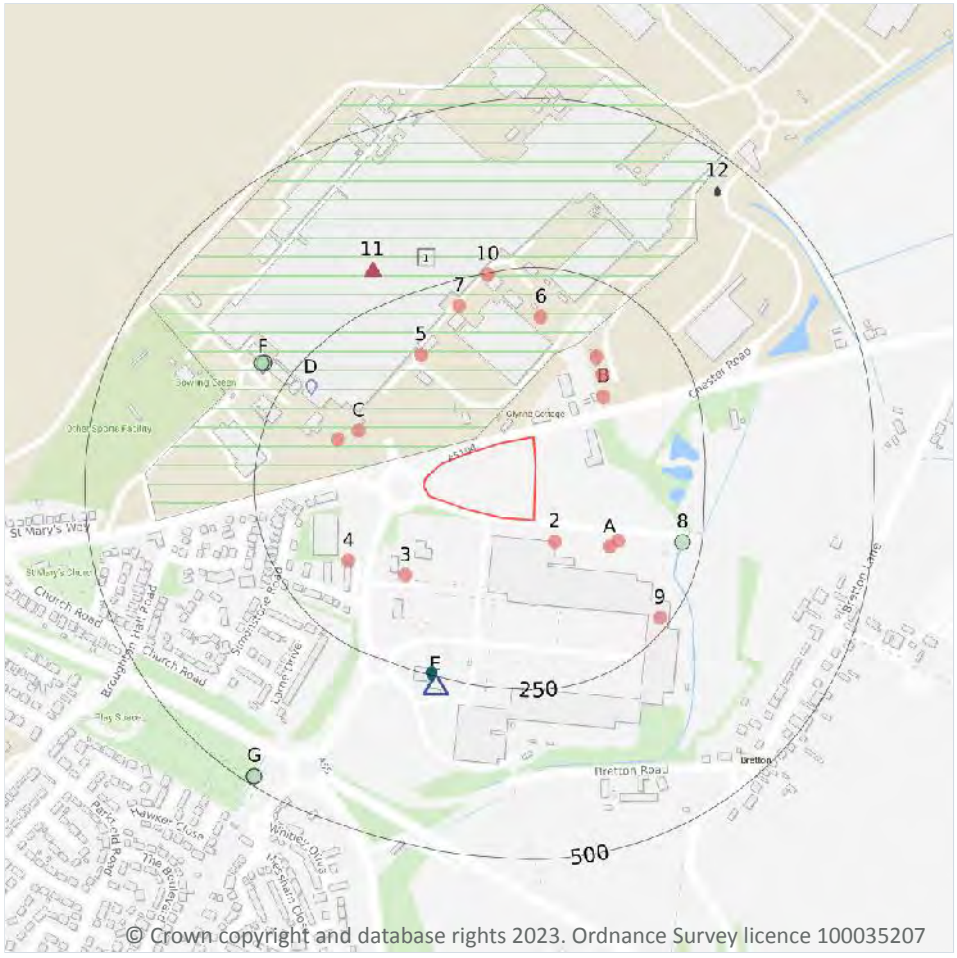
Features are displayed on the Waste and landfill map on **page 28 >**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	291m NW	J&P Engineering, Airbus Ltd, Chester Road, Broughton, Chester, Flintshire, CH4 0DR	NRW-WME038704	Treating waste exemption	Not on a farm	Recovery of scrap metal
A	292m NW	Airbus Operations Limited, Airbus Ltd, Chester Road, Broughton, Chester, Flintshire, CH4 0DR	NRW-WME046758	Disposing of waste exemption	Not on a farm	Deposit of waste from dredging of inland waters

ID	Location	Site	Reference	Category	Sub-Category	Description
A	292m NW	Airbus Operations Limited, Airbus Ltd, Chester Road, Broughton, Chester, Flintshire, CH4 0DR	NRW-WME046758	Using waste exemption	Not on a farm	Use of waste in construction
2	490m E	Elms Farm, Bretton Lane, Bretton, Caer, Flintshire, CH40DX	NRW-WME010655	Using waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Use of waste in construction

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
- Current or recent petrol stations
- Control of Major Accident Hazards
- Hazardous substance storage/usage
- Part A(1) industrial activities
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	15

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 32 >**

ID	Location	Company	Address	Activity	Category
2	44m SE	Electricity Sub Station	Clwyd, CH4	Electrical Features	Infrastructure and Facilities
A	118m SE	Electricity Sub Station	Clwyd, CH4	Electrical Features	Infrastructure and Facilities
B	119m NE	Electricity Sub Station	Clwyd, CH4	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
C	121m W	Electricity Sub Station	Clwyd, CH4	Electrical Features	Infrastructure and Facilities
3	122m SW	Electricity Sub Station	Clwyd, CH4	Electrical Features	Infrastructure and Facilities
A	129m SE	Pumping Station	Clwyd, CH4	Water Pumping Stations	Industrial Features
B	137m NE	Electricity Sub Station	Clwyd, CH4	Electrical Features	Infrastructure and Facilities
C	142m W	Tank	Clwyd, CH4	Tanks (Generic)	Industrial Features
B	150m NE	Electricity Sub Station	Clwyd, CH4	Electrical Features	Infrastructure and Facilities
4	153m SW	Electricity Sub Station	Clwyd, CH4	Electrical Features	Infrastructure and Facilities
5	161m NW	Electricity Sub Station	Clwyd, CH4	Electrical Features	Infrastructure and Facilities
6	178m N	Electricity Sub Station	Clwyd, CH4	Electrical Features	Infrastructure and Facilities
7	212m N	Electricity Sub Station	Clwyd, CH4	Electrical Features	Infrastructure and Facilities
9	235m SE	Specsavers Hearcare	5b Broughton Shopping Park, Chester Road, Broughton, Clwyd, CH4 0DP	Disability and Mobility Equipment	Consumer Products
10	249m N	Tank	Clwyd, CH4	Tanks (Generic)	Industrial Features

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m **1**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 32 >**

ID	Location	Company	Address	LPG	Status
E	262m S	TESCO EXTRA	Broughton Road, Broughton, Broughton Shopping Park, Chester, Flintshire, CH4 0DR	No	Open

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	1

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.

Features are displayed on the Current industrial land use map on **page 32 >**

ID	Location	Company	Address	Operational status	Tier
1	17m N	Airbus Operations Ltd	Airbus Operations Ltd, Broughton, Chester Road, Chester, Cheshire, CH4 0DR	Historical NIHHS Site	-

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	1

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.

Features are displayed on the Current industrial land use map on **page 32 >**

ID	Location	Details	
11	304m NW	Application reference number: No Details Application status: Historical Consent Application date: No Details Address: Airbus UK Limited, Chester Road, Broughton, Chester, Flintshire, Wales, CH4 0DR	Details: No Details Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

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	38

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 32 >**

ID	Location	Details	
D	216m NW	Operator: METAL IMPROVEMENT COMPANY LLC Installation Name: BROUGHTON AIRCRAFT FACTORY Process: COMBUSTION; WASTE OIL =>3MW BUT 50MW Permit Number: BP3734MR Original Permit Number: BS4235IN	EPR Reference: - Issue Date: 26/01/2007 Effective Date: 26/01/2007 Last date noted as effective: 02/10/2009 Status: EFFECTIVE
D	216m NW	Operator: METAL IMPROVEMENT COMPANY LLC Installation Name: BROUGHTON AIRCRAFT FACTORY EPR/BS4235IN Process: ASSOCIATED PROCESS Permit Number: BP3734MR Original Permit Number: BS4235IN	EPR Reference: - Issue Date: 26/01/2007 Effective Date: 26/01/2007 Last date noted as effective: 17/11/2015 Status: EFFECTIVE
D	216m NW	Operator: METAL IMPROVEMENT COMPANY LLC Installation Name: BROUGHTON AIRCRAFT FACTORY Process: COMBUSTION; WASTE OIL =>3MW BUT 50MW Permit Number: BS4235IN Original Permit Number: BS4235IN	EPR Reference: - Issue Date: 15/11/2002 Effective Date: 15/11/2002 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
D	216m NW	Operator: METAL IMPROVEMENT COMPANY LLC Installation Name: BROUGHTON AIRCRAFT FACTORY EPR/BS4235IN Process: - Permit Number: BS4235IN Original Permit Number: BP3734MR	EPR Reference: - Issue Date: 26/01/2007 Effective Date: 26/01/2007 Last date noted as effective: 01/12/2016 Status: EFFECTIVE
D	216m NW	Operator: METAL IMPROVEMENT CO INC Installation Name: - Process: COMBUSTION; WASTE OIL =>3MW BUT 50MW Permit Number: BS4235 Original Permit Number: BS4235	EPR Reference: - Issue Date: 15/11/2002 Effective Date: 15/11/2002 Last date noted as effective: 01/10/2004 Status: SUPERSEDED BY PAS
D	216m NW	Operator: METAL IMPROVEMENT COMPANY LLC Installation Name: BROUGHTON AIRCRAFT FACTORY EPR/BS4235IN Process: - Permit Number: BS4235IN Original Permit Number: BP3734MR	EPR Reference: - Issue Date: 26/01/2007 Effective Date: 26/01/2007 Last date noted as effective: 01/12/2022 Status: EFFECTIVE
F	290m NW	Operator: Airbus UK Installation Name: Broughton Aircraft Factory EPR/BM3965IA Process: - Permit Number: BM3965IA Original Permit Number: -	EPR Reference: - Issue Date: 03/12/2018 Effective Date: 03/12/2018 Last date noted as effective: 25/05/2023 Status: Effective

ID	Location	Details	
F	290m NW	Operator: Airbus UK Installation Name: Broughton Aircraft Factory EPR/BM3965IA Process: - Permit Number: BM3965IA Original Permit Number: -	EPR Reference: - Issue Date: 03/12/2018 Effective Date: 03/12/2018 Last date noted as effective: 25/05/2023 Status: Effective
F	290m NW	Operator: Airbus UK Installation Name: Broughton Aircraft Factory EPR/BM3965IA Process: BURNING ANY FUEL IN AN APPLIANCE WITH A RATED THERMAL INPUT OF 50 OR MORE MEGAWATTS Permit Number: BM3965IA Original Permit Number: -	EPR Reference: - Issue Date: 03/12/2018 Effective Date: 03/12/2018 Last date noted as effective: 25/05/2023 Status: Effective
F	290m NW	Operator: Airbus UK Installation Name: Broughton Aircraft Factory EPR/BM3965IA Process: - Permit Number: BM3965IA Original Permit Number: -	EPR Reference: - Issue Date: 03/12/2018 Effective Date: 03/12/2018 Last date noted as effective: 25/05/2023 Status: Effective
F	290m NW	Operator: Airbus UK Installation Name: Broughton Aircraft Factory EPR/BM3965IA Process: DISPOSAL OF NON-HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 50 TONNES PER DAY (OR 100 TONNES PER DAY IF THE ONLY WASTE TREATMENT ACTIVITY IS ANAEROBIC DIGESTION) INVOLVING ONE OR MORE OF THE FOLLOWING ACTIVITIES, AND EXCLUDING ACTIVITIES COVERED BY COUNCIL DIRECTIVE 91/271/EEC CONCERNING URBAN WASTE-WATER TREATMENT(4)—PHYSICO-CHEMICAL TREATMENT Permit Number: BM3965IA Original Permit Number: -	EPR Reference: - Issue Date: 03/12/2018 Effective Date: 03/12/2018 Last date noted as effective: 25/05/2023 Status: Effective
F	290m NW	Operator: Airbus UK Installation Name: Broughton Aircraft Factory EPR/BM3965IA Process: UNLESS FALLING WITHIN PART A(2) OF THIS SECTION, SURFACE TREATING METALS AND PLASTIC MATERIALS USING AN ELECTROLYTIC OR CHEMICAL PROCESS WHERE THE AGGREGATED VOLUME OF THE TREATMENT VATS IS MORE THAN 30M3 Permit Number: BM3965IA Original Permit Number: -	EPR Reference: - Issue Date: 03/12/2018 Effective Date: 03/12/2018 Last date noted as effective: 25/05/2023 Status: Effective

ID	Location	Details	
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY Process: COMBUSTION; ANY FUEL =>50MW Permit Number: BV0945IG Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 25/07/2003 Effective Date: 01/08/2003 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY Process: ASSOCIATED PROCESS Permit Number: NP3235MQ Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 26/01/2007 Effective Date: 26/01/2007 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
F	290m NW	Operator: AIRBUS UK LTD Installation Name: - Process: COMBUSTION; ANY FUEL =>50MW Permit Number: BV0945 Original Permit Number: BM3965	EPR Reference: - Issue Date: 25/07/2003 Effective Date: 01/08/2003 Last date noted as effective: 01/10/2004 Status: SUPERSEDED BY PAS
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY Process: COATING PRINTING AND TEXTILES; USING SOLVENTS >5T/12 MONTHS (UNLESS 6.4 B (A) (III)) Permit Number: NP3235MQ Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 26/01/2007 Effective Date: 26/01/2007 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY Process: COATING, PRINTING AND TEXTILES; COATING >20 T/A APPLIED AS SOLID OR LIQUID WITH RELEASE TO AIR Permit Number: NP3235MQ Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 26/01/2007 Effective Date: 26/01/2007 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY Process: COMBUSTION; ANY FUEL =>50MW Permit Number: NP3235MQ Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 26/01/2007 Effective Date: 26/01/2007 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY Process: SURFACE TREATING METALS AND PLASTICS; ELECTROLYTIC/CHEMICAL >30 CU M Permit Number: NP3235MQ Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 26/01/2007 Effective Date: 26/01/2007 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY EPR/BM3965IA Process: ASSOCIATED PROCESS Permit Number: AP3635KV Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 03/08/2010 Effective Date: 03/08/2010 Last date noted as effective: 17/11/2015 Status: EFFECTIVE

ID	Location	Details	
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY EPR/BM3965IA Process: COATING PRINTING AND TEXTILES; USING SOLVENTS >5T/12 MONTHS (UNLESS 6.4 B (A) (III)) Permit Number: AP3635KV Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 03/08/2010 Effective Date: 03/08/2010 Last date noted as effective: 17/11/2015 Status: EFFECTIVE
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY EPR/BM3965IA Process: COATING, PRINTING AND TEXTILES; COATING >20 T/A APPLIED AS SOLID OR LIQUID WITH RELEASE TO AIR Permit Number: AP3635KV Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 03/08/2010 Effective Date: 03/08/2010 Last date noted as effective: 17/11/2015 Status: EFFECTIVE
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY EPR/BM3965IA Process: COMBUSTION; ANY FUEL =>50MW Permit Number: AP3635KV Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 03/08/2010 Effective Date: 03/08/2010 Last date noted as effective: 17/11/2015 Status: EFFECTIVE
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY EPR/BM3965IA Process: SURFACE TREATING METALS AND PLASTICS; ELECTROLYTIC/CHEMICAL >30 CU M Permit Number: AP3635KV Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 03/08/2010 Effective Date: 03/08/2010 Last date noted as effective: 17/11/2015 Status: EFFECTIVE
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY Process: COMBUSTION; ANY FUEL =>50MW Permit Number: BM3965IA Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 15/11/2002 Effective Date: 15/11/2002 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY Process: COATING PRINTING AND TEXTILES; USING SOLVENTS >5T/12 MONTHS (UNLESS 6.4 B (A) (III)) Permit Number: BV0945IG Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 25/07/2003 Effective Date: 01/08/2003 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY EPR/BM3965IA Process: - Permit Number: BM3965IA Original Permit Number: -	EPR Reference: - Issue Date: 05/09/2016 Effective Date: 05/09/2016 Last date noted as effective: 01/04/2017 Status: ISSUED

ID	Location	Details	
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY EPR/BM3965IA Process: UNLESS FALLING WITHIN PART A2 OF THIS SECTION, SURFACE TREATING METALS AND PLAST... Permit Number: BM3965IA Original Permit Number: AP3635KV	EPR Reference: - Issue Date: 05/09/2016 Effective Date: 05/09/2016 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY EPR/BM3965IA Process: UNLESS FALLING WITHIN PART A2 OF THIS SECTION, SURFACE TREATING METALS AND PLAST... Permit Number: BM3965IA Original Permit Number: AP3635KV	EPR Reference: - Issue Date: 05/09/2016 Effective Date: 05/09/2016 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY EPR/BM3965IA Process: UNLESS FALLING WITHIN PART A2 OF THIS SECTION, SURFACE TREATING METALS AND PLAST... Permit Number: BM3965IA Original Permit Number: AP3635KV	EPR Reference: - Issue Date: 05/09/2016 Effective Date: 05/09/2016 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY EPR/BM3965IA Process: UNLESS FALLING WITHIN PART A2 OF THIS SECTION, SURFACE TREATING METALS AND PLAST... Permit Number: BM3965IA Original Permit Number: AP3635KV	EPR Reference: - Issue Date: 05/09/2016 Effective Date: 05/09/2016 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY EPR/BM3965IA Process: UNLESS FALLING WITHIN PART A2 OF THIS SECTION, SURFACE TREATING METALS AND PLAST... Permit Number: BM3965IA Original Permit Number: AP3635KV	EPR Reference: - Issue Date: 05/09/2016 Effective Date: 05/09/2016 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
F	290m NW	Operator: AIRBUS UK LTD Installation Name: - Process: COMBUSTION; ANY FUEL =>50MW Permit Number: BM3965 Original Permit Number: BM3965	EPR Reference: - Issue Date: - Effective Date: 15/11/2002 Last date noted as effective: 03/10/2005 Status: SUPERSEDED BY VARIATION
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY Process: ASSOCIATED PROCESS Permit Number: TP3737PJ Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 30/06/2005 Effective Date: 30/06/2005 Last date noted as effective: 17/11/2015 Status: SUPERCEDED

ID	Location	Details	
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY Process: COATING, PRINTING AND TEXTILES; COATING >20 T/A APPLIED AS SOLID OR LIQUID WITH RELEASE TO AIR Permit Number: TP3737PJ Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 30/06/2005 Effective Date: 30/06/2005 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY Process: COMBUSTION; ANY FUEL =>50MW Permit Number: TP3737PJ Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 30/06/2005 Effective Date: 30/06/2005 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY Process: COMBUSTION; ANY FUEL =>50MW Permit Number: TP3737PJ Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 30/06/2005 Effective Date: 30/06/2005 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
F	290m NW	Operator: AIRBUS UK LTD Installation Name: BROUGHTON AIRCRAFT FACTORY Process: SURFACE TREATING METALS AND PLASTICS; ELECTROLYTIC/CHEMICAL >30 CU M Permit Number: TP3737PJ Original Permit Number: BM3965IA	EPR Reference: - Issue Date: 30/06/2005 Effective Date: 30/06/2005 Last date noted as effective: 17/11/2015 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 **1**

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.

Features are displayed on the Current industrial land use map on **page 32 >**

ID	Location	Address	Details	
E	249m S	Tesco Petrol Station, Chester Road, Broughton, Flintshire, CH4 0DP	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m	1

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

Features are displayed on the Current industrial land use map on **page 32 >**

ID	Location	Address	Details	
12	453m NE	BRITISH AEROSPACE AIRBUS LTD CHESTR, BRITISH AEROSPACE AIRBUS LTD, BROUGHTON, CHESTER, CHESHIRE	Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: CG0333801 Permit Version: 1 Receiving Water: HIGHER FERRY DRAIN	Status: REVOKED - UNSPECIFIED Issue date: 31/12/1992 Effective Date: 31/12/1992 Revocation Date: 30/11/1995

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	6

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

Features are displayed on the Current industrial land use map on **page 32 >**

ID	Location	Details	
8	221m E	Incident Date: 25/06/2015 Incident Identification: 1348535 Pollutant: Specific Waste Materials Pollutant Description: Contaminated Construction & Demolition Mat & Waste	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
F	292m NW	Incident Date: 20/01/2002 Incident Identification: 53455 Pollutant: Oils and Fuel Pollutant Description: Kerosene and Aviation Fuel	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)
F	292m NW	Incident Date: 20/01/2002 Incident Identification: 53455 Pollutant: Oils and Fuel Pollutant Description: Kerosene and Aviation Fuel	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)
F	295m NW	Incident Date: 12/03/2015 Incident Identification: 1320084 Pollutant: Specific Waste Materials Pollutant Description: Other Specific Waste Material	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

ID	Location	Details	
G	486m SW	Incident Date: 01/05/2017 Incident Identification: 1702243 Pollutant: - Pollutant Description: -	Water Impact: Category 3 (Minor) Land Impact: No Details Air Impact: No Details
G	486m SW	Incident Date: 01/05/2017 Incident Identification: 1702243 Pollutant: Sewage Material Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: No Details Air Impact: No Details

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

Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

5.1 Superficial aquifer

Records within 500m	4

Aquifer status of groundwater held within superficial geology.

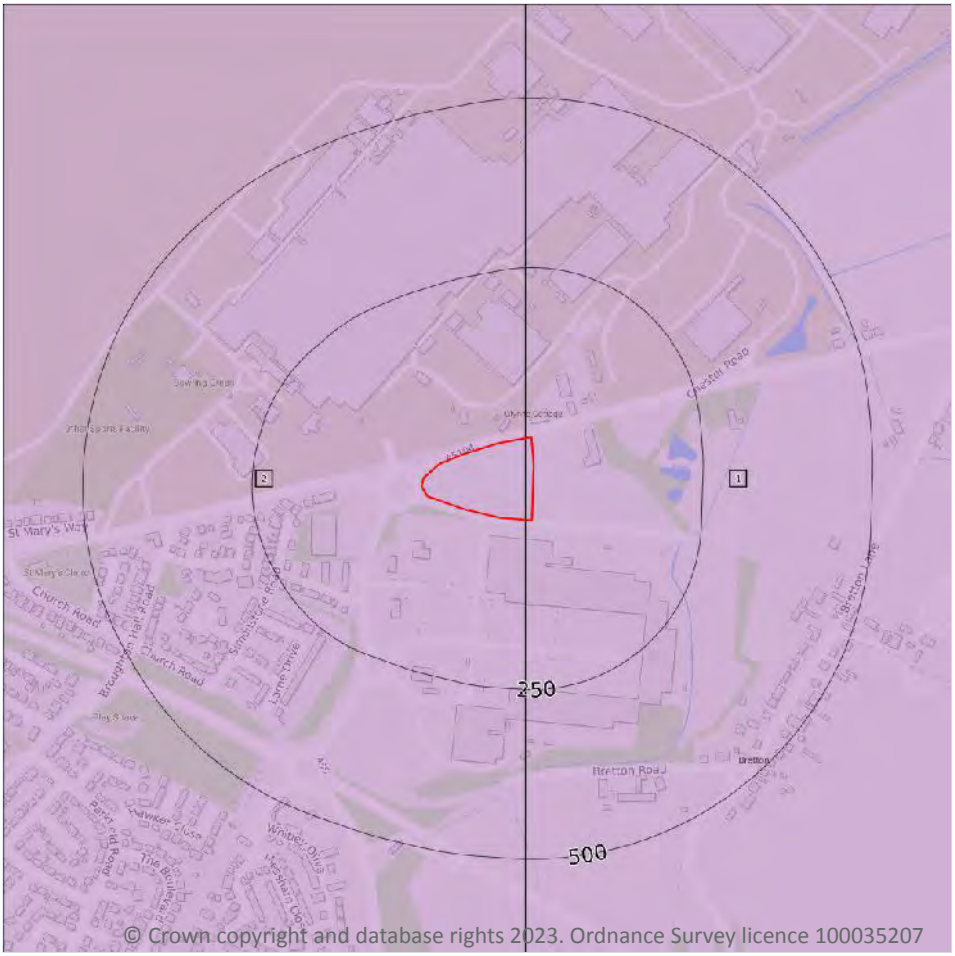
Features are displayed on the Hydrogeology map on **page 45 >**

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

ID	Location	Designation	Description
3	117m NE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	194m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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

Bedrock aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m	2

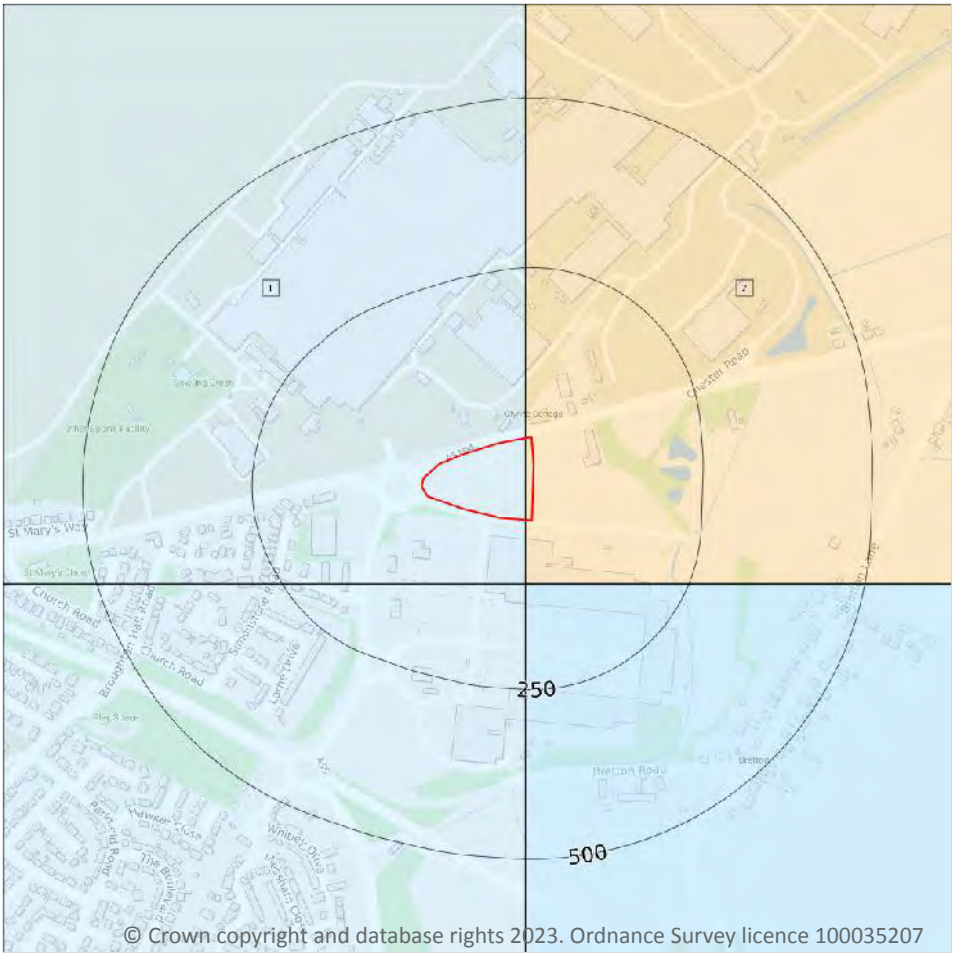
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 47 >**

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
2	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



Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	2

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

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

Features are displayed on the Groundwater vulnerability map on **page 49 >**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	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

Site Outline

Search buffers in metres (m)

- Source Protection Zone 1 — Inner catchment
- Source Protection Zone 2 — Outer catchment
- Source Protection Zone 3 — Total catchment
- Source Protection Zone 4 — Zone of Special Interest
- Source Protection Zone 1c — Inner catchment - confined aquifer
- Source Protection Zone 2c — Outer catchment - confined aquifer
- Source Protection Zone 3c — Total catchment - confined aquifer
- Drinking water abstraction licences
- Drinking water abstraction licences — Polygon features
- Drinking water abstraction licences — Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m	8

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 51 >**

ID	Location	Details	
-	876m E	Status: Historical Licence No: 24/67/10/0072 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: WELL Data Type: Point Name: Howatson Easting: 335870 Northing: 364380	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 23/10/1967 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1994 Version End Date: -
-	1000m S	Status: Active Licence No: 24/67/10/0087 Details: Potable Water Supply - Direct - Medium Direct Source: Underground strata (Bunter Sandstone) Point: - Data Type: Point Name: - Easting: 335355 Northing: 363155	Annual Volume (m^3): 227000 Max Daily Volume (m^3): 1854.72 Original Application No: - Original Start Date: 29/06/1988 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1029m S	Status: Historical Licence No: 24/67/10/0087 Details: Potable Water Supply - Direct Direct Source: EAW Groundwater Point: BOREHOLE 1 BRETTON Data Type: Point Name: Dwr Cymru Cyfyngedig Easting: 335280 Northing: 363101	Annual Volume (m^3): 227000 Max Daily Volume (m^3): 6546.2 Original Application No: - Original Start Date: 14/11/1969 Expiry Date: - Issue No: 100 Version Start Date: 29/06/1988 Version End Date: -
-	1353m NE	Status: Historical Licence No: 24/67/10/0006 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE Data Type: Point Name: Well House Estates Ltd Easting: 336220 Northing: 364820	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 05/07/1966 Expiry Date: - Issue No: 100 Version Start Date: 05/07/1966 Version End Date: -
-	1538m E	Status: Historical Licence No: 24/67/10/0029 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE B Data Type: Point Name: Probert Easting: 336520 Northing: 363800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 25/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 03/10/1979 Version End Date: -

ID	Location	Details	
-	1558m E	Status: Historical Licence No: 24/67/10/0024 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE Data Type: Point Name: J Chadwick And Son Easting: 336540 Northing: 363800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 25/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 18/02/1969 Version End Date: -
-	1681m SE	Status: Historical Licence No: 24/67/10/0023 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE C Data Type: Point Name: J Chadwick And Son Easting: 336020 Northing: 362750	Annual Volume (m^3): 10482.2 Max Daily Volume (m^3): 28.6 Original Application No: - Original Start Date: 25/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 18/02/1969 Version End Date: -
-	1828m SE	Status: Historical Licence No: 24/67/10/0023 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE B Data Type: Point Name: J Chadwick And Son Easting: 335940 Northing: 362520	Annual Volume (m^3): 10482.2 Max Daily Volume (m^3): 28.6 Original Application No: - Original Start Date: 25/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 18/02/1969 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	2

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.

Features are displayed on the Abstractions and Source Protection Zones map on **page 51 >**

ID	Location	Details	
-	1000m S	Status: Active Licence No: 24/67/10/0087 Details: Potable Water Supply - Direct - Medium Direct Source: Underground strata (Bunter Sandstone) Point: - Data Type: Point Name: - Easting: 335355 Northing: 363155	Annual Volume (m^3): 227000 Max Daily Volume (m^3): 1854.72 Original Application No: - Original Start Date: 29/06/1988 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1029m S	Status: Historical Licence No: 24/67/10/0087 Details: Potable Water Supply - Direct Direct Source: EAW Groundwater Point: BOREHOLE 1 BRETTON Data Type: Point Name: Dwr Cymru Cyfyngedig Easting: 335280 Northing: 363101	Annual Volume (m^3): 227000 Max Daily Volume (m^3): 6546.2 Original Application No: - Original Start Date: 14/11/1969 Expiry Date: - Issue No: 100 Version Start Date: 29/06/1988 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m	1

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 51 >**

ID	Location	Type	Description
1	**On site**	**3**	**Total catchment**

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	2

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

Features are displayed on the Hydrology map on **page 56 >**

ID	Location	Type of water feature	Ground level	Permanence	Name
B	218m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
4	224m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	5

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

Features are displayed on the Hydrology map on **page 56 >**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1

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

Features are displayed on the Hydrology map on **page 56 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	**On site**	**Coastal catchment**	**Not part of a river WB catchment**	**166**	**Dee Estuary**	**Dee**

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

6.4 WFD Surface water bodies

Records identified	0

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.

