

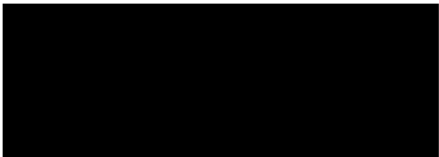
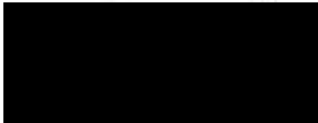


Geo-Environmental

**DESK STUDY REPORT
for the development at
MONKS LAKE, GRANGE ROAD,
NETLEY ABBEY, SO31 5FF
on behalf of
MICHAEL WILLIAMS**



Desk Study Report

Report:	DESK STUDY REPORT
Site:	MONKS LAKE, GRANGE ROAD, NETLEY ABBEY, SO31 5FF
Client:	MICHAEL WILLIAMS
Date:	04/09/2023
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1.0 INTRODUCTION

1.1 General

Geo-Environmental Services Limited (Geo-Environmental) was instructed by Michael Williams (the Client) to undertake a Phase I desk study into the geotechnical and geo-environmental factors pertaining to the planned redevelopment of Monks Lake, Grange Road, Netley Abbey, SO31 5FF herein referred to as 'the site'. The site's location is presented in Figure 1.

1.2 Form of Development

The proposed development is understood to comprise the demolition of the current property and construction of a new residential dwelling with garage, associated private garden, areas of soft landscaping, car parking, access road and other associated development infrastructure.

1.3 Objectives

The investigation was to comprise a desk study of geotechnical and geo-environmental factors pertaining to the site, including a review of available historic maps, an examination of other available sources of geo-environmental information and consultation with the Local Planning Authority and/ or Local Authority Contaminated Land Officer.

A Preliminary Risk Assessment (PRA) was to be undertaken as part of the desk study in accordance with guidance set out in Land Contamination Risk Management (LCRM). The objective of the risk assessment was to evaluate plausible pollutant linkages with respect to the proposed development, adjacent land uses, and the wider environment, in the context of planning, immediate liabilities under the Environmental Protection Act 1990, and risks posed to Controlled Waters under the Water Resources Act.

1.4 Planning Consent

The site benefits from a conditioned planning consent, Eastleigh Borough Council ref. F/23/95140. Conditions 3 and 4 state:

3. *No development, including demolition, shall take place until the following has been submitted to, and approved in writing by the Local Planning Authority:*
 - a) *Report of Preliminary Investigation comprising a Desk Study, Conceptual Site Model, and Preliminary Risk Assessment documenting previous and existing land uses of the site and adjacent land;*
 - b) *A site investigation report, documenting the ground conditions of the site and incorporating chemical and gas analysis identified as appropriate by the desk study;*
 - c) *A detailed site specific scheme for remedial works, and measures to be undertaken to avoid the risk from contaminants and/or gases when the site is developed, and proposals for future maintenance and monitoring. Such a scheme shall include nomination of a competent person to oversee the implementation of the works.*

Investigations, assessments and reports are to be undertaken by a competent person and should comply with UK Land contamination risk management (LCRM) national guidance, including BS10175:2011+A2:2017 Investigation of potentially contaminated sites - Code of Practice, and gas monitoring deemed appropriate is to be in accordance with best practice as outlined in such documents as BS8576:2013, BS 8485:2015+A1:2019, Claire RB17 and CIRIA C665 unless otherwise agreed with the LPA.

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Reason: To ensure that risks from land contamination to the future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other off site receptors, in accordance with Policy DM8 of the Eastleigh Borough Local Plan (2016-2036).

4. *The development hereby permitted shall not be occupied / brought into use until there has been submitted to the LPA verification by the competent person approved under the provisions of condition A(c) that any remediation scheme required and approved under the provisions of condition A(c) has been implemented fully in accordance with the approved details (unless varied with the written permission of the LPA in advance of implementation).*

Unless agreed in writing with the LPA such verification shall accord with UK Land contamination risk management (LCRM) national guidance, and the guidance contained in EA Guidance for the Safe Development of Housing on Land Affected by Contamination - R&D Publication 66: 2008. Typically such a report would comprise:

- a. *A description of the site and its background, and summary of relevant site information,*
- b. *a description of the remediation objectives and remedial works carried out*
- c. *verification data, including - data (sample locations/analytical results, as built drawings of the implemented scheme, photographs of the remediation works in progress, etc.*
- d. *Certificates demonstrating that imported and / or material left in situ is free from contamination, and gas / vapour membranes have been installed correctly.*

Thereafter the scheme shall be monitored and maintained in accordance with the scheme approved under condition A(c)''

Reason: To ensure that risks from land contamination to the future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other off site receptors, in accordance with Policy DM8 of the Eastleigh Borough Local Plan (2016-2036).

1.5 Standards

Where practicable, the desk study was undertaken in accordance with the following documents and guidance:

- National Planning Policy Framework – July 2021;
- Land Contamination Risk Management (LCRM), updated July 2023;
- Model Procedures for the Management of Contaminated Land, CLR11, DEFRA and Environment Agency 2004 (withdrawn October 2020);
- Environment Agency Guidance on Requirements for Land Contamination Reports, Version 1 dated July 2005;
- BS10175:2011+A2:2017 - Investigation of Potentially Contaminated Sites - Code of Practice, BSI 2017;
- BS5930: 2015+A1:2020 - Code of Practice for Site Investigations, BSI 2020;
- EN ISO 14688 Geotechnical Investigation and Testing Part 1-2002 and Part 2-2004;
- NHBC Standards Chapter 4.1 Land Quality - Managing Ground Conditions;
- NHBC Standards Chapter 4.2 Building Near Trees;
- CIRIA C665 – Assessing risks posed by hazardous ground gases to buildings (2007);

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- NHBC 10627-R01(04)- Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present (2007);
- BS8485:2015+A1:2019 Code of practice for the characterisation and remediation from ground gas in affected developments;
- Department of Environment - Industry Profiles (1995 - 1996).

1.6 Conditions

The desk study data obtained for the site is assumed to be factually correct and up to date at the point of their acquisition. No liability is taken for any omissions or inaccuracies in the data acquired. It should also be noted that changes to the desk study data may occur following the production of this report, Geo-Environmental accepts no liability where this subsequently affects the assessment presented herein.

The information collected from the desk study and site walkover has been used to provide an interpretation of the geotechnical and environmental conditions pertaining to the site. The recommendations and opinions expressed in this report are based on the data obtained. Geo-Environmental takes no responsibility for conditions that have either not been revealed in the available records or that occur between or under points of any physical investigation. Whilst every effort has been made to interpret the conditions, such information is only indicative, and liability cannot be accepted for its accuracy.

It must be noted that in particular the concentrations and levels of mobile liquid and gaseous materials are likely to vary with time. The results obtained may therefore only be representative of the conditions at the time of sampling. The absence of asbestos within soil samples analysed does not guarantee the absence of asbestos within buildings, within or bonded to concrete, as discrete burials, or within the soil mass elsewhere within a site. This report must not be taken as, or assumed to imply any guarantee that a site is free of hazardous or potentially contaminative materials.

Information contained in this report is intended for the use of the Client, and Geo-Environmental can take no responsibility for the use of this information by any party for uses other than that described in this report. Geo-Environmental makes no warranty or representation whatsoever expressed or implied with respect to the use of this information by any third party. Geo-Environmental does not indemnify the Client or any third parties against any dispute or claim arising from any finding or other result of this investigation report or any consequential losses.

This report remains the property of Geo-Environmental and the Client has no rights to, or reliance upon this document or supporting documents until such time as payment has been received in full for all invoices for works undertaken in connection with this report.

Assessment criteria or other parameters developed for the evaluation of contamination on this site are based on a number of assumptions regarding exposure and toxicology. Exposure to contaminants and levels of adverse effects may therefore vary. Whilst reasonable care and expertise has been employed in the development of such criteria, no liability is accepted in this respect. Other criteria or guidance on the development of assessment criteria may be published in the future and no liability is accepted in this respect.

2.0 DESK STUDY

The findings of the Phase I desk study are presented in the following section. A copy of the information obtained as part of the desk study is presented in Appendix A. Photographs taken during the site walkover survey are presented in Appendix B.

2.1 Site Description

The site comprised an irregularly shaped parcel of land which extended to c.0.71Ha and was located at NGR 445584, 109118. A detailed site walkover was conducted on the 14th August 2023.

The site access is located to the south via a private gravel track off Grange Road. This track was lined with trees to the east with houses and trees to the west.

The site comprised a two-storey residential dwelling with a small conservatory on the west wall of the house, smaller single storey garage and detached double garage to the south of the main property. A large driveway connects all the buildings to the south of the house. Grassed land surrounds the buildings and the driveway with a variety of hedges, bushes, and mature trees. A greenhouse was noted to be on the east side of the house just north of the single storey garage. A large open garden area was to the north of the main house beyond a patio area stretching roughly 5m to 10m from the house.

Site topography slopes away from the rear of the property to the north towards the lake. A large lake is located in the north of the site with the land adjoining the lake to the north offsite, sloping upwards from the lake.

Wooden fencing forms the majority of the southern, eastern and western boundaries, with the lake forming the northern boundary.

The site was bounded by residential properties to the west, a field to the east currently being developed with houses, a paddock to the south which is also undergoing redevelopment, and a lake to the north, half of which is on the site, and residential properties beyond.

2.2 Geology

British Geological Survey (BGS) geological mapping indicated the geology underlying the site to comprise superficial deposits of River Terrace Deposits overlying bedrock of Selsey Sand Formation. In addition, there is a possibility that a mantle of Made Ground could overlie these natural strata.

BS5930:2015 defines **Made Ground** as anthropogenic ground in which the material has been placed without engineering control and/or manufactured by man in some way, such as through crushing or washing, or arising from an industrial process. Great variations in material type, thickness and degree of compaction invariably occur and there can be deleterious or harmful matter, as well as potentially methanogenic organic material. In addition, on sites which have undergone several phases of historic development it is not uncommon for asbestos to be present at surface and within Made Ground and/or disturbed soils.

The rivers of southern England, including the Ancient Solent and its tributaries, have been subject to several changes of level since Pleistocene times. One result has been the formation of a complex series of **River Terrace Deposits**. The deposits are generally found at an elevation close to or higher than that of the existing rivers, and generally comprise sand and gravel of roughly bedded flint or chert of varying degrees of coarseness.

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The **Selsey Sand Formation** comprises glauconitic grey silty sand and silty clay with orange, brown sandy silty clay with flint gravel also commonly present. The upper boundary is characterised by the Marsh Farm Formation overlain by glauconitic sandy silt with pebbles.

The nearest BGS borehole was identified 450m southwest of the site drilled in November 1997 at Netley Waterside House Ref:SU40NE105. The borehole is within the same strata on the geological map and reported the following:

- Grass and Topsoil to 0.10m;
- Loose dark grey black silty or clayey sandy irregular flint GRAVEL. (Possibly Fill) to 0.90m;
- Dense/very compact orange brown sandy irregular flint GRAVEL. Less sandy with some cobble-size flints below about 3.40m to 4.40m;
- Firm light grey orange brown very silty CLAY and fine sandy CLAY. Becoming more silty and fine sandy with increasing depth. Very 'friable'. Possibly thinly laminated structure to a final depth of 5.40m bgl.

The log reported SPT N values between 40 and 59, with no discernible trend associated with depth.

2.3 Hydrogeology

With reference to Groundsure data, the underlying superficial strata (River Terrace Deposits) and bedrock strata (Selsey Sand Formation) were both classified as Secondary 'A' Aquifers.

Secondary 'A' Aquifers are defined as, permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers. The dataset identified both as high vulnerability.

According to information provided from the Environment Agency the site was indicated to be outside of any Source Protection Zone with regard to the protection of groundwater for potable supply.

The environmental dataset identified the following discharge consents to land/soakaway within 500m of the site:

- 73m Northwest; Abbots Wood, Fountains Park, Netley Abbey, Southampton, Hampshire, SO31 5HB; Effluent Type: Sewage; Discharges - Final/Treated Effluent - Not Water Company; Permit Number: EPRCB3196RR; Permit Version: 1; Receiving Water: Into Land; Status: New Issued Under EPR 2010; Issue date: 18/03/2015; Effective Date: 18/03/2015; Revocation Date: Not Supplied
- 133m Southwest; Plot 3 Fountain Park, Netley, Southampton; Effluent Type: Sewage Discharges - Final/Treated Effluent - Not Water Company; Permit Number: N03365; Permit Version: 1; Receiving Water: Into Land; Status: Lapsed Under Schedule 23 Environment Act 1995; Issue date: 21/07/1978; Effective Date: 21/07/1978; Revocation Date: 31/03/1997
- 167m West; New House At Fountain Park, Abbey Hill, Netley, Southampton; Effluent Type: Sewage Discharges - Final/Treated Effluent - Not Water Company; Permit Number: N03376; Permit Version: 1; Receiving Water: Into Land; Status: Pre NRA Legislation Where Issue Date 01-SEP-89 (historic only); Issue date: 07/02/1979; Effective Date: 07/02/1979; Revocation Date: Not Supplied

No groundwater abstractions were identified within 500m of the site.

No pollution incidents to groundwater were identified within 500m of the site.

The site was identified as being located within an area with high potential of groundwater flooding to occur.

2.4 Hydrology

With reference to the Groundsure dataset, the closest surface water feature was located on the western portion of the site and comprised a lake fed by a watercourse flowing in from the north-east and flowing out of the lake towards the south-west towards Southampton Water. Whilst the Groundsure data indicated the subject site to be located outside the extent of flooding from rivers, a moderate risk was identified within 50m. It is presumed that a Flood Risk Assessment may be required in order to inform planning and design strategies for the site.

No discharge consents to controlled waters were identified within a radius of 500m of the site boundary. The desk study data did not identify any surface water abstraction points within 1000m of the site.

No pollution incidents to controlled waters were identified within a radius of 500m of the site boundary.

2.5 Radon

The Groundsure report states that the site lies in an area where <1% of homes are above the Action Level as defined by Public Health England and the BGS. In addition, the BGS assessment states that no radon protective measures are required in the construction of new houses or extensions on the site.

2.6 Environmental Data

Searches of other various environmental databases were made as part of the desk study, including air pollution control sites, Part IIA contaminated land, Integrated Pollution Control (IPC) and Integrated Pollution Prevention and Control (IPPC) sites, registered radioactive substances, COMAH sites, explosives sites, Notification of Installations Handling Hazardous Substances (NIHHS) sites, planning permissions for sites involving hazardous substances and fuel station registers. Additional detail is referenced in Appendix A.

The Groundsure dataset did not identify any Integrated Pollution Prevention and Control permitted sites or Local Authority Pollution Prevention and Controls permitted sit within 500m of the site.

The desk study identified 21No. historical industrial land uses entries within 250m of the site:

- 8m South - Unspecified Ground Workings 1907
- 15m Southwest - Unspecified Pit 1932
- 15m Southwest - Unspecified Ground Workings 1932
- 16m Southwest - Unspecified Pit 1907 - 1942
- 32m West - Unspecified Heap 1932
- 33m West - Unspecified Pit 1869
- 33m West - Unspecified Heap 1932
- 35m Northwest - Unspecified Heap 1942-1957
- 42m South - Unspecified Ground Workings 1942
- 46m South - Cuttings 1971
- 68m West - Unspecified Pit 1869
- 70m West - Unspecified Heap 1932 - 1942
- 90m Northwest - Unspecified Pit 1907 - 1869
- 92m Northwest - Unspecified Ground Workings 1896 - 1932
- 95m East - Nursery 1932
- 132m Northeast - Refuse Heap 1989
- 147m East - Nursery 1942

- 163m West - Unspecified Pit 1869
- 178m North - Unspecified Pit 1908 - 1938
- 179m North - Unspecified Pit 1938
- 230m North - Unspecified Pit 1908 - 1938

Considering the types of historic land uses identified, cross referenced with the historic mapping and the distances from the site, it is considered that these have potential to affect the site and thus are considered further with this assessment.

2.7 Soil Chemistry

Data obtained as part of the desk study provides details on the estimated soil chemistry for the natural soils in the vicinity of the site. The estimated soil quality on the subject site is presented Table 2.1.

Contaminant	Estimated Concentration
Arsenic	15 mg/kg
Cadmium	1.8 mg/kg
Chromium	90-120 mg/kg
Lead	100-200mg/kg
Nickel	15-30 mg/kg

Table 2.1 Estimated soil chemical concentrations on site

The natural background concentrations were below respective published Suitable for Use Levels, Generic Assessment Criteria and Category 4 Screening Levels for the protection of human health under a residential land use (without home grown produce), i.e. the most conservative end use.

However, these values are not necessarily representative of the site's soil chemistry and do not take account of the potential presence or condition of any Made Ground and do not account for a site's historic or current use. Furthermore, some screening criteria are dependent on pH and soil organic matter content. Therefore, concentrations of specific determinands and the utilised S4UL/GAC/C4SL cannot be determined without site specific investigation and analysis.

2.8 Sensitive Land Uses

A search was made of environmentally sensitive areas including local and national nature reserves, areas of outstanding natural beauty (AONBs), Ramsar sites, sites of special scientific interest (SSSIs), conservation areas, special protection areas and biosphere reserves.

No environmentally sensitive areas were identified within 500m of the site boundary, with the exception of a local nature reserve which was immediately north of the site called Westwood Woodland Park and an Ancient Woodland, identified 90m northwest of West Wood.

According to the Groundsure data set, the site lies within a eutrophic water Nitrate Vulnerable Zone (NVZ) as defined by the Department for Environment, Food and Rural Affairs (DEFRA). Nitrate Vulnerable Zones are designated areas of land draining into waters polluted by nitrates from agriculture.

2.9 Geotechnical Data

The site was located within an area considered by the Coal Authority that might not be affected by coal mining activity.

National databases for a number of different geological hazards have been compiled by the BGS, and a summary of the hazard data pertaining to the site itself is presented in Table 2.2.

Hazard	Designation
Non-coal mining	No Hazard
Collapsible ground	Very Low
Compressible ground	Negligible
Ground dissolution	Negligible
Landslide	Very Low
Running sand	Very Low
Shrinking and Swelling clay	Negligible to Low
BGS Recorded Mineral Sites with 500m	25m N Westwood Sand (moulding), sand & gravel 85m NW Westwood Sand (moulding), sand & gravel 147m N Westwood Sand (moulding), sand & gravel 231m N Westwood Sand (moulding), sand & gravel 356m NW Westwood Sand (moulding), sand & gravel 419m NW Westwood Sand (moulding), sand & gravel 430m NW Westwood Sand (moulding), sand & gravel

Table 2.2 Summary of BGS geological hazards

2.10 Landfill and Waste Management Facilities

A search of BGS recorded landfill sites, IPC registered waste sites, licensed waste management facilities, Local Authority recorded landfill sites, other registered landfill sites, waste transfer stations and other waste treatment or disposal sites was undertaken as part of the desk study. Such sites may form an artificial source of ground gases, such as carbon dioxide and methane, where wastes are buried or disposed of to landfill.