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.

Features are displayed on the Hydrology map on **page 56 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	**On site**	**Dee Permo-Triassic Sandstone**	**GB41101G202400**	**Poor**	**Poor**	**Good**	**2019**

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

7 River and coastal flooding

Site Outline

Search buffers in metres (m)

River and coastal flooding:

- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

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	1

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

Features are displayed on the River and coastal flooding map on **page 59 >**

ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
1	**On site**	**Sandycroft / Hawarden Airport 1964 01**	**1964-01-01 1964-01-01**	**Main river**	**Channel capacity exceeded (no raised defences)**	**Fluvial**

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.

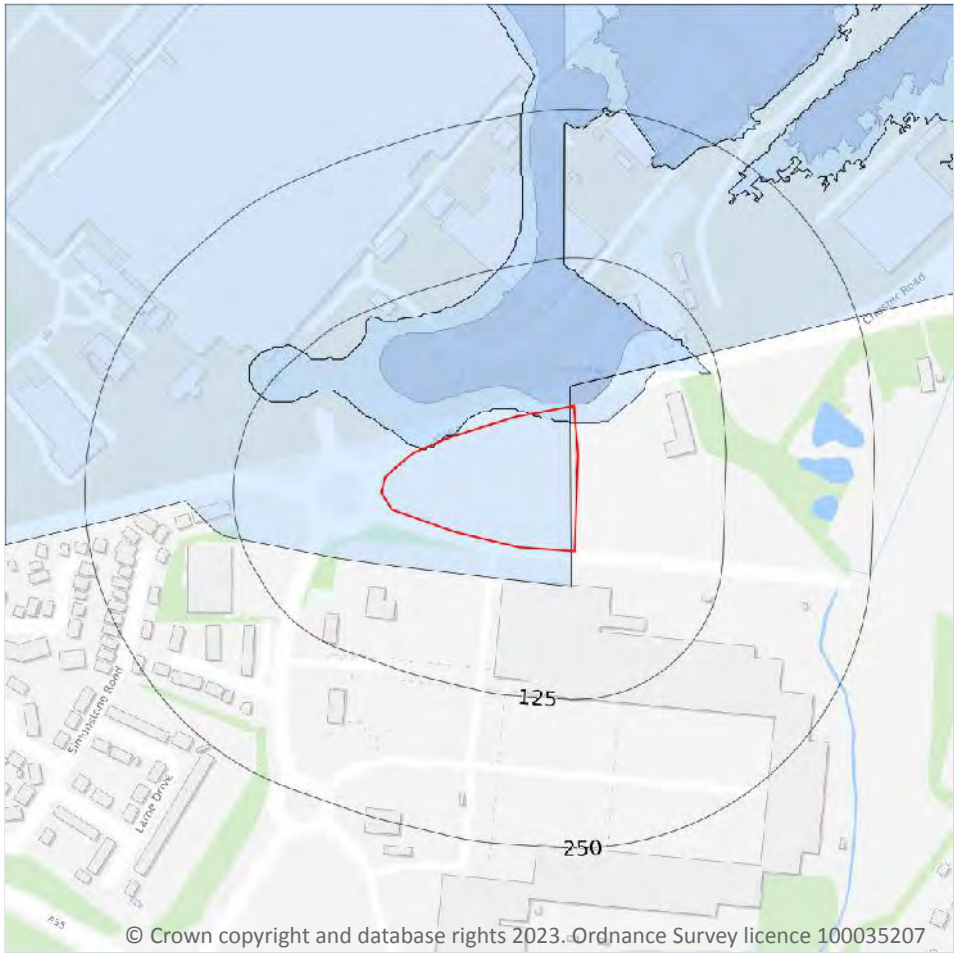
7.5 Flood Storage Areas

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



Site Outline

Search buffers in metres (m)

Flood zone 2

Flood zone 3

7.6 Flood Zone 2

Records within 50m	1

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

Features are displayed on the River and coastal flooding map on **page 59 >**

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

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

7.7 Flood Zone 3

Records within 50m	1

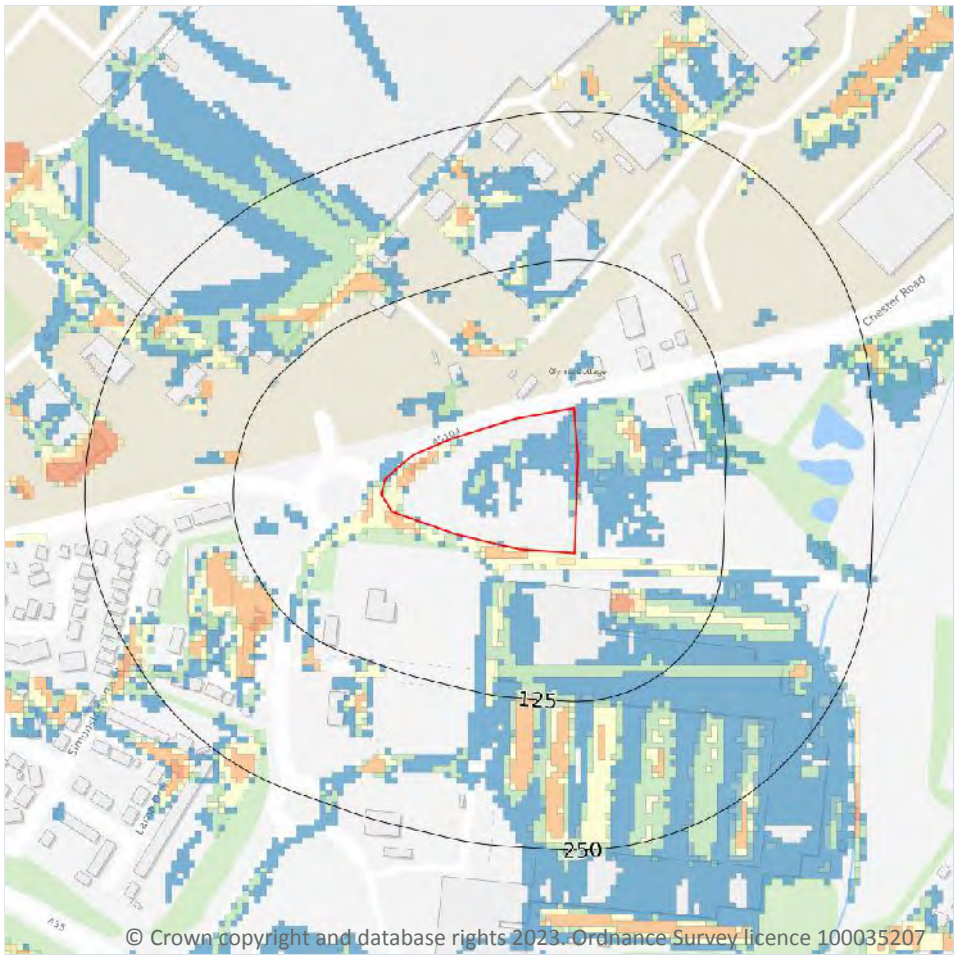
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 59 >**

Location	Type
1m NE	Zone 3 - (Fluvial /Tidal Models)

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

8 Surface water flooding



Site Outline
Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**1 in 30 year, 0.3m - 1.0m**
Highest risk within 50m	**1 in 30 year, 0.3m - 1.0m**

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

Features are displayed on the Surface water flooding map on **page 63 >**

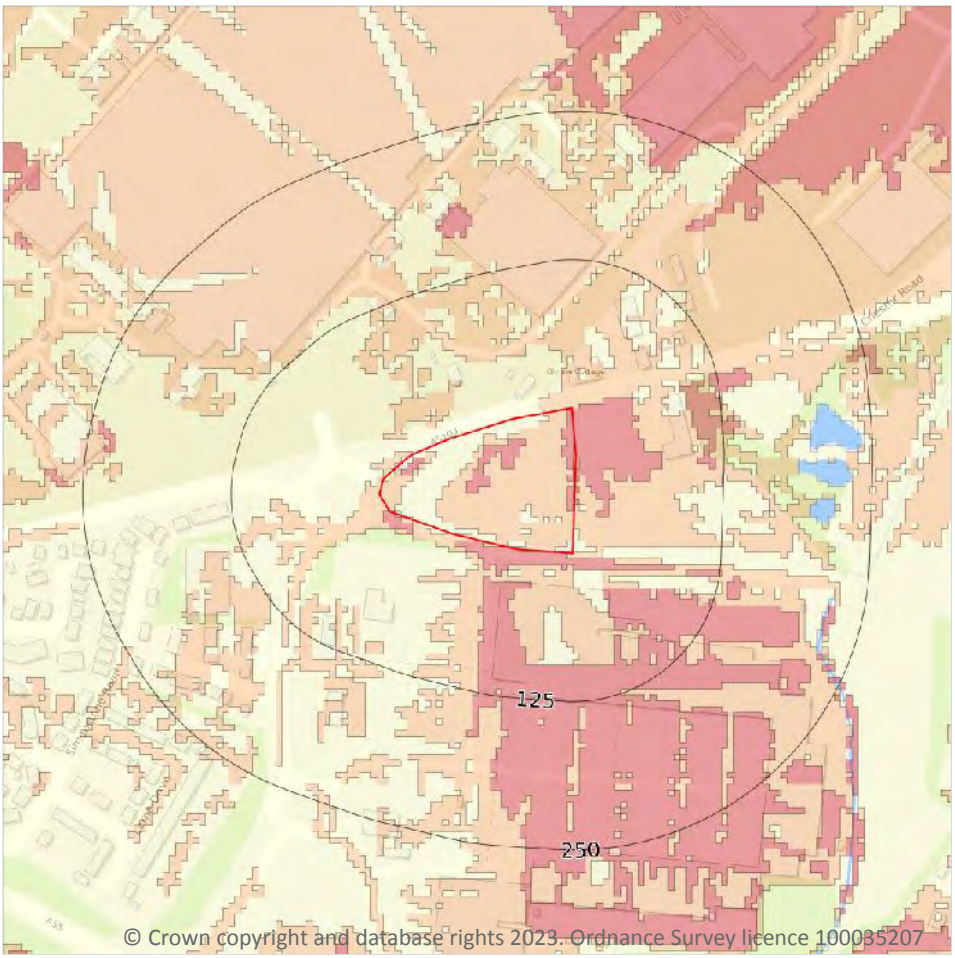
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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 0.3m and 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.3m and 1.0m
1 in 30 year	Between 0.3m and 1.0m

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

High

Moderate - High

Moderate

Low

Negligible

9.1 Groundwater flooding

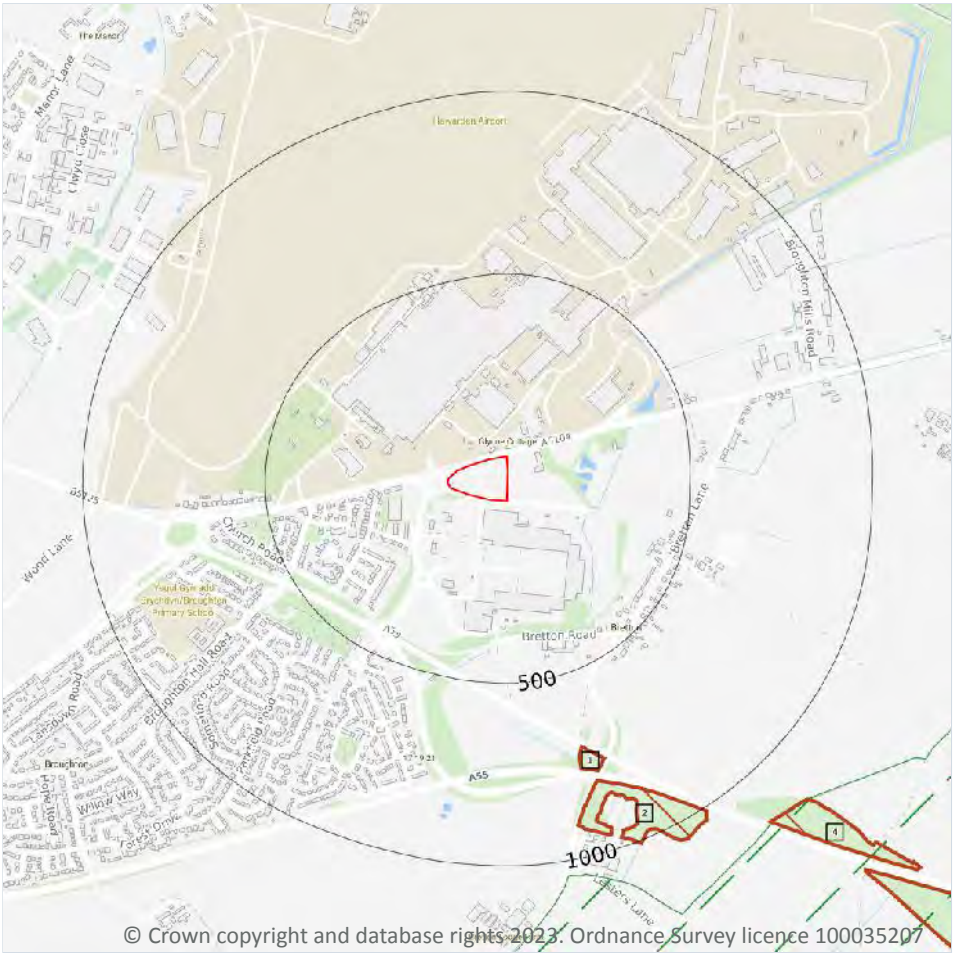
Highest risk on site	**High**
Highest risk within 50m	**High**

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

Features are displayed on the Groundwater flooding map on **page 65 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Designated Ancient Woodland

Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m	0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	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	4

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

Features are displayed on the Environmental designations map on **page 66 >**

ID	Location	Name	Woodland Type
1	704m S	Unknown	Restored Ancient Woodland Site
2	806m S	Unknown	Restored Ancient Woodland Site
4	1138m SE	Unknown	Ancient & Semi-Natural Woodland
5	1410m SE	Unknown	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	1

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

Features are displayed on the Environmental designations map on **page 66 >**

ID	Location	Name	Local Authority name
3	1041m S	Merseyside and Greater Manchester	Cheshire West and Chester

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	7

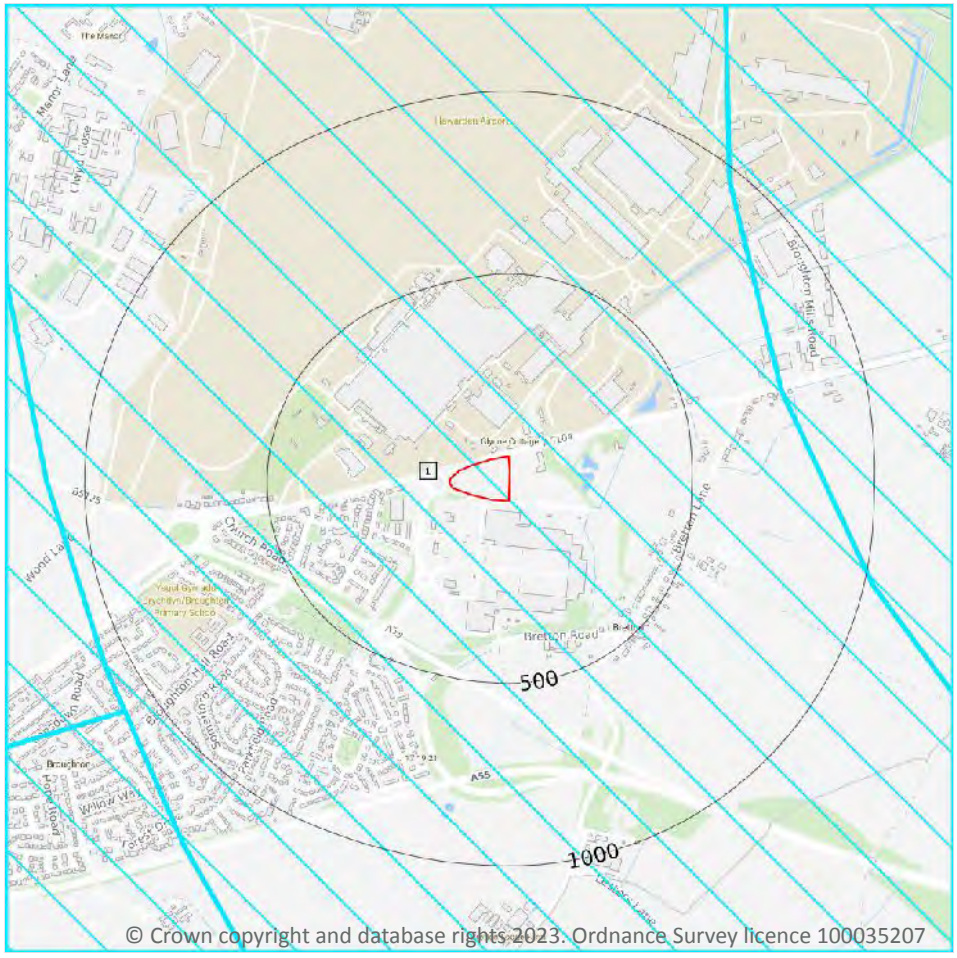
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
1387m S	-	Surface Water	707	New

Location	Name	Type	NVZ ID	Status
1389m SW	-	Surface Water	707	New
1443m SW	-	Surface Water	707	New
1448m S	-	Surface Water	707	New
1461m SW	Pulford Brook NVZ	Surface Water	707	Existing
1490m SW	Pulford Brook NVZ	Surface Water	707	Existing
1577m SW	-	Surface Water	707	New

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

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

Not recorded

Favourable

Unfavourable - Recovering

Unfavourable - No change

Unfavourable - Declining

Partially destroyed

Destroyed

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 72 >**

ID	Location	Type of developments requiring consultation
1	On site	**Infrastructure - Airports, helipads and other aviation proposals.** **Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t).** **Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.**

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0

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

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

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

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

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

11.3 National Parks

Records within 250m	0

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

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

11.4 Listed Buildings

Records within 250m	0

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

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

11.5 Conservation Areas

Records within 250m	0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m	0

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

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

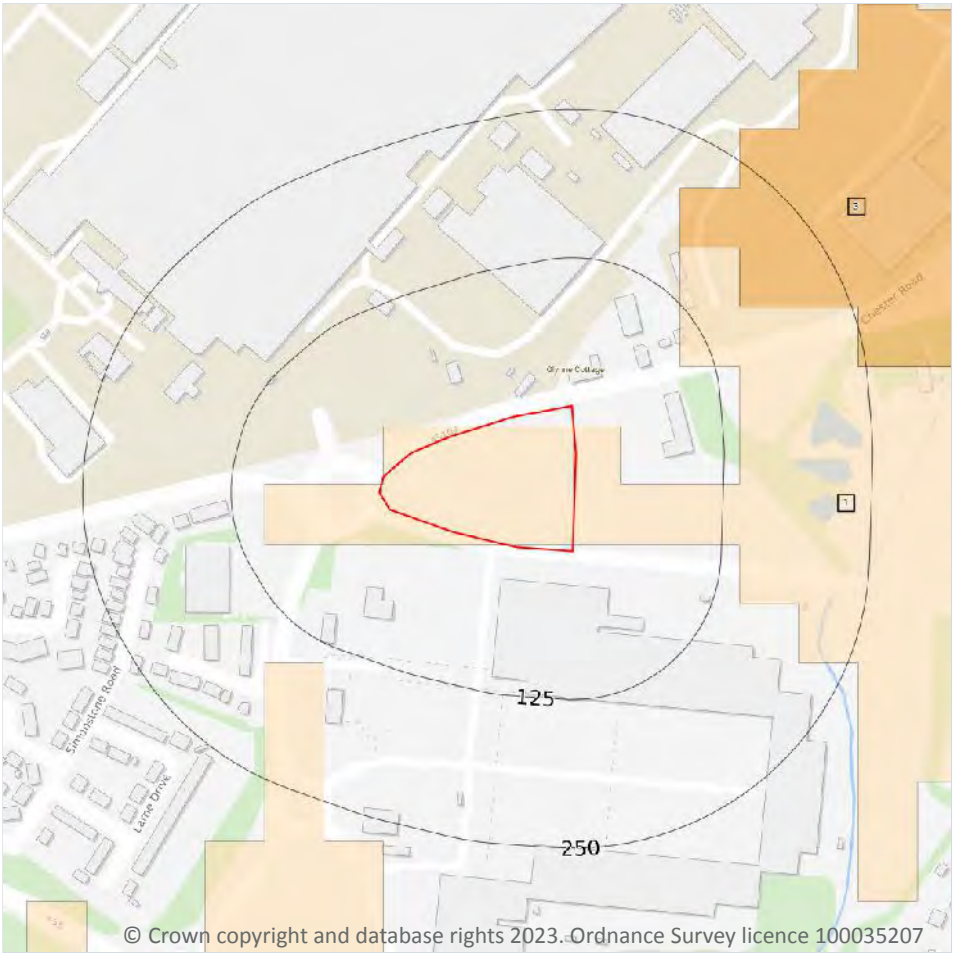
11.7 Registered Parks and Gardens

Records within 250m	0

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

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

12 Agricultural designations



Site Outline

Search buffers in metres (m)

Grade 1 - excellent quality

Grade 2 - very good quality

Grade 3a - good quality

Grade 3b - moderate quality

Grade 4 - poor quality

Grade 5 - very poor quality

Timber felling licences

Open Access land

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 76 >**

ID	Location	Classification	Description
1	**On site**	**Grade 3a**	**Good to moderate quality agricultural land**
3	162m NE	Grade 2	Good quality agricultural land

This data is sourced from Natural Resources Wales.

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	0

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

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability

Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	1

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

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

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

This data is sourced from the British Geological Survey.

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

14.2 Artificial and made ground (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability

Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

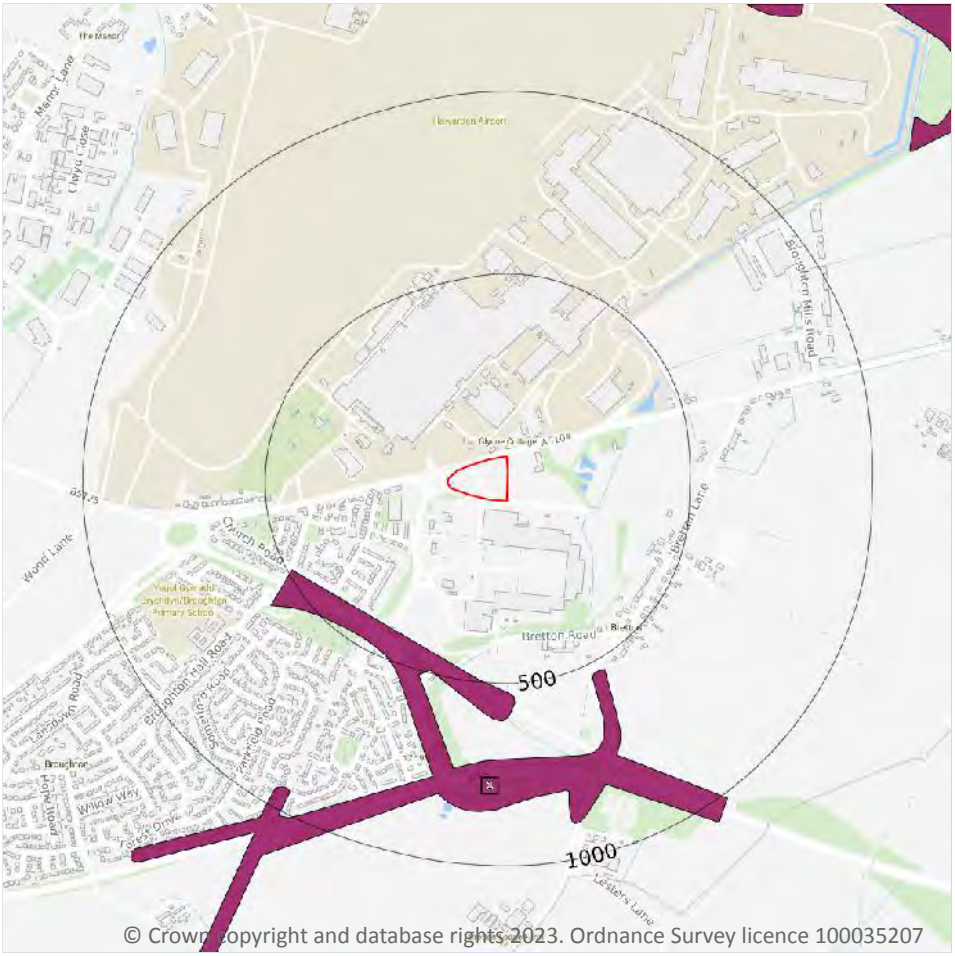
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme. Where 50k data is not available, this area has been filled in with 625k scale data.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 83 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW108_flint_v4**

This data is sourced from the British Geological Survey.

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



Site Outline

Search buffers in metres (m)

- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

15.2 Artificial and made ground (50k)

Records within 500m	1

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 84 >**

ID	Location	LEX Code	Description	Rock description
1	413m SW	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

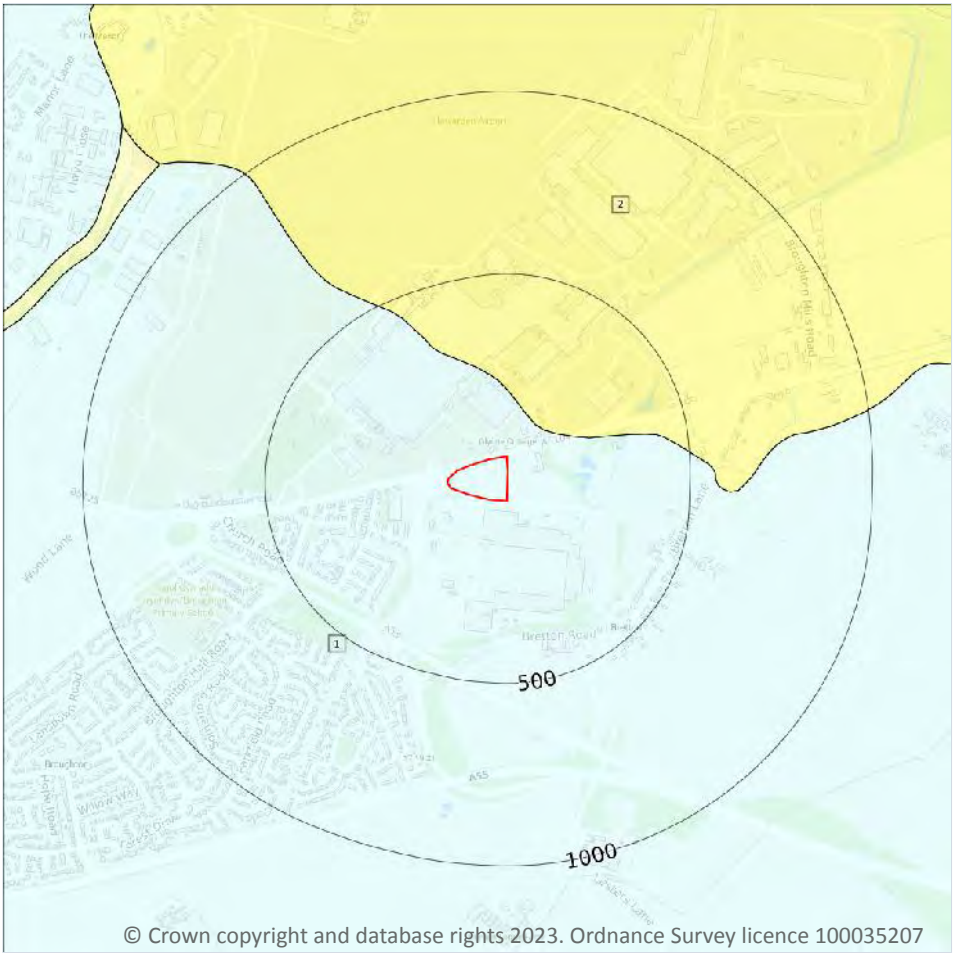
15.3 Artificial ground permeability (50k)

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 **2**

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 86 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**
2	117m NE	TFD-XCZS	TIDAL FLAT DEPOSITS	CLAY, SILT AND SAND

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**
On site	**Mixed**	**High**	**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.

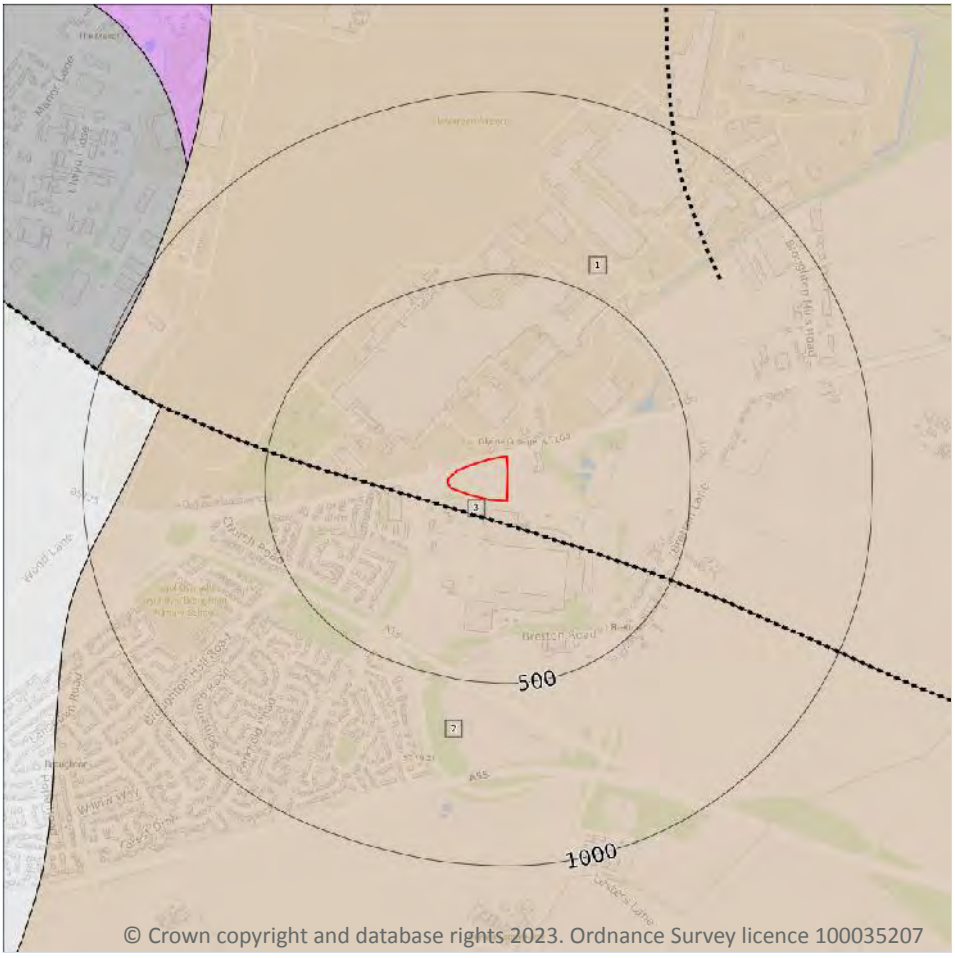
15.7 Landslip permeability (50k)

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	2

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 88 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**KNSF-SDST**	**KINNERTON SANDSTONE FORMATION - SANDSTONE**	**-**
2	49m SW	KNSF-SDST	KINNERTON SANDSTONE FORMATION - SANDSTONE	-

This data is sourced from the British Geological Survey.

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	1

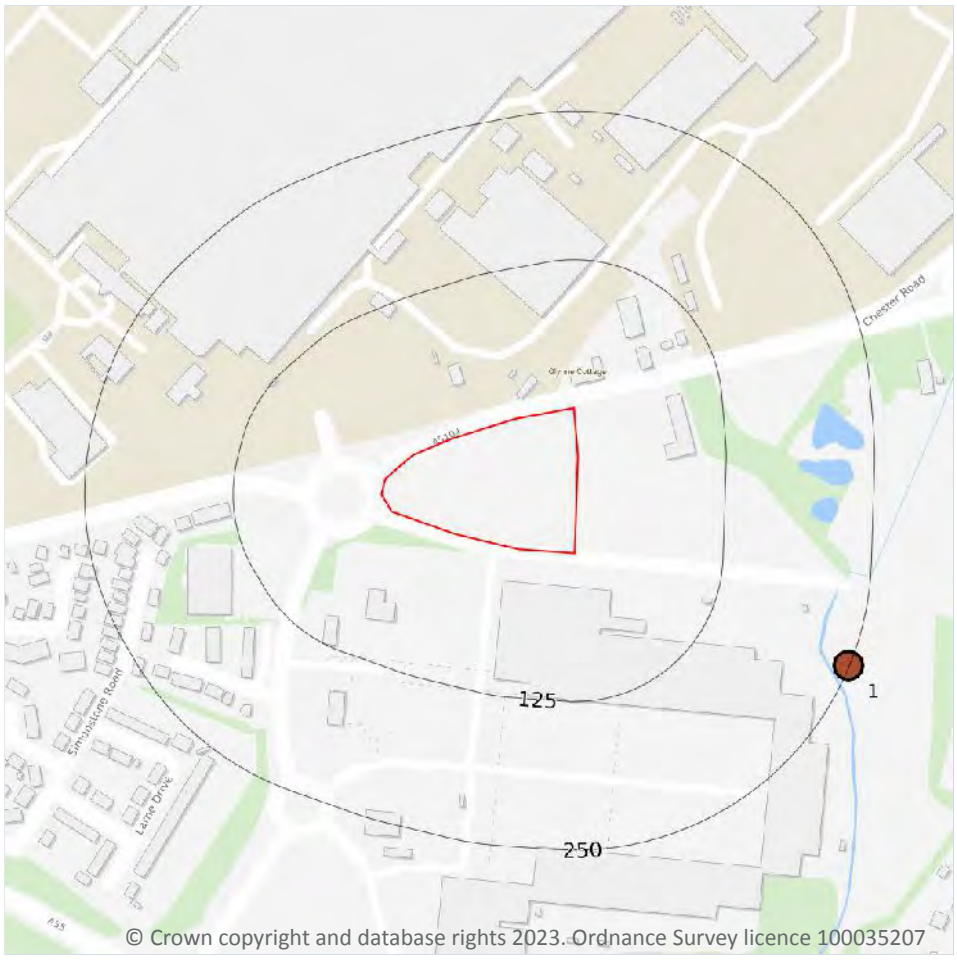
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 88 >**

ID	Location	Category	Description
3	49m SW	FAULT	Fault, inferred, displacement unknown

This data is sourced from the British Geological Survey.

16 Boreholes



Site Outline

Search buffers in metres (m)

Confidential

0 - 10m

10 - 30m

30m+

Unknown

16.1 BGS Boreholes

Records within 250m	1

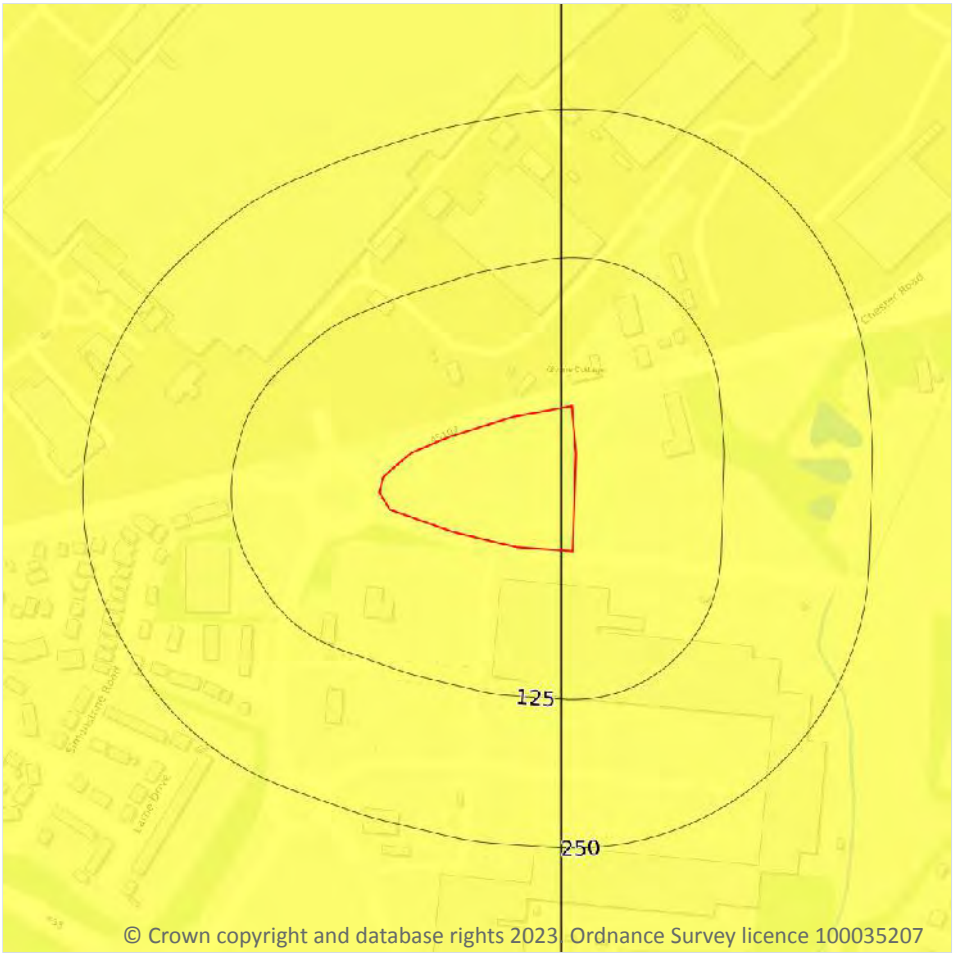
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several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

Features are displayed on the Boreholes map on **page 90 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	249m SE	335240 364000	ELLIS'S, BRETTON	-1.0	N	156690 ↗

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	1

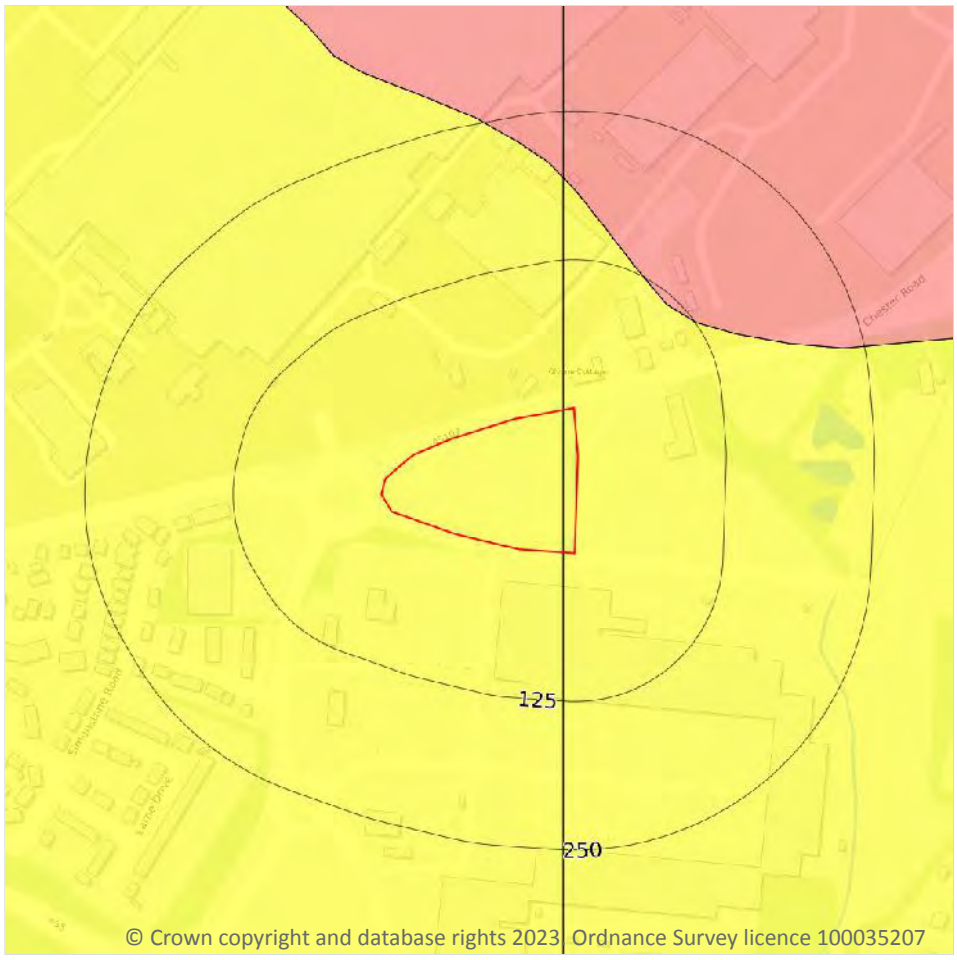
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 91 >**

Location	Hazard rating	Details
On site	**Very low**	**Ground conditions predominantly low plasticity.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	1

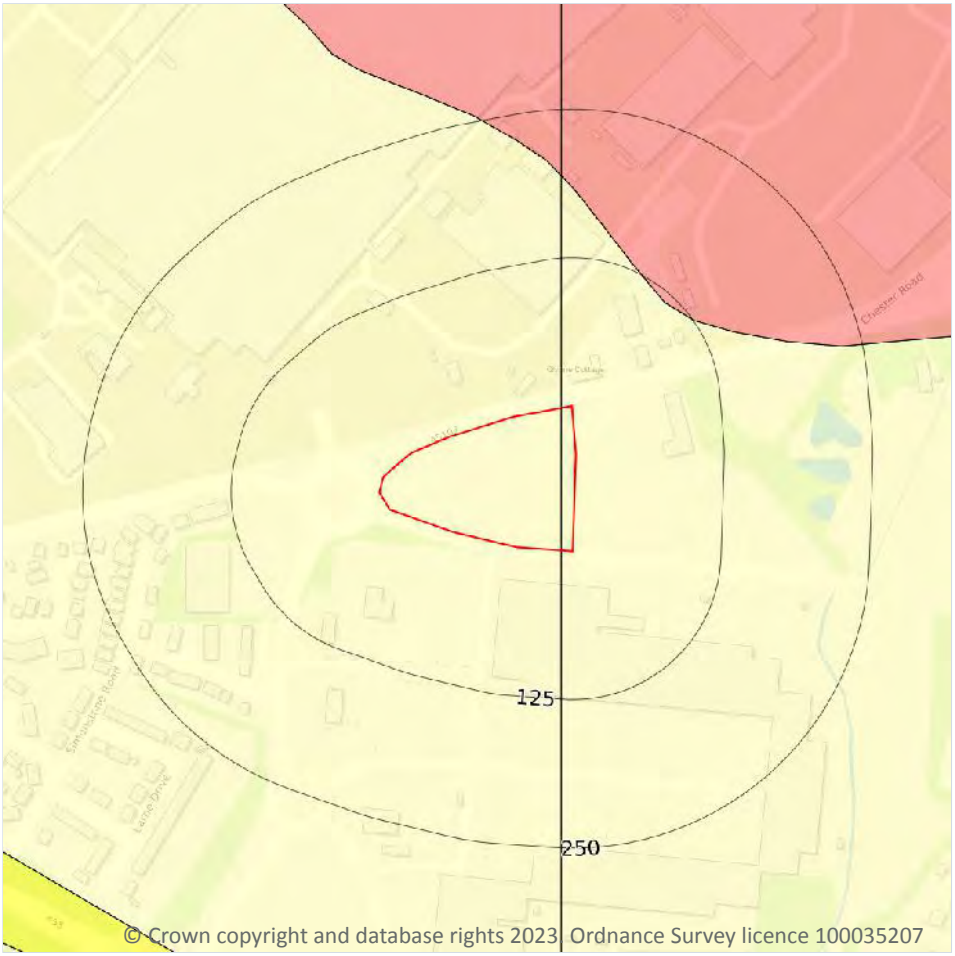
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 92 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	1

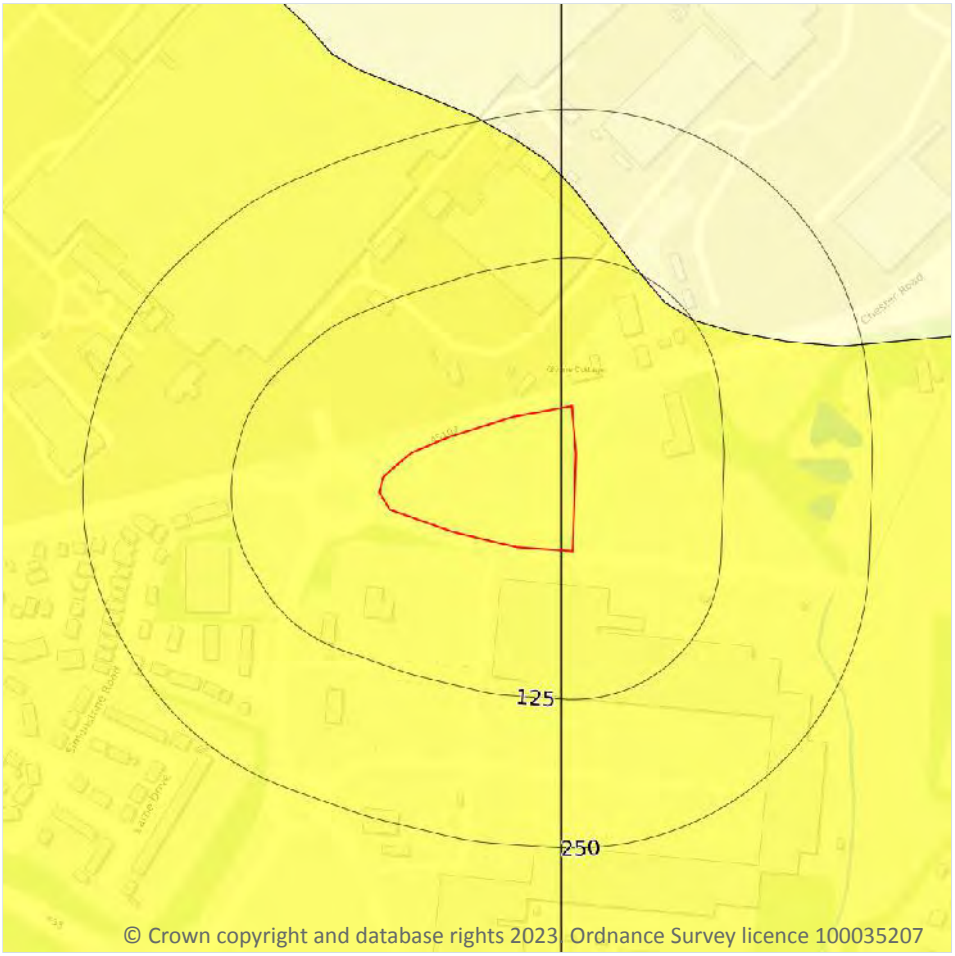
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 93 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	1

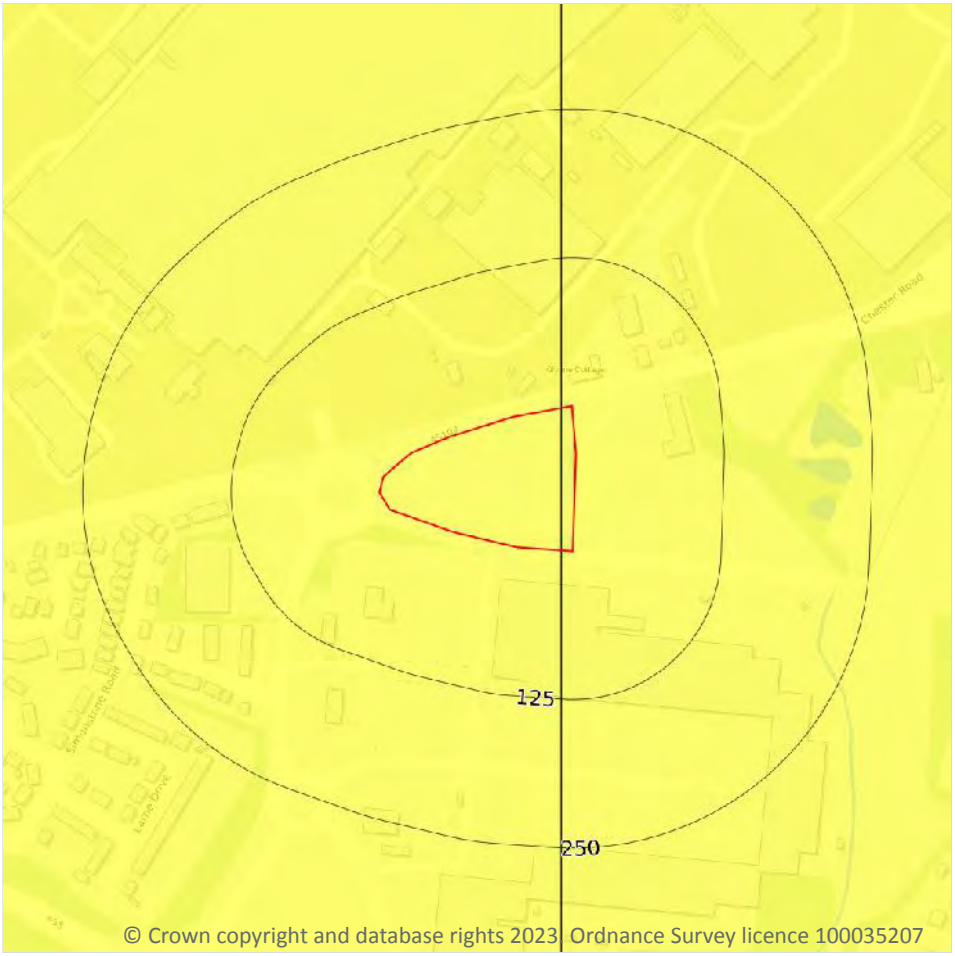
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 94 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	1

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

Features are displayed on the Natural ground subsidence - Landslides map on **page 95 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks

Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

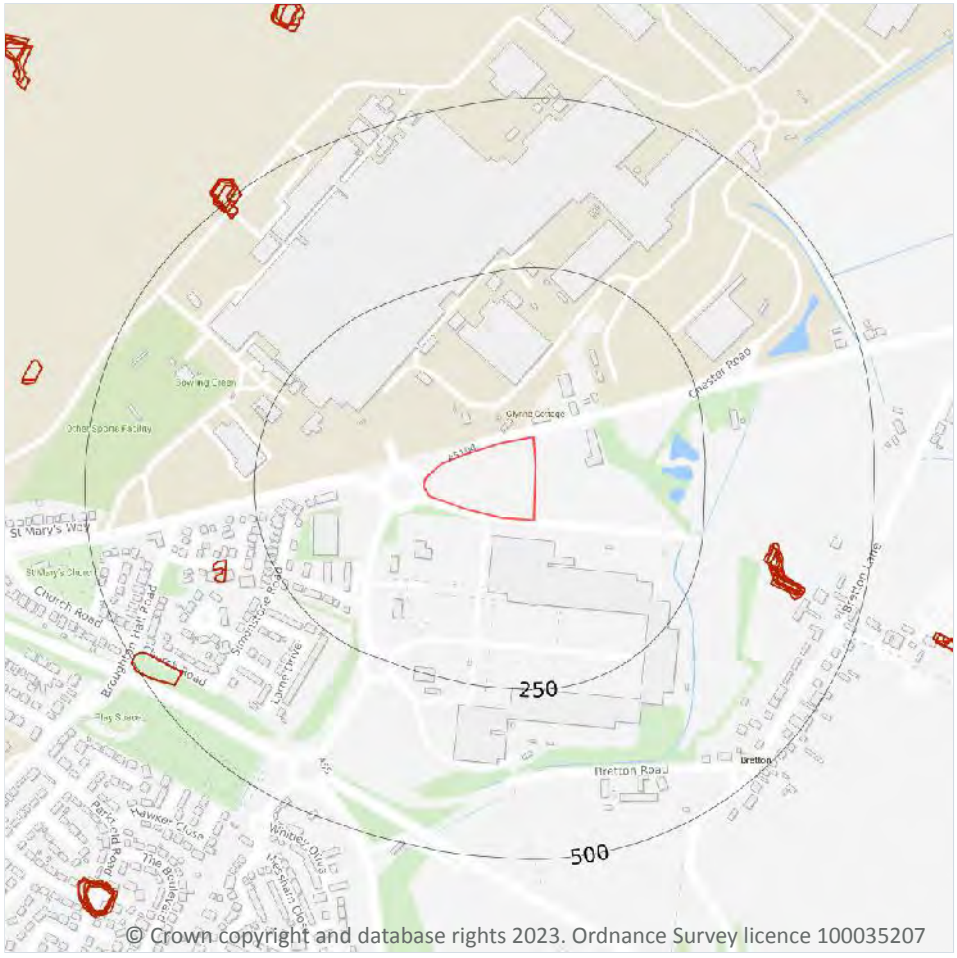
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 96 >**

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

This data is sourced from the British Geological Survey.

18 Mining and ground workings



Site Outline

Search buffers in metres (m)

- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining

Non Coal Mining

- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m	0

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	2

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).

Features are displayed on the Mining and ground workings map on **page 98 >**

ID	Location	Name	Commodity	Class	Likelihood
-	813m W	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	984m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site	**1**

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

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m	**0**

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

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m	0

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

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m	0

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m	0

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

This data is sourced from Groundsure.

18.12 Coal mining

Records on site	0

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

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site	0

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

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

18.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0

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

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

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m	0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m	0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m	0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m	0

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

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

This data is sourced from Groundsure.

19.5 National karst database

Records within 500m	0

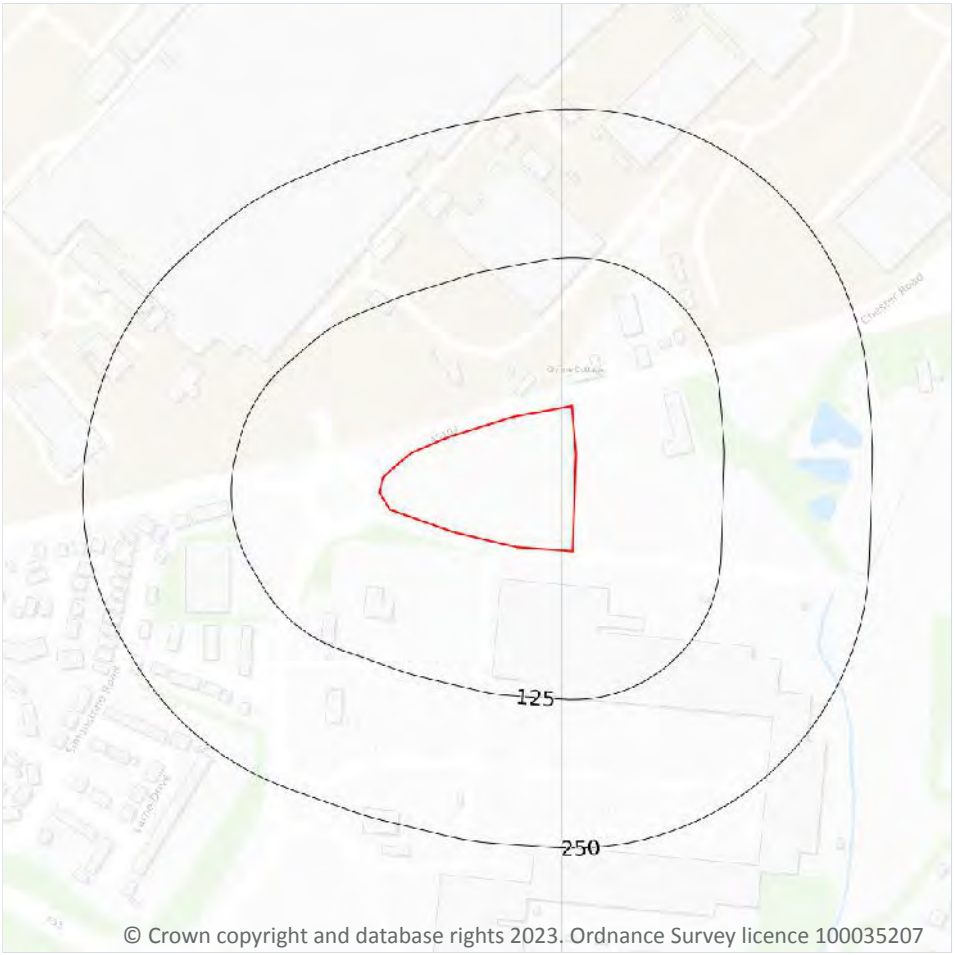
This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

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

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

This data is sourced from the British Geological Survey.

20 Radon



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%

20.1 Radon

Records on site	1

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

Features are displayed on the Radon map on **page 105 >**

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

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

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	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 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
49m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

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

This data is sourced from the British Geological Survey.

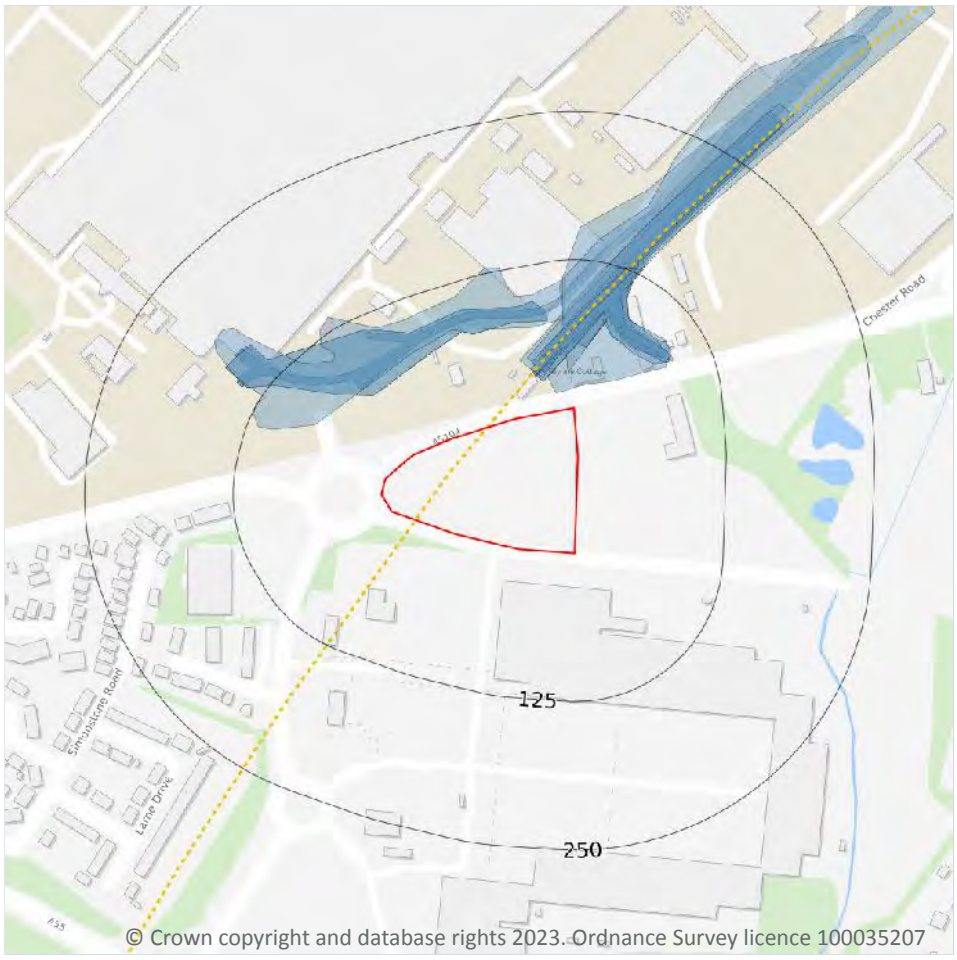
21.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

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

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects



Site Outline
Search buffers in metres (m)
Crossrail 1 Stations
Crossrail 1 Route
Crossrail 2 Stations
Crossrail 2 Route
Crossrail 2 Worksites
Crossrail 2 Safeguarding
Crossrail 2 Headhouses
Railway stations
Active railways
Active tunnels
Abandoned railways
Historic railways
Historic tunnels
Underground stations
Underground Lines
Royal Mail tunnels
HS2 optimised route
HS2 Stations
HS2 Depots
HS2 Surface Safeguarding
HS2 Subsurface Safeguarding

22.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m	22

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.