Two historic landfill sites, two licensed waste management facilities and four Historical landfills (LA/mapping records) were identified within 500m of the site, details of which are provided within Table 2.3 below.

Location	Site Address	Details	Status	Date
Historic Landfills (EA/NRW records)				
40m North	Westwood Phase 3, Newtown Road, Netley, Hampshire	Waste Licence: Yes Site Reference: 1760/1/9/8, FEA6 Waste Type: Inert, Industrial, Commercial, Household	Historic	Licence Issue: 20/12/1978 Licence Surrender: - First Recorded - Last Recorded: -
112m Northwest	West Wood, Hound, Near Southampton, Hampshire	Waste Licence: Yes Site Reference: 20/37/1/9/9, FEA7,9/8 Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting	Historic	Licence Issue: 18/05/1977 Licence Surrender: - First Recorded 30/06/1971 Last Recorded: -
Licensed Waste Management Facilities				

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Location	Site Address	Details	Status	Date
90m Northeast	Not supplied	Ref: WEX284068 Cat: Using waste exemption Sub-Cat: On a Farm Description: Use of waste in construction	-	-
482m West	Weston Sailing Club Abbey Hill Southampton SO31 5FB	Ref: EPR/BE5980R U/A001 Cat: Using waste exemption Sub Cat: Non-Agricultural Waste Only Description: Use of waste in construction	-	-
Historical landfill (LA/mapping records)				
135m Northeast	-	Refuse Tip	Historic	1985
232m North	-	Refuse Tip	Historic	1985
390m East	-	Refuse Tip	Historic	1985
415m North	-	Refuse Tip	Historic	1980

Table 2.3 Summary of landfill and waste management facilities within 500m of the site

Below is a plan (Plan 1) which shows the approximate location of these identified landfill sites in relation to the subject site, based on a review of the Environment Agency and Local Authority records provided as part of the Groundsure dataset. No liabilities are taken for any inaccuracies in respect to these boundaries were plotted in relation to the subject site and these are shown for indicative purposes only:



Plan 1 – Approximate locations of historical landfill sites in proximity to the site boundary

2.11 Westwood Closed Landfill

Geo-Environmental holds records of information obtained from Hampshire County Council (HCC) with regards to the historic off-site landfill site located to the north of the subject site.

With reference to information from HCC, the landfill site (Westwood Closed Landfill) located to north of the subject site consisted of at least 900,000 tonnes of domestic solid and inert waste and was active between 1982 and 1992. The landfill was designed and operated under a dilute and disperse principle and so did not incorporate a formally engineered liner or cap. However, the site was covered with a layer of topsoil and is currently open to the public and being used as a nature reserve.

The portion of landfill closest to the subject site was separated from the subject site by a shallow, c. 3m deep, wooded valley through which a stream flowed towards the south-west and into the lake located in the northern portion of the subject site.

The overall landfill site was understood to incorporate gas collection pipework with some areas remote from the subject site generating sufficient methane to fuel a gas engine.

2.11.1 Operating Procedures

Tipping was reportedly carried out in a layer fashion at 3m intervals until the required landform profile was reached. The surface of each layer was slightly domed to aid water runoff.

Progressive reinstatement of the tipped areas within the landfill was to be carried out in accordance with an agreed scheme.

A restoration specification was to be adopted and comprised a 0.5m thick layer of subsoil, free of large solid objects to cover the final tipped material layer. Topsoil was to be placed over the subsoil and the ground surface seeded with grass.

A 4m high screening bund was installed along the boundary with Netley Grange offering runoff protection to Netley Grange (c. 150-200m east of the site).

2.11.2 Boundary Gas Venting Trench System

A boundary gas venting trench (GVT) was installed along the southern boundary of the landfill site including the section closest to the subject site. A series of ground gas monitoring wells were installed along the landfill site's boundary. HCC undertakes regular spot monitoring of these boundary wells. The wells of relevance to the subject site were BH2.06, BH2.07, BH2.09 and BH2.11.

With reference to the monitoring data provided by HCC, the spot monitoring undertaken between 04/04/2014 to 03/03/2016 in BH2.06, BH2.07, BH2.09 and BH2.11 did not detect methane during any monitoring round but did detect carbon dioxide at concentrations in the range 0.1-12.7% and oxygen in the range 11.1-21.6%. Flow data was not given as part of the information received. The atmospheric pressure at the time of the spot monitoring was recorded in the range 992mb-1031mb. Differential pressures were reported in the range 0.0-0.3mb. A request has been made to HCC for up to date monitoring data.

2.12 Historic Mapping

Historic maps dating back to 1867 were obtained as part of the desk study. A summary of the apparent key features observed on the map extracts both on the site and within the local area is presented within Table 2.4.

Date	On-site	Off-site
1871 (1:2,500)	Mapping indicated that the site comprised part of a lake on the north, a field to the east, woodland and path/road on the west.	The lake on the north of the site continued off the north of the site beyond there was woodland. The ruins of Netley Abbey c.100m and a Moat that ran from the site southwest. Another group of buildings and pond were identified c.100m east of the site.
1868-1871 (1:10,560)	No significant changes identified.	A vicarage was identified within 500m west of the site. The coast was identified 500m west of the site. A train line was identified c.250m east of the site. Woodland was identified to the north and fields were identified to the south of the site.
1895-1896 (1:10,560)	No significant changes identified.	A Pond was identified within 250m west of the site. Another pond was identified 1000m west of the site. Residential development was noted within 500m west and southwest of the site. Additional residential properties were noted c.500m south and southeast.
1896-1898 (1:10,560)	No significant changes identified.	No significant changes identified.
1897 (1:2,500)	Two buildings were noted to be on the west of the site.	No significant changes identified.
1907-1908 (1:10,560)	One of the buildings on the site was redeveloped or extended. Woodland was noted on the east side of the site.	Continued residential development was identified south of the site within and c.500m. A recreational ground was also identified 500m south of the site.
1909-1910 (1:2,500)	Three buildings were shown on the site.	Continued residential development c.100m southwest of the site. Ground works were noted immediately west of the site.
1931-1932 (1:10,560)	No significant changes identified.	Continued development of the land south of the site was shown less than 100m south and c.250m south and southeast.
1933 (1:2,500)	No significant changes identified.	No significant changes identified.
1957-1962 (1:10,560)	The largest building was no longer shown on the site. A new smaller building was shown on the site.	A large amount of development was shown immediately south to c.250m south of the site. A large amount of development was also shown c.750m northwest of the site. A number of properties were identified less than 250m northwest and west of the site. A sand and gravel pit was shown 500m northwest of the site.

Date	On-site	Off-site
1957-1962 (1:10,000)	One building was shown on the site.	The sand and gravel pit identified northwest of the site was extended in a northeastern direction. Some further development was identified c.100m south and southwest of the site.
1964-1965 (1:2,500)	A smaller second out building was noted north of the main house on the site.	No significant changes identified.
1972 (1:2,500)	No mapping available.	Limited mapping identified no significant changes.
1986-1987 (1:1,250)	One main property was shown with three smaller outbuildings to the south.	Residential development immediately southwest of the site was shown.
1989-1993 (1:10,000)	No significant changes identified.	Residential development and development of a school was noted within 500m east of the site. The sand and gravel pit northwest of the site was no longer shown. A large sand and gravel pit was noted within 500m of the site to the northeast.
1993 (1:1,250)	No significant changes identified.	No significant changes identified.
2001 (1:10,000)	No significant changes identified.	The sand and gravel pit to the northeast was no longer mapped.
2003 (1:1,250)	Two buildings were shown on site comprising one main house with a second smaller outbuilding to the southeast of the main building.	A building was mapped immediately south of the site.
2010 (1:10,000)	No significant changes identified.	Extension of the property immediately west was noted
2023 (1:10,000)	No significant changes identified.	No significant changes identified.

Table 2.4 Summary of historic map extracts

Historic mapping showed a lake to occupy the northern portion of the site throughout the mapping period, with a field and woodland being developed for a residential use (assumed use based on layout and walkover observations).

A number of sand pits were identified between 95m and 1000m from the site boundary generally located to the north of the site. These sand pits were shown to increase in size over the mapping period and subsequently become disused (infilled with landfill wastes, as demonstrated by the historic landfill records in Section 2.10). These sand pits/landfills have not since been redeveloped other than restoration and use as a nature reserve, however, there has been development, including residential, of the land between the site and the identified landfills.

2.13 Asbestos

Whilst no clear evidence of asbestos containing materials was observed during the site walkover visit, in line with current best practice, asbestos and ACM should be assumed to be present until proven otherwise, this includes the consideration of the potential for asbestos to be present within the shallow soils on the site as well as beneath areas of hardstanding.

The absence of asbestos recorded as part of the site walkover is not a guarantee of the absence of asbestos elsewhere on a site.

2.14 Previous Ground Investigations

Geo-Environmental was not aware of any previous intrusive investigations that had been undertaken on the subject site itself.

2.15 Potential Contamination

The site's previous and current use is as residential. Elevated concentrations of contaminants of concern could potentially be present within any Made Ground and shallow natural soils underlying the site given the site's developed nature, albeit that the historic site use appears to have been residential and thus not considered a high contamination potential. Gross contamination is considered unlikely based on the information reviewed, however there remains a potential for the possible presence of commonly occurring brownfield contaminants. Potential contaminants could include heavy metals, organic pollutants such as poly-aromatic hydrocarbons (PAH), inorganic compounds and asbestos.

Two former landfill sites are located within 500m of the site, located to the north and northwest of the site. The potential for the migration of contaminants from these landfills would be reduced with the presence of active leachate and gas management systems. However, if no management systems are present on the two landfill sites in close proximity to the site, and due to the fact that leachate and gas management systems can be breached and/or turned off, there remains the potential for contaminants associated with these two landfill sites to migrate towards, or beyond their own site boundaries. Potential contaminants associated with these landfills include heavy metals, organic pollutants such as poly-aromatic hydrocarbons (PAH), petroleum hydrocarbons/ oils, inorganic compounds, SVOC and VOCs, PCBs. However, the landfills are separated from the subject site by a lake and extension of a valley feature which significantly reduces the risk of contaminant migration to the site. Ground gas is considered below.

2.16 Ground Gas and Vapour Summary

The desk study has identified the potential for ground gases and vapours associated with the two nearby former landfill sites to the north and north-west of the site. These landfill sites represent a potential source of ground gas due to the types of wastes that were permitted and deposited.

There is active landfill gas collection and leachate management on the landfill sites. There are gas and groundwater monitoring boreholes located around the perimeter of the landfill site (Westwood Phase 3), including along the southern boundary, i.e. the boundary closest to the subject site. The boreholes are understood to be monitored routinely for the presence of landfill gases and the results are reported to the Environment Agency in line with the Environmental Permit.

The anticipated geology underlying the site comprises superficial River Terrace Deposits underlain by bedrock geology of the Selsey Sand Formation. Both the River Terrace Deposits and Selsey Sand Formation are likely to contain permeable layers that could represent a plausible lateral migration pathway. Both lateral and vertical permeability in the strata is likely to be possible.

It is possible that over time, the GVT could become less effective and thus gas could migrate outside of the landfill site boundary. Migration in more permeable strata, as anticipated to be present, could also be inhibited by the variation in composition which often comprises silty and clayey sand and also by the presence of groundwater.

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However, this migration is unlikely to be uniform but subject to various additional factors. Lateral migration would be intercepted by the shallow valley, watercourse and lake, therefore lateral migration is not considered plausible and thus ground gas could ventilate to atmosphere.

The highest concentration of carbon dioxide recorded in the monitoring data provided by HCC was 12.7% in monitoring well BH2.09 which was located c.100m to the northwest of the subject site and separated from the subject site by a lake and extension of the valley feature.

3.0 PRELIMINARY ASSESSMENT

Based on the findings of the desk study, the following sections summarise the anticipated geotechnical and environmental factors likely to impact the site.

3.1 Preliminary Geotechnical Assessment

3.1.1 Potential Geotechnical Issues

The following factors that might impact the geotechnical condition of the site were identified as part of the desk study:

- The possible presence of Made Ground (e.g. varying depth and/or composition) which if encountered may affect the foundation design and construction.
- The presence of laterally and vertically variable strata, and the impact these could have on further construction.
- The suitability of shallow soils as a bearing stratum for conventional foundations.
- Consideration of the volume change potential of any cohesive soils and the affect this could have on foundations.
- The possible presence of aggressive ground conditions (sulphates) which may affect the foundation design and construction.
- The possible presence of shallow groundwater beneath the site and impact this might have on foundation type and constructability, e.g. running sand and collapse during construction.
- The presence of any trees or hedgerows on the site, which may have a significant impact on foundation design and construction if/where shrinkable soils are present.
- The potential for discharge of storm water to the ground.

3.2 Preliminary Environmental Conceptual Site Model & Risk Assessment

3.2.1 Methodology

A Preliminary Risk Assessment ('PRA') and Conceptual Site Model ('CSM'), see Figure 2, have been prepared in accordance with LCRM based on information obtained as part of the desk study. Possible risks associated with potential sources of contamination and sensitive receptors identified have been qualitatively assessed following a source-pathway-receptor ('Pollutant Linkage') approach in accordance with current UK protocols.

A risk of harm may only exist where a plausible pollutant linkage is present, and where the quantity or concentration of a contaminant is sufficient so as to pose harm. Under the statutory definition, "Contamination" may only strictly exist where contaminants pose a risk of harm to a receptor. The risk classification has been assessed in accordance with CIRIA C552 (Rudland et al., 2001). A summary of how the risks are derived and their definitions are presented in Tables 3.1 and 3.2.

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very high risk	High risk	Moderate risk	Moderate/low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low Likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

Table 3.1 Risk ratings matrix

Risk Rating	Definitions
Very high risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not already undertaken) and remediation are likely to be required.
High risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not already undertaken) is required and remediation works may be necessary in the short term and are likely over the longer term.
Moderate risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild.
Moderate to low risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is unlikely that any such harm would be severe, or if any harm were to occur it is probable that the harm would be relatively mild.
Low risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very low risk	There is low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

Table 3.2 Risk rating definitions

3.2.2 Summary of Plausible Sources

Possible sources of contamination identified from the desk study are summarised in Table 3.3.

Source	Description	Contaminants
Made Ground and shallow soils	The general quality of Made Ground and shallow soils could be impacted by the presence of contamination in view of the site's use as residential land. However, this is considered to be very limited given that the main residential use of the site has been limited to single properties/small outhouses in a single area.	Possible elevated concentrations of metals, metalloids, TPH and PAH compounds and asbestos in Made Ground (if present).
Off site land uses (landfills)	Two former landfills have been identified to the north and northwest of the site. As such, there is the potential that these land uses may have resulted in a potential impact to soils and groundwater beneath the site.	Possible elevated concentrations of metals, metalloids, possible elevated organic pollutants such as TPH and PAH compounds, sulphate and asbestos, cyanide, ammonia, SVOC and VOCs, PCBs. [gas considered separately]
Ground gases/vapours	In view of the two former landfills in close proximity to the site there is the potential for ground gases and vapours to be present.	Methane, carbon dioxide, depleted oxygen, trace gases and volatile organic compounds.

Table 3.3 Possible sources of contamination

3.2.3 Summary of Plausible Pathways

The plausible pathways are summarised in Table 3.4. These pathways are based on the proposed end use, including private gardens and communal soft landscaping.

Pathway	Description
Direct Contact	Ingestion of soil particles, inhalation of soil derived dust (including tracked back dust), dermal contact.
Inhalation	Inhalation of soil dust both inside and outside of buildings. Inhalation of ground gas/vapours within buildings.
Vertical & Lateral Migration	Contaminant movement both vertically through leaching/gravity and horizontally along preferential pathways, e.g. services trenches, more permeable strata or with groundwater.
Shallow Groundwater	Shallow groundwater or perched water may be present within the Made Ground or natural strata which could facilitate or inhibit in the vertical and lateral migration of contaminants.
Chemical Attack	Attack of buried plastics and concrete by aggressive ground conditions.

Table 3.4 Possible contamination pathways

3.2.4 Summary of Plausible Receptors

Potential receptors associated with the site and its development are summarised in Table 3.5.

Receptor	Description	Comments
End Users	Residents/occupants of the proposed development.	The proposed development comprises housing with private garden area and a garage.

Receptor	Description	Comments
Soft Landscaping	Possible areas of planting including lawns, shrubs, trees, etc.	Soft landscaped areas are likely to comprise of a private garden.
Built Environment	Buried concrete for foundations and plastics for potable water supply pipes may be laid in contact with contaminated soils.	Aggressive ground conditions and depths of Made Ground may be present beneath the site.
Adjacent Land Users	Sensitive land uses identified within the immediate vicinity.	Adjacent land use to the west is primarily residential, with associated garden areas and agricultural grazing fields.
Groundwater	Controlled waters contained within the aquifer(s) beneath the site.	The site overlies a Secondary 'A' Aquifer and is outside of any SPZ.
Surface Water	Controlled Waters within lakes, rivers, and ponds, etc., or coastal waters.	Surface water was identified on site, a lake was located on the north of the site. A stream flowed into the lake from the north-east and out of the lake to the south-west before discharging into Southampton Water (part of the Solent).
Ecological Receptors	Sensitive areas of ecological significance.	A Local Nature Reserve and Ancient Woodland were identified on the restored landfill to the north of the site. The landfill is considered to be the most likely source of any adverse impact on these identified sensitive receptors, and as such, they have not been considered further as part of the assessment of the subject site.

Table 3.5 Possible receptors of contamination

Site workers involved in the preparation and construction of the development have not been considered further in this assessment as the Principal Contractor is duty bound under the current CDM Regulations to undertake their own risk assessments with respect to their employees.

Whilst the above sources and receptors have been identified, Table 3.6 summarises the identified plausible pollution linkages and a qualitative assessment of the risks based on the desk study research.

Conceptual site models are presented in Figure 2 and Figure 3.