Features are displayed on the Railway infrastructure and projects map on **page 108 >**

Location	Land Use	Year of mapping	Mapping scale
15m NE	Railway Sidings	1898	10560
27m NE	Railway Sidings	1909	10560
27m NE	Railway Sidings	1898	10560
30m NE	Railway Sidings	1938	10560
30m NE	Railway Sidings	1968	10560
32m N	Railway Sidings	1899	2500
32m N	Railway Sidings	1911	2500
33m N	Railway Sidings	1899	2500
33m N	Railway Sidings	1911	2500
34m N	Railway Sidings	1909	10560
34m NE	Railway Sidings	1948	10560
35m N	Railway Sidings	1938	10560
41m NE	Railway Sidings	1964	10560
42m N	Railway Sidings	1870	2500
47m N	Railway Sidings	1869	10560
53m NE	Railway Sidings	1965	2500
60m NW	Railway Sidings	1969	10560

Location	Land Use	Year of mapping	Mapping scale
60m NW	Railway Sidings	1982	10000
70m NW	Railway Sidings	1966	10560
71m NW	Railway Sidings	1980	2500
71m NW	Railway Sidings	1983	2500
121m NE	Railway Sidings	1938	10560

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m	1

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

Features are displayed on the Railway infrastructure and projects map on **page 108 >**

Location	Description
On site	**Razed**

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m	0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m	0

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

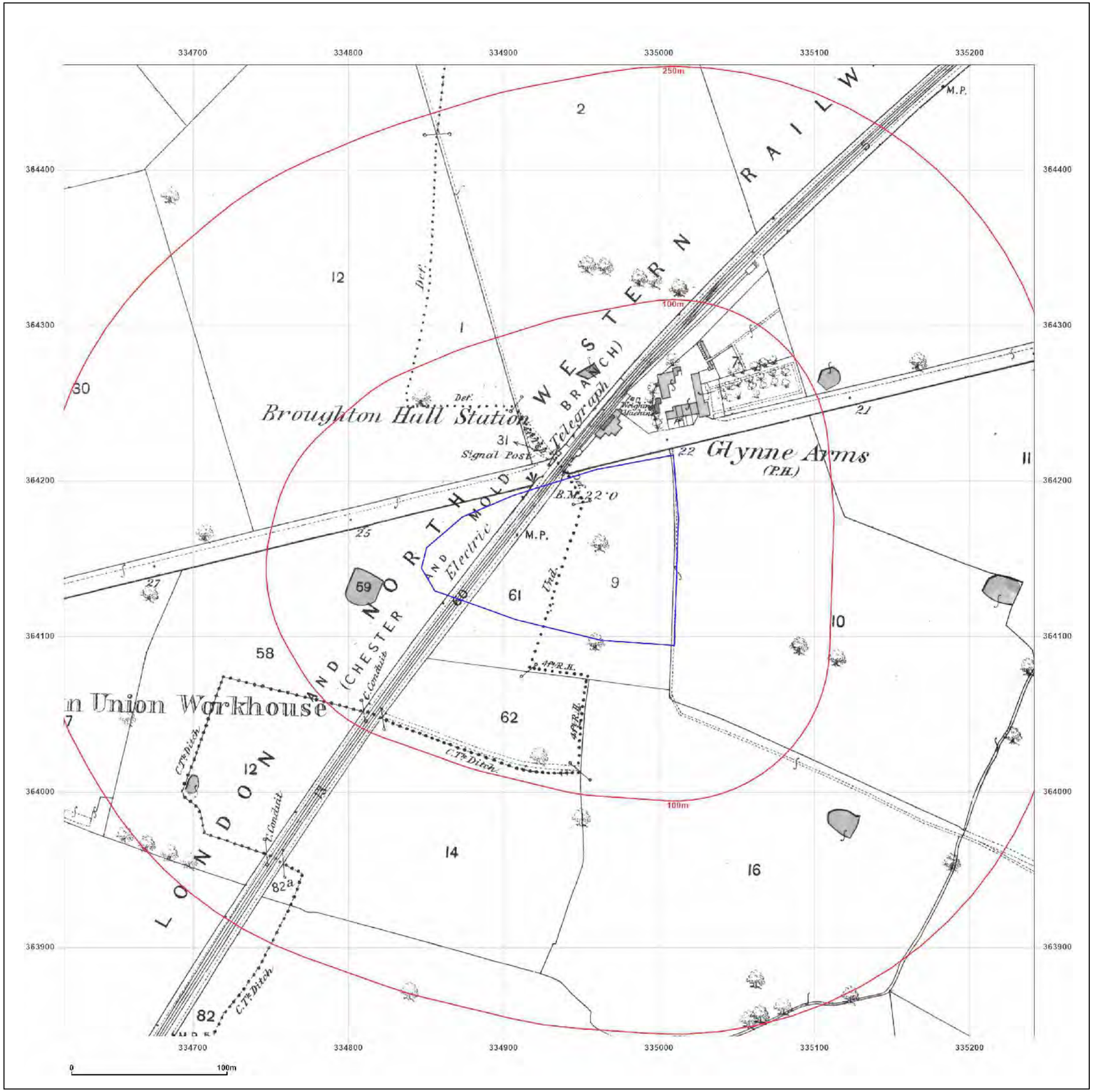
This data is sourced from HS2 ltd.

Data providers

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

Terms and conditions

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



Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: County Series
Map date: **1870**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S

Surveyed 1870
Revised 1870
Edition N/A
Copyright N/A
Levelled N/A

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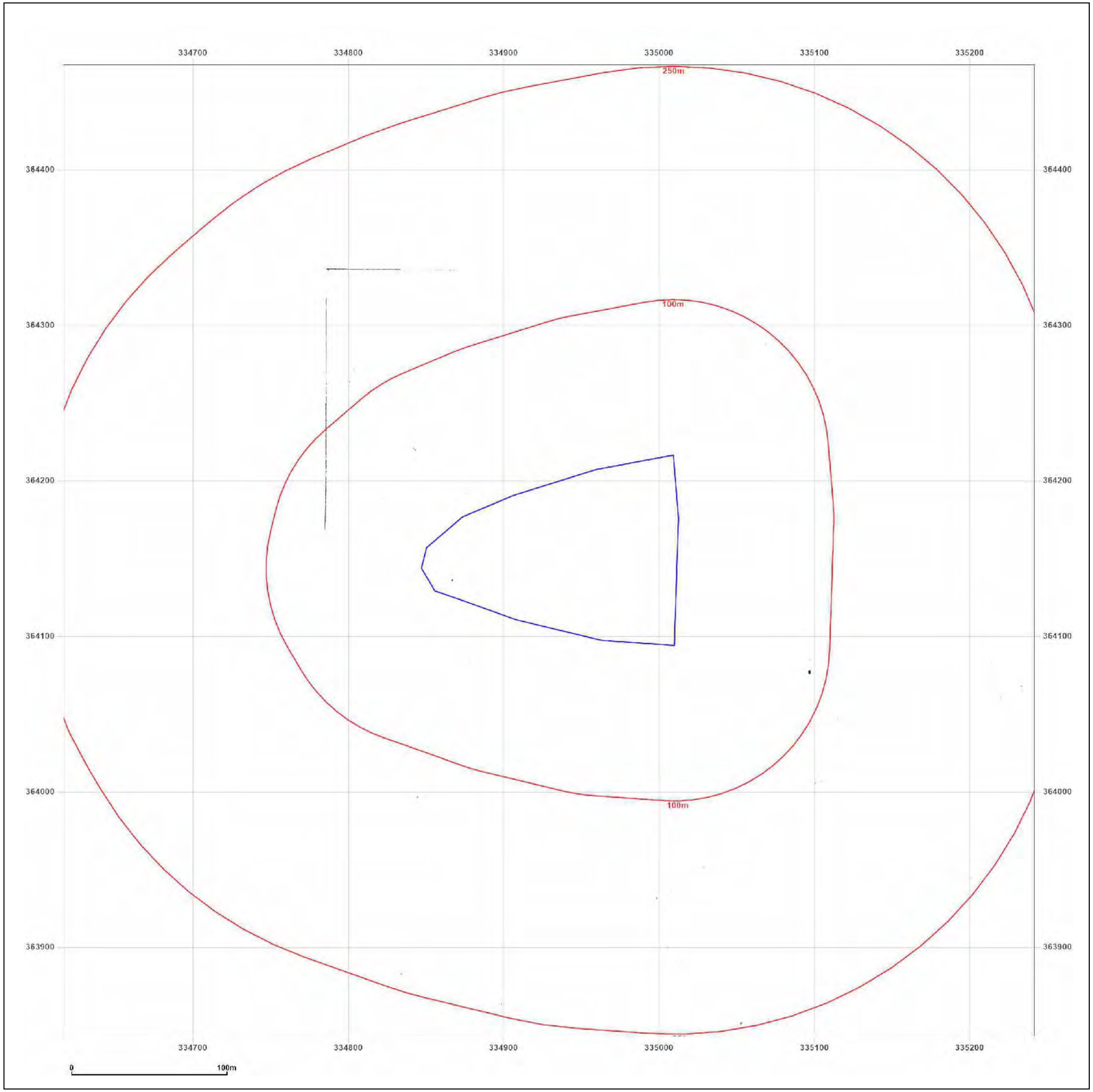
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 09 August 2023

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



Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: County Series

Map date: **1873**

Scale: 1:2,500

Printed at: 1:2,500

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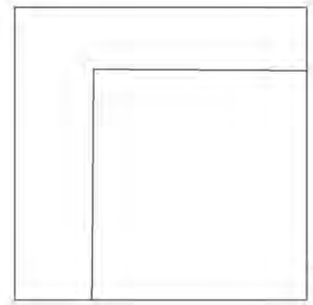

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Production date: 09 August 2023

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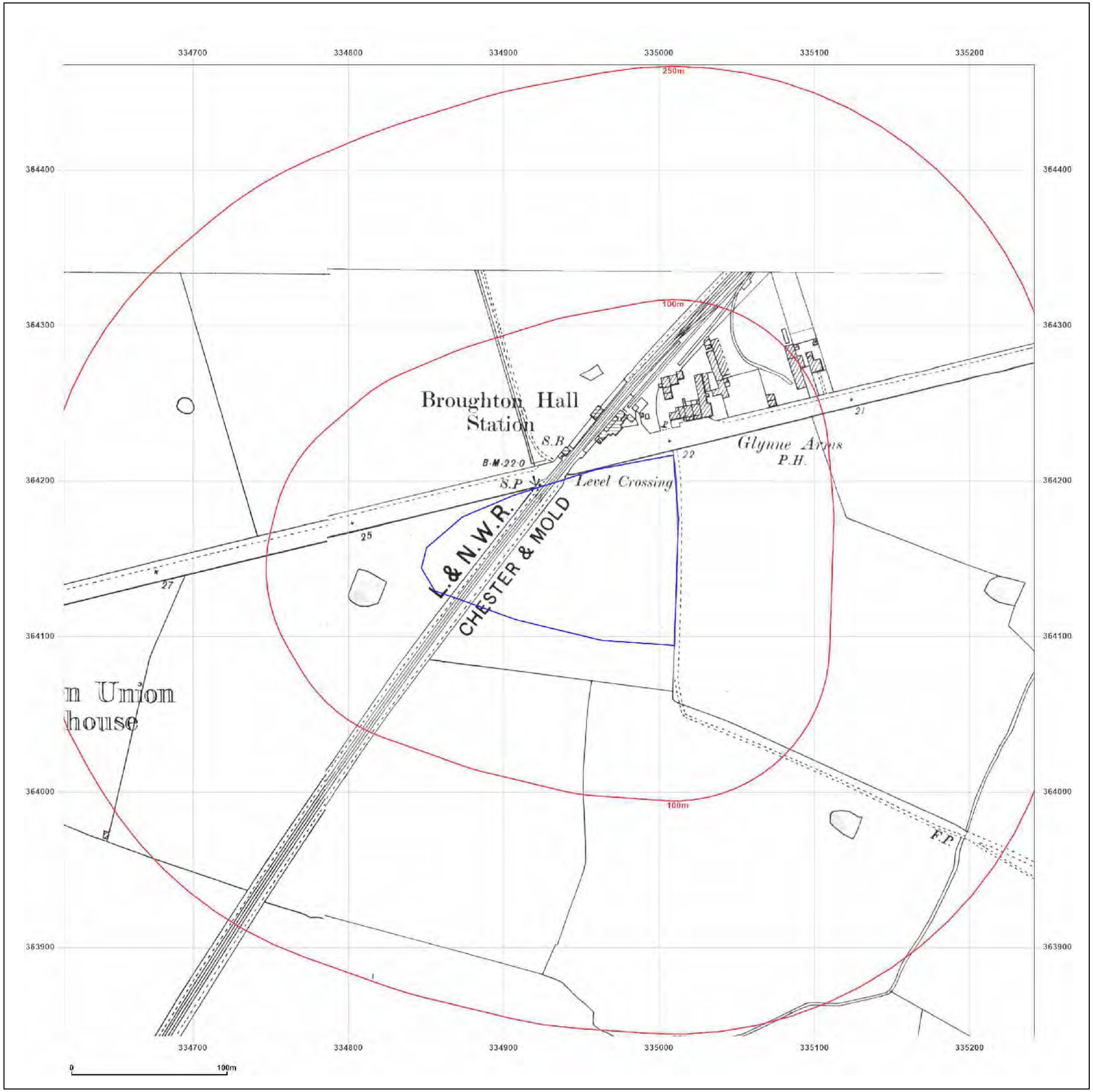

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: County Series

Map date: **1899**

Scale: 1:2,500

Printed at: 1:2,500

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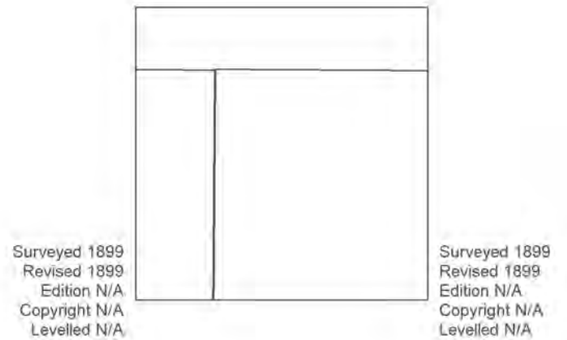

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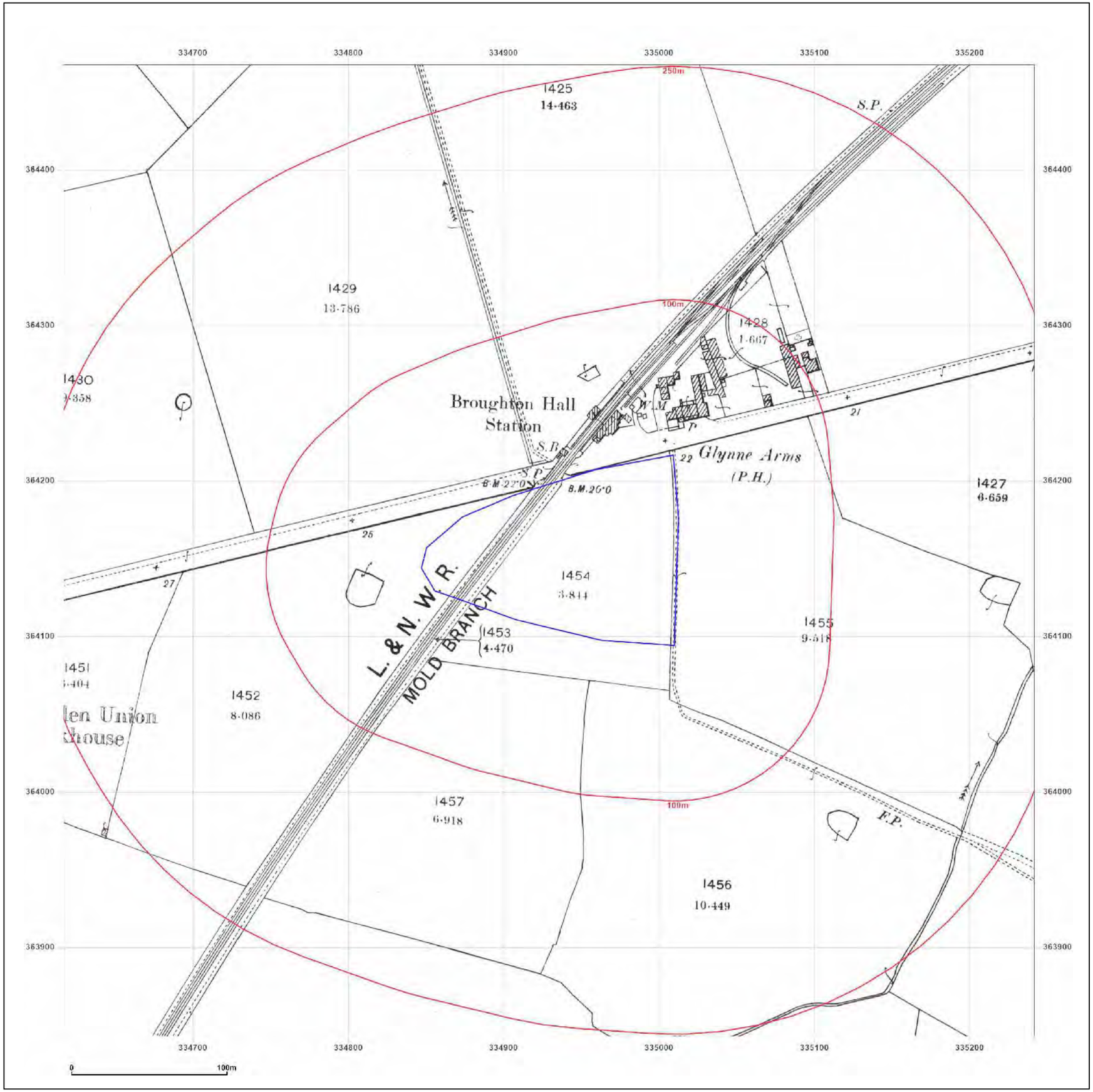

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: County Series
Map date: **1899**
Scale: 1:2,500
Printed at: 1:2,500

N
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Surveyed 1899
Revised 1899
Edition N/A
Copyright N/A
Levelled N/A

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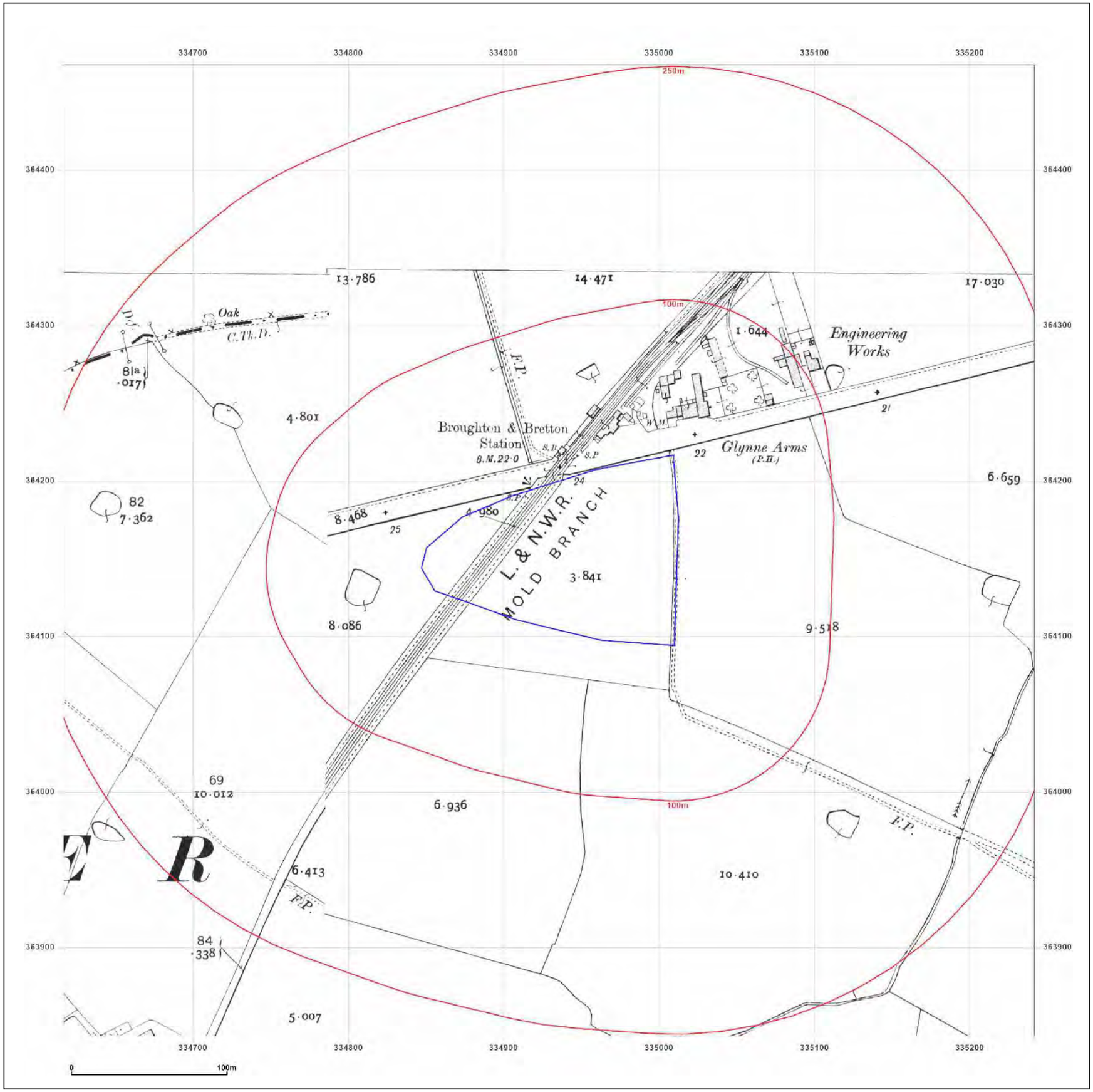

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: County Series

Map date: **1911**

Scale: 1:2,500

Printed at: 1:2,500

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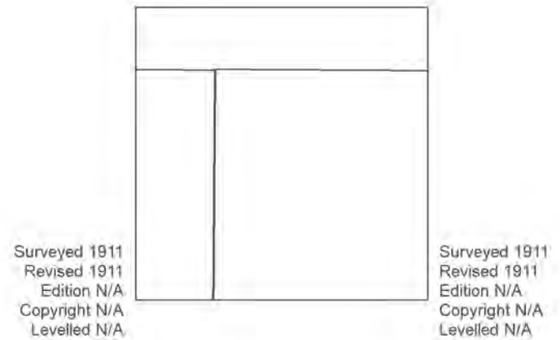

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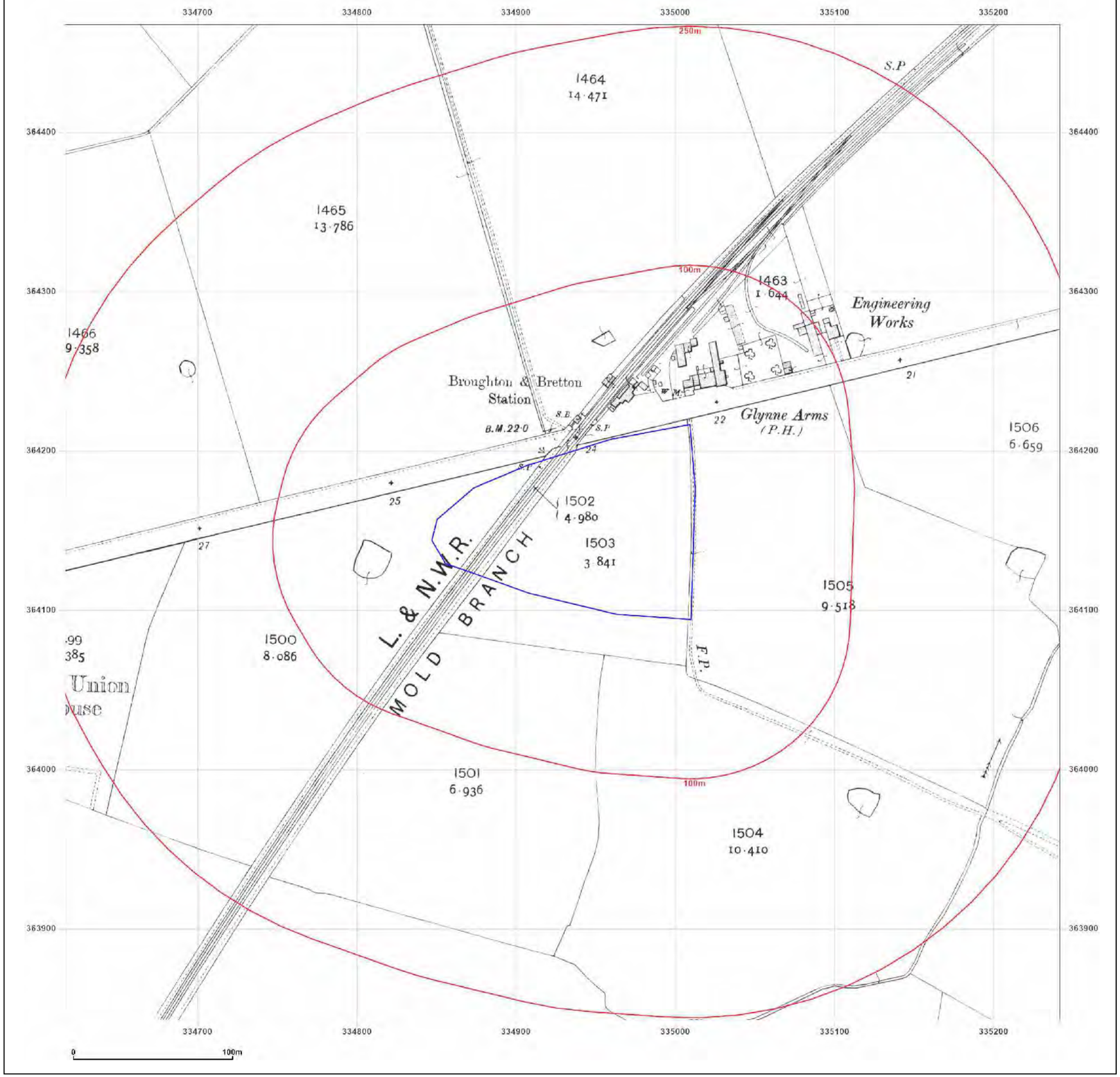

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: County Series

Map date: **1911**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1911
Revised 1911
Edition N/A
Copyright N/A
Levelled N/A

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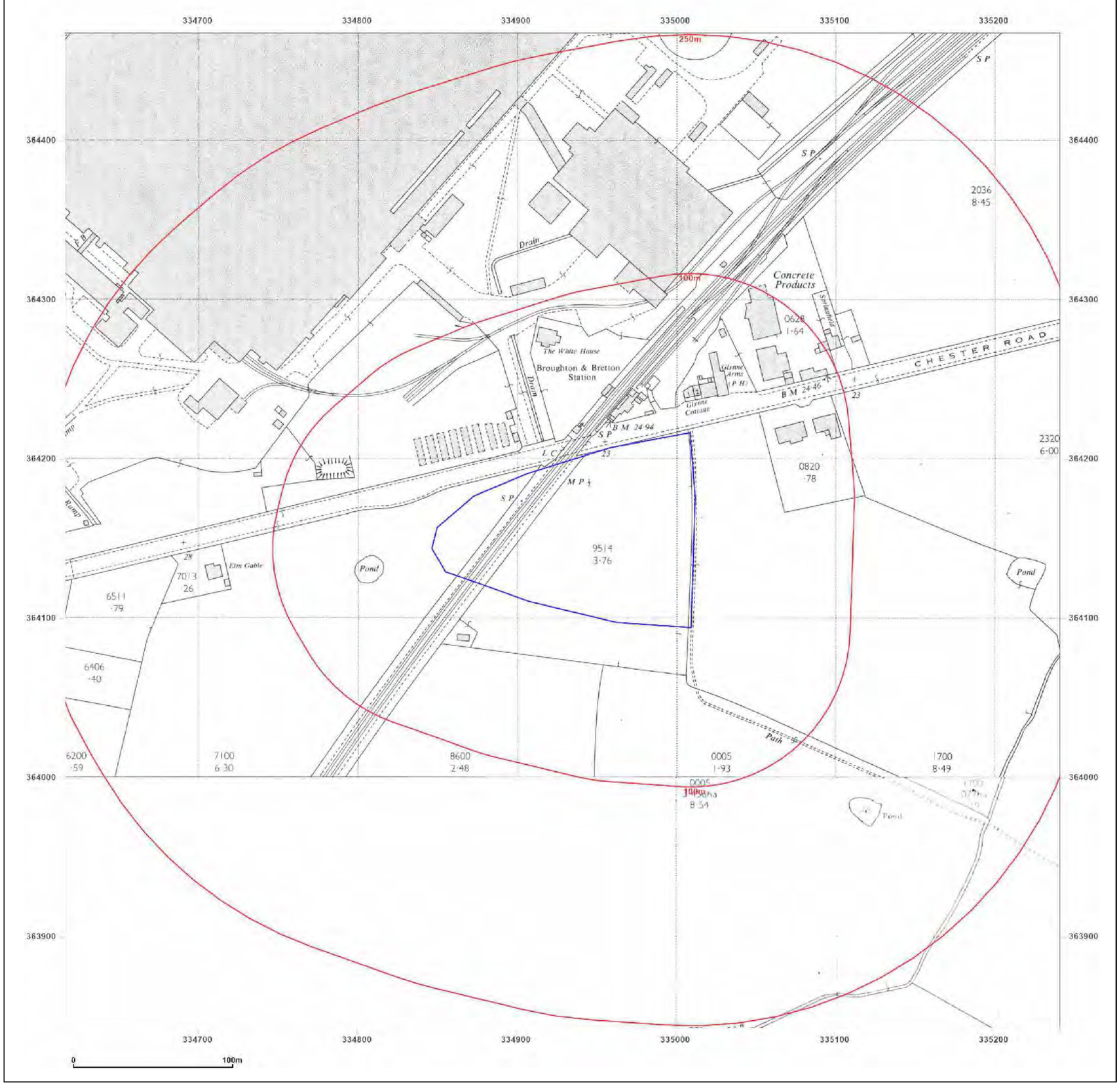

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: National Grid

Map date: **1965-1967**

Scale: 1:2,500

Printed at: 1:2,500

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

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

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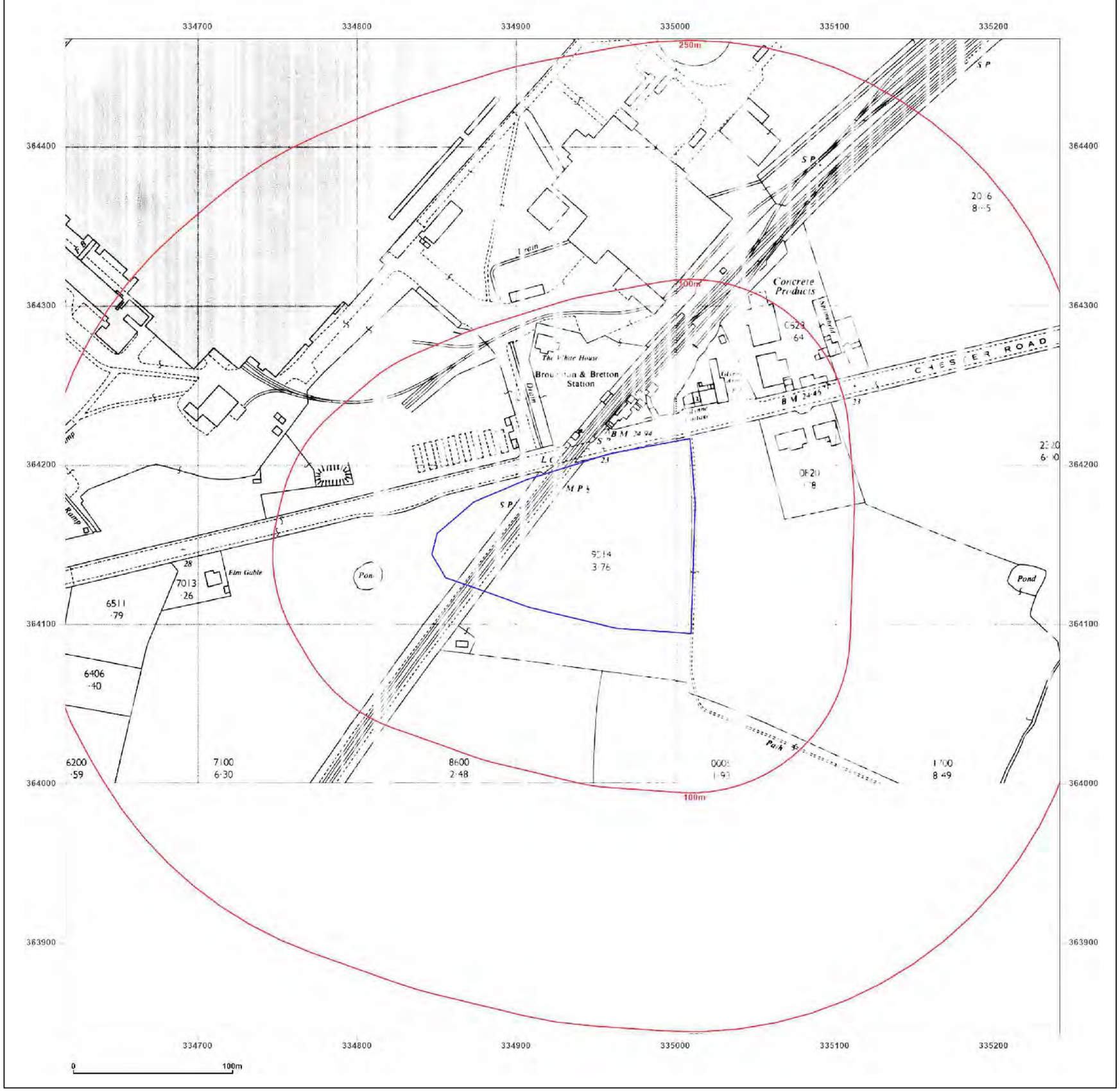