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Potential Source/media	Potential Receptors	Potential Pathways	Likelihood	Severity	Risk and Justification
Contaminants of Concern (Made Ground and Shallow Soils)	End users	Direct contact	Low	Mild	Low End users could come into contact with soils via direct contact as the development will include a private garden and soft landscaping. Made Ground is only likely to be present in distinct and localised areas of the site. There is no record of any impact currently (current residential use) on the site.
	Soft Landscaping	Root Uptake	Low	Mild	Low The proposed development includes a private garden and soft landscaping.
	Adjacent land users	Direct or indirect contact	Unlikely	Mild	Very Low Adjacent site users are unlikely to come into contact with soils.
	Water supply pipes	Direct contact	Low	Mild	Low Water supply pipes could come into contact with impacted soils depending upon depth of installation and extent of any soil impact. Barrier pipe may be required, if specific contaminants are present.
	Buildings and infrastructure	Direct contact	Unlikely	Mild	Very Low Foundations and utilities will be placed within potentially aggressive soils (e.g. sulphate).
	Groundwater	Vertical migration	Unlikely	Medium	Low The proximity of nearby streams and the on-site lake indicates that shallow water (<5m bgl) could be present albeit possibly discontinuous/associated with more permeable strata. The strata beneath the site are classified as a Secondary 'A' Aquifer. Fluctuations in groundwater levels are likely and could result in migration of mobile contaminants. However, given that site wide Made Ground or soil based impact is unlikely, the risk of harm to groundwater from Made Ground could be limited.

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Potential Source/media	Potential Receptors	Potential Pathways	Likelihood	Severity	Risk and Justification
	Surface Water	Lateral Migration	Low	Mild	Low A lake is located on the northern portion of the site. As such if contaminants are present within the shallow soils on the site, leaching and lateral migration of the contaminants may occur.
Off-Site Potential Sources (Landfills)	End users	Direct contact	Unlikely	Mild	Very Low End users are unlikely to come into contact with soils via direct contact as the off-site landfill has undergone restoration including placement of a cover system in accordance with its permit requirements.
	Soft Landscaping	Root Uptake	Low	Mild	Low Soft landscaping and private garden are proposed.
	Adjacent land users	Direct or indirect contact	Unlikely	Mild	Very Low Adjacent site users are unlikely to come into contact with soils.
	Water supply pipes	Direct contact	Unlikely	Mild	Very Low Any new pipework would be expected to connect the proposed development with supply pipes along Grange Road, i.e. opposite direction from the off-site landfill.
	Groundwater	Vertical migration	Likely	Mild	Low The proximity of a stream and lake within the northern portion of the site indicates that shallow water (<5m bgl) could be present albeit possibly discontinuous/associated with more permeable strata. The strata beneath the site are classified as a Secondary 'A' Aquifer. Fluctuations in groundwater levels are likely and could result in migration of mobile contaminants. However, flow is likely to be towards the lake and then

Potential Source/media	Potential Receptors	Potential Pathways	Likelihood	Severity	Risk and Justification
					follow topography and surface water flow, i.e. to the south-west and not onto the developable portion of the site.
	Surface Water	Lateral Migration	Likely	Medium	Moderate Westwood Phase 3 Landfill site is located beyond the lake and stream on the northern portion of the site. It is unknown if there is an active leachate extraction system within the landfill, e.g. installed as part of restoration works, but it was filled as a dilute and disperse facility. Nonetheless, this assessment has not identified any specific evidence of harm or nuisance to the surface water within the site.
Ground Gases and Vapours	End users	Inhalation	Unlikely	Medium	Low Ingress of hazardous ground gas into buildings in proximity to any landfilled area or ground gas/vapour source could occur and could result in significant harm where ground gases are identified onsite. However, the lake and stream (within a shallow valley) located in the northern portion of the site are considered to represent barriers to lateral migration, e.g. venting to atmosphere on the northern valley flank and northern lake side rather than migrating onto the developable area of the site. This barrier to migration is considered to be independent to whether any gas extraction system is working or not within the landfill, or the condition of the GVT on the landfill boundary, which may be anticipated to become less effective over time unless well maintained.
	Soft Landscaping	Root Uptake	Low	Mild	Low Private garden and soft landscaping are proposed. No evidence of harm to existing plants.

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Potential Source/media	Potential Receptors	Potential Pathways	Likelihood	Severity	Risk and Justification
	Adjacent land users	Inhalation	Unlikely	Mild	Very Low It is considered to be unlikely that adjacent land users will come into contact with ground gases and vapours originating on site given that no plausible sources of gas generation have been identified from the desk study.

Table 3.6 Plausible pollutant linkages & qualitative risk assessment

3.3 Preliminary Risk Assessment Summary

The Preliminary Risk Assessment (PRA) and Conceptual Site Model (CSM) developed from the information gathered as part of the desk study process have identified plausible potential pollutant linkages that exist in relation to the proposed redevelopment of the site.

The potential pollutant linkages established within this desk study are not considered to prevent development on the subject site but could require investigation and assessment to support further characterisation, calibration of the CSM and where/if necessary, determine a remedial strategy to reduce, remove or otherwise control any risk within the site to key receptors.

The two nearby former landfills sites are assumed to be located within the River Terrace Deposits and the Selsey Sand Formation. A gas migration pathway from these landfills to the subject site may be present due to the underlying permeable/semi-permeable geologies. However, consideration must be given to the presence of the stream and lake between the landfills site and the subject site and site topography, the presence a valley between the sites.

A graphical CSM has been developed for the site and is presented within Figure 3 which shows the topographical changes on site and between the site and the landfills and the presence of the stream fed lake. This CSM demonstrates that due to topography and the presence of the stream fed lake, pollutant migration pathways from the landfill sites to the subject site are not present. As such the risk of lateral gas migration and/or soil and water pollutant migration from these landfill sites is considered very low due to pollutant pathways demonstrated as not being present. Furthermore, in terms of gas migration this is considered to be the case with or without active gas protection measures in operation on the adjacent landfill site.

In order to progress this assessment in line with the National Planning Policy Framework, to provide further characterisation of the site, refinement of the PRA and CSM, it is recommended that geotechnical investigation will be required in due course to assess the existing foundation and floor construction in relation to the proposed conversion works and to inform detailed design.

3.4 Preliminary Geotechnical Assessment Summary

The site is anticipated to be underlain by superficial deposits of River Terrace Deposits and bedrock Selsey Sand Formation. These strata have the potential to comprise cohesive soils and account may need to be taken of the potential for shrinkable soils to be present and the influence of shrubs and trees (existing or proposed). Cohesive strata can also be subject to transient changes in soil moisture content resulting in desiccation and thus further assessment of desiccation may be required in due course.

It is considered possible that conventional foundations, e.g. strip or pad, could be suitable for the proposed development subject to confirmation of the ground and groundwater conditions by intrusive investigation and monitoring. The presence of deep Made Ground, reworked ground or cohesive strata could require alternative foundation solutions, such as ground improvement, piles or the like. Similarly, if clay soils are present onsite then foundation design will need to account for the presence of trees/hedging and vegetation currently on the site (or proposed) and this may require deepening of foundations in line with NHBC guidance, or other relevant good practice guidance. Groundwater within granular soils could also cause constructability issues which have the potential to render conventional foundations unsuitable without significant ground support and groundwater control, and so piled foundations might also be a technical solution in this scenario.

Whilst ground bearing floor slabs may be suitable if shrinkable soils and deep Made Ground are not present, suspended floor slabs are recommended at this stage.

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Natural strata are likely to be variable in composition and the presence of clay or silt rich soils could inhibit storm water infiltration. In addition, the presence of a stream and lake would appear to indicate that strata at relatively shallow depth are either of low permeability or a shallow groundwater body is present. It may be possible to consider surface infiltration via permeable paving and the like prior to discharge to the local surface water network under an extension of riparian rights. Intrusive investigation, infiltration testing may be required to inform an emerging drainage strategy for the site.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

The development proposed comprises the demolition of the existing house and associated outbuildings and construction of a new house and garage set within the existing grounds.

It is concluded that there is a limited potential for localised soil-based contamination to exist at the site due to its recent and historic uses. Whilst a potential off-site source of contamination, i.e. former landfill to the north, has been identified, it is understood that landfill restoration included the placement of a clean soil cover system over the deposited waste and that the landfill now comprises a nature reserve. In addition, site topography and the presence of a stream fed lake between the subject site and the landfill site, it has been demonstrated that lateral migration pathways are not present. As such, there is considered to be limited potential for any soil or water-based impact or any gas migration from the off-site landfill onto the subject site.

It is considered that no further assessment is required at this time. However, should any unexpected contamination or suspect materials be encountered during the redevelopment works then the Discovery Strategy must be followed. The Discovery Strategy is presented in section 5 below.

It is concluded that based on the current proposals for the redevelopment of the site that geotechnical investigation works will be required, in due course, to inform the detailed design and assess the existing foundations.

4.2 Recommendations

At this stage and based on the findings of the desk study and preliminary risk assessment, no further investigation works are recommended. However, it is recommended that a Discovery Strategy is in place for the duration of the redevelopment works, presented in section 5 below.

In addition, it is anticipated that if gross soil contamination is encountered, or pockets of asbestos impacted soils are present, these could be classified as Hazardous Waste if off-site removal is required.

5.0 Discovery Strategy

Whilst an intrusive investigation has been undertaken on the site, it remains possible that unexpected ground and/or groundwater conditions may be encountered during the process of construction.

Should previously undiscovered contamination or unforeseen ground conditions be encountered during construction by the ground workers, this must be reported to the Site Manager immediately in order that the Consultant is notified. Where deemed necessary, the Consultant shall attend the site to inspect the discovery and provide recommendations on the further actions required, if any. Where necessary the regulatory authority shall be informed. Post any additional investigation or laboratory testing the results and any proposed remedial measures shall be reported to the regulatory authority or other appropriate organisation for consent, before proceeding or implementing the remedial measures.

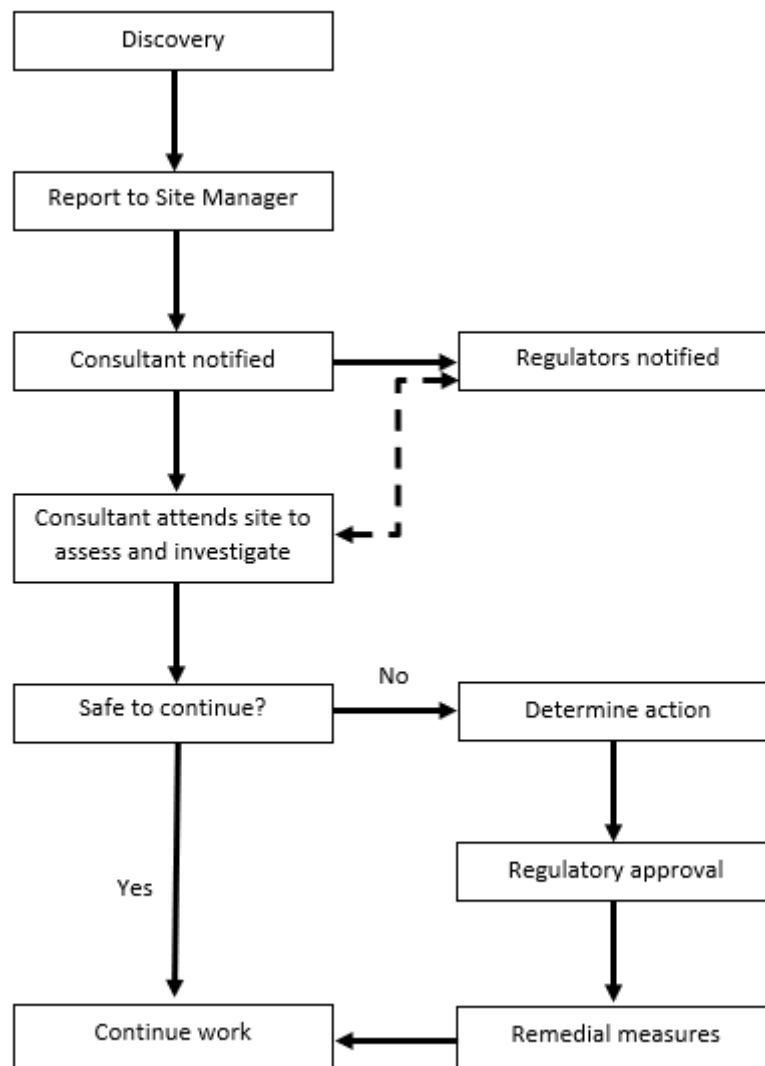
A copy of the discovery strategy must be lodged on site, and provisions made to ensure that all workers are made aware of their responsibility to observe, report, and act on any potentially suspicious, abnormal, unforeseen or contaminated ground and/or groundwater conditions they may encounter.

Depending on the type, nature and extent of any such 'discovery', it may be necessary to halt works in that location until such time as the assessment has been completed. This shall be reviewed on a 'discovery' specific basis and in conjunction with consultation with the client, other technical personnel and/or regulatory/approval organisations.

As a general guide, where such unexpected conditions are encountered the following approach is required as a minimum:

- All discoveries are to be reported to the Site Manager immediately and works at that location are to halt until further notice;
- The Site Manager is to report any such discoveries to the Client and the Consultant;
- Following notification from the Site Manager, the Consultant shall discuss the discovery with the Local Authority and/or other relevant parties and if considered necessary, arrange to meet on site to view the discovery;
- The Consultant shall attend the site to record the location, extent and nature of the discovery and implement an appropriate sampling and analysis regime, taking due account of the type and nature of the discovery, known and probable land uses in that area of the site;
- Where remedial action is required, regulatory consultation and approval will be sought;
- A record will be produced by the Consultant and held on site (with copies held by the Consultant, Client and Local Authority/other relevant organisation), detailing the discovery, assessment works undertaken, findings thereof, confirmation either of no action required or detailing the remedial action taken and validation thereof.

The process is shown below.



Caveat

The data collected from the investigations have been used to provide an interpretation of the geo-environmental conditions pertaining to the site. The recommendations and opinions expressed in this report are based on the data obtained.

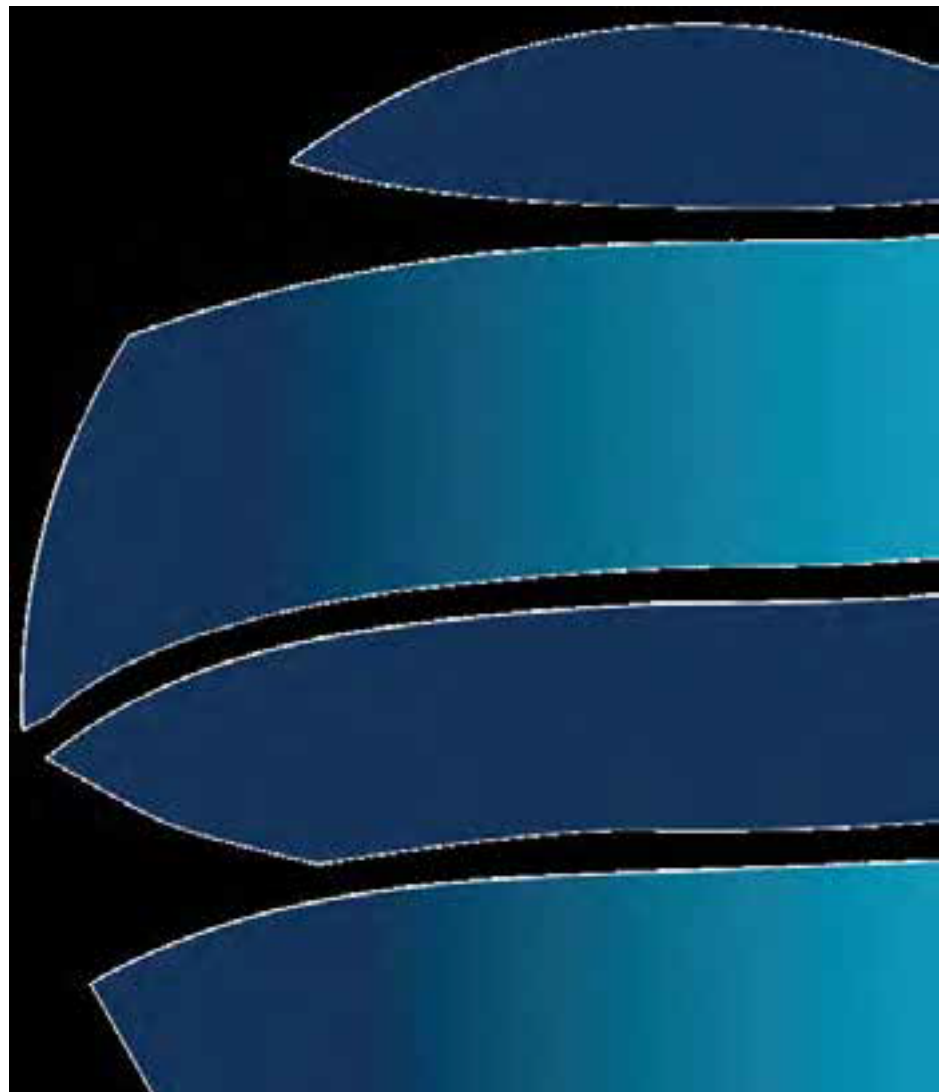
Geo-Environmental Service Limited takes no responsibility for conditions that either have not been revealed in the available records, or that occurs between or under points of physical investigation. Whilst every effort has been made to interpret the conditions, such information is only indicative and liability cannot be accepted for its accuracy.

Information contained in this report is intended for the use of the client and their agents, and Geo-Environmental Services Limited can take no responsibility for the use of this information by any third party for uses other than that described in this report.

It should be noted that in particular the concentrations and levels of mobile liquid and gaseous materials are likely to vary with time. The results obtained may therefore only be representative of the conditions at the time of sampling. Such reservations have been indicated in the text where such conditions are considered to apply.

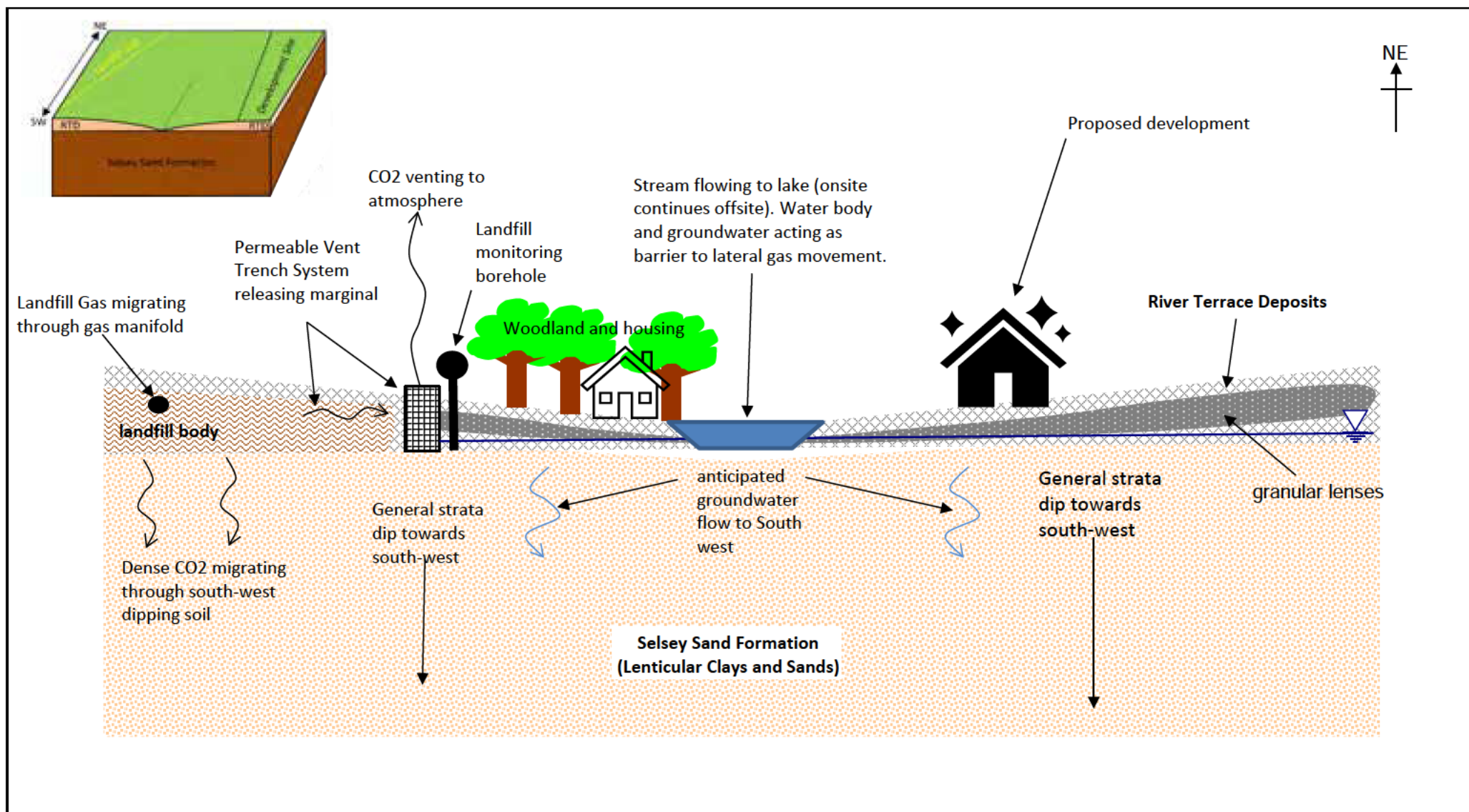
Geo-Environmental Services Limited does not indemnify any third parties such as the vendor against any dispute or claim arising from any finding or result of this investigation or any claim or dispute arising as a result of any decisions made thereof.

Figures



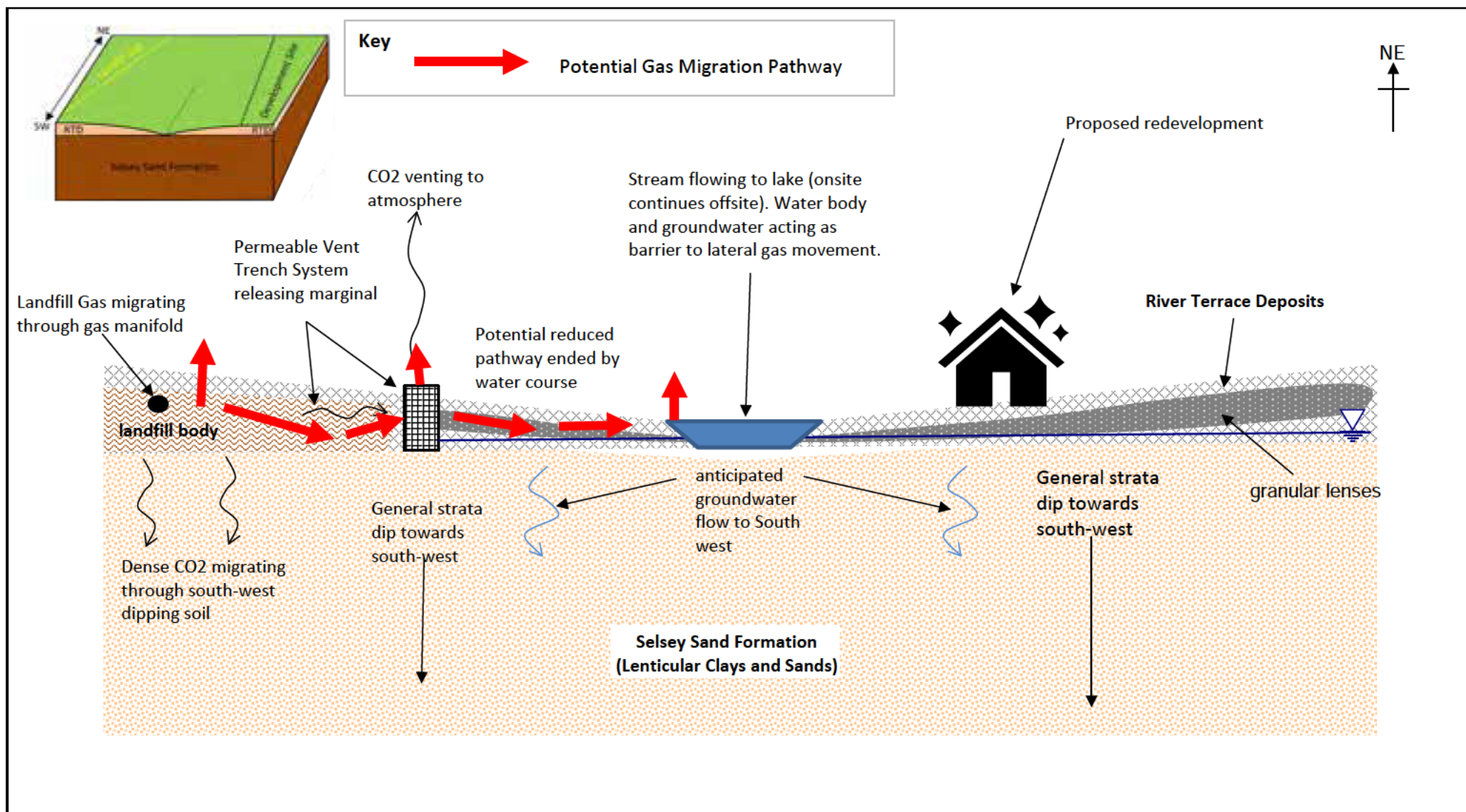


Project:	Monks Lake, Grange Road, Netley			Title	Site Location Plan	
Client:	Lewis and Mallon Architects			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net	 Geo-Environmental	
Ref No:	GE21897	Revision:	1.0			
Drawn:	TM	Date:	15/08/2023			
Figure:	1	Scale:	Not To Scale			



Project:	Monks Lake, Grange Road, Netley			Title	Conceptual Site Model	
Client:	Lewis and Mallon Architects			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net	 Geo-Environmental	
Ref No:	GE21897	Revision:	1.0			
Drawn:	TM	Date:	15/08/2023			
Figure:	2	Scale:	Not To Scale			





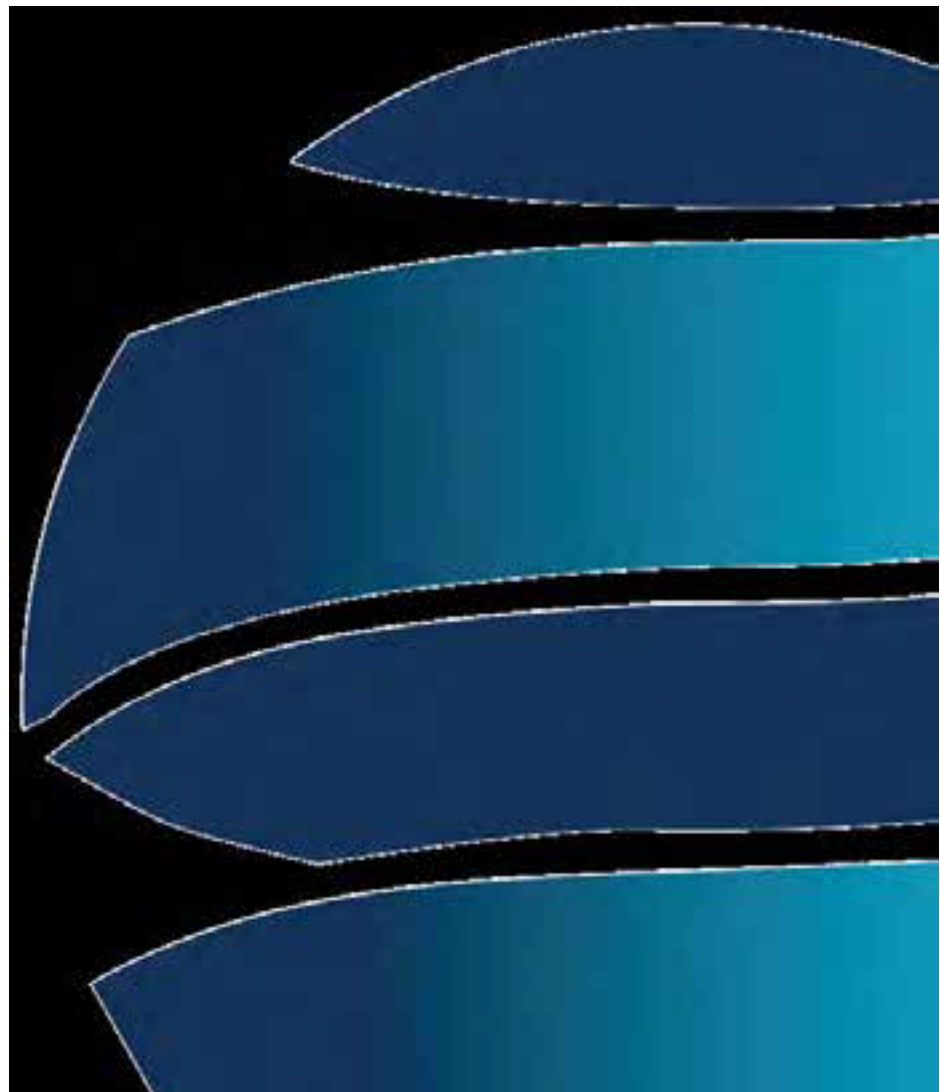
Project:	Monks Lake, Grange Road, Netley			Title	Conceptual Site Model (Gas Pathways)	
Client:	Lewis and Mallon Architects			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net	 Geo-Environmental	
Ref No:	GE21897	Revision:	1.0			
Drawn:	TM	Date:	15/08/2023			
Figure:	3	Scale:	Not To Scale			



Project:	Monks Lake, Grange Road, Netley			Title	Landfill Location Plan	
Client:	Lewis and Mallon Architects			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net	 Geo-Environmental	
Ref No:	GE21897	Revision:	1.0			
Drawn:	TM	Date:	15/08/2023			
Figure:	4	Scale:	Not To Scale			

Appendix !

Desk Study Information



MONKS LAKE, GRANGE ROAD, NETLEY ABBEY, SO31 5FF

Order Details

Date: 01/08/2023
Your ref: GE21897_-_PO-6642
Our Ref: GS-61T-R1V-RB6-1L3

Site Details

Location: 445584 109118
Area: 0.71 ha
Authority: [Eastleigh Borough Council](#) ↗



Summary of findings

[p.2 >](#) **Aerial image**

[p.9 >](#)

OS MasterMap site plan

[p.14 >](#) groundsure.com/insightuserguide ↗

Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	12	14	26	-
18 >	1.2 >	Historical tanks >	0	0	0	2	-
18 >	1.3 >	Historical energy features >	0	0	1	16	-
19	1.4	Historical petrol stations	0	0	0	0	-
19 >	1.5 >	Historical garages >	0	0	0	1	-
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	12	24	35	-
24 >	2.2 >	Historical tanks >	0	0	0	2	-
25 >	2.3 >	Historical energy features >	0	0	3	21	-
26	2.4	Historical petrol stations	0	0	0	0	-
26 >	2.5 >	Historical garages >	0	0	0	2	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
27	3.1	Active or recent landfill	0	0	0	0	-
27	3.2	Historical landfill (BGS records)	0	0	0	0	-
28 >	3.3 >	Historical landfill (LA/mapping records) >	0	0	2	2	-
28 >	3.4 >	Historical landfill (EA/NRW records) >	0	1	1	0	-
29	3.5	Historical waste sites	0	0	0	0	-
29	3.6	Licensed waste sites	0	0	0	0	-
29 >	3.7 >	Waste exemptions >	0	0	1	1	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
30 >	4.1 >	Recent industrial land uses >	0	0	1	-	-
31	4.2	Current or recent petrol stations	0	0	0	0	-
31	4.3	Electricity cables	0	0	0	0	-
31	4.4	Gas pipelines	0	0	0	0	-
31	4.5	Sites determined as Contaminated Land	0	0	0	0	-



31	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
32	4.7	Regulated explosive sites	0	0	0	0	-
32	4.8	Hazardous substance storage/usage	0	0	0	0	-
32	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
32	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
32	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
33	4.12	Radioactive Substance Authorisations	0	0	0	0	-
33 >	4.13 >	<u>Licensed Discharges to controlled waters</u> >	0	0	3	0	-
33	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
34	4.15	Pollutant release to public sewer	0	0	0	0	-
34	4.16	List 1 Dangerous Substances	0	0	0	0	-
34	4.17	List 2 Dangerous Substances	0	0	0	0	-
34 >	4.18 >	<u>Pollution Incidents (EA/NRW)</u> >	0	0	1	1	-
35	4.19	Pollution inventory substances	0	0	0	0	-
35	4.20	Pollution inventory waste transfers	0	0	0	0	-
35	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	<u>Hydrogeology</u> >	On site	0-50m	50-250m	250-500m	500-2000m
36 >	5.1 >	<u>Superficial aquifer</u> >	Identified (within 500m)				
37 >	5.2 >	<u>Bedrock aquifer</u> >	Identified (within 500m)				
38 >	5.3 >	<u>Groundwater vulnerability</u> >	Identified (within 50m)				
39	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
39	5.5	Groundwater vulnerability- local information	None (within 0m)				
40	5.6	Groundwater abstractions	0	0	0	0	0
41 >	5.7 >	<u>Surface water abstractions</u> >	0	0	0	0	4
42	5.8	Potable abstractions	0	0	0	0	0
42	5.9	Source Protection Zones	0	0	0	0	-
42	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	<u>Hydrology</u> >	On site	0-50m	50-250m	250-500m	500-2000m
43 >	6.1 >	<u>Water Network (OS MasterMap)</u> >	5	5	7	-	-



45 >	6.2 >	Surface water features >	1	2	3	-	-
45 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
46	6.4	WFD Surface water bodies	0	0	0	-	-
46 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
47 >	7.1 >	Risk of flooding from rivers and the sea >	Medium (within 50m)				
48	7.2	Historical Flood Events	0	0	0	-	-
48	7.3	Flood Defences	0	0	0	-	-
48	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
48	7.5	Flood Storage Areas	0	0	0	-	-
49 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
50 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
51 >	8.1 >	Surface water flooding >	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
53 >	9.1 >	Groundwater flooding >	High (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
54 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	3
55 >	10.2 >	Conserved wetland sites (Ramsar sites) >	0	0	0	0	3
57	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
57 >	10.4 >	Special Protection Areas (SPA) >	0	0	0	0	8
59	10.5	National Nature Reserves (NNR)	0	0	0	0	0
59 >	10.6 >	Local Nature Reserves (LNR) >	1	0	0	0	1
59 >	10.7 >	Designated Ancient Woodland >	0	0	1	0	5
60	10.8	Biosphere Reserves	0	0	0	0	0
60	10.9	Forest Parks	0	0	0	0	0
60	10.10	Marine Conservation Zones	0	0	0	0	0
60	10.11	Green Belt	0	0	0	0	0
61	10.12	Proposed Ramsar sites	0	0	0	0	0



61	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
61	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
61	10.15	Nitrate Sensitive Areas	0	0	0	0	0
62 >	10.16 >	Nitrate Vulnerable Zones >	1	0	0	0	1
63 >	10.17 >	SSSI Impact Risk Zones >	2	-	-	-	-
65 >	10.18 >	SSSI Units >	0	0	0	0	5
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
68	11.1	World Heritage Sites	0	0	0	-	-
69	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
69	11.3	National Parks	0	0	0	-	-
69 >	11.4 >	Listed Buildings >	0	0	2	-	-
70 >	11.5 >	Conservation Areas >	1	0	0	-	-
70 >	11.6 >	Scheduled Ancient Monuments >	0	0	3	-	-
70	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
72 >	12.1 >	Agricultural Land Classification >	Non Agricultural (within 250m)				
73 >	12.2 >	Open Access Land >	1	0	4	-	-
73	12.3	Tree Felling Licences	0	0	0	-	-
74 >	12.4 >	Environmental Stewardship Schemes >	1	0	0	-	-
74	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
75 >	13.1 >	Priority Habitat Inventory >	5	4	10	-	-
76	13.2	Habitat Networks	0	0	0	-	-
77	13.3	Open Mosaic Habitat	0	0	0	-	-
77	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
78 >	14.1 >	10k Availability >	Identified (within 500m)				
79 >	14.2 >	Artificial and made ground (10k) >	0	1	0	0	-
80 >	14.3 >	Superficial geology (10k) >	2	2	2	0	-

81	14.4	Landslip (10k)	0	0	0	0	-
82 >	14.5 >	Bedrock geology (10k) >	1	0	1	0	-
83	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
84 >	15.1 >	50k Availability >	Identified (within 500m)				
85 >	15.2 >	Artificial and made ground (50k) >	0	0	1	0	-
86	15.3	Artificial ground permeability (50k)	0	0	-	-	-
87 >	15.4 >	Superficial geology (50k) >	2	2	1	1	-
88 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
88	15.6	Landslip (50k)	0	0	0	0	-
88	15.7	Landslip permeability (50k)	None (within 50m)				
89 >	15.8 >	Bedrock geology (50k) >	1	0	1	0	-
90 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
90	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
91	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence >					
92 >	17.1 >	Shrink swell clays >	Low (within 50m)				
93 >	17.2 >	Running sands >	Very low (within 50m)				
94 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
95 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
96 >	17.5 >	Landslides >	Very low (within 50m)				
97 >	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
99	18.1	BritPits	0	0	0	0	-
100 >	18.2 >	Surface ground workings >	11	13	37	-	-
102	18.3	Underground workings	0	0	0	0	0
102	18.4	Underground mining extents	0	0	0	0	-
102 >	18.5 >	Historical Mineral Planning Areas >	0	1	3	3	-