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: National Grid

Map date: **1967**

Scale: 1:2,500

Printed at: 1:2,500

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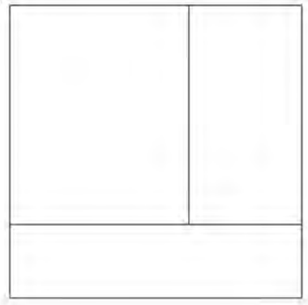
Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

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



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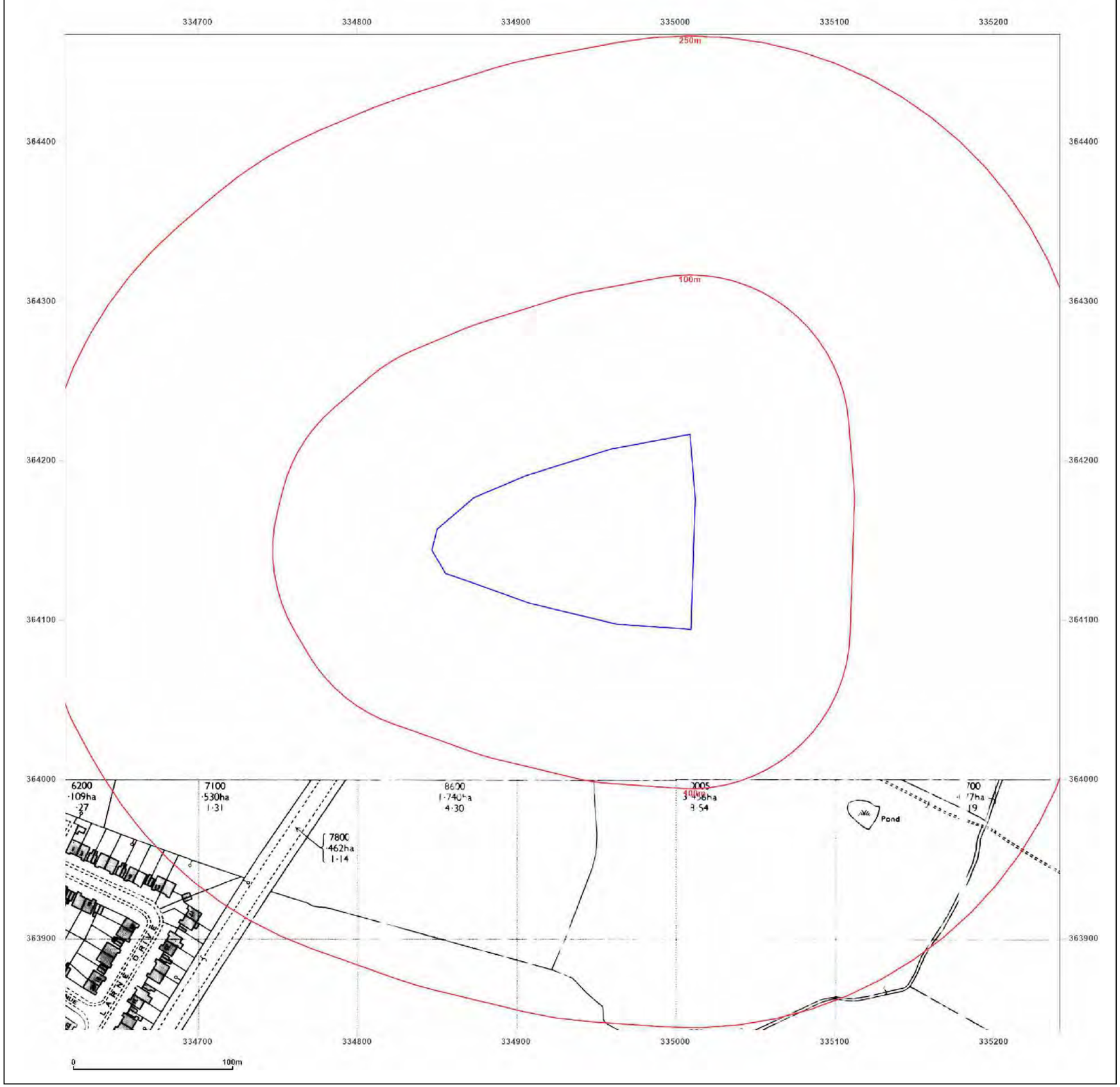

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: National Grid

Map date: **1973**

Scale: 1:2,500

Printed at: 1:2,500

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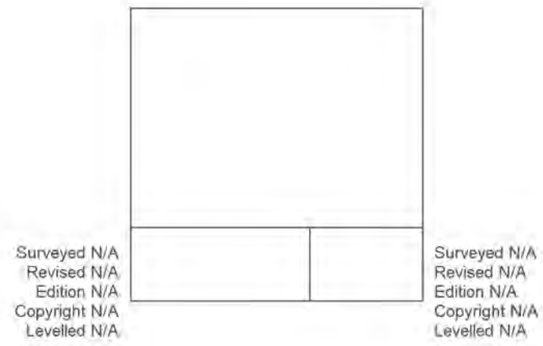

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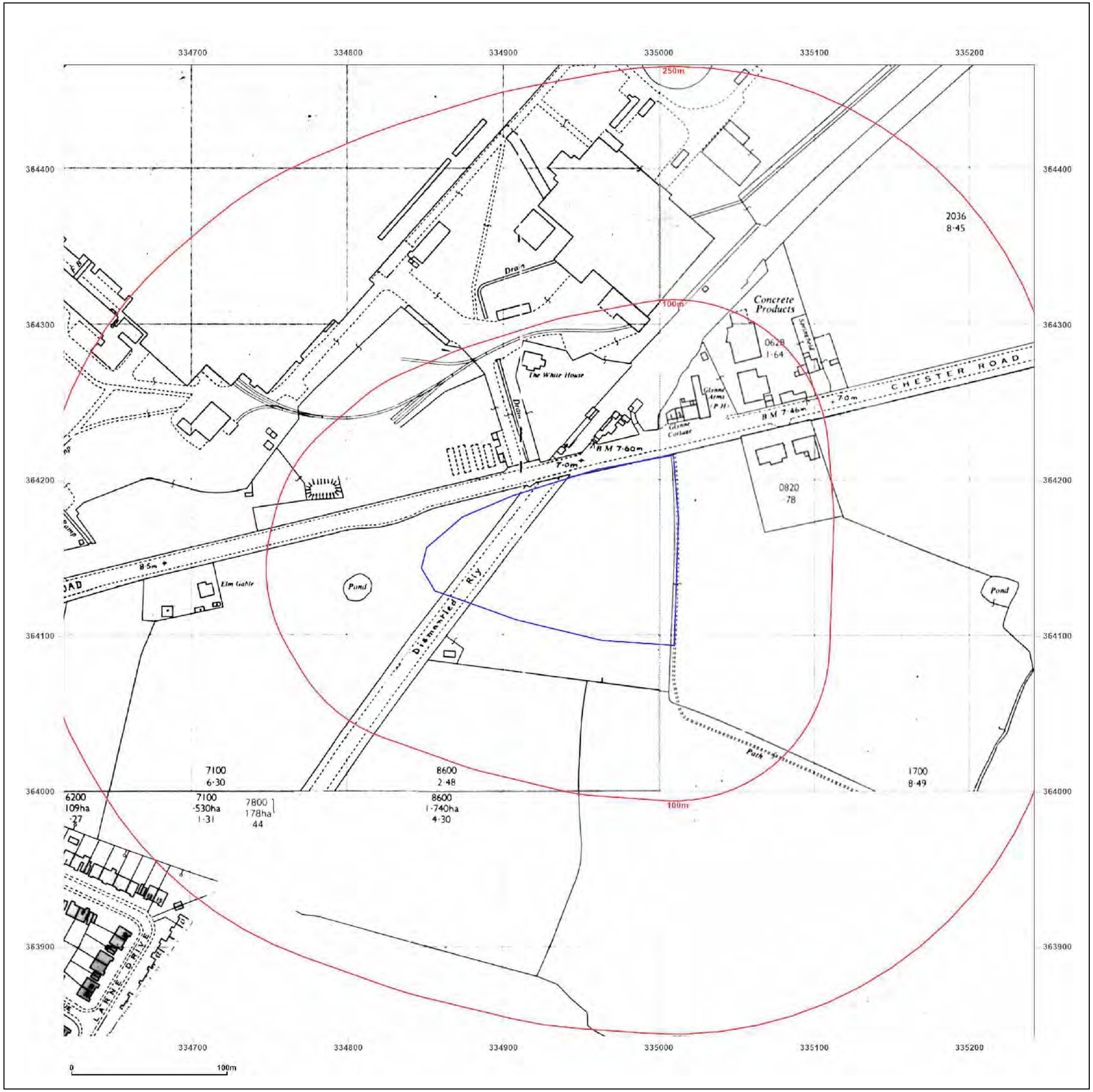

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: National Grid

Map date: **1980-1983**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1980
Levelled 1965

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1980
Levelled 1965

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1983
Levelled 1965

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

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: National Grid

Map date: **1983**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1983
Levelled 1965

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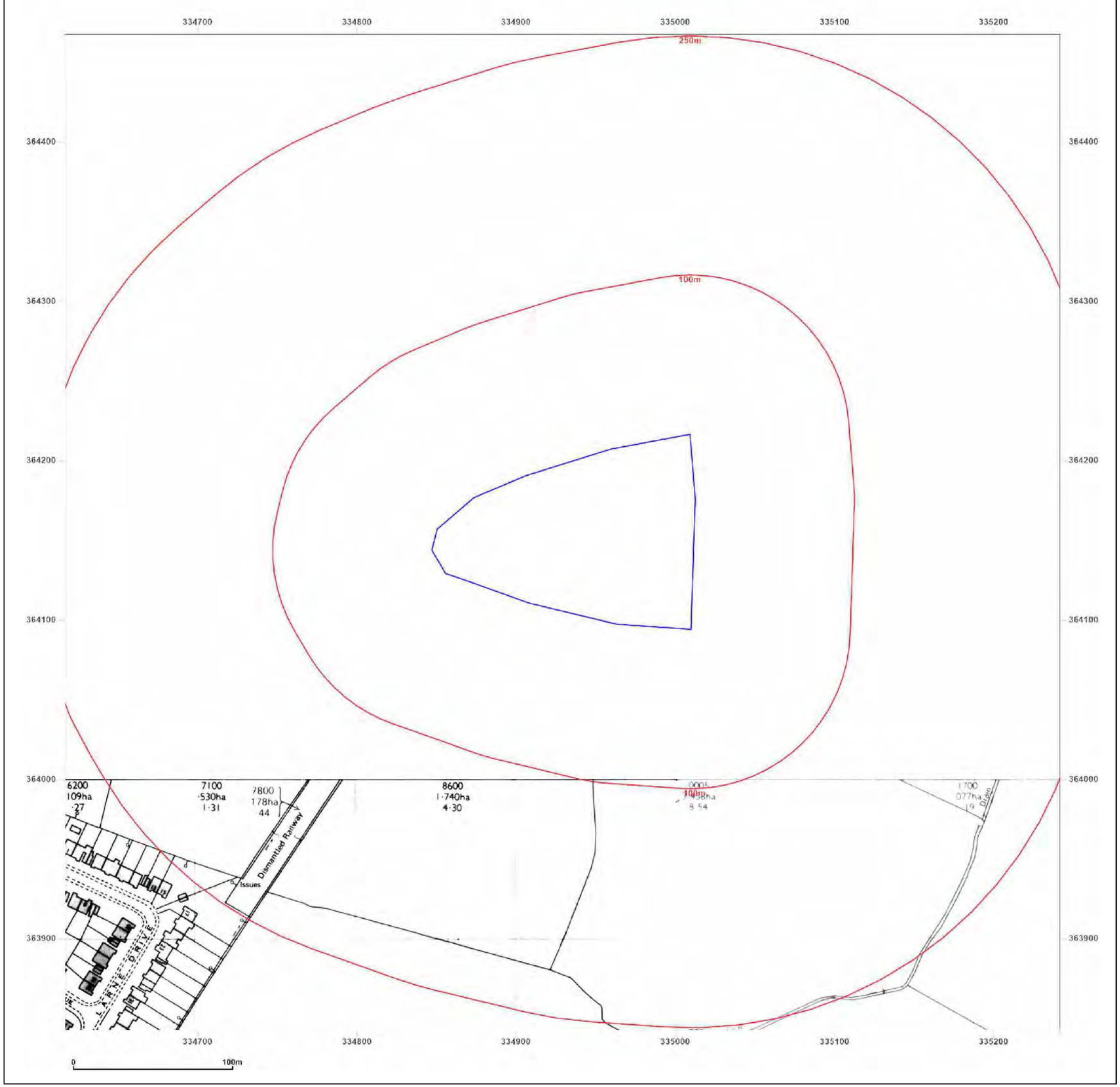

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: National Grid

Map date: **1983**

Scale: 1:2,500

Printed at: 1:2,500

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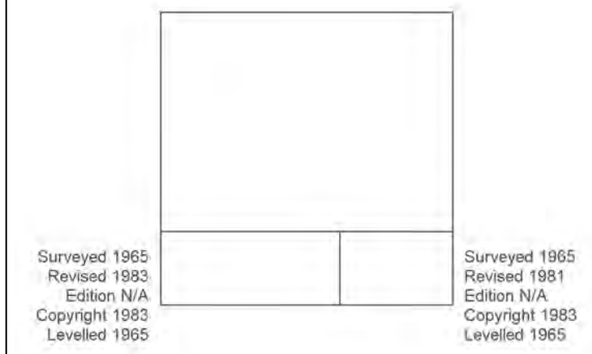

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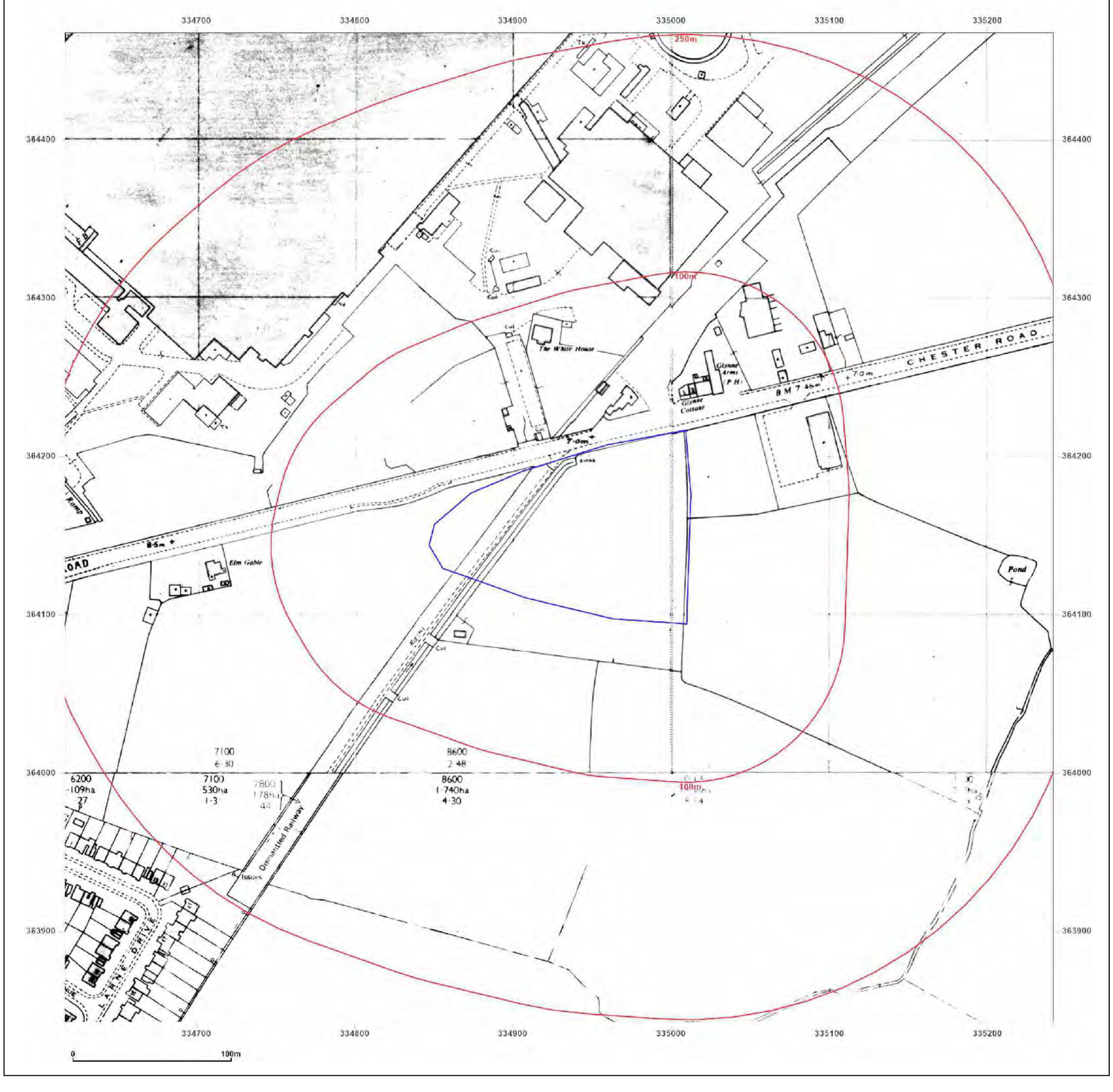

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: National Grid

Map date: **1988-1990**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1965
Revised 1989
Edition N/A
Copyright 1989
Levelled 1965

Surveyed 1965
Revised 1990
Edition N/A
Copyright 1990
Levelled 1965

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

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

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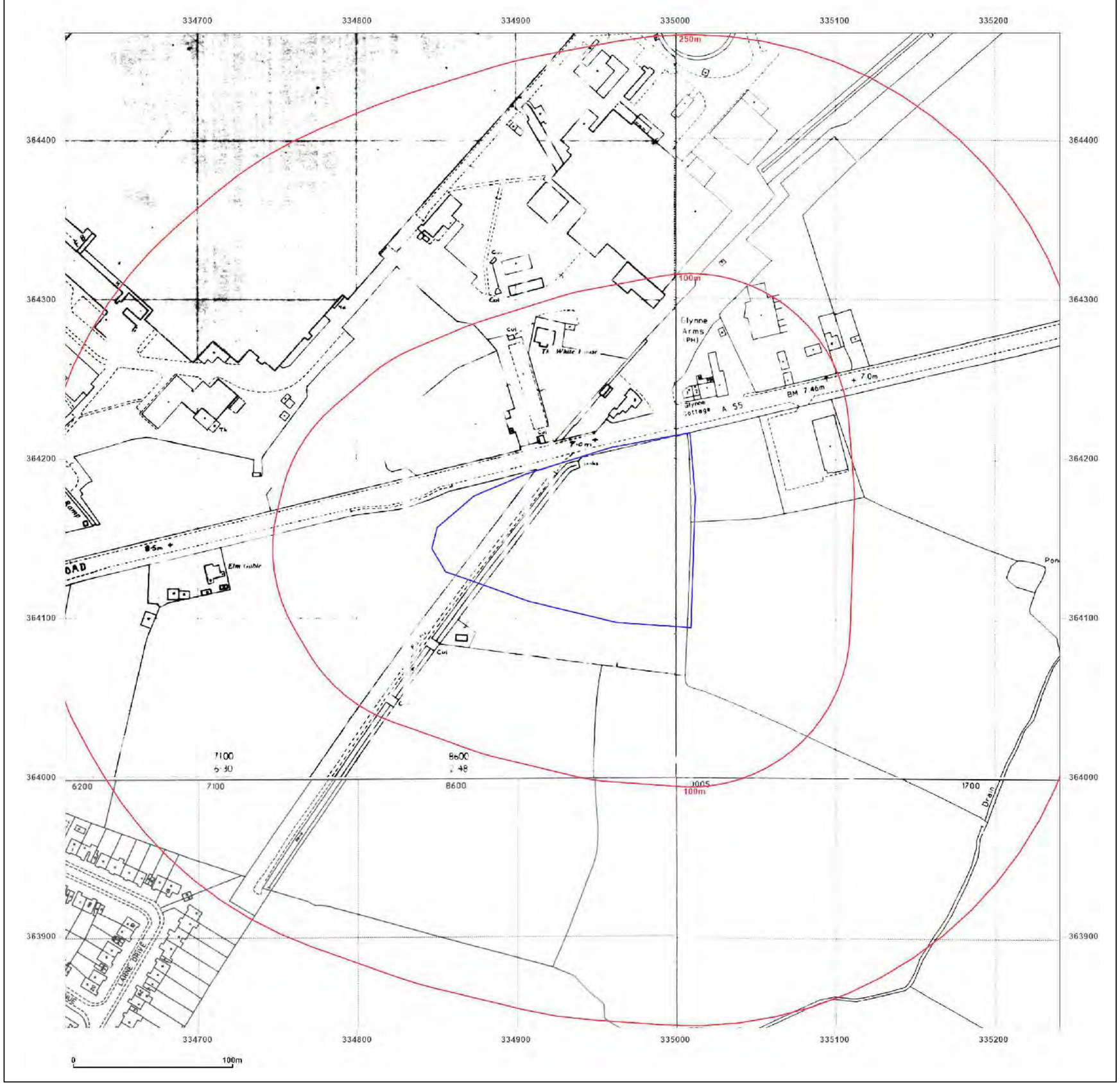

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: National Grid

Map date: **1990-1993**

Scale: 1:2,500

Printed at: 1:2,500

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

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

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

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

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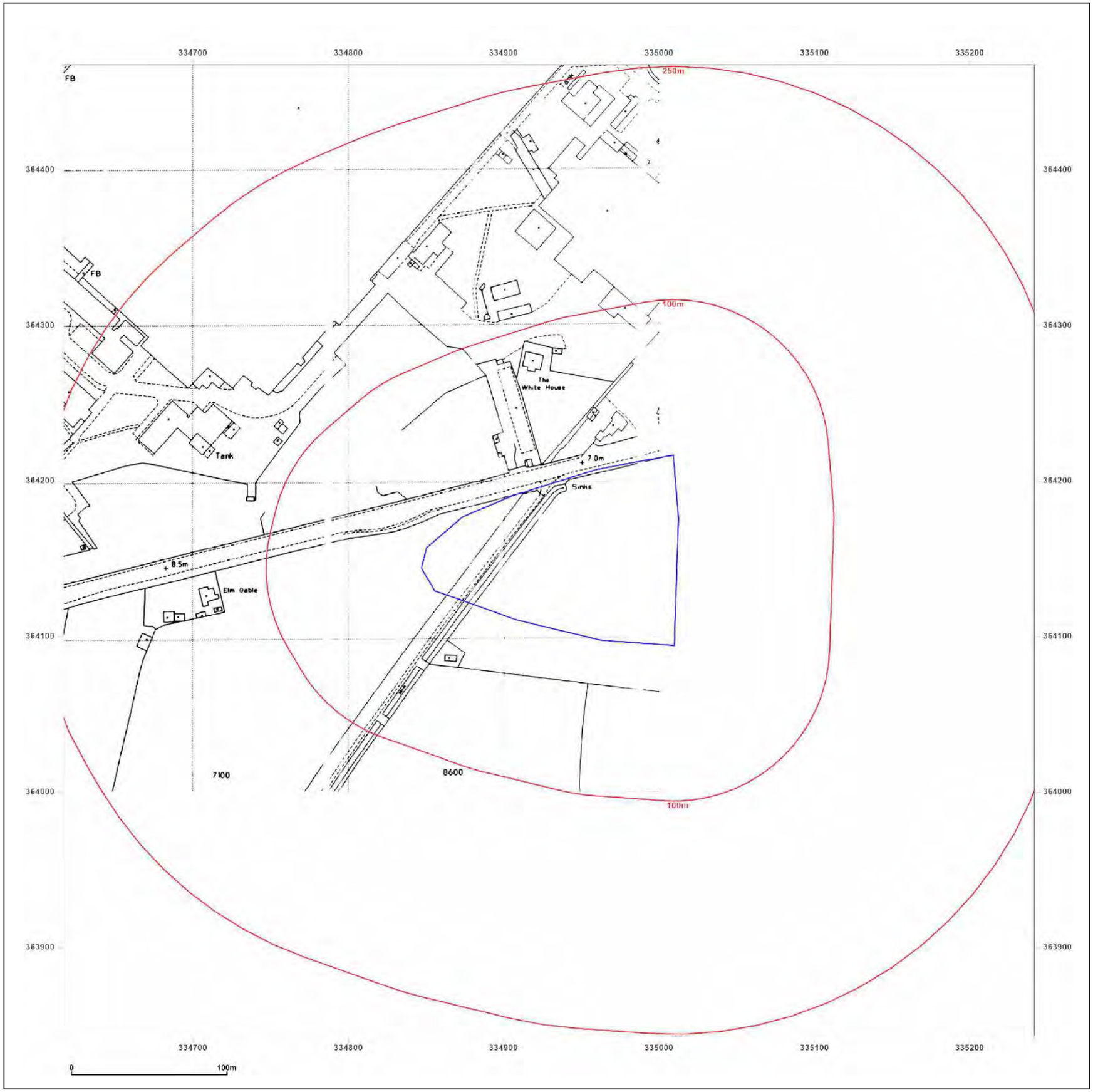

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

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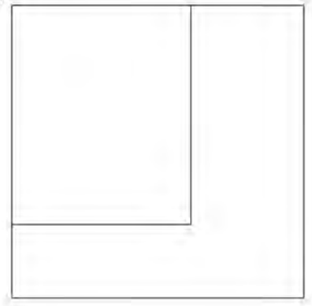
Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



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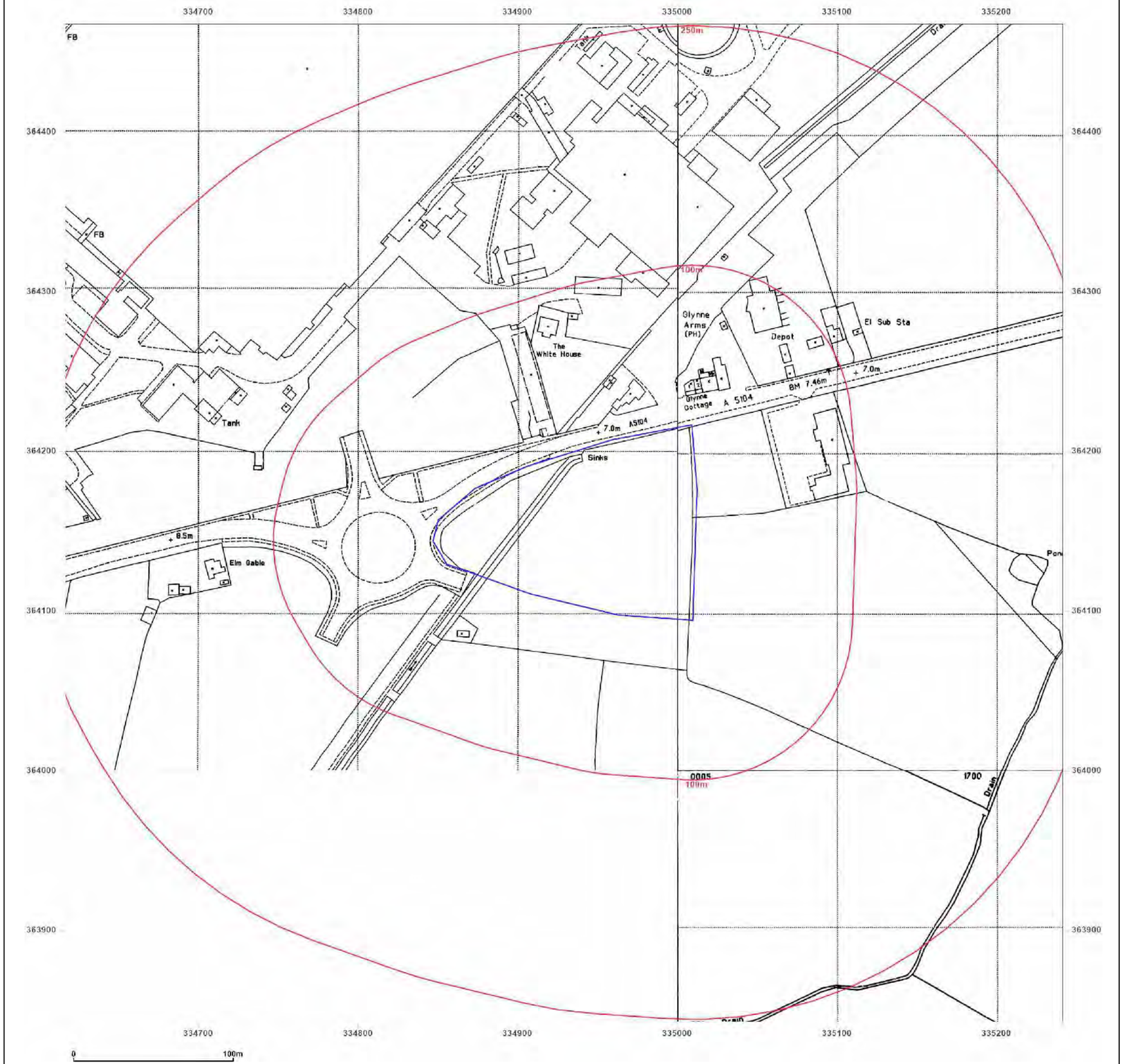