103	18.6	Non-coal mining	0	0	0	0	0
104	18.7	JPB mining areas	None (within 0m)				
104	18.8	The Coal Authority non-coal mining	0	0	0	0	-
104 >	18.9 >	Researched mining >	0	0	1	0	-
104	18.10	Mining record office plans	0	0	0	0	-
105	18.11	BGS mine plans	0	0	0	0	-
105	18.12	Coal mining	None (within 0m)				
105	18.13	Brine areas	None (within 0m)				
105	18.14	Gypsum areas	None (within 0m)				
105	18.15	Tin mining	None (within 0m)				
106	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
107	19.1	Natural cavities	0	0	0	0	-
107	19.2	Mining cavities	0	0	0	0	0
107	19.3	Reported recent incidents	0	0	0	0	-
107	19.4	Historical incidents	0	0	0	0	-
108	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
109 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
111 >	21.1 >	BGS Estimated Background Soil Chemistry >	2	6	-	-	-
112	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
112	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
113	22.1	Underground railways (London)	0	0	0	-	-
113	22.2	Underground railways (Non-London)	0	0	0	-	-
113	22.3	Railway tunnels	0	0	0	-	-
113	22.4	Historical railway and tunnel features	0	0	0	-	-
113	22.5	Royal Mail tunnels	0	0	0	-	-

114	22.6	Historical railways	0	0	0	-	-
114	22.7	Railways	0	0	0	-	-
114	22.8	Crossrail 1	0	0	0	0	-
114	22.9	Crossrail 2	0	0	0	0	-
114	22.10	HS2	0	0	0	0	-



Recent aerial photograph



Capture Date: 05/04/2020

Site Area: 0.71ha



Recent site history - 2017 aerial photograph



Capture Date: 21/06/2017

Site Area: 0.71ha



Recent site history - 2013 aerial photograph



Capture Date: 03/06/2013

Site Area: 0.71ha



Recent site history - 2005 aerial photograph



Capture Date: 16/05/2005

Site Area: 0.71ha



Recent site history - 1999 aerial photograph



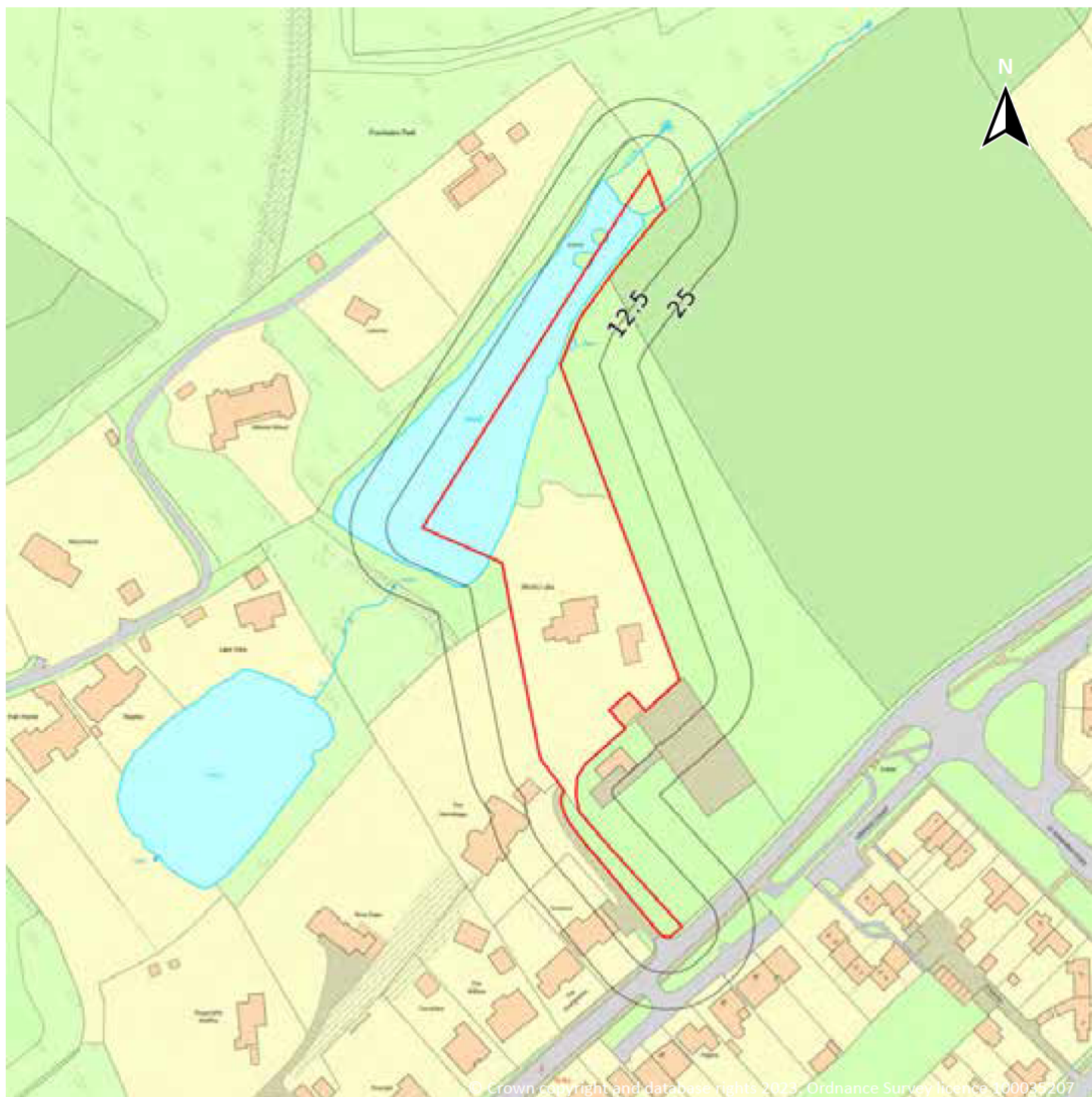
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2023. All Rights Reserved.

Capture Date: 30/04/1999

Site Area: 0.71ha



OS MasterMap site plan



Site Area: 0.71ha



1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

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1.1 Historical industrial land uses

Records within 500m

52

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	8m S	Unspecified Ground Workings	1907	1899007



ID	Location	Land use	Dates present	Group ID
B	15m SW	Unspecified Pit	1932	1916470
B	15m SW	Unspecified Ground Workings	1932	1851436
B	16m SW	Unspecified Pit	1907	1906364
B	16m SW	Unspecified Pit	1942	1965256
C	32m W	Unspecified Heap	1932	1906911
C	33m W	Unspecified Pit	1869	1876775
C	33m W	Unspecified Heap	1932	1923683
C	35m NW	Unspecified Heap	1957	1921390
C	36m NW	Unspecified Heap	1942	1904428
A	42m S	Unspecified Ground Workings	1942	1899088
A	46m S	Cuttings	1971	1881859
C	68m W	Unspecified Pit	1869	1876774
C	70m W	Unspecified Heap	1932 - 1942	1933940
D	90m NW	Unspecified Pit	1907 - 1942	1933433
D	90m NW	Unspecified Pit	1869	1947985
D	92m NW	Unspecified Ground Workings	1896	1895021
D	92m NW	Unspecified Ground Workings	1932	1896216
E	95m E	Nursery	1932	1956754
2	132m NE	Refuse Heap	1989	1883948
E	147m E	Nursery	1942	1931640
3	163m W	Unspecified Pit	1869	1876773
F	178m N	Unspecified Pit	1908 - 1938	1918511
F	179m N	Unspecified Pit	1938	1941716
G	230m N	Unspecified Pit	1938	1939903
G	230m N	Unspecified Pit	1908 - 1938	1899483
J	277m SW	Unspecified Pit	1907	1954943
J	277m SW	Unspecified Pit	1942	1959643
J	285m SW	Unspecified Pit	1932	1943803



ID	Location	Land use	Dates present	Group ID
L	311m S	Police Station	1971	1960291
L	315m S	Police Station	1957 - 1971	1949298
L	321m S	Police Station	1989	1891213
M	332m NW	Refuse Heap	1971	1942516
M	337m NW	Gravel Pit	1971	1964630
L	346m S	Police Station	1942	1901602
L	349m S	Police Station	1932	1958232
4	407m SW	Unspecified Pit	1869	1876780
5	413m NE	Cuttings	1869	1918958
P	421m NE	Cuttings	1957	1940583
P	422m NE	Cuttings	1932 - 1942	1912106
P	423m NE	Cuttings	1907	1909227
P	424m NE	Cuttings	1908	1930349
6	425m E	Cuttings	1907	1961791
7	429m N	Refuse Heap	1989	1883949
M	430m NW	Refuse Heap	1957	1939212
Q	456m E	Cuttings	1957	1909241
Q	458m E	Cuttings	1932	1925025
Q	471m E	Cuttings	1907	1953023
S	483m W	Gravel Pit	1932	1947893
S	485m W	Gravel Pit	1932 - 1942	1904929
S	486m W	Refuse Heap	1957	1883950
9	487m SW	Boat House	1932 - 1942	1893061

This data is sourced from Ordnance Survey / Groundsure.



1.2 Historical tanks

Records within 500m

2

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

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
H	267m SW	Unspecified Tank	1973	302790
H	282m SW	Unspecified Tank	1973	302791

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

17

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

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
1	103m SE	Electricity Substation	1973 - 1993	196646
I	269m S	Electricity Substation	1986 - 1993	209378
I	269m S	Electricity Substation	1973	204506
K	301m SE	Electricity Substation	1973	199838
K	301m SE	Electricity Substation	1987 - 1993	203703
H	332m SW	Gas Governor	1986	192711
H	332m SW	Gas Governor	1993	193024
J	346m SW	Gas Governor	1986	192210
J	346m SW	Gas Governor	1993	193542



ID	Location	Land use	Dates present	Group ID
J	346m SW	Gas Governor	1973	192186
N	349m SW	Gas Governor	1986	194205
N	349m SW	Gas Governor	1993	193025
O	400m S	Electricity Substation	1993	211684
O	401m S	Electricity Substation	1973 - 1987	204320
R	459m E	Electricity Substation	1978	187939
R	461m E	Electricity Substation	1986 - 1993	197486
10	495m S	Electricity Substation	1986 - 1993	198330

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

1

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

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
8	442m S	Garage	1964 - 1973	63490

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

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2.1 Historical industrial land uses

Records within 500m

71

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	8m S	Unspecified Ground Workings	1907	1899007
B	15m SW	Unspecified Pit	1932	1916470
B	15m SW	Unspecified Ground Workings	1932	1851436



ID	Location	Land Use	Date	Group ID
B	16m SW	Unspecified Pit	1942	1965256
B	16m SW	Unspecified Pit	1907	1906364
C	32m W	Unspecified Heap	1932	1906911
C	33m W	Unspecified Pit	1869	1876775
C	33m W	Unspecified Heap	1932	1923683
C	35m NW	Unspecified Heap	1957	1921390
C	36m NW	Unspecified Heap	1942	1904428
A	42m S	Unspecified Ground Workings	1942	1899088
A	46m S	Cuttings	1971	1881859
C	68m W	Unspecified Pit	1869	1876774
C	70m W	Unspecified Heap	1932	1933940
C	72m W	Unspecified Heap	1942	1933940
D	90m NW	Unspecified Pit	1942	1933433
D	90m NW	Unspecified Pit	1932	1933433
D	90m NW	Unspecified Pit	1907	1933433
D	90m NW	Unspecified Pit	1869	1947985
D	92m NW	Unspecified Ground Workings	1932	1896216
D	92m NW	Unspecified Ground Workings	1896	1895021
E	95m E	Nursery	1932	1956754
E	96m E	Nursery	1932	1956754
1	132m NE	Refuse Heap	1989	1883948
E	147m E	Nursery	1942	1931640
2	163m W	Unspecified Pit	1869	1876773
G	178m N	Unspecified Pit	1908	1918511
G	178m N	Unspecified Pit	1932	1918511
G	179m N	Unspecified Pit	1938	1941716
G	179m N	Unspecified Pit	1938	1918511
G	179m N	Unspecified Pit	1938	1918511



ID	Location	Land Use	Date	Group ID
H	230m N	Unspecified Pit	1938	1939903
H	230m N	Unspecified Pit	1938	1899483
H	230m N	Unspecified Pit	1938	1899483
H	230m N	Unspecified Pit	1908	1899483
H	230m N	Unspecified Pit	1932	1899483
K	277m SW	Unspecified Pit	1942	1959643
K	277m SW	Unspecified Pit	1907	1954943
K	285m SW	Unspecified Pit	1932	1943803
M	311m S	Police Station	1971	1960291
M	311m S	Police Station	1971	1960291
M	315m S	Police Station	1957	1949298
M	321m S	Police Station	1971	1949298
M	321m S	Police Station	1989	1891213
N	332m NW	Refuse Heap	1971	1942516
N	332m NW	Refuse Heap	1971	1942516
N	337m NW	Gravel Pit	1971	1964630
M	346m S	Police Station	1942	1901602
M	349m S	Police Station	1932	1958232
3	407m SW	Unspecified Pit	1869	1876780
4	413m NE	Cuttings	1869	1918958
5	418m NE	Cuttings	1869	1918958
Q	421m NE	Cuttings	1957	1940583
Q	422m NE	Cuttings	1932	1912106
Q	423m NE	Cuttings	1942	1912106
Q	423m NE	Cuttings	1932	1912106
Q	423m NE	Cuttings	1907	1909227
Q	424m NE	Cuttings	1908	1930349
6	425m E	Cuttings	1907	1961791



ID	Location	Land Use	Date	Group ID
7	429m N	Refuse Heap	1989	1883949
N	430m NW	Refuse Heap	1957	1939212
S	456m E	Cuttings	1957	1909241
S	458m E	Cuttings	1932	1925025
S	471m E	Cuttings	1907	1953023
U	483m W	Gravel Pit	1932	1947893
U	485m W	Gravel Pit	1932	1904929
U	486m W	Refuse Heap	1957	1883950
U	486m W	Gravel Pit	1942	1904929
V	487m SW	Boat House	1942	1893061
V	489m SW	Boat House	1932	1893061
V	490m SW	Boat House	1932	1893061

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

2

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
I	267m SW	Unspecified Tank	1973	302790
I	282m SW	Unspecified Tank	1973	302791

This data is sourced from Ordnance Survey / Groundsure.



2.3 Historical energy features

Records within 500m

24

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
F	103m SE	Electricity Substation	1987	196646
F	104m SE	Electricity Substation	1993	196646
F	104m SE	Electricity Substation	1973	196646
J	269m S	Electricity Substation	1993	209378
J	269m S	Electricity Substation	1986	209378
J	269m S	Electricity Substation	1973	204506
L	301m SE	Electricity Substation	1973	199838
L	301m SE	Electricity Substation	1987	203703
L	303m SE	Electricity Substation	1993	203703
I	332m SW	Gas Governor	1986	192711
I	332m SW	Gas Governor	1993	193024
K	346m SW	Gas Governor	1986	192210
K	346m SW	Gas Governor	1993	193542
K	346m SW	Gas Governor	1973	192186
O	349m SW	Gas Governor	1986	194205
O	349m SW	Gas Governor	1993	193025
P	400m S	Electricity Substation	1993	211684
P	401m S	Electricity Substation	1987	204320
P	401m S	Electricity Substation	1973	204320
T	459m E	Electricity Substation	1978	187939
T	461m E	Electricity Substation	1986	197486
T	461m E	Electricity Substation	1993	197486
W	495m S	Electricity Substation	1986	198330



ID	Location	Land Use	Date	Group ID
W	495m S	Electricity Substation	1993	198330

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	2
---------------------	---

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
R	442m S	Garage	1964	63490
R	442m S	Garage	1973	63490

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

4

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

Features are displayed on the Waste and landfill map on [page 27 >](#)

ID	Location	Site address	Source	Data type
4	135m NE	Refuse Tip	1985 mapping	Polygon
5	232m N	Refuse Tip	1985 mapping	Polygon
6	390m E	Refuse Tip	1985 mapping	Polygon
7	415m N	Refuse Tip	1980 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

2

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 27 >](#)

ID	Location	Details		
1	40m N	Site Address: Westwood Phase 3, Newtown Road, Netley, Hampshire Licence Holder Address: The Castle, Winchester, Hampshire	Waste Licence: Yes Site Reference: 1760/1/9/8, FEA6 Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 20/12/1978 Licence Surrender: -	Operator: - Licence Holder: Hampshire County Council First Recorded - Last Recorded: -
3	112m NW	Site Address: West Wood, Hound, Near Southampton, Hampshire Licence Holder Address: The Castle, Winchester, Hampshire	Waste Licence: Yes Site Reference: 20/37/1/9/9, FEA7, 9/8 Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 18/05/1977 Licence Surrender: -	Operator: Southampton Corporation Licence Holder: Hampshire County Council First Recorded 30/06/1971 Last Recorded: -



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

2

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 27](#) >

ID	Location	Site	Reference	Category	Sub-Category	Description
2	90m NE	-	WEX284068	Using waste exemption	On a Farm	Use of waste in construction
8	482m W	Weston Sailing Club Abbey Hill Southampton SO31 5FB	EPR/BE5980R U/A001	Using waste exemption	Non-Agricultural Waste Only	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
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

1

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 30](#) >

ID	Location	Company	Address	Activity	Category
2	110m SE	Electricity Sub Station	Hampshire, SO31	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.



4.2 Current or recent petrol stations

Records within 500m	0
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Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

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

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

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

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0
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Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

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

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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

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

Records within 500m

0

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

This data is sourced from Local Authority records.