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: National Grid

Map date: **1993-1994**

Scale: 1:2,500

Printed at: 1:2,500

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

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

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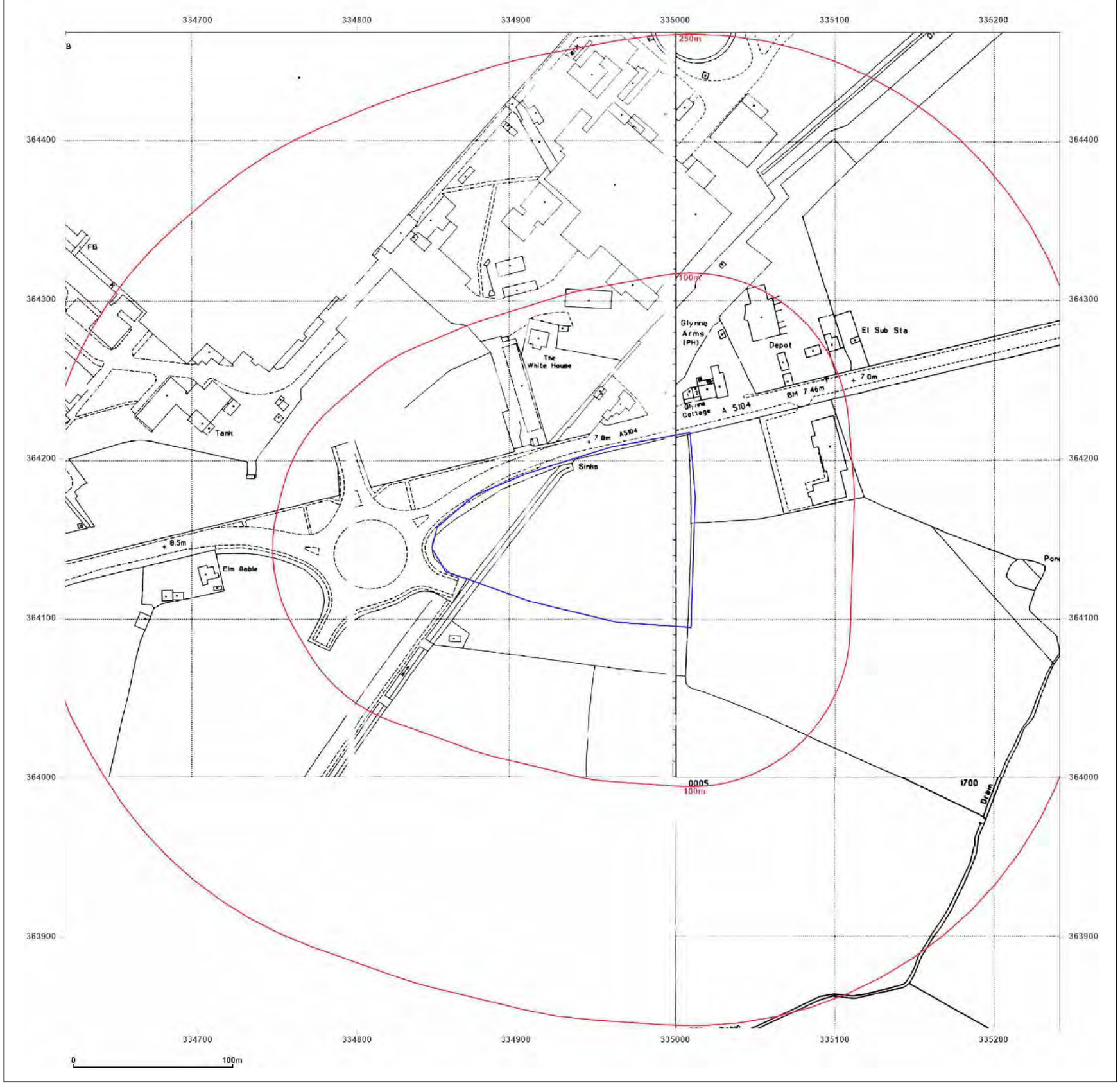

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: National Grid

Map date: **1993-1994**

Scale: 1:2,500

Printed at: 1:2,500

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

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

Surveyed N/A
Revised N/A
Edition N/A
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Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

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

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Map legend available at:
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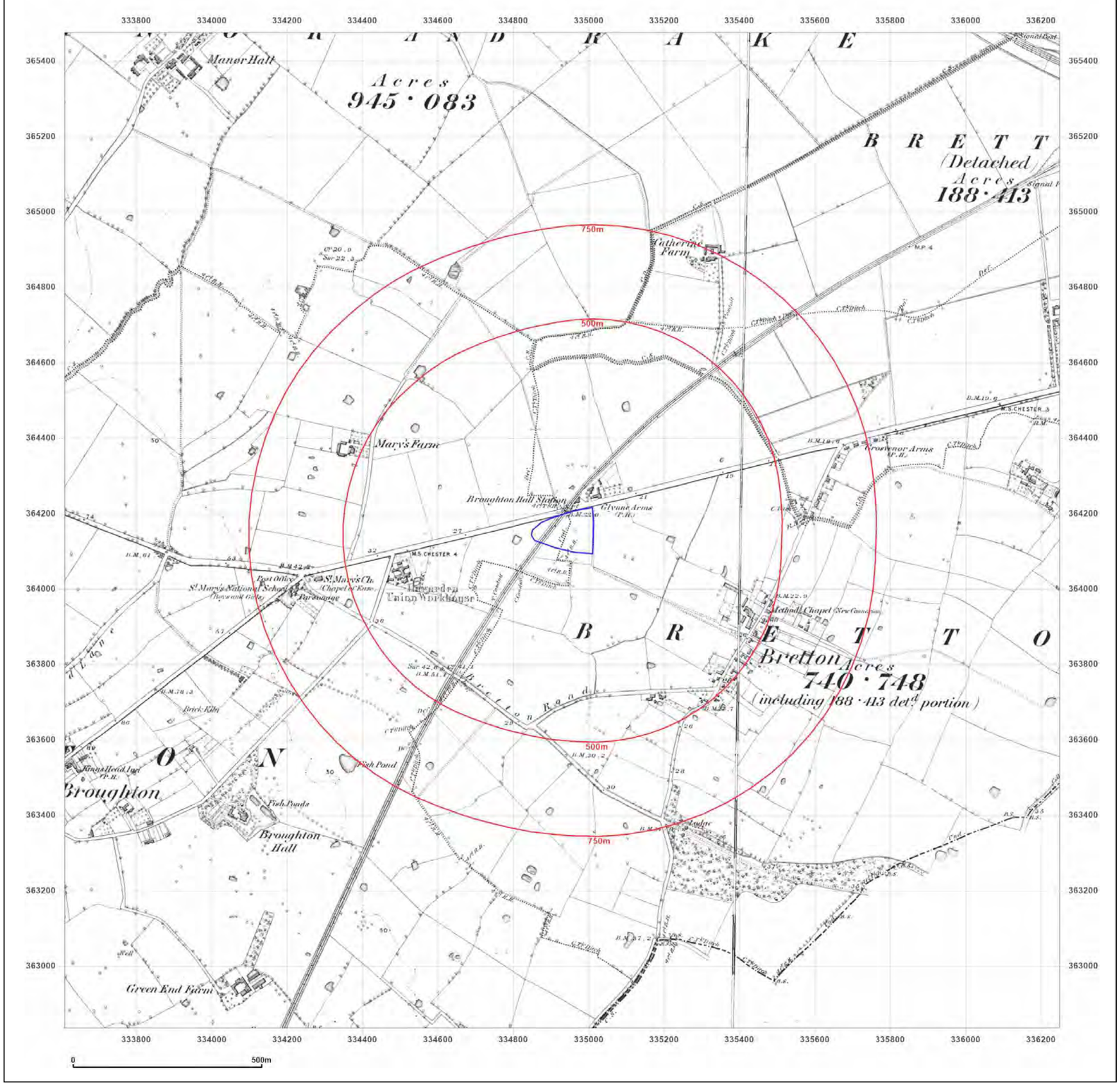

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: County Series

Map date: **1869**

Scale: 1:10,560

Printed at: 1:10,560

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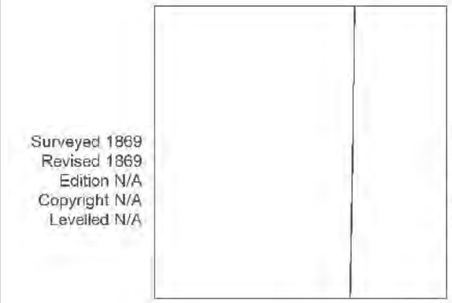

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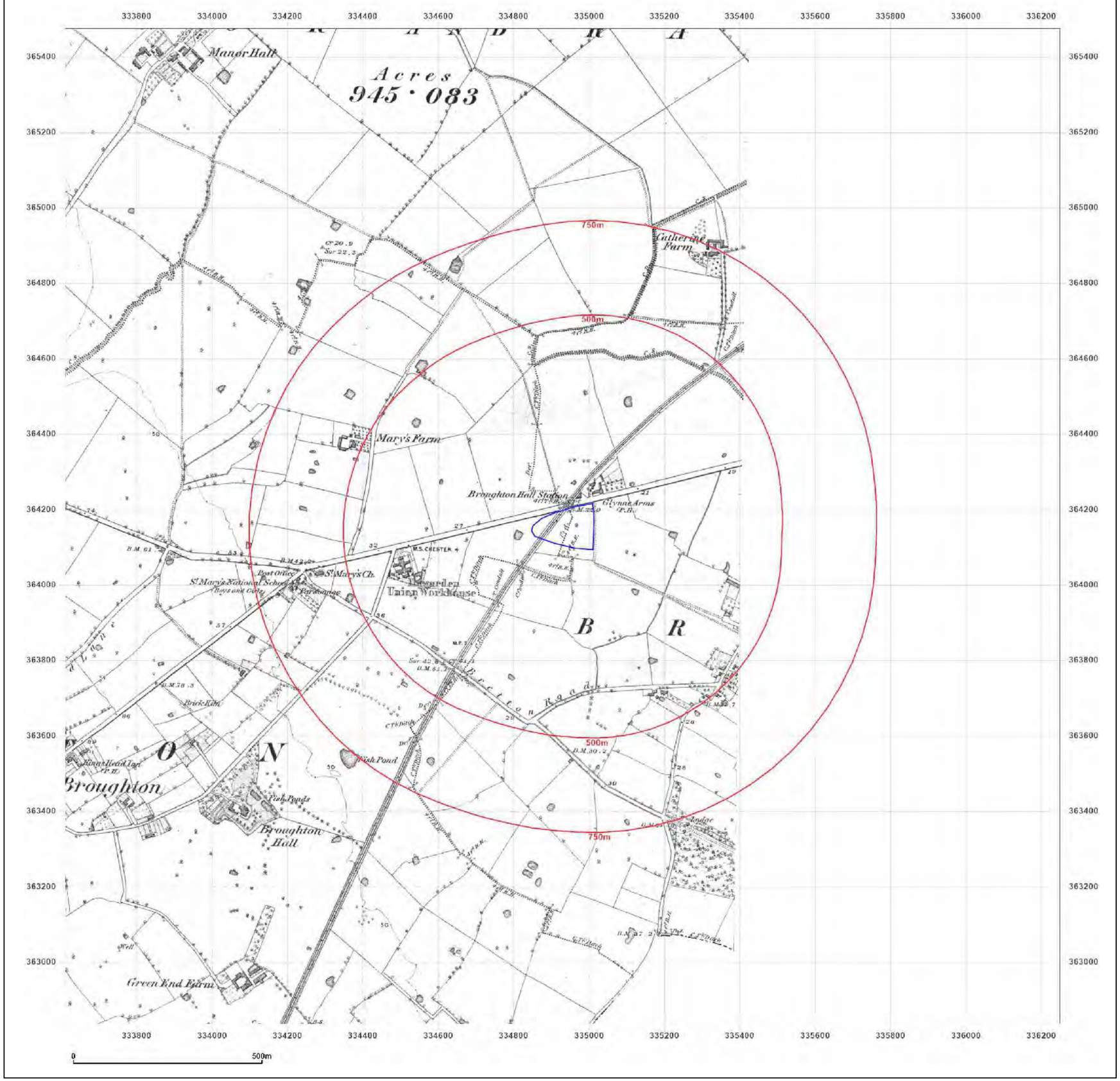

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: County Series
Map date: **1869**
Scale: 1:10,560
Printed at: 1:10,560

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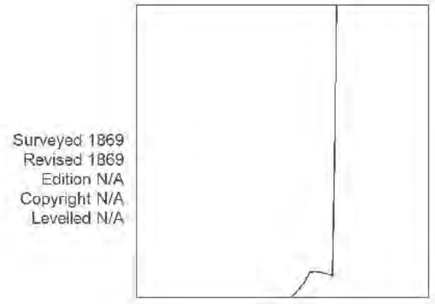

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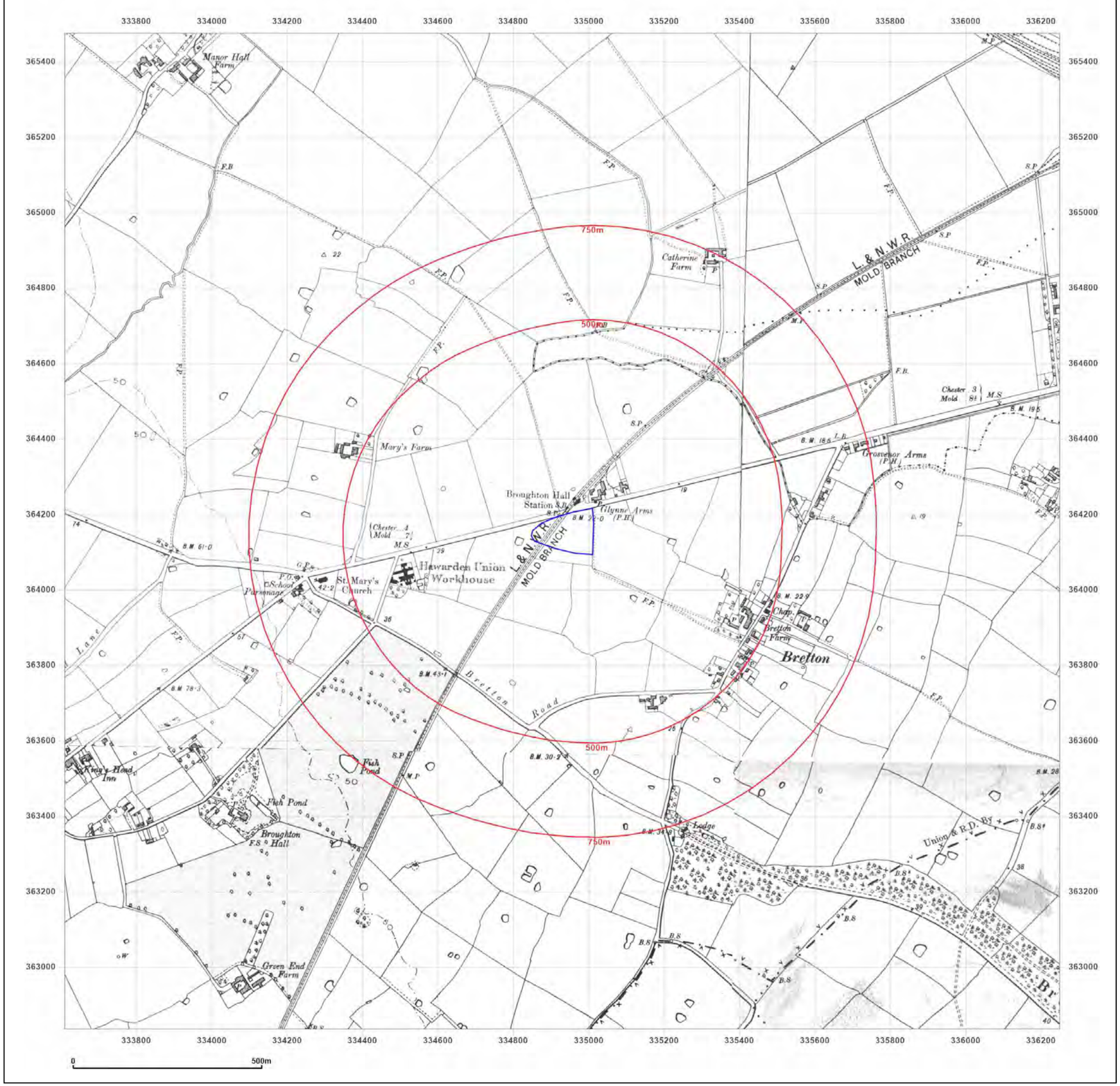

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: County Series

Map date: **1898**

Scale: 1:10,560

Printed at: 1:10,560

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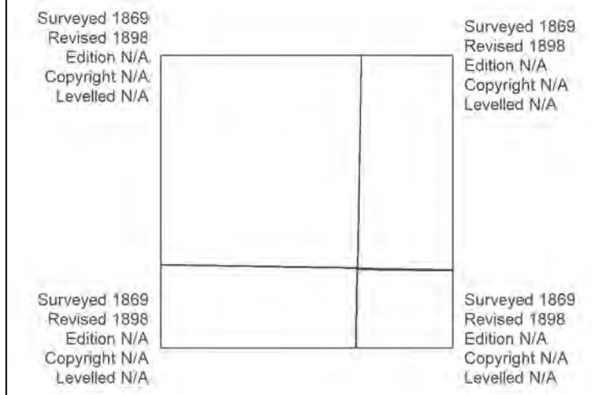

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Map legend available at:
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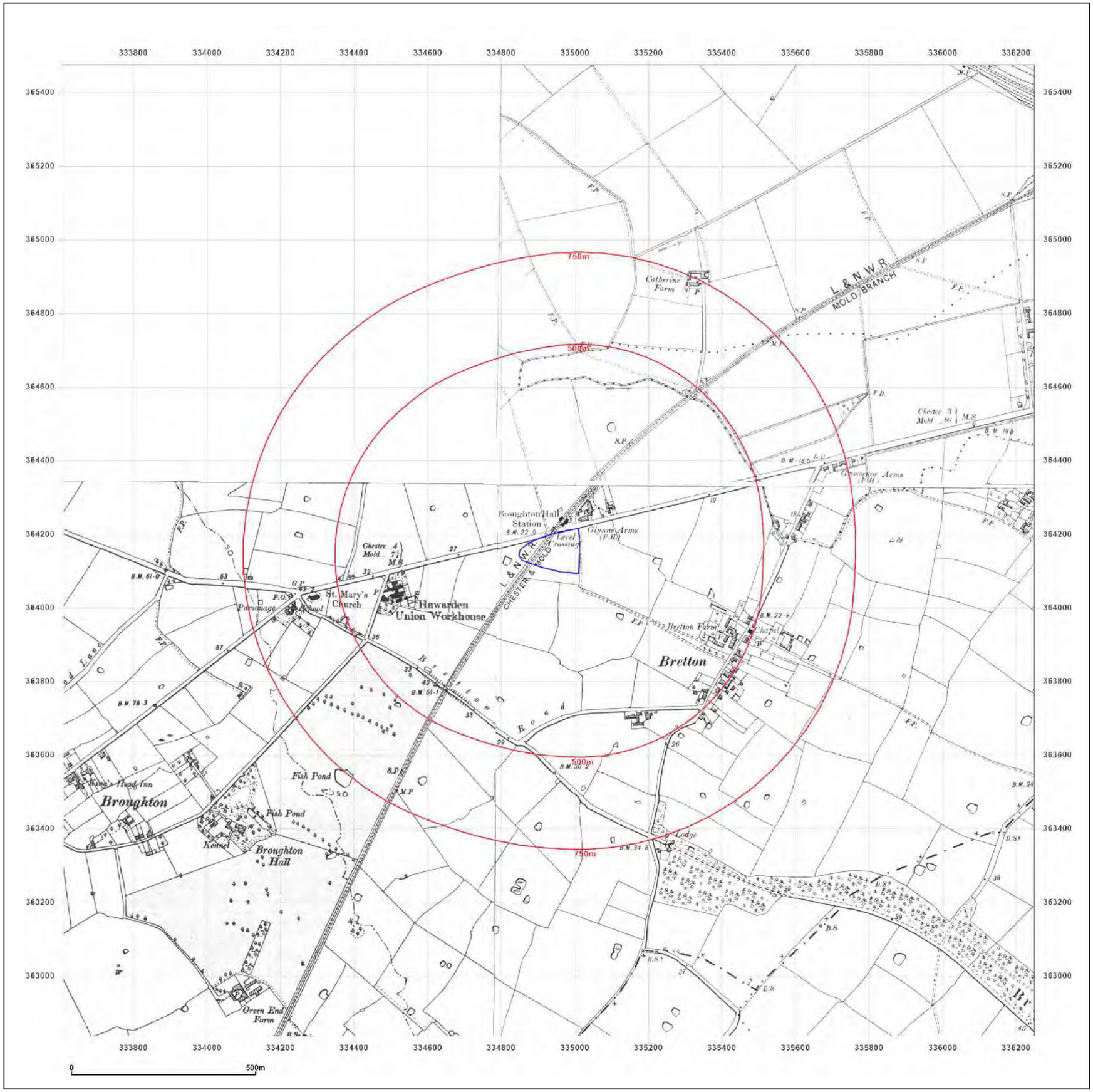

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: County Series

Map date: **1898**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1873
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1873
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

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Production date: 09 August 2023

Map legend available at:
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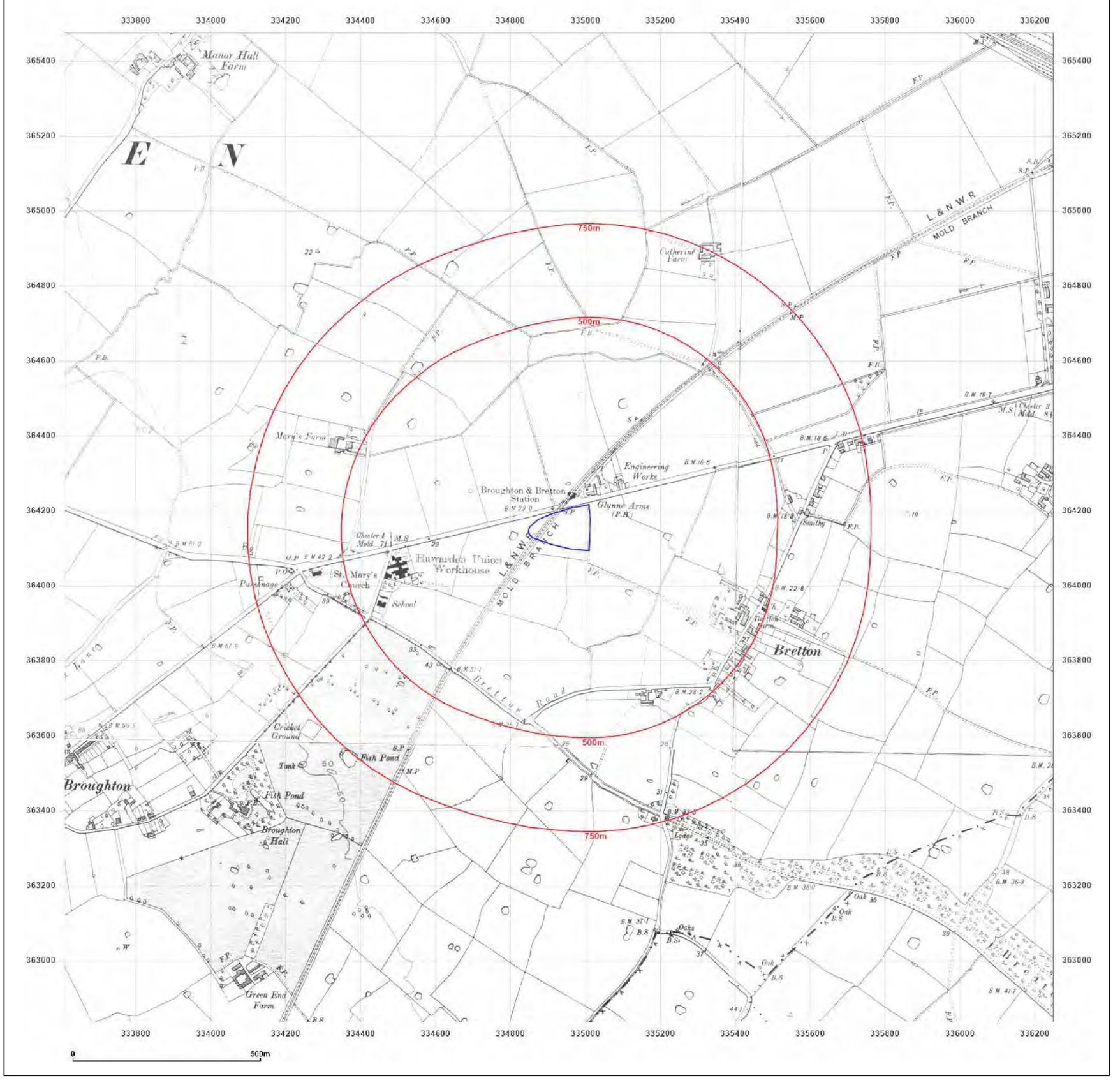

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: County Series
Map date: **1909-1914**
Scale: 1:10,560
Printed at: 1:10,560

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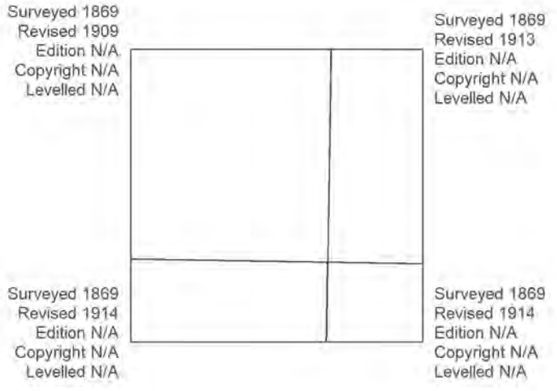

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Production date: 09 August 2023

Map legend available at:
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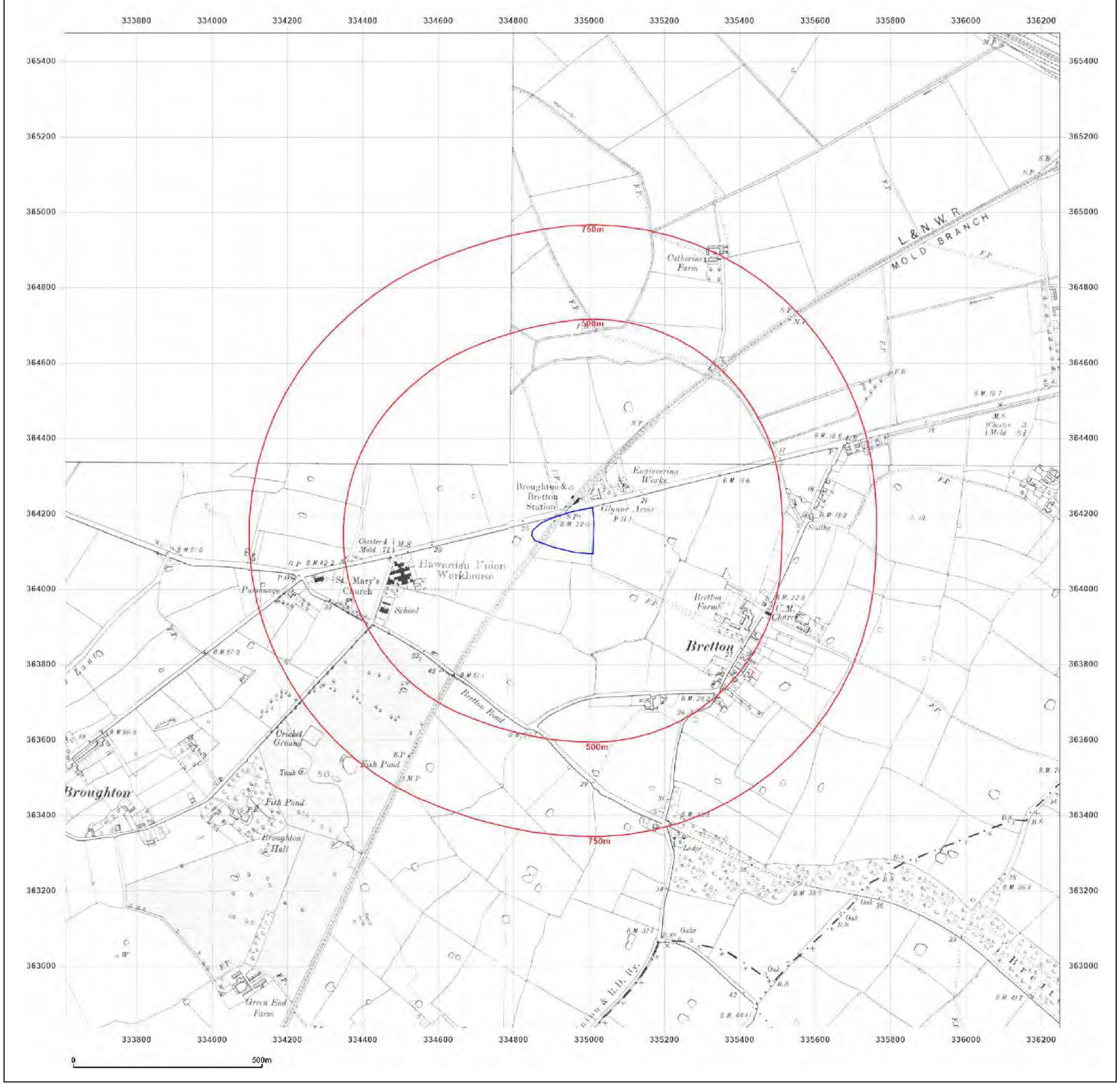

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: County Series

Map date: **1909-1914**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1872
Revised 1913
Edition 1913
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1914
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1909
Edition N/A
Copyright N/A
Levelled N/A