4.12 Radioactive Substance Authorisations

Records within 500m

0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m

3

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 30](#) >

ID	Location	Address	Details	
1	73m NW	ABBOTS WOOD, FOUNTAINS PARK, NETLEY ABBEY, SOUTHAMPTON, HAMPSHIRE, SO31 5HB	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRCB3196RR Permit Version: 1 Receiving Water: INTO LAND	Status: NEW ISSUED UNDER EPR 2010 Issue date: 18/03/2015 Effective Date: 18/03/2015 Revocation Date: -
A	133m SW	PLOT 3 FOUNTAIN PARK, PLOT 3 FOUNTAIN PARK, NETLEY, SOUTHAMPTON	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: N03365 Permit Version: 1 Receiving Water: INTO LAND	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 21/07/1978 Effective Date: 21/07/1978 Revocation Date: 31/03/1997
A	167m W	NEW HOUSE AT FOUNTAIN PARK, NEW HOUSE AT FOUNTAIN PARK, ABBEY HILL, NETLEY, SOUTHAMPTON	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: N03376 Permit Version: 1 Receiving Water: INTO LAND	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 07/02/1979 Effective Date: 07/02/1979 Revocation Date: -

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

2

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 30](#) >

ID	Location	Details	
3	234m E	Incident Date: 15/08/2001 Incident Identification: 24372 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Dust	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
4	274m E	Incident Date: 22/04/2002 Incident Identification: 73460 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Atmospheric Pollutant or Effect	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

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

1

Aquifer status of groundwater held within superficial geology.

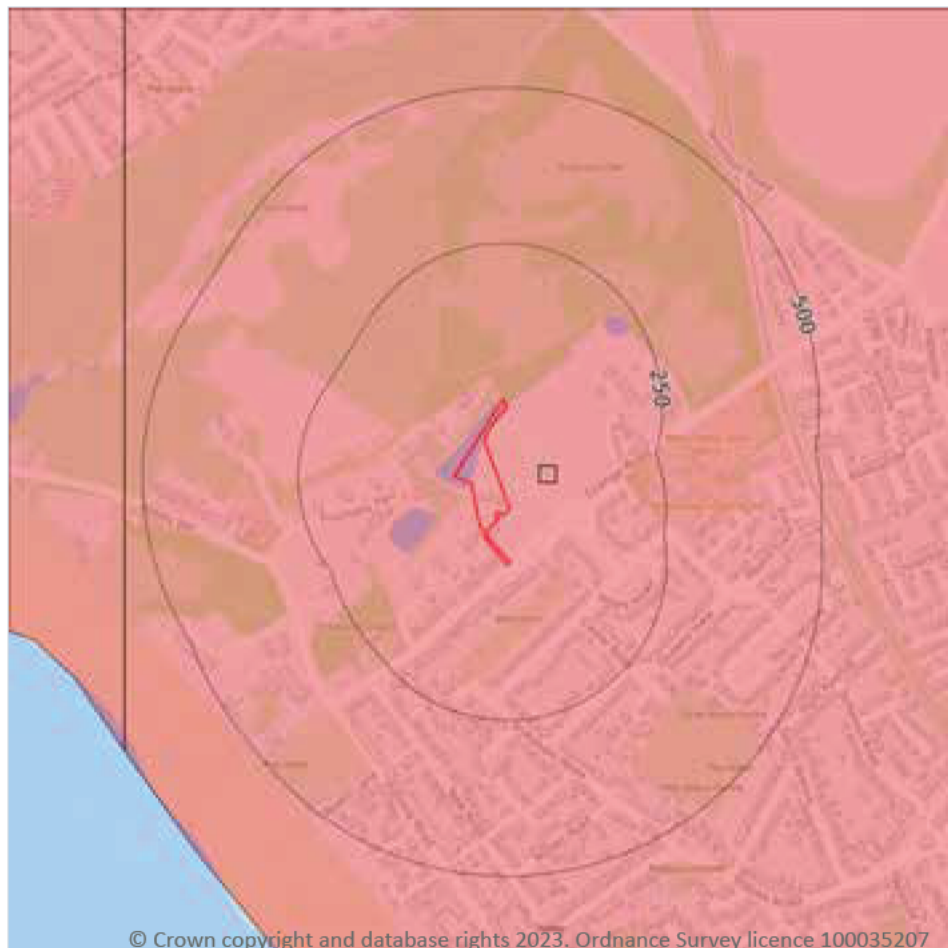
Features are displayed on the Hydrogeology map on [page 36](#) >

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

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



Bedrock aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive

5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

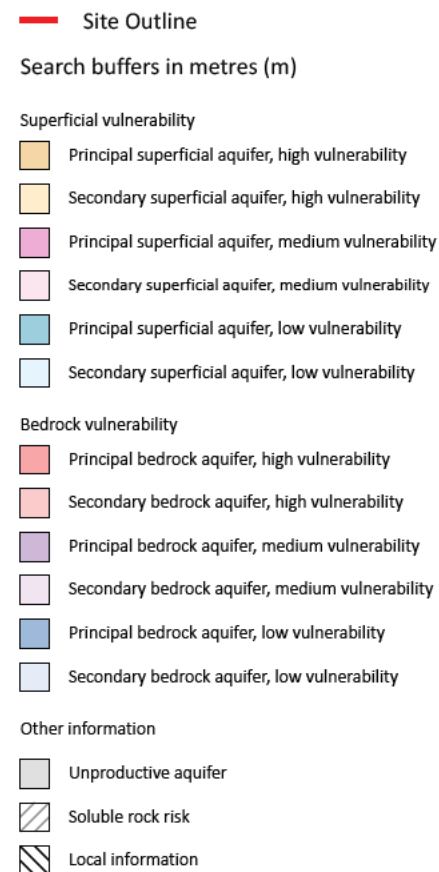
Features are displayed on the Bedrock aquifer map on [page 37](#) >

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

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

2

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

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

Features are displayed on the Groundwater vulnerability map on [page 38](#) >

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Mixed
2	5m S	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: High	Vulnerability: Medium Aquifer type: Secondary 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
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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
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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
Point features
- 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

0

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

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



5.7 Surface water abstractions

Records within 2000m

4

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 40](#) >

ID	Location	Details	
-	1205m NE	Status: Historical Licence No: 11/42/23/5CA Details: Mineral Washing Direct Source: Southern Region Surface Waters Point: TICKLEFORD GULLEY IMPOUNDMENT AT BURROWS COPSE Data Type: Point Name: Leigh Environmental Ltd Easting: 446200 Northing: 110320	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 19/06/1991 Version End Date: -
-	1616m E	Status: Active Licence No: 11/42/24/5CA Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: PICKWELL FARM RESERVOIR Data Type: Poly4 Name: D & M Draper & Sons Easting: 447168 Northing: 109906	Annual Volume (m³): 13638 Max Daily Volume (m³): 545.5 Original Application No: NPS/NA/001896 Original Start Date: 24/03/1986 Expiry Date: - Issue No: 101 Version Start Date: 13/08/2021 Version End Date: -
-	1616m E	Status: Active Licence No: 11/42/24/5CA Details: Trickle Irrigation - Direct Direct Source: Southern Region Surface Waters Point: PICKWELL FARM RESERVOIR Data Type: Poly4 Name: D & M Draper & Sons Easting: 447168 Northing: 109906	Annual Volume (m³): 13638 Max Daily Volume (m³): 545.5 Original Application No: NPS/NA/001896 Original Start Date: 24/03/1986 Expiry Date: - Issue No: 101 Version Start Date: 13/08/2021 Version End Date: -
-	1649m NE	Status: Historical Licence No: 11/42/24/5CA Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: PICKWELL FARM IMPOUNDMENT, OLD NETLEY Data Type: Point Name: Draper Easting: 447170 Northing: 109800	Annual Volume (m³): 13638 Max Daily Volume (m³): 545.50 Original Application No: - Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 11/06/2009 Version End Date: -

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



5.8 Potable abstractions

Records within 2000m

0

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

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

5.9 Source Protection Zones

Records within 500m

0

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

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m

0

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

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



6 Hydrology



- 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

17

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 43](#) >

ID	Location	Type of water feature	Ground level	Permanence	Name
A	On site	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
B	On site	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	4m N	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	6m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	13m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	22m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	69m SW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	120m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	121m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	122m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
F	123m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	136m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
1	137m SW	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

6

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 43](#) >

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 43](#) >

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
C	On site	Coastal Catchment	Not part of a river WB catchment	60	Itchen	Test and Itchen

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. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

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

6.5 WFD Groundwater bodies

Records on site**1**

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

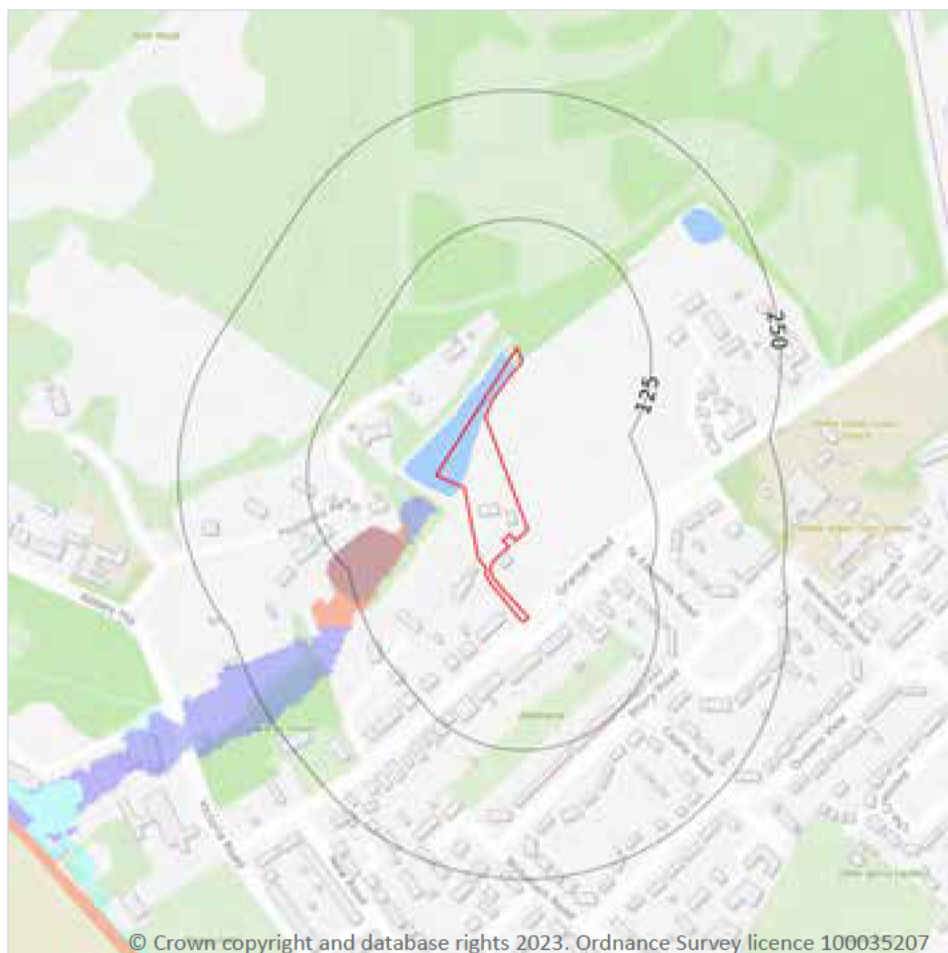
Features are displayed on the Hydrology map on [page 43](#) >

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
C	On site	Central Hants Bracklesham Group	GB40702G500900 ↗	Good	Good	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

1

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

Features are displayed on the River and coastal flooding map on [page 47 >](#)



Distance	Flood risk category
On site	N/A
0 - 50m	Medium

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

7.2 Historical Flood Events

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

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

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

7.3 Flood Defences

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

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

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

7.4 Areas Benefiting from Flood Defences

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

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

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

7.5 Flood Storage Areas

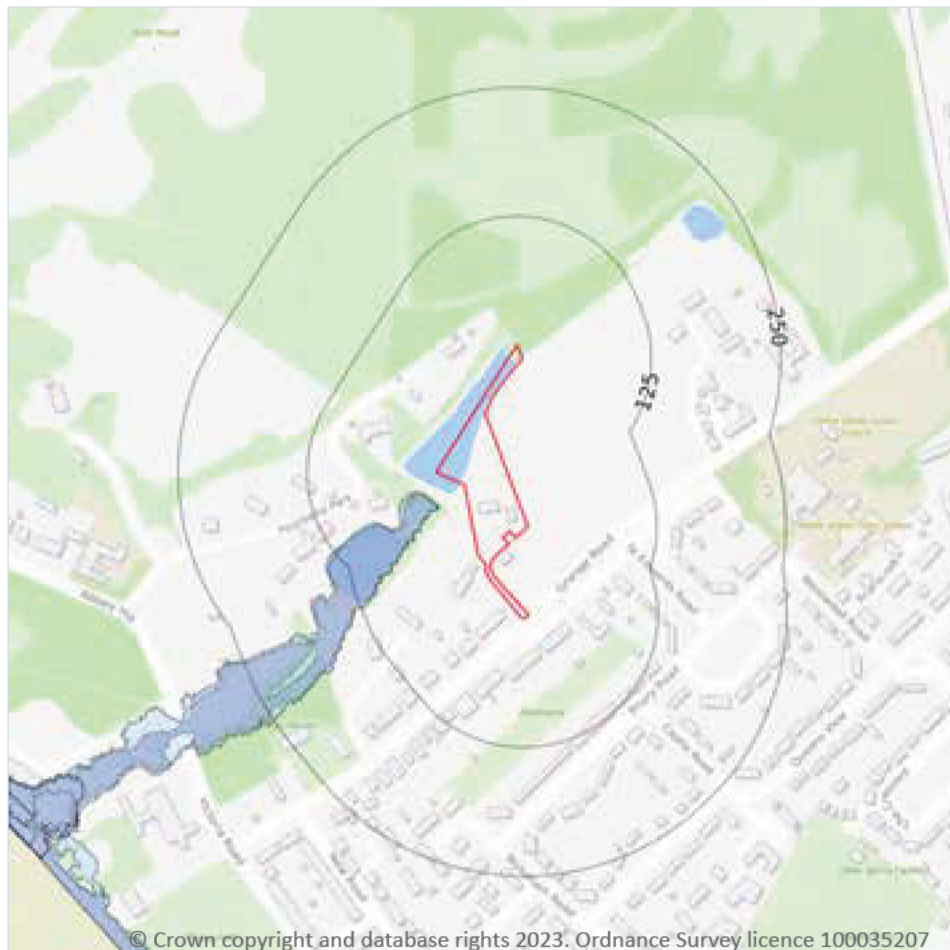
Records within 250m	0
---------------------	---

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

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



River and coastal flooding - Flood Zones



- 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 47](#) >

Location	Type
24m W	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.

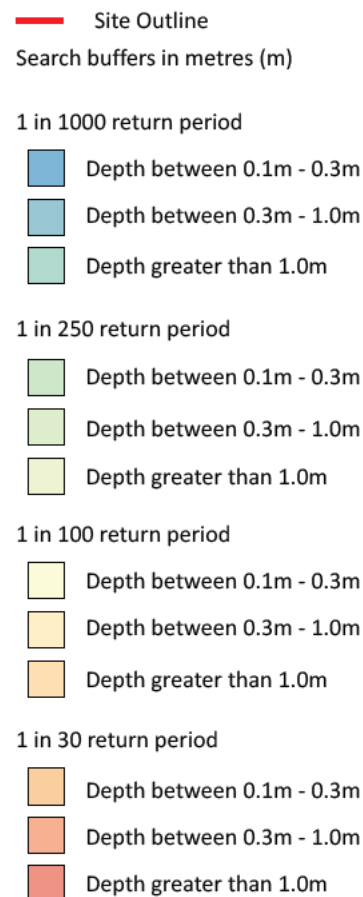
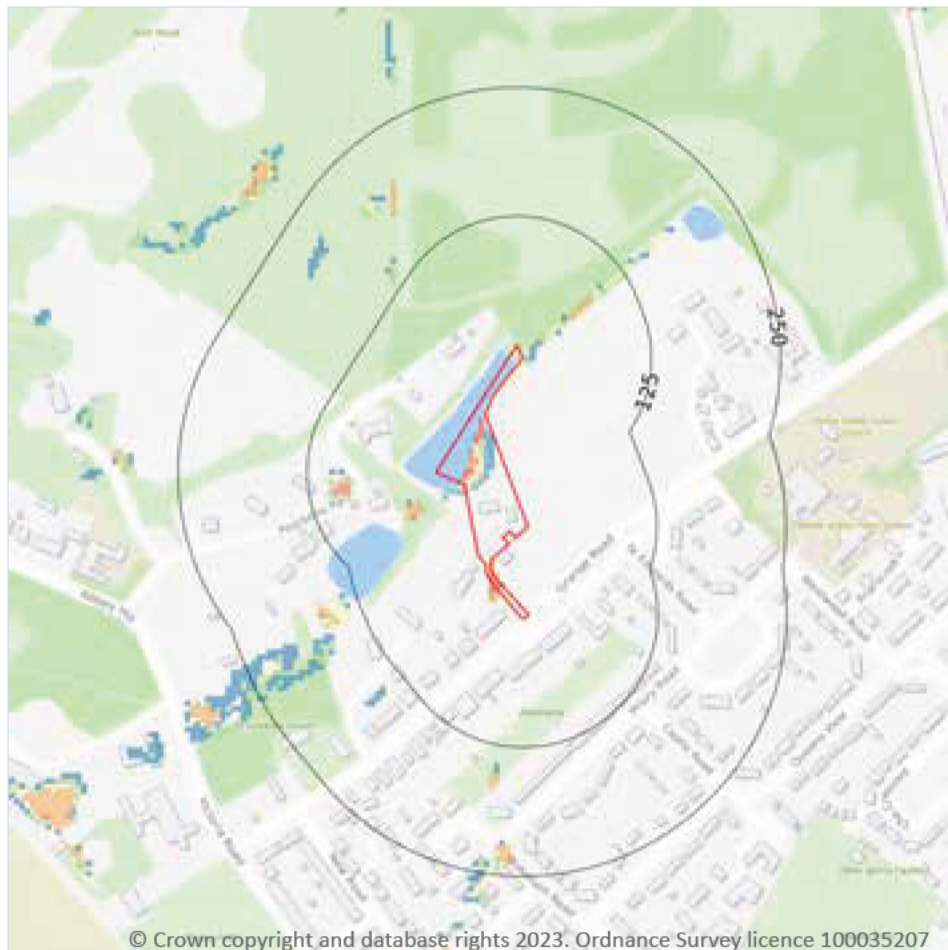
Features are displayed on the River and coastal flooding map on [page 47](#) >

Location	Type
26m W	Zone 3 - (Fluvial /Tidal Models)