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Map legend available at:
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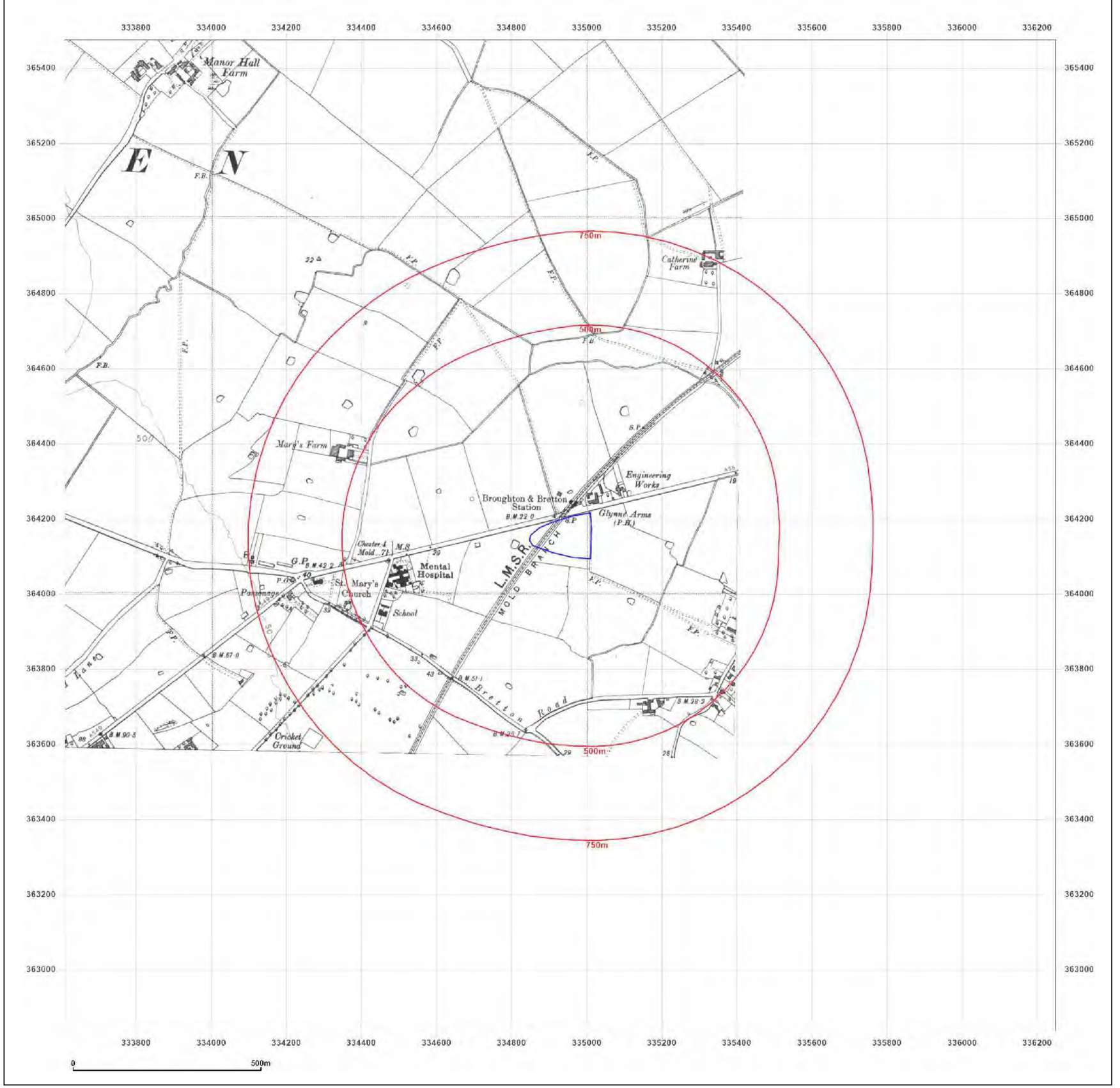

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Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: County Series
Map date: **1938**
Scale: 1:10,560
Printed at: 1:10,560

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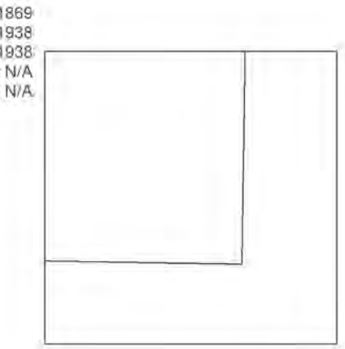
Surveyed 1869
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A



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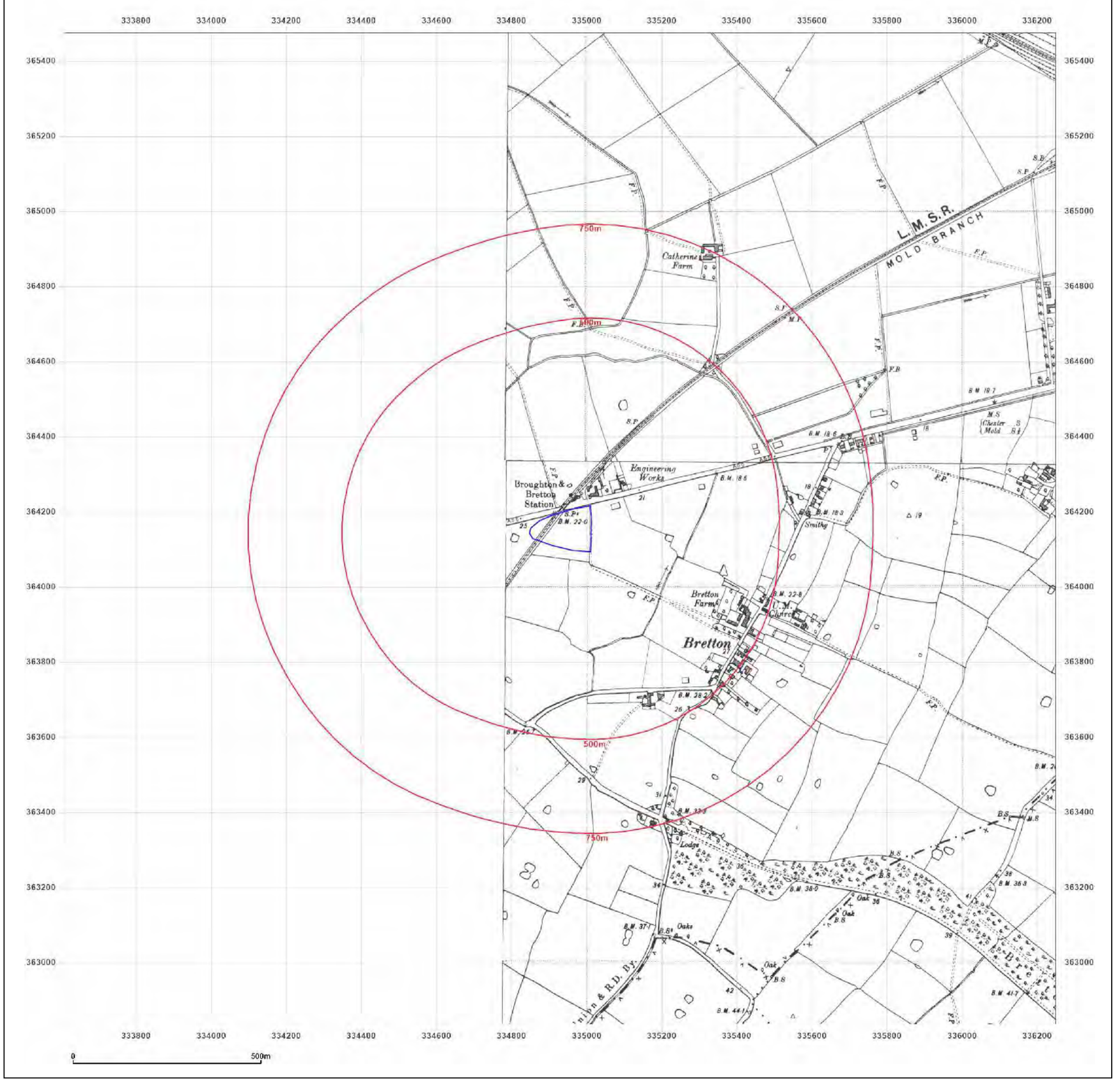
Production date: 09 August 2023

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



Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

N
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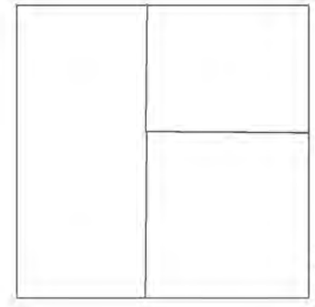
Surveyed 1872
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1872
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

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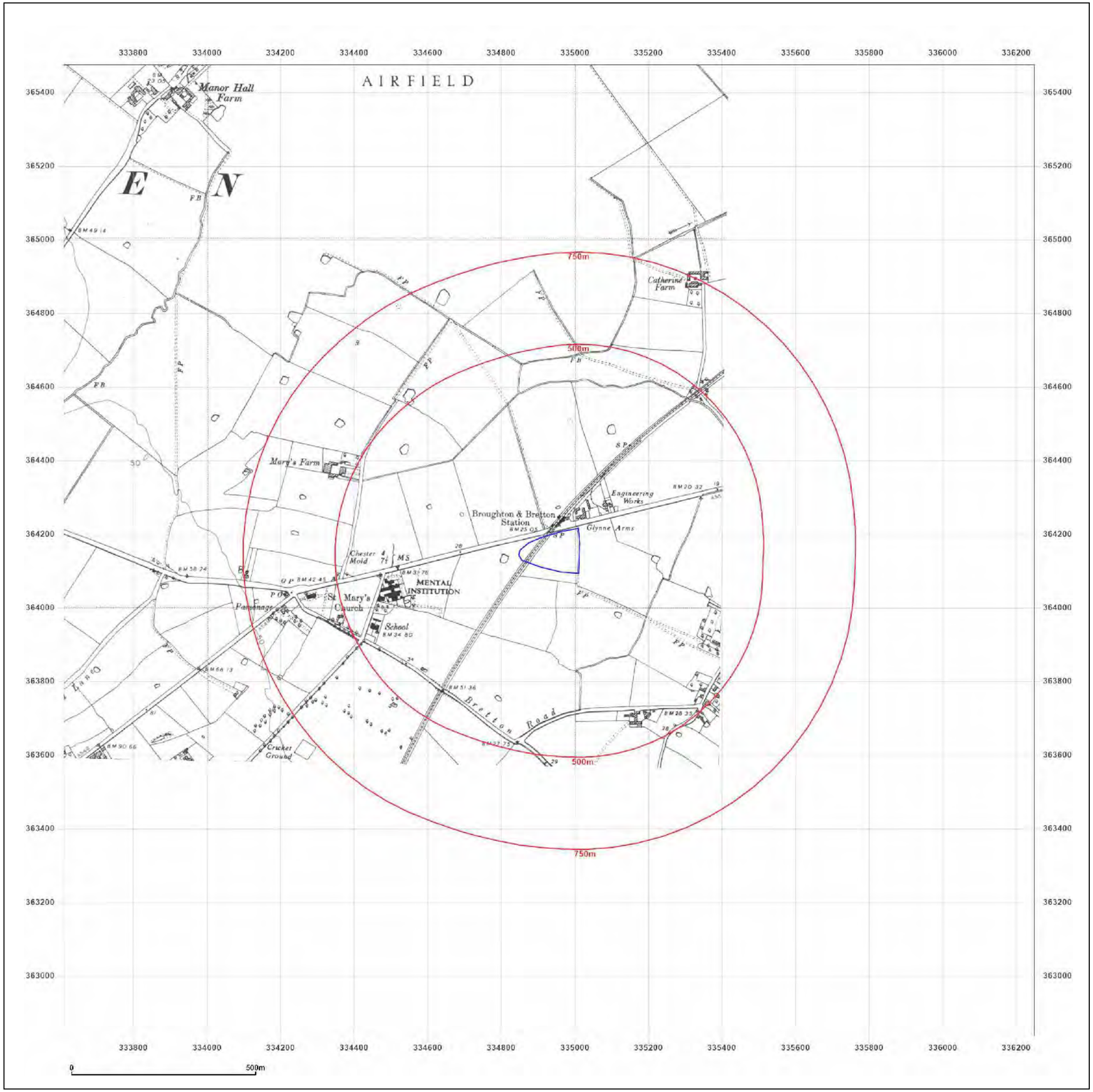

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: County Series
Map date: **1948**
Scale: 1:10,560
Printed at: 1:10,560

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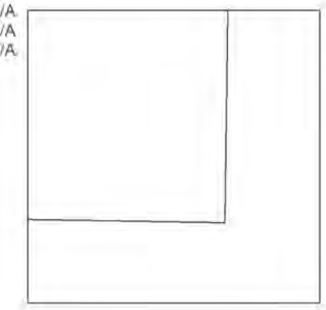
Surveyed 1869
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A



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Production date: 09 August 2023

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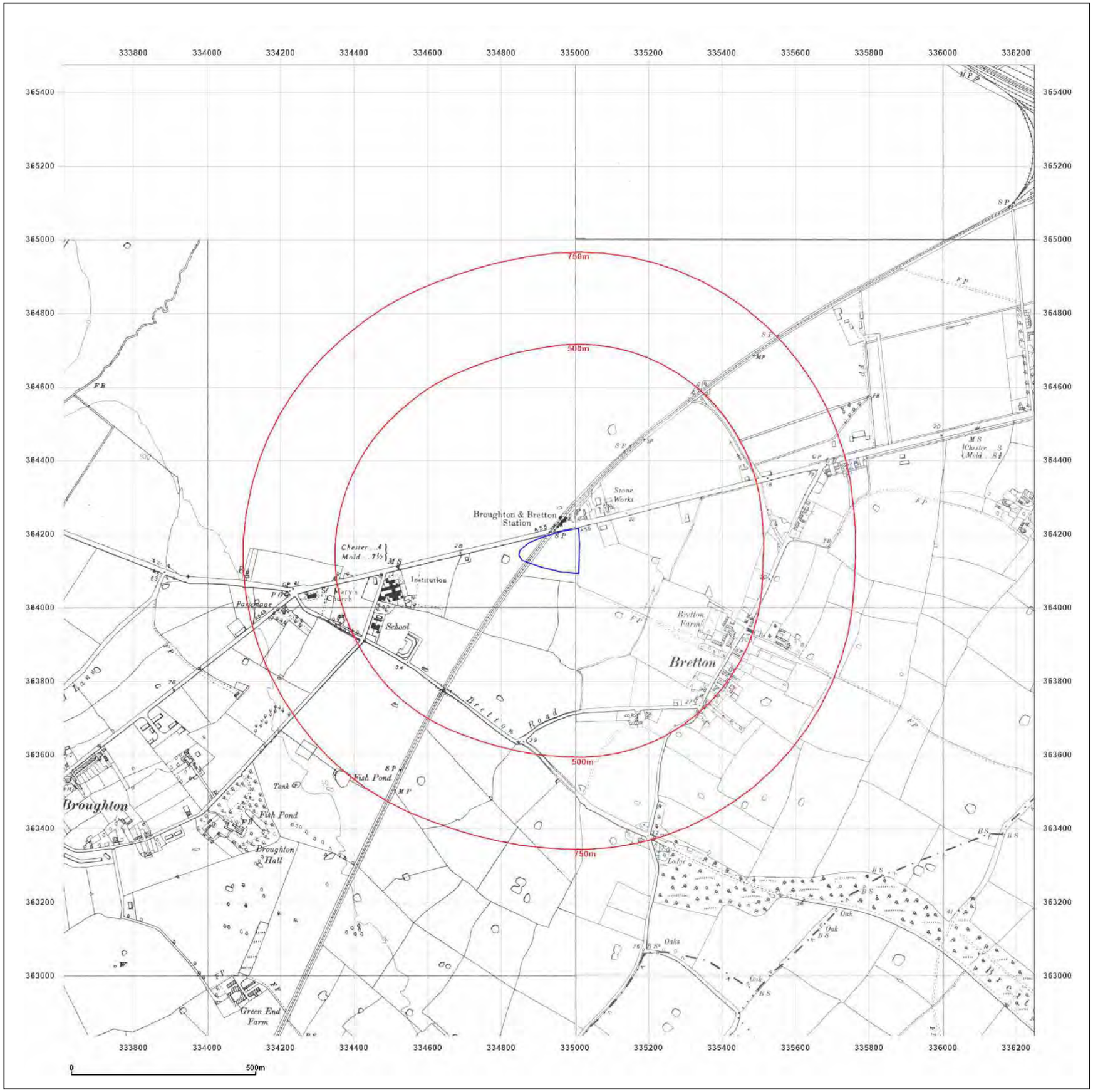

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: Provisional
Map date: **1953-1954**
Scale: 1:10,560
Printed at: 1:10,560

N
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Surveyed 1948
Revised 1948
Edition N/A
Copyright 1954
Levelled N/A

Surveyed N/A
Revised 1953
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1948
Revised 1948
Edition N/A
Copyright 1954
Levelled N/A

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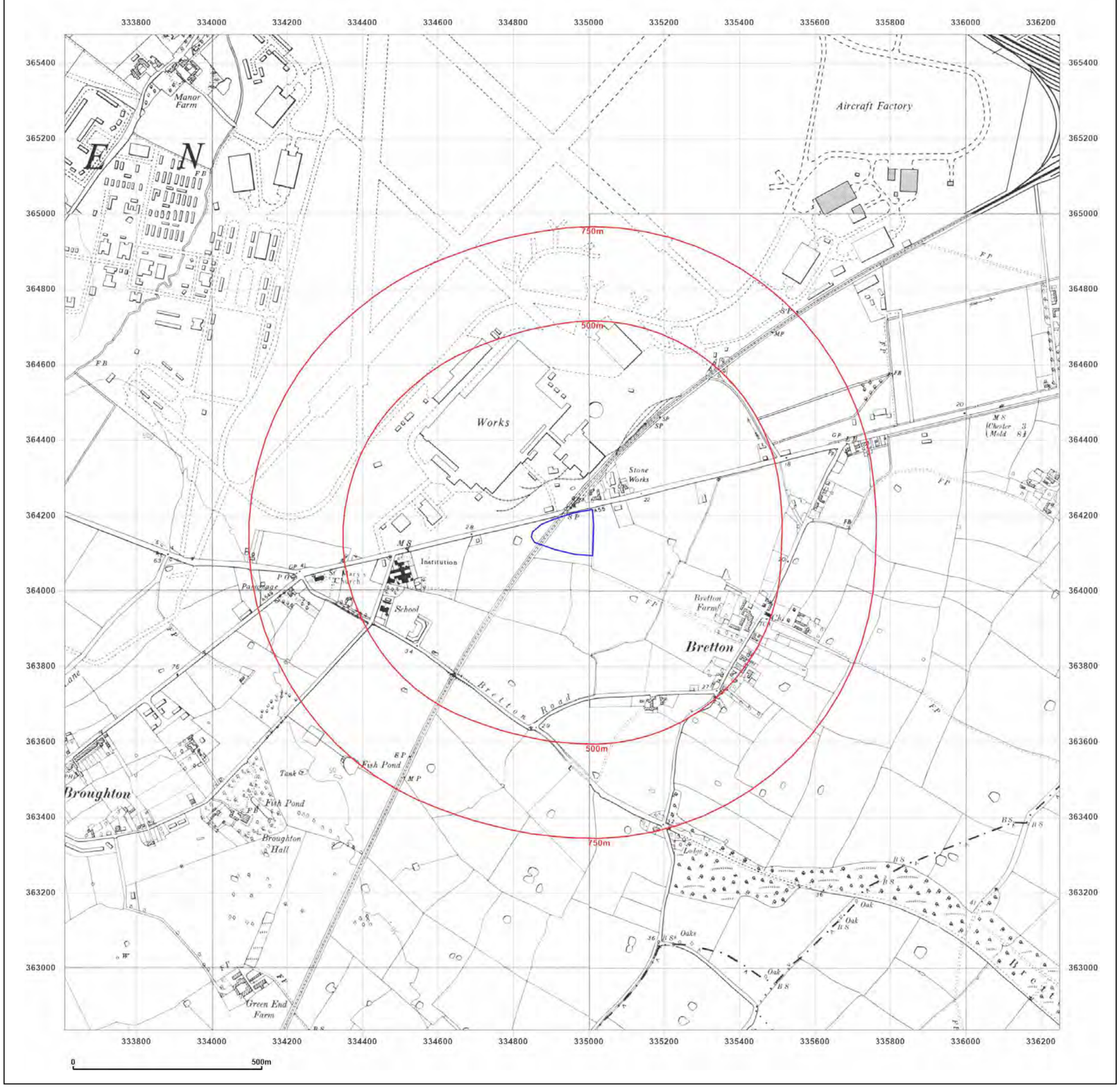

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: Provisional
Map date: **1963-1968**
Scale: 1:10,560
Printed at: 1:10,560

N
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Surveyed N/A
Revised 1962
Edition N/A
Copyright 1963
Levelled N/A

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

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

Surveyed 1948
Revised 1964
Edition N/A
Copyright N/A
Levelled N/A

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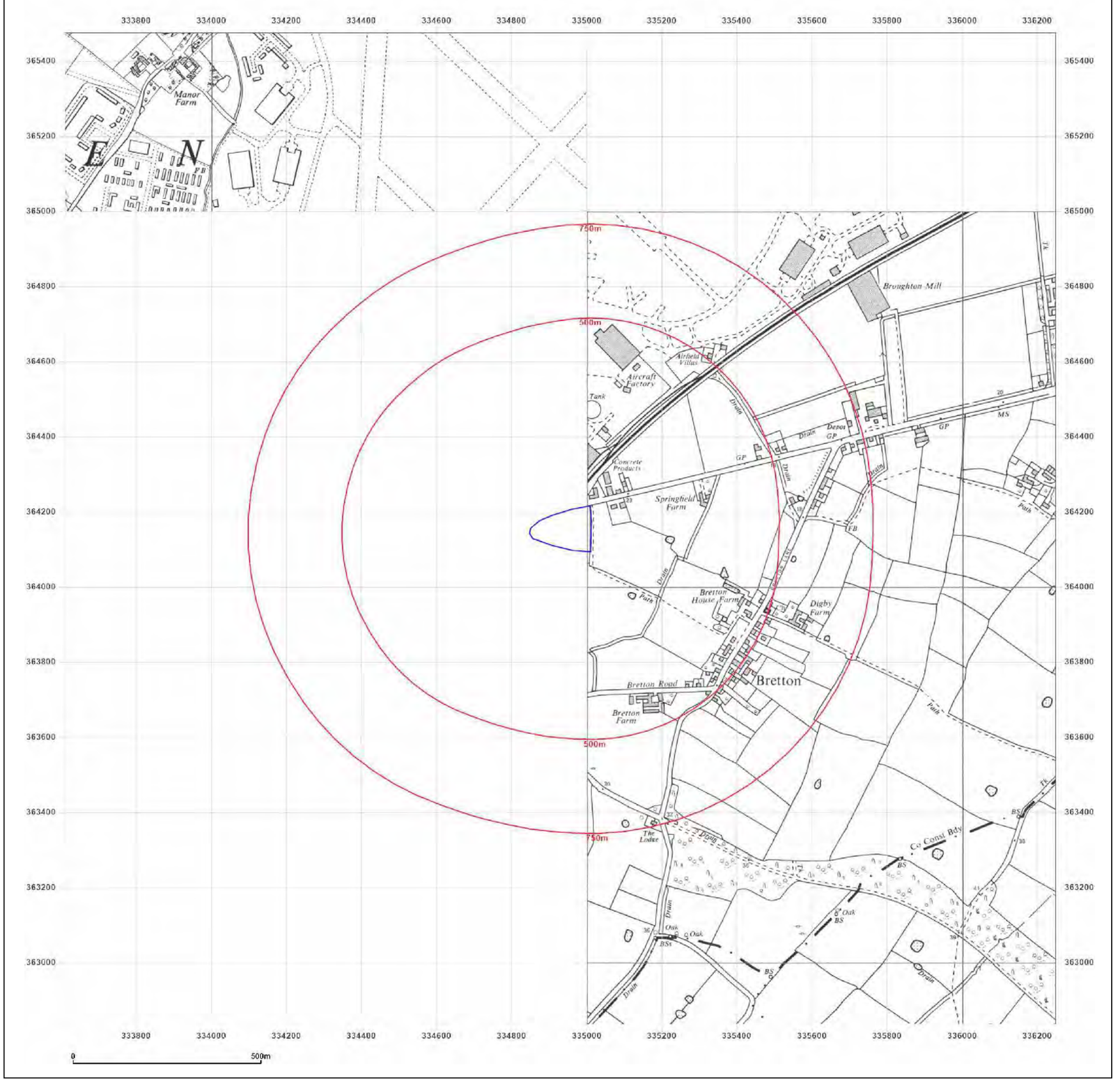

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: Provisional
Map date: **1963-1968**
Scale: 1:10,560
Printed at: 1:10,560

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Surveyed N/A
Revised 1963
Edition N/A
Copyright 1963
Levelled N/A

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

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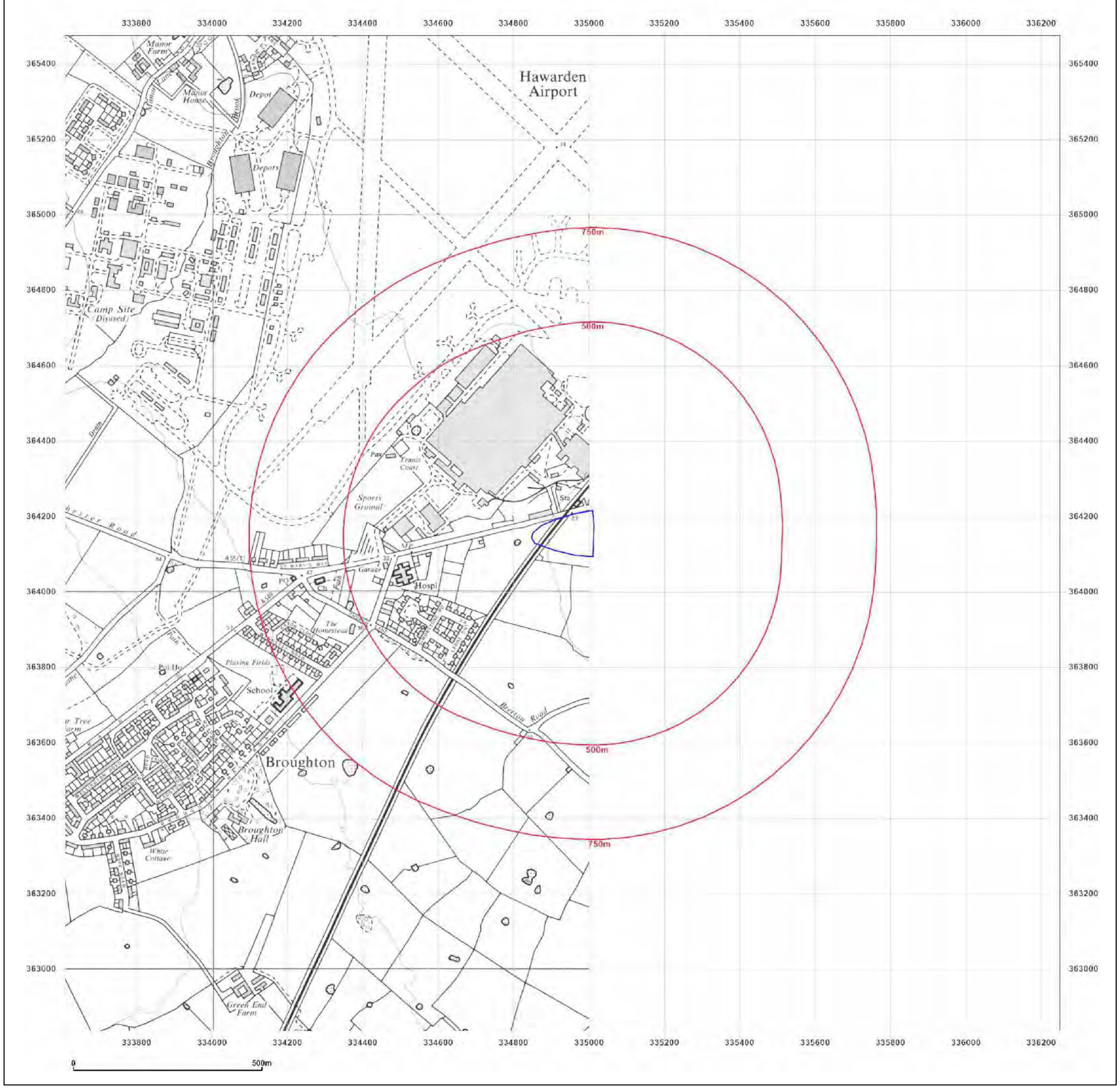

Groundsure INSIGHTS

Site Details:

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Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: Provisional
Map date: **1969**
Scale: 1:10,560
Printed at: 1:10,560

N
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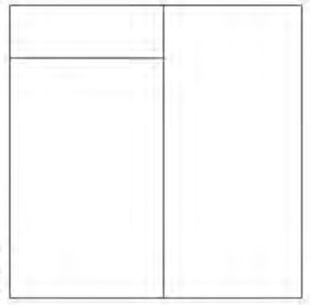
Surveyed 1965
Revised 1968
Edition N/A
Copyright 1969
Levelled N/A



Surveyed 1969
Revised 1969
Edition N/A
Copyright N/A
Levelled N/A

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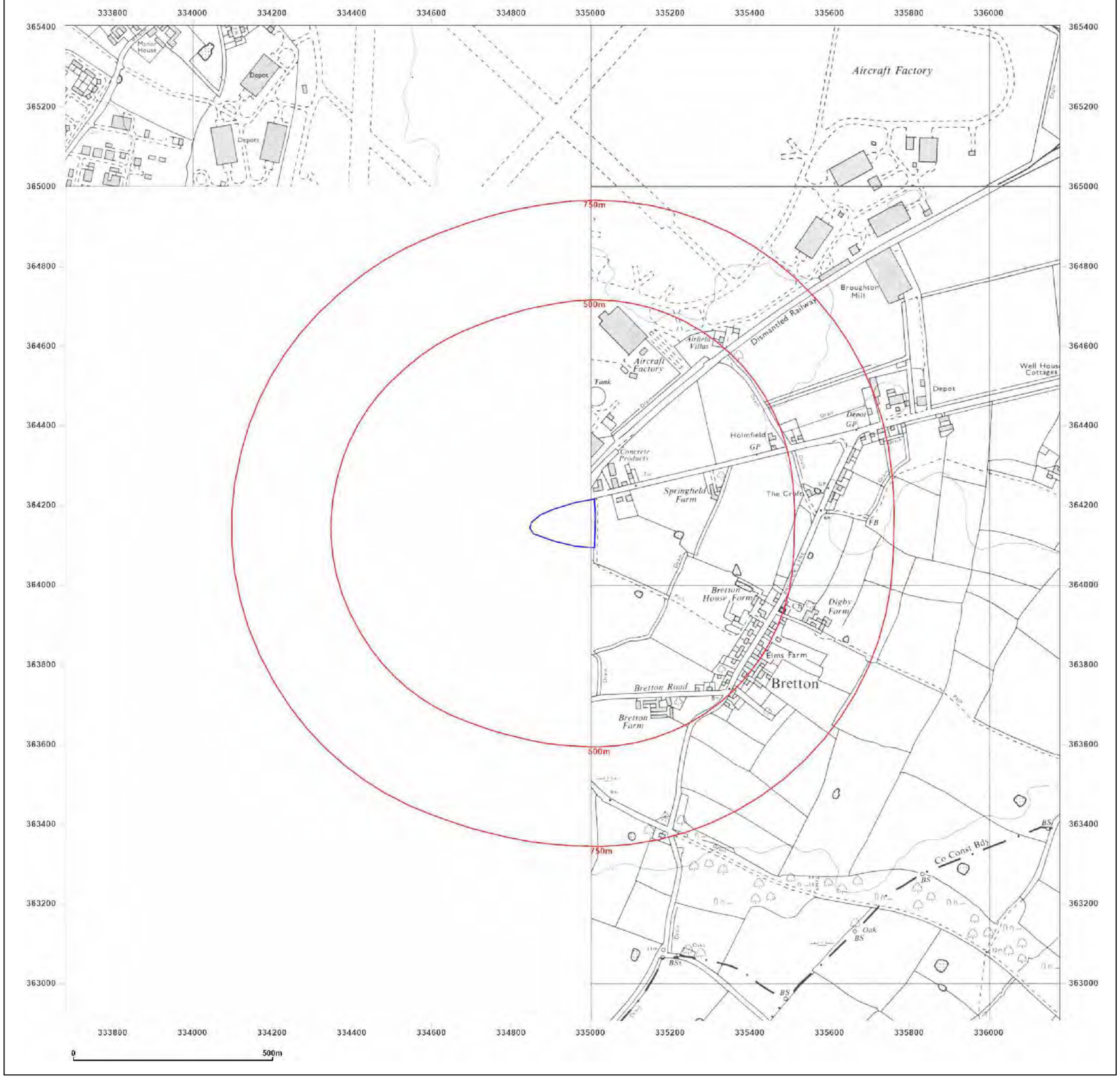