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, Greater than 1.0m

Highest risk within 50m

1 in 30 year, Greater than 1.0m

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

Features are displayed on the Surface water flooding map on [page 51](#) >

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

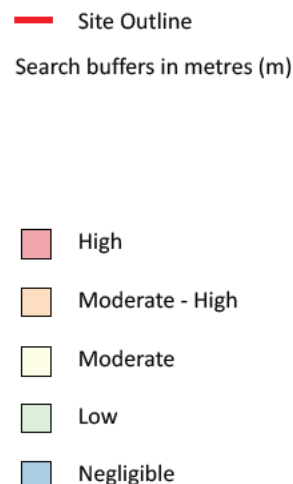
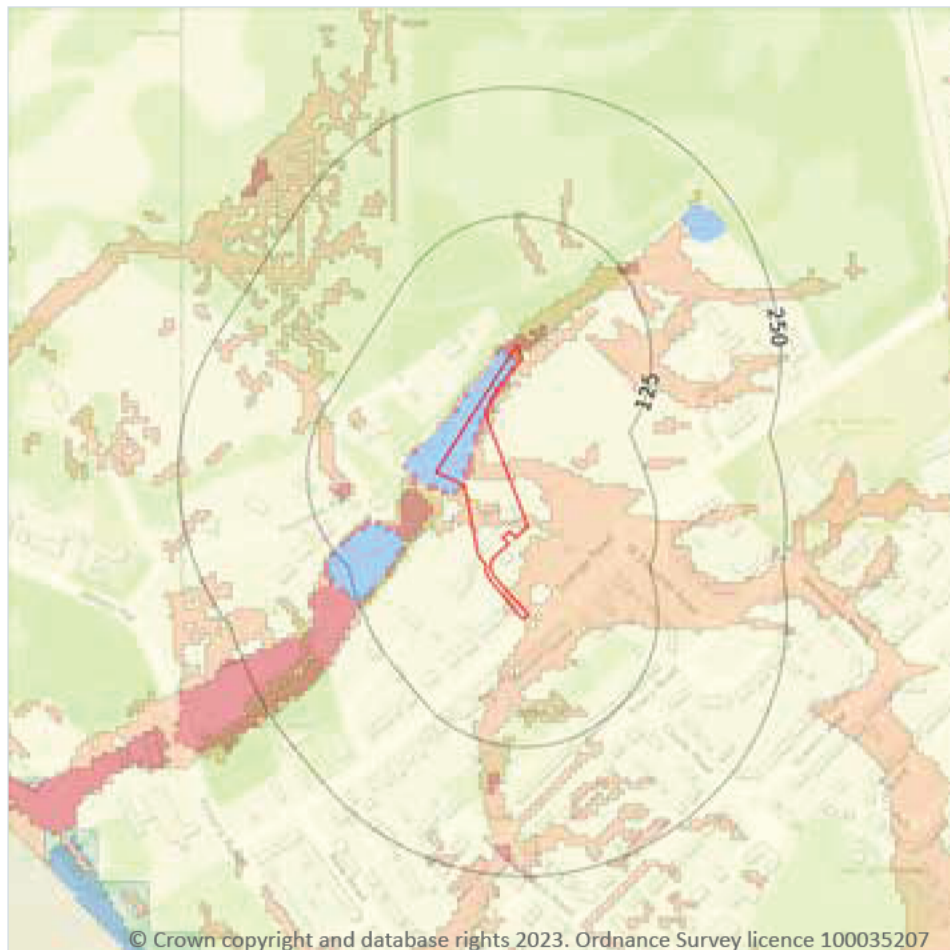
The table below shows the maximum flood depths for a range of return periods for the site.

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

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

High

Highest risk within 50m

High

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

Features are displayed on the Groundwater flooding map on [page 53](#) >

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Sites of Special Scientific Interest (SSSI)
- X Conserved wetland sites (Ramsar sites)
- Special Protection Areas (SPA)
- + Local Nature Reserves (LNR)
- ▨ Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

3

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

Features are displayed on the Environmental designations map on [page 54](#) >

ID	Location	Name	Data source
A	502m SW	Lee-on-the Solent to Itchen Estuary	Natural England



ID	Location	Name	Data source
-	1896m W	Lee-on-the Solent to Itchen Estuary	Natural England
-	1955m W	Lee-on-the Solent to Itchen Estuary	Natural England

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	3
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Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

Features are displayed on the Environmental designations map on [page 54](#) >

ID	Location	Site	Details
A	502m SW	Name: Solent & Southampton Water Site status: Listed Data source: Natural England	Overview: The area covered extends from Hurst Spit to Gilkicker Point along the south coast of Hampshire and along the north coast of the Isle of Wight. The site comprises of estuaries and adjacent coastal habitats including intertidal flats, saline lagoons, shingle beaches, saltmarsh, reedbeds, damp woodland, and grazing marsh. The diversity of habitats support internationally important numbers of wintering waterfowl, important breeding gull and tern populations and an important assemblage of rare invertebrates and plants. Ramsar criteria: Ramsar criterion 1 The site is one of the few major sheltered channels between a substantial island and mainland in European waters, exhibiting an unusual strong double tidal flow and has long periods of slack water at high and low tide. It includes many wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs. Ramsar criterion 2 The site supports an important assemblage of rare plants and invertebrates. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on site.

ID	Location	Site	Details
-	1896m W	Name: Solent & Southampton Water Site status: Listed Data source: Natural England	Overview: The area covered extends from Hurst Spit to Gilkicker Point along the south coast of Hampshire and along the north coast of the Isle of Wight. The site comprises of estuaries and adjacent coastal habitats including intertidal flats, saline lagoons, shingle beaches, saltmarsh, reedbeds, damp woodland, and grazing marsh. The diversity of habitats support internationally important numbers of wintering waterfowl, important breeding gull and tern populations and an important assemblage of rare invertebrates and plants. Ramsar criteria: Ramsar criterion 1 The site is one of the few major sheltered channels between a substantial island and mainland in European waters, exhibiting an unusual strong double tidal flow and has long periods of slack water at high and low tide. It includes many wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs. Ramsar criterion 2 The site supports an important assemblage of rare plants and invertebrates. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on site.
-	1954m W	Name: Solent & Southampton Water Site status: Listed Data source: Natural England	Overview: The area covered extends from Hurst Spit to Gilkicker Point along the south coast of Hampshire and along the north coast of the Isle of Wight. The site comprises of estuaries and adjacent coastal habitats including intertidal flats, saline lagoons, shingle beaches, saltmarsh, reedbeds, damp woodland, and grazing marsh. The diversity of habitats support internationally important numbers of wintering waterfowl, important breeding gull and tern populations and an important assemblage of rare invertebrates and plants. Ramsar criteria: Ramsar criterion 1 The site is one of the few major sheltered channels between a substantial island and mainland in European waters, exhibiting an unusual strong double tidal flow and has long periods of slack water at high and low tide. It includes many wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs. Ramsar criterion 2 The site supports an important assemblage of rare plants and invertebrates. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on site.

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

8

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

Features are displayed on the Environmental designations map on [page 54 >](#)

ID	Location	Name	Species of interest	Habitat description	Data source
3	502m SW	Solent & Southampton Water	Eurasian teal; Ringed plover; Mediterranean gull; Sandwich tern; Roseate tern; Common tern; Little tern; Black-tailed godwit; Dark-bellied brent goose	Salt marshes, Salt pastures, Salt steppes; Coastal sand dunes, Sand beaches, Machair; Shingle, Sea cliffs, Islets; Broad-leaved deciduous woodland; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Humid grassland, Mesophile grassland; Bogs, Marshes, Water fringed vegetation, Fens	Natural England
4	573m W	Solent & Southampton Water	Eurasian teal; Ringed plover; Mediterranean gull; Sandwich tern; Roseate tern; Common tern; Little tern; Black-tailed godwit; Dark-bellied brent goose	Salt marshes, Salt pastures, Salt steppes; Coastal sand dunes, Sand beaches, Machair; Shingle, Sea cliffs, Islets; Broad-leaved deciduous woodland; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Humid grassland, Mesophile grassland; Bogs, Marshes, Water fringed vegetation, Fens	Natural England
5	655m SW	Solent and Dorset Coast	Sandwich tern; Common tern; Little tern	Marine areas, Sea inlets; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Salt marshes, Salt pastures, Salt steppes; Shingle, Sea cliffs, Islets; Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	Natural England

ID	Location	Name	Species of interest	Habitat description	Data source
6	656m SW	Solent and Dorset Coast	Sandwich tern; Common tern; Little tern	Marine areas, Sea inlets; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Salt marshes, Salt pastures, Salt steppes; Shingle, Sea cliffs, Islets; Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	Natural England
-	1896m W	Solent & Southampton Water	Eurasian teal; Ringed plover; Mediterranean gull; Sandwich tern; Roseate tern; Common tern; Little tern; Black-tailed godwit; Dark-bellied brent goose	Salt marshes, Salt pastures, Salt steppes; Coastal sand dunes, Sand beaches, Machair; Shingle, Sea cliffs, Islets; Broad-leaved deciduous woodland; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Humid grassland, Mesophile grassland; Bogs, Marshes, Water fringed vegetation, Fens	Natural England
-	1896m W	Solent and Dorset Coast	Sandwich tern; Common tern; Little tern	Marine areas, Sea inlets; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Salt marshes, Salt pastures, Salt steppes; Shingle, Sea cliffs, Islets; Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	Natural England
-	1955m W	Solent and Dorset Coast	Sandwich tern; Common tern; Little tern	Marine areas, Sea inlets; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Salt marshes, Salt pastures, Salt steppes; Shingle, Sea cliffs, Islets; Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	Natural England
-	1955m W	Solent & Southampton Water	Eurasian teal; Ringed plover; Mediterranean gull; Sandwich tern; Roseate tern; Common tern; Little tern; Black-tailed godwit; Dark-bellied brent goose	Salt marshes, Salt pastures, Salt steppes; Coastal sand dunes, Sand beaches, Machair; Shingle, Sea cliffs, Islets; Broad-leaved deciduous woodland; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Humid grassland, Mesophile grassland; Bogs, Marshes, Water fringed vegetation, Fens	Natural England

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



10.5 National Nature Reserves (NNR)

Records within 2000m

0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m

2

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

Features are displayed on the Environmental designations map on [page 54 >](#)

ID	Location	Name	Data source
1	On site	Westwood Woodland Park	Natural England
-	1646m N	Millers Pond	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m

6

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 54 >](#)

ID	Location	Name	Woodland Type
2	90m NW	West Wood	Ancient & Semi-Natural Woodland
7	1047m E	Priors Hill Copse/hound Grove	Ancient & Semi-Natural Woodland
8	1499m NW	Mayfield Park Wood	Ancient & Semi-Natural Woodland
-	1633m SE	West Wood	Ancient & Semi-Natural Woodland
-	1753m NW	Mayfield Park Wood	Ancient Replanted Woodland



ID	Location	Name	Woodland Type
-	1825m SE	West Wood	Ancient Replanted Woodland

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

10.8 Biosphere Reserves

Records within 2000m	0
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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
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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
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A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

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

10.11 Green Belt

Records within 2000m	0
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Areas designated to prevent urban sprawl by keeping land permanently open.

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

10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

This data is sourced from Natural England.



10.16 Nitrate Vulnerable Zones

Records within 2000m

2

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

Location	Name	Type	NVZ ID	Status
On site	Hamble Estuary Eutrophic NVZ (TraC)	Eutrophic Water	3	Existing
1594m NW	Hamble Estuary Eutrophic NVZ (TraC)	Eutrophic Water	3	Existing

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

2

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

Features are displayed on the SSSI Impact Zones and Units map on [page 63](#) >

ID	Location	Type of developments requiring consultation
1	On site	All applications - All planning applications (except householder) outside or extending outside existing settlements/urban areas affecting greenspace, farmland, semi natural habitats or landscape features such as trees, hedges, streams, rural buildings/structures. Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals. Wind and Solar - Wind turbines. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha. Residential - Residential development of 100 units or more. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t). Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Discharges - Any discharge of water or liquid waste that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream. Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply . Notes: Strategic solutions for recreational impacts are in place. Please contact your Local Planning Authority as they have the information to advise on specific requirements. NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.

ID	Location	Type of developments requiring consultation
2	On site	All applications - All planning applications (except householder) outside or extending outside existing settlements/urban areas affecting greenspace, farmland, semi natural habitats or landscape features such as trees, hedges, streams, rural buildings/structures. Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals. Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha. Residential - Residential development of 50 units or more. Rural residential - Any residential development of 10 or more houses outside existing settlements/urban areas. Air pollution - Any development that could cause AIR POLLUTION (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons & digestate stores, manure stores). Combustion - All general combustion processes. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management. Composting - Any composting proposal. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Discharges - Any discharge of water or liquid waste that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream. Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply . Notes: Strategic solutions for recreational impacts are in place. Please contact your Local Planning Authority as they have the information to advise on specific requirements.NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

5

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

Features are displayed on the SSSI Impact Zones and Units map on [page 63](#) >



ID: 6
Location: 502m SW
SSSI name: Lee-on-the Solent to Itchen Estuary
Unit name: Netley Foreshore
Broad habitat: Littoral Sediment
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
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ID: 11
Location: 769m W
SSSI name: Lee-on-the Solent to Itchen Estuary
Unit name: Weston Shore
Broad habitat: Littoral Sediment
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
--------------	-------------------	--------------------

ID: -
Location: 1896m W
SSSI name: Lee-on-the Solent to Itchen Estuary
Unit name: Weston Shore
Broad habitat: Littoral Sediment
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
--------------	-------------------	--------------------

ID: -
Location: 1955m W
SSSI name: Lee-on-the Solent to Itchen Estuary
Unit name: Weston Shore
Broad habitat: Littoral Sediment
Condition: Favourable
Reportable features:



Feature name	Feature condition	Date of assessment
--------------	-------------------	--------------------

ID: -

Location: 1961m SE

SSSI name: Lee-on-the Solent to Itchen Estuary

Unit name: Hamble Foreshore

Broad habitat: Littoral Sediment

Condition: Favourable

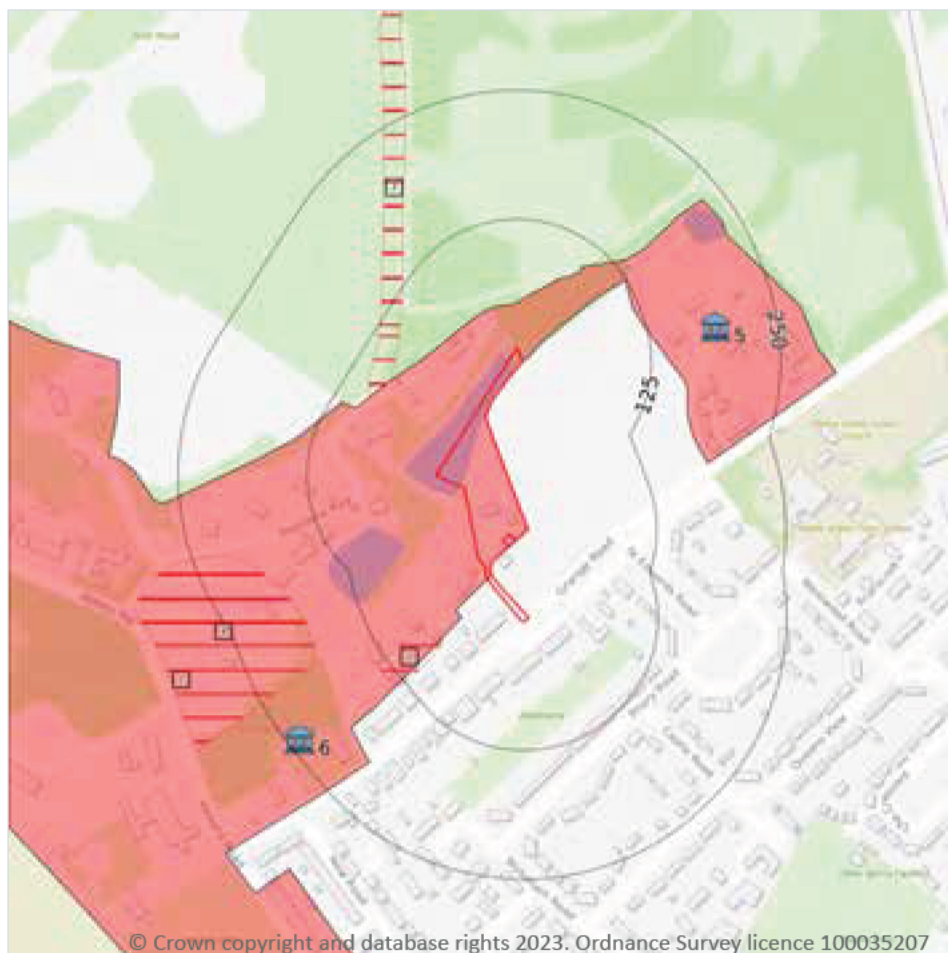
Reportable features:

Feature name	Feature condition	Date of assessment
--------------	-------------------	--------------------

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



11 Visual and cultural designations



- Site Outline
- Search buffers in metres (m)
- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

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

2

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

Features are displayed on the Visual and cultural designations map on [page 68](#) >

ID	Location	Name	Grade	Reference Number	Listed date
5	190m NE	Netley Grange	II	1281145	14/02/1983
6	239m SW	Church Of St Edward The Confessor	II	1111931	05/12/1955

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



11.5 Conservation Areas

Records within 250m

1

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.

Features are displayed on the Visual and cultural designations map on [page 68](#) >

ID	Location	Name	District	Date of designation
1	On site	Netley Abbey	Eastleigh	1981

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

11.6 Scheduled Ancient Monuments

Records within 250m

3

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.

Features are displayed on the Visual and cultural designations map on [page 68](#) >

ID	Location	Ancient monument name	Reference number
2	75m S	Netley Abbey; precinct wall and moat	1005536
3	86m NW	Western aqueduct near Netley Abbey	1008703
4	179m SW	Netley Abbey	1001960

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 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

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12.1 Agricultural Land Classification

Records within 250m

4

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 72](#) >

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



ID	Location	Classification	Description
2	On site	Non Agricultural	-
4	56m SE	Grade 1	Excellent quality agricultural land. Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.
6	69m S	Non Agricultural	-

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

5

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.