Groundsure INSIGHTS

Site Details:

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Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: National Grid
Map date: **1975-1978**
Scale: 1:10,000
Printed at: 1:10,000

N
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Surveyed 1969
Revised 1978
Edition N/A
Copyright 1978
Levelled 1965

Surveyed 1974
Revised 1975
Edition N/A
Copyright 1975
Levelled 1969

Surveyed 1973
Revised 1975
Edition N/A
Copyright 1975
Levelled 1973

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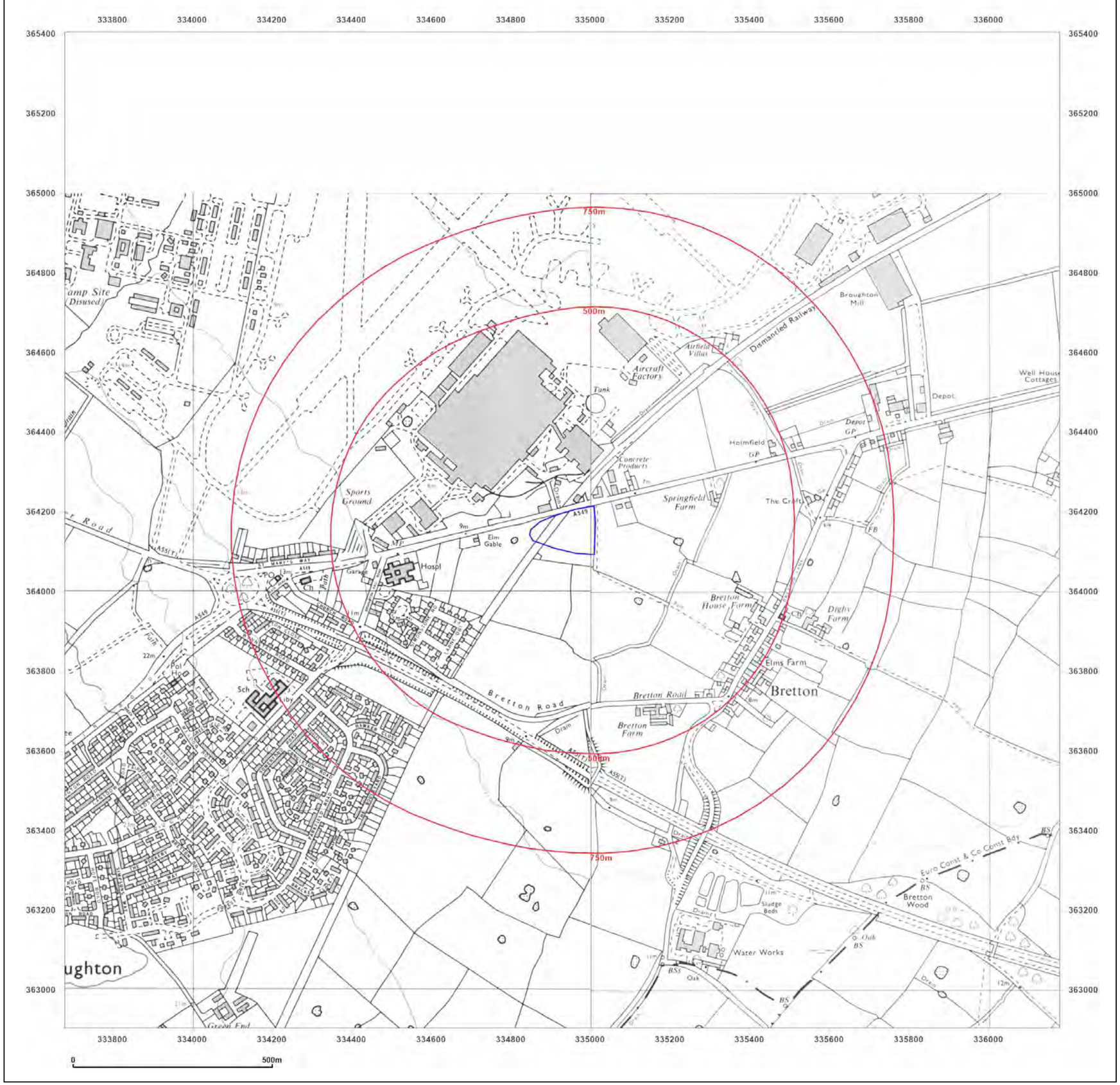

Groundsure INSIGHTS

Site Details:

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Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: National Grid

Map date: **1982**

Scale: 1:10,000

Printed at: 1:10,000

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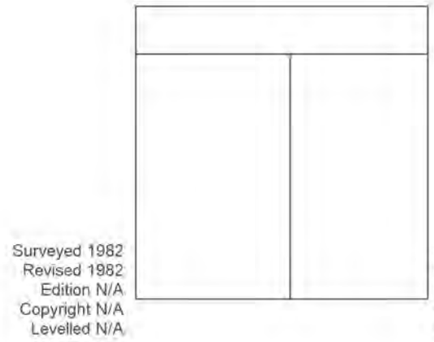

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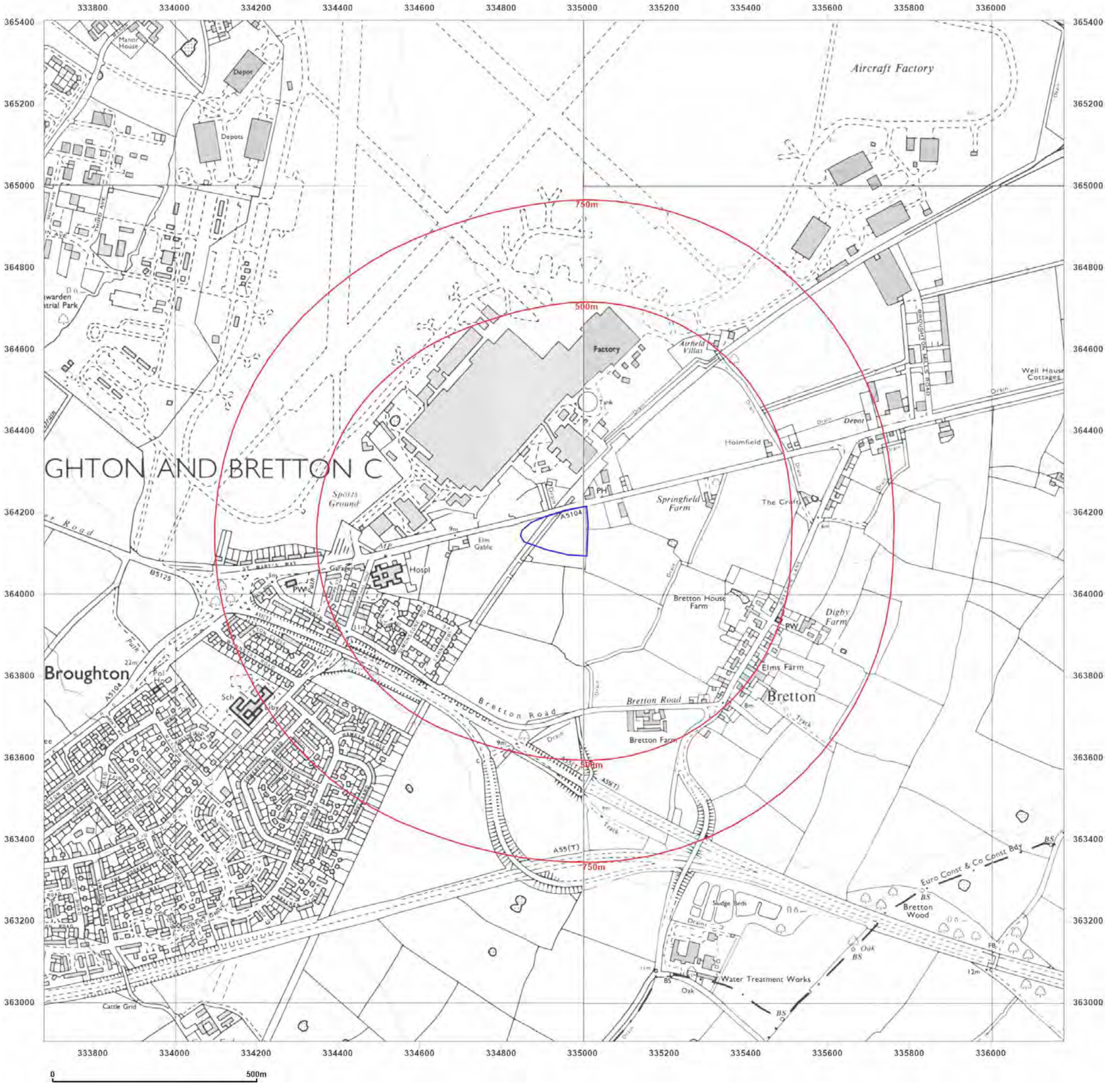

Groundsure INSIGHTS

Site Details:

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Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

Map Name: National Grid

Map date: **1989-1991**

Scale: 1:10,000

Printed at: 1:10,000

N
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Surveyed 1988
Revised 1989
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1974
Revised 1989
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1989
Revised 1991
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1981
Revised 1990
Edition N/A
Copyright N/A
Levelled N/A

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Map legend available at:
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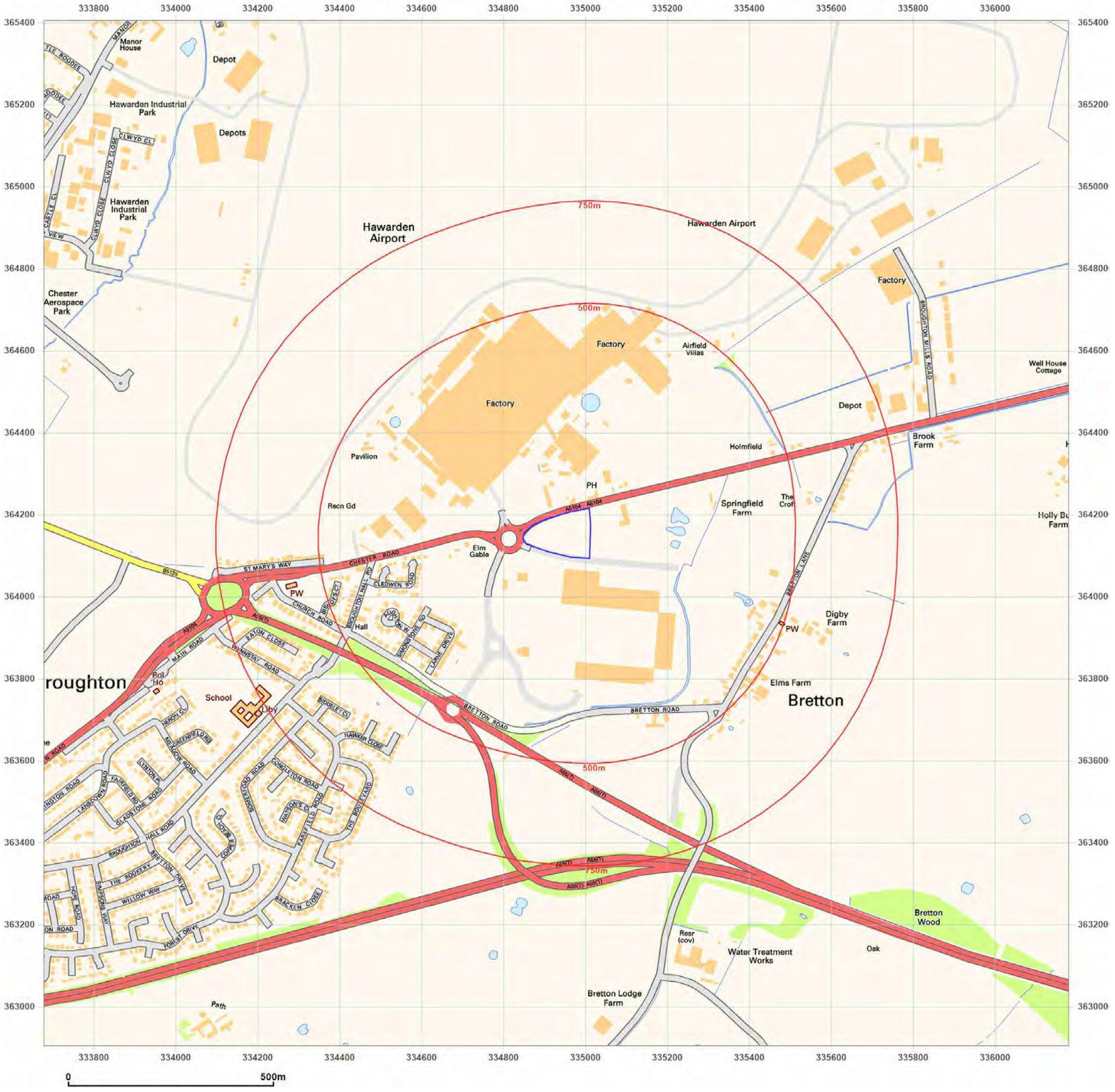

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

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

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Production date: 09 August 2023

Map legend available at:
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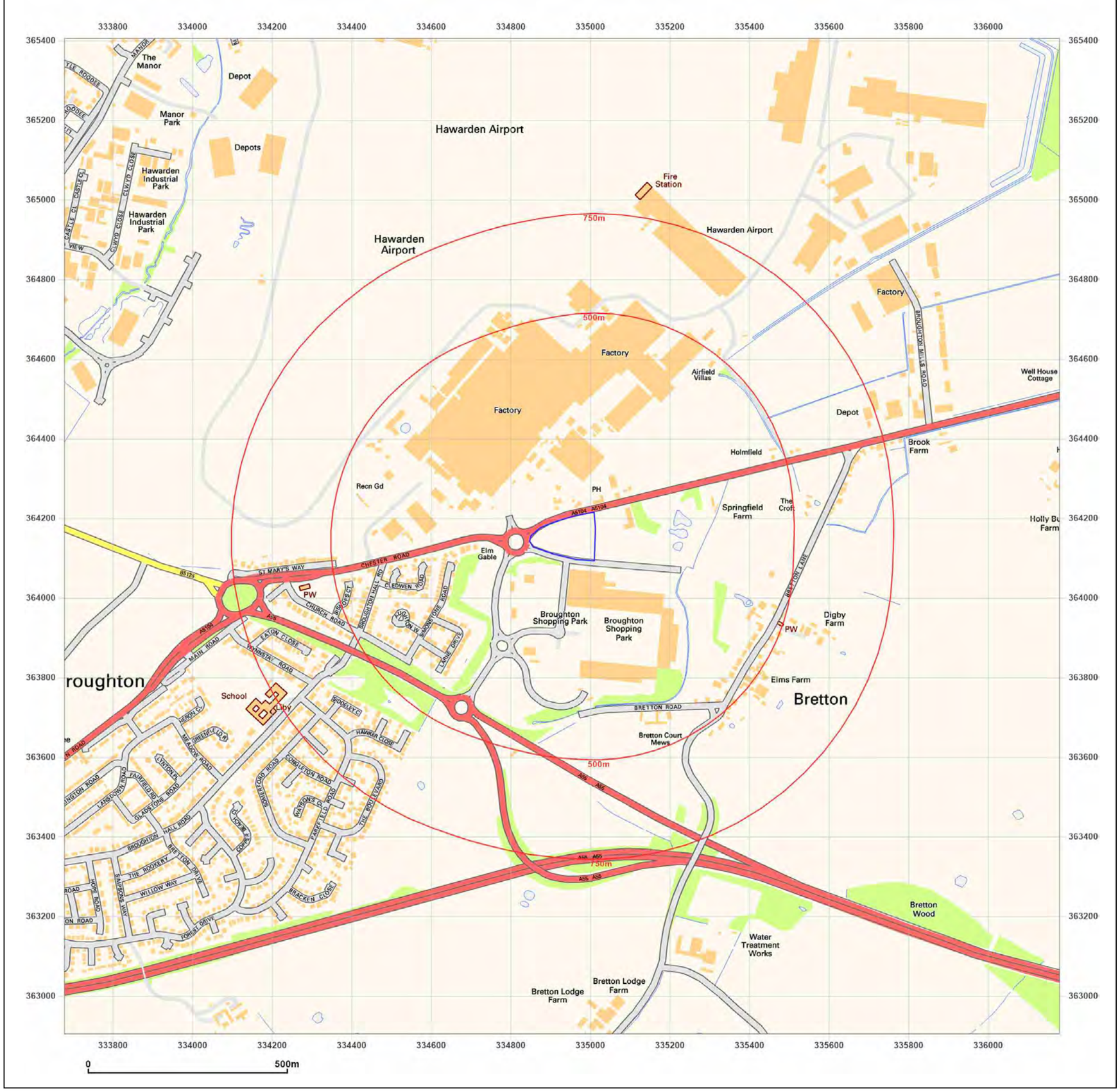

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

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

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Production date: 09 August 2023

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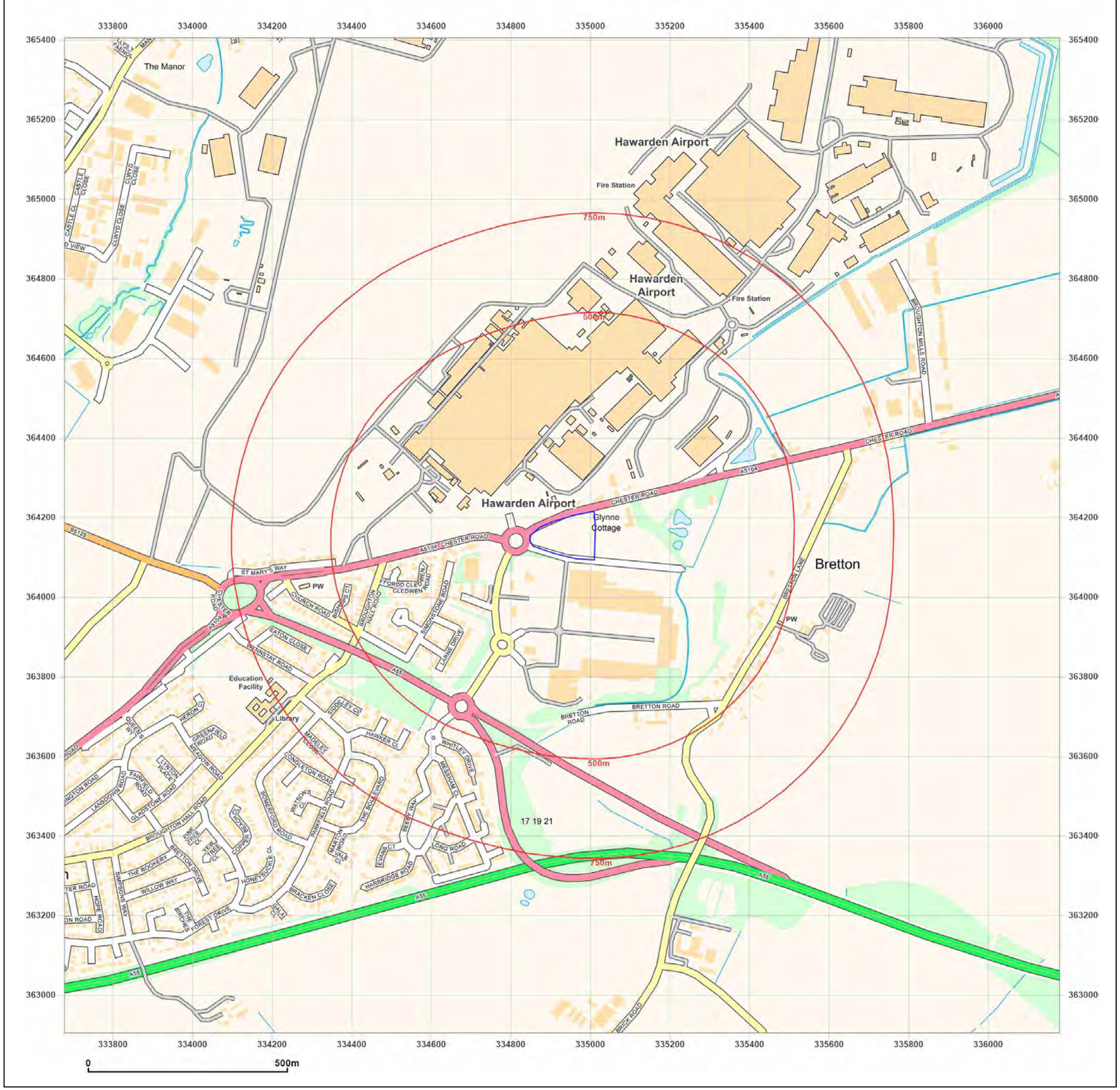

Groundsure INSIGHTS

Site Details:

334954 , 364156

Client Ref: A5552
Report Ref: GS-86H-1TC-HRX-8D6
Grid Ref: 334929, 364155

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

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Production date: 09 August 2023

Map legend available at:
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APPENDIX 2

SITE PHOTOGRAPHS

<table>
<tr><td>Earth Environmental & Geotechnical Ltd

Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk</td><td>SITE PHOTOGRAPHS</td></tr>
<tr><td>Job No.: A5552/23</td><td>Site: Broughton Park</td></tr>
<tr><td>Plate 1 View across the site, looking N</td><td>Plate 2 View across site, looking SE</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Date: 11th August 2023</td><td>Date: 11th August 2023</td></tr>
<tr><td>Plate 3 View across site, looking S</td><td>Plate 4 View across site, looking NW</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Date: 11th August 2023</td><td>Date: 11th August 2023</td></tr>
</table>

Figure 9 Site Walkover Photo Locations

APPENDIX 3

SITE WALKOVER NOTES

WALK OVER SURVEY REPORT

Site: Broughton Park **Date:** 11th August 2023

Job No: A5552/23 **Undertaken By:** Tomasz Opara

Purpose of Site Walkover:
1) Provide further information for the Desk Study Report.
2) Identify potential contamination sources, pathways, and receptors.
3) Identify geotechnical features and potential geohazards.
4) Determine locations for exploratory boreholes.

Desk Study features checked during site visit.	**Feature and Information required**	**Present**	**Description / Comments**
Site Setting	Description required for: Town/Country/Suburb Setting Industrial/Residential/Retail Usage Current Site use (if undertaking security and access to the site)		Site located in Bretton and approximately 5.9km to the southeast of the Chester City Centre, as part of the wider commercial area. Site is undeveloped. The site is only accessible on foot, as all vehicle gates are overgrown with rough vegetation.
Evidence of Past Activities	Are there: Any relevant street names in area? Features or relics which indicate past history?	 ~~Yes~~/No Yes/~~No~~	Site relatively flat.
Geographic Setting	Description required for: Low lying flood plain/dry valley/rolling hills etc.		
Ground Conditions	Is there any evidence of: Mining, Mine entries Subsidence Landslip/slope erosion Former investigation works.	 ~~Yes~~/No ~~Yes~~/No ~~Yes~~/No	No direct evidence

Desk Study features checked during site visit.	Feature and Information required	Present	Description / Comments
Topography	Description required for: Are there apparent differences between site and surrounding area? (If yes describe the presence of retaining walls, and slopes). Is there evidence of Made Ground / Fill on site?	~~Yes~~/No ~~Yes~~/No	
Site Boundaries and Neighbours	Description required for: Type of boundary demarcation (if any) on each side of site, usage of adjacent land and name of industrial/commercial occupiers. Note any adjacent features such as water course and other potentially environmentally sensitive uses (residential, school, infirmary, SSSI etc)		The site is generally bordered with timber fence.
Vegetation	Are there any vegetation/trees on or close to site (if yes describe locations, type, maturity, etc) Is there any evidence of poor health / distress?	Yes/~~No~~ ~~Yes~~/No	Semi-mature trees present around the site boundaries.
Ground Surface	Are there areas of hardstanding and estimate the split between hard and soft cover? (If yes describe locations, types, and conditions). Is the any evidence of any spillages or staining?	Yes/~~No~~ ~~Yes~~/No	Grass and rough vegetation with some shrubs along the site boundaries.

Desk Study features checked during site visit.	Feature and Information required	Present	Description / Comments
Site Drainage	Are there any drain covers / soakaways (if yes describe locations) Are there any outfalls/water courses on site (note the condition of water courses in open water courses. discolouration, odour, eutrophication, oily sheen, gas bubbling water, clear or cloudy) Where a watercourse runs alongside or crosses a site are there any differences in visible water quality upstream and downstream of the site?	~~Yes~~/No ~~Yes~~/No ~~Yes~~/No	
Electrical Equipment	Are there any electricity sub stations on or adjacent to the site? Are there any electrical transformers, capacitors, pylons etc on site?	~~Yes~~/No	
Buildings	Is there any evidence of asbestos construction materials e.g., roofing, insulation materials. Do any buildings have basements? Do any buildings have a boiler room (if yes, describe fuel type and storage arrangements)?	~~Yes~~/No ~~Yes~~/No ~~Yes~~/No	

Desk Study features checked during site visit.	Feature and Information required	Present	Description / Comments
Landfilling	Is there any evidence of gas protection measures (gas membrane, gravel-filled trenches, venting pipes, etc)?	~~Yes~~/No	
Process Air Emissions	Point Source: Are there any stacks / vents / cooling towers / abatement equipment? Fugitive Source: is there any stockpiled material / windblown dust / vapour process?	~~Yes~~/No ~~Yes~~/No	
Storage of fuels & Chemicals	Are there any drums / containers (if yes, describe quantity, full /empty, stored on hard standing / soft landscaping, bunding)? Are there any above ground fuel tanks (if yes, describe locations, volumes, how many, bunding, used / disused, condition?) Is there any evidence of underground fuel tanks (fuel pumps, covers, vent pipes, how many and how large, fill point, used / disused, and condition)?	~~Yes~~/No ~~Yes~~/No ~~Yes~~/No	
Accidents	In the event of a large spillage would runoff affect any vulnerable watercourse/culverts? Are emergency procedures / equipment in place?	~~Yes~~/No ~~Yes~~/No	

Desk Study features checked during site visit.	Feature and Information required	Present	Description / Comments
Waste	Are there any waste skips present on site? Are waste storage facilities adequate? Is there any litter/fly tipped material?	~~Yes~~/No Yes/No ~~Yes~~/No	
Atmospheric	Are there any fumes, odours originating from site or affecting site from neighbouring sites?	~~Yes~~/No	
Access / Further Investigations	If a Phase 2 Investigation is likely to be required, describe any access problems including headroom where relevant, services, overhead cables, restricted access areas, confined spaces, trafficked areas, etc that are likely to affect investigation scope/techniques. Identify possible site office and storage locations. Identify possible water supply.		
Site Environs	Are there any local features that could have a harmful influence e.g., landfill, industrial processes, railway land? Are there any sensitive water features/courses near to the site?	~~Yes~~/No ~~Yes~~/No	
Local Knowledge / Anecdotal Evidence			
Site Dimensions	Describe shape of Site in plan and measure dimensions.		The site is roughly oval in shape of approximately 160m long and 120m wide.

APPENDIX 4

REPORT LIMITATIONS

LIMITATIONS

This contract was completed by Earth Environmental & Geotechnical Ltd on the basis of a defined programme and scope of works and terms and conditions agreed with the client. This report was compiled with all reasonable skill, and care, bearing in mind the project objectives, the agreed scope of works, the prevailing site conditions, the budget, and staff resources allocated to the project.

Other than that, expressly contained in the above paragraph, Earth Environmental & Geotechnical Ltd provides no other representation or warranty whether express or implied, is made in relation to the services. Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted consulting practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon, or transferred to, by any other party without the written agreement of a Director of Earth Environmental & Geotechnical Ltd.

If a third party relies on this report, it does so wholly at its own and sole risk and Earth Environmental & Geotechnical Ltd disclaims any liability to such parties.

It is Earth Environmental & Geotechnical Ltd understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was an important factor in determining the scope and level of the services. Should the purpose for which the report is used, or the proposed use of the site change, this report will no longer be valid and any further use of, or reliance upon the report in those circumstances by the client without Earth Environmental & Geotechnical Ltd review and advice shall be at the client's sole and own risk.

The report was written in 2023 and should be read in light of any subsequent changes in legislation, statutory requirements, and industry best practices. Ground conditions can also change over time and further investigations, or assessment should be made if there is any significant delay in acting on the findings of this report. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of Earth Environmental & Geotechnical Ltd. In the absence of such written advice of Earth Environmental & Geotechnical Ltd, reliance on the report in the future shall be at the client's own and sole risk. Should Earth Environmental & Geotechnical Ltd be requested to review the report in the future, Earth Environmental & Geotechnical Ltd shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between Earth Environmental & Geotechnical Ltd and the client.

The observations and conclusions described in this report are based solely upon the services that were provided pursuant to the agreement between the client and Earth Environmental & Geotechnical Ltd. Earth Environmental & Geotechnical Ltd has not performed any observations, investigations, studies or testing not specifically set out or mentioned within this report.

Earth Environmental & Geotechnical Ltd is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, Earth Environmental & Geotechnical Ltd did not seek to evaluate the presence on or off the site of electromagnetic fields, lead paint, radon gas or other radioactive materials.

The services are based upon Earth Environmental & Geotechnical Ltd observations of existing physical conditions at the site gained from a walkover survey of the site together with Earth Environmental & Geotechnical Ltd interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and whilst Earth Environmental & Geotechnical Ltd have no reason to doubt the accuracy and that it has been provided in full from those it was requested from, the items relied on have not been verified.

No responsibility can be accepted for errors within third party items presented in this report. Further Earth Environmental & Geotechnical Ltd was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the services. Earth Environmental & Geotechnical Ltd is not liable for any inaccurate information, misrepresentation of data or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to Earth Environmental & Geotechnical Ltd and including the doing of any independent investigation of the information provided to Earth Environmental & Geotechnical Ltd save as otherwise provided in the terms of the contract between the client and Earth Environmental & Geotechnical Ltd.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable and as investigation excavations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and Earth Environmental & Geotechnical Ltd] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The normal speed of investigation usually does not permit the recording of an equilibrium water level for any one water strike. Moreover, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan but is (are) used to present the general relative locations of features on, and surrounding, the site.