Features are displayed on the Agricultural designations map on [page 72 >](#)

ID	Location	Name	Classification	Other relevant legislation
3	On site	-	Section 4 Conclusive Open Country	-
5	60m N	-	Section 4 Conclusive Open Country	-
7	105m N	-	Section 4 Conclusive Open Country	-
8	161m NE	-	Section 4 Conclusive Open Country	-
9	179m SW	Netley Abbey	Section 15 Land	Archaeology

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

1

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

Location	Reference	Scheme	Start Date	End date
On site	AG00300532	Higher Level Stewardship	01/03/2010	29/02/2020

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



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m

19

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

Features are displayed on the Habitat designations map on [page 75](#) >

ID	Location	Main Habitat	Other habitats
1	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%); Additional: LHEAT (FEP 50%); GQSIG (FEP 50%)
2	On site	No main habitat but additional habitats present	Main habitat: DWOOD (INV > 50%)
A	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
A	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	0m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	1m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%); Additional: LHEAT (FEP 50%); GQSIG (FEP 50%)
5	15m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%); Additional: LHEAT (FEP 50%); GQSIG (FEP 50%)
6	42m N	No main habitat but additional habitats present	Additional: LHEAT (FEP 50%); GQSIG (FEP 50%)
7	60m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
8	66m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
9	90m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%); Additional: LHEAT (FEP 50%); GQSIG (FEP 50%)
B	178m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
10	180m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%); Additional: LHEAT (FEP 50%); GQSIG (FEP 50%)
11	187m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
12	200m N	No main habitat but additional habitats present	Additional: LHEAT (FEP 50%); GQSIG (FEP 50%)
13	210m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
B	221m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
14	231m NE	No main habitat but additional habitats present	Additional: LHEAT (FEP 50%); GQSIG (FEP 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

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

This data is sourced from Natural England.



13.3 Open Mosaic Habitat

Records within 250m

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 78](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	SU40NE

This data is sourced from the British Geological Survey.



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



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- Site Outline**
- Search buffers in metres (m)**
- Reclaimed ground
 - Made ground
 - Worked ground
 - Infilled ground
 - Disturbed ground
 - Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m

1

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

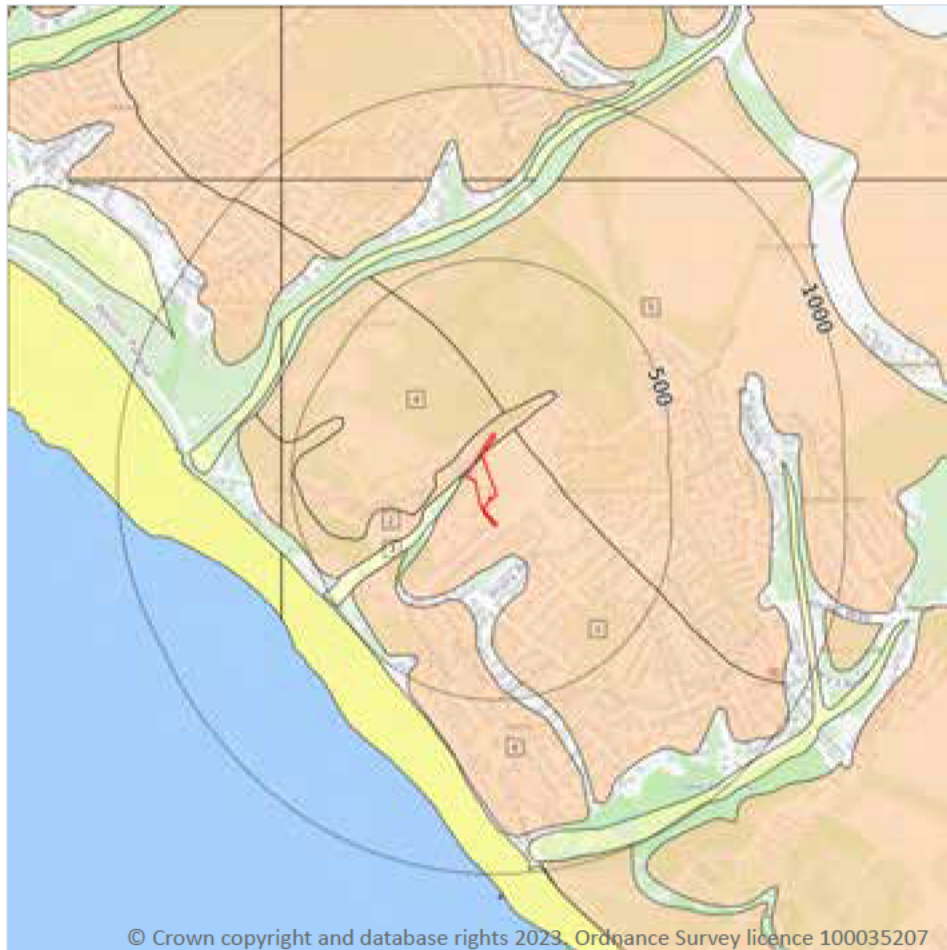
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on [page 79](#) >

ID	Location	LEX Code	Description	Rock description
1	50m N	WMGR-ARTDP	Infilled Ground	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



— Site Outline

Search buffers in metres (m)

 Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m

6

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on [page 80](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	RTD3-XSV	River Terrace Deposits, 3 - Sand And Gravel	Sand And Gravel
2	On site	RTD2-XSV	River Terrace Deposits, 2 - Sand And Gravel	Sand And Gravel
3	9m W	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
4	29m N	RTD3-XSV	River Terrace Deposits, 3 - Sand And Gravel	Sand And Gravel



ID	Location	LEX Code	Description	Rock description
5	62m NE	RTD4-XSV	River Terrace Deposits, 4 - Sand And Gravel	Sand And Gravel
6	237m S	RTD2-XSV	River Terrace Deposits, 2 - Sand And Gravel	Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

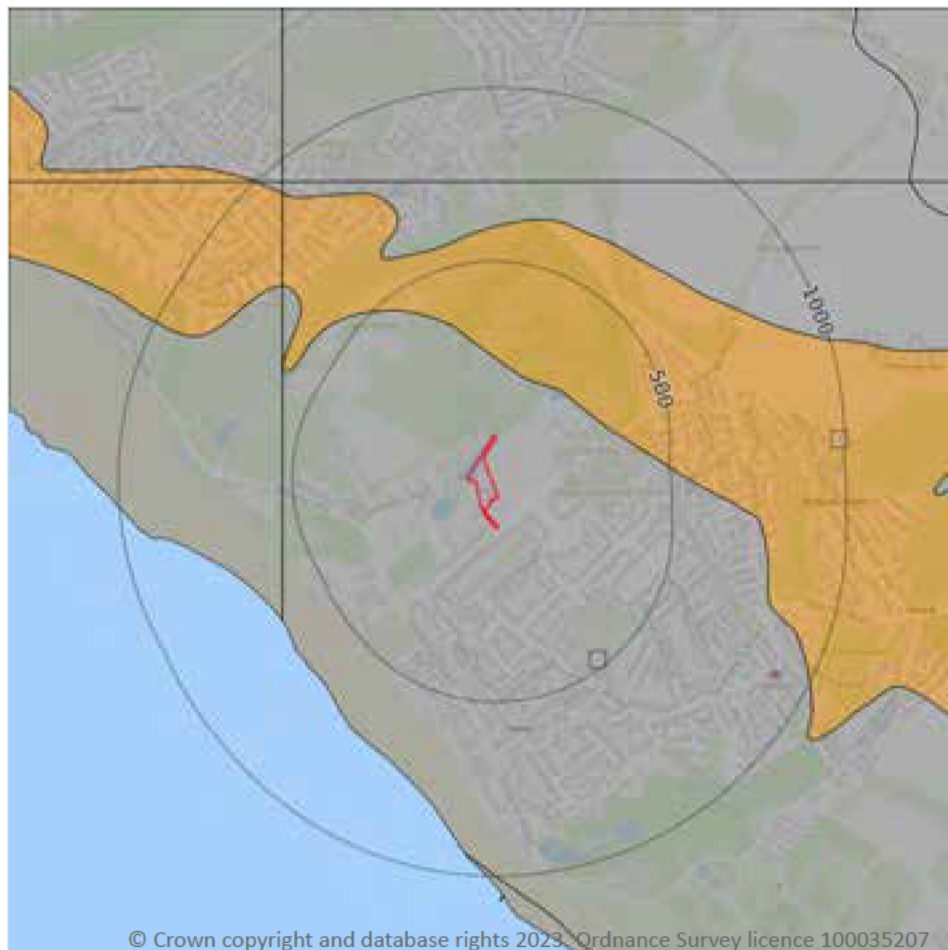
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m

2

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 82](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	SLSY-SSCL	Selsey Sand Formation - Sand, Silt And Clay	Lutetian Age
2	187m N	MARF-CLSISA	Marsh Farm Formation - Clay, Silt And Sand	Lutetian Age

This data is sourced from the British Geological Survey.



14.6 Bedrock faults and other linear features (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline
Search buffers in metres (m)

☐ Geological map tile

15.1 50k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 84](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW315_southampton_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 85 >](#)

ID	Location	LEX Code	Description	Rock description
1	50m N	WMGR-ARTDP	INFILLED GROUND	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

6

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 87](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	RTD3-XSV	RIVER TERRACE DEPOSITS, 3	SAND AND GRAVEL
2	On site	RTD2-XSV	RIVER TERRACE DEPOSITS, 2	SAND AND GRAVEL
3	35m N	T3T4-XSV	RIVER TERRACE DEPOSITS, 3 TO 4	SAND AND GRAVEL
4	37m NE	RTD4-XSV	RIVER TERRACE DEPOSITS, 4	SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
5	84m SW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
6	265m S	RTD2-XSV	RIVER TERRACE DEPOSITS, 2	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

4

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	Very High	High
On site	Intergranular	Very High	High
35m N	Intergranular	Very High	High
36m NE	Intergranular	Very High	High

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 89](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	SLSY-XSZC	SELSEY SAND FORMATION - SAND, SILT AND CLAY	LUTETIAN
2	189m N	MARF-CLSISA	MARSH FARM FORMATION - CLAY, SILT AND SAND	LUTETIAN

This data is sourced from the British Geological Survey.



15.9 Bedrock permeability (50k)

Records within 50m

1

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



16 Boreholes

16.1 BGS Boreholes

Records within 250m

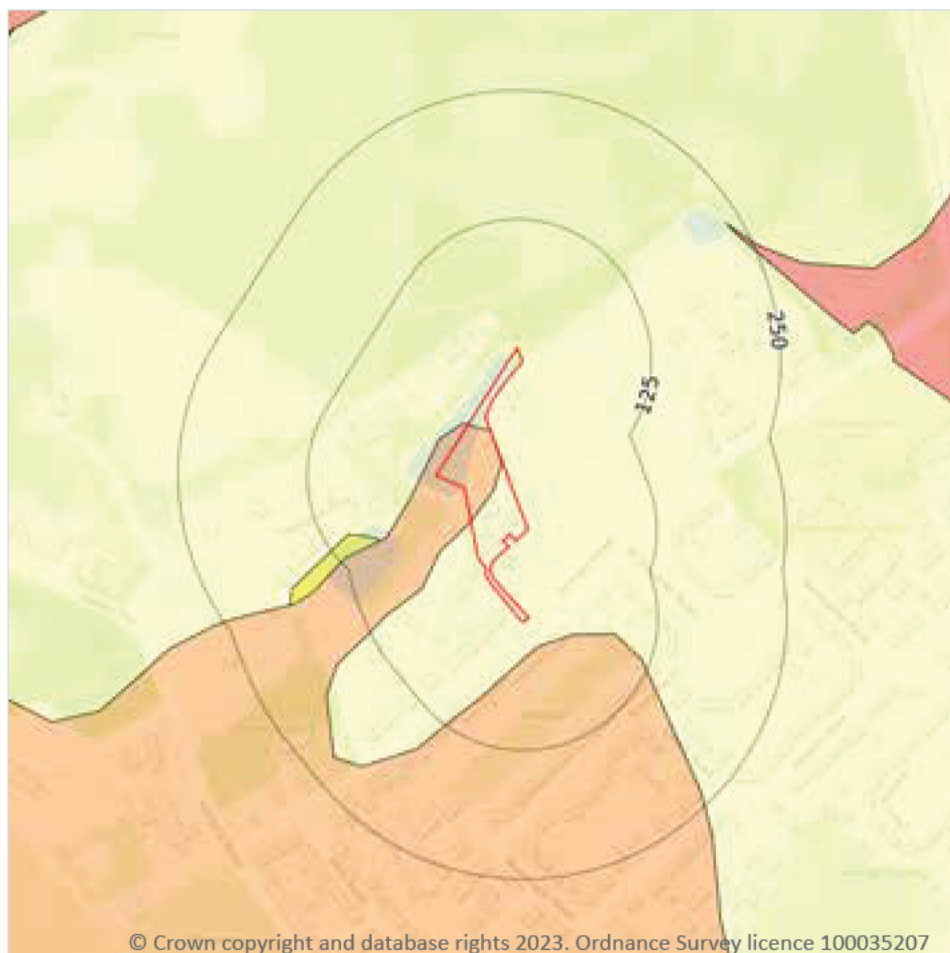
0

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

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



- Site Outline**
- Search buffers in metres (m)**
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

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17.1 Shrink swell clays

Records within 50m

2

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

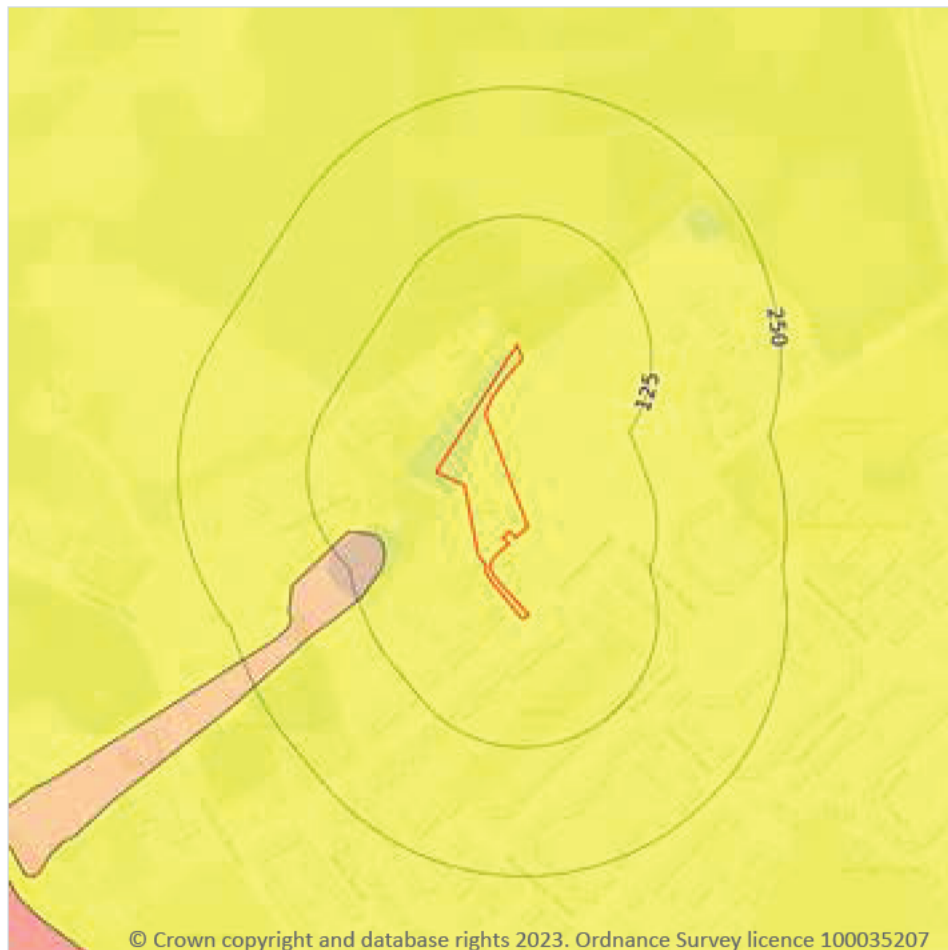
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 92](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

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17.2 Running sands

Records within 50m

1

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

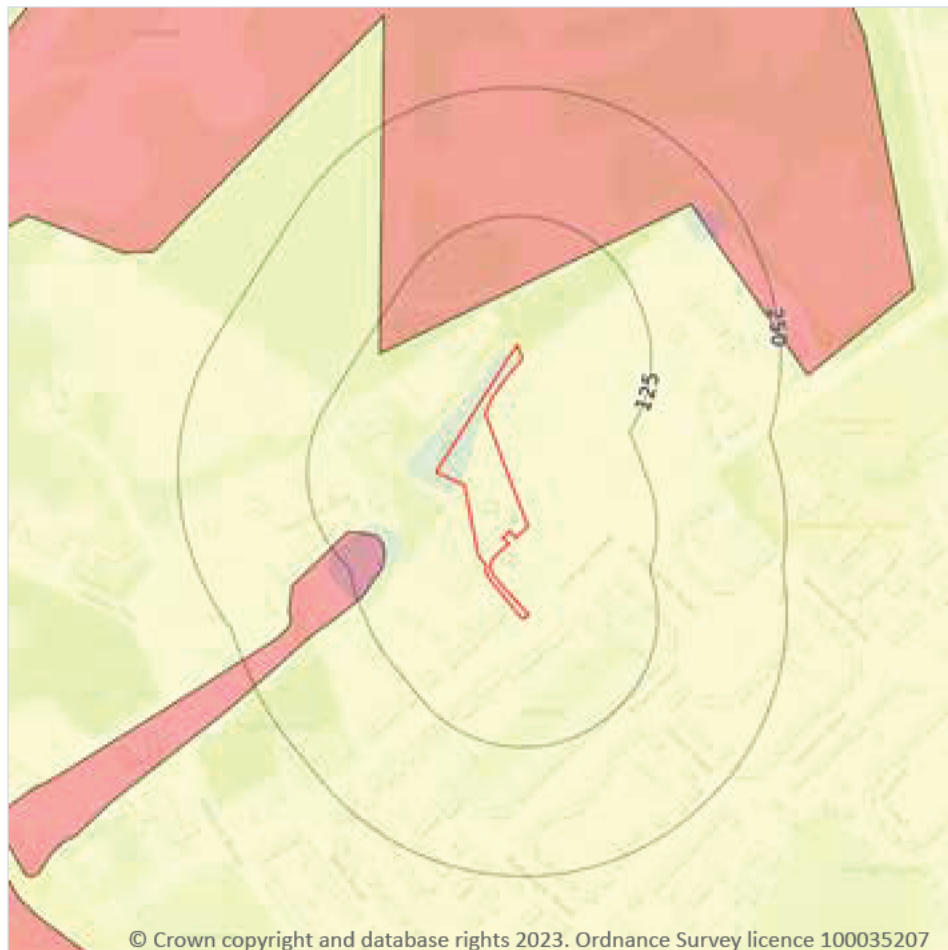
Features are displayed on the Natural ground subsidence - Running sands map on [page 93](#) >

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

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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.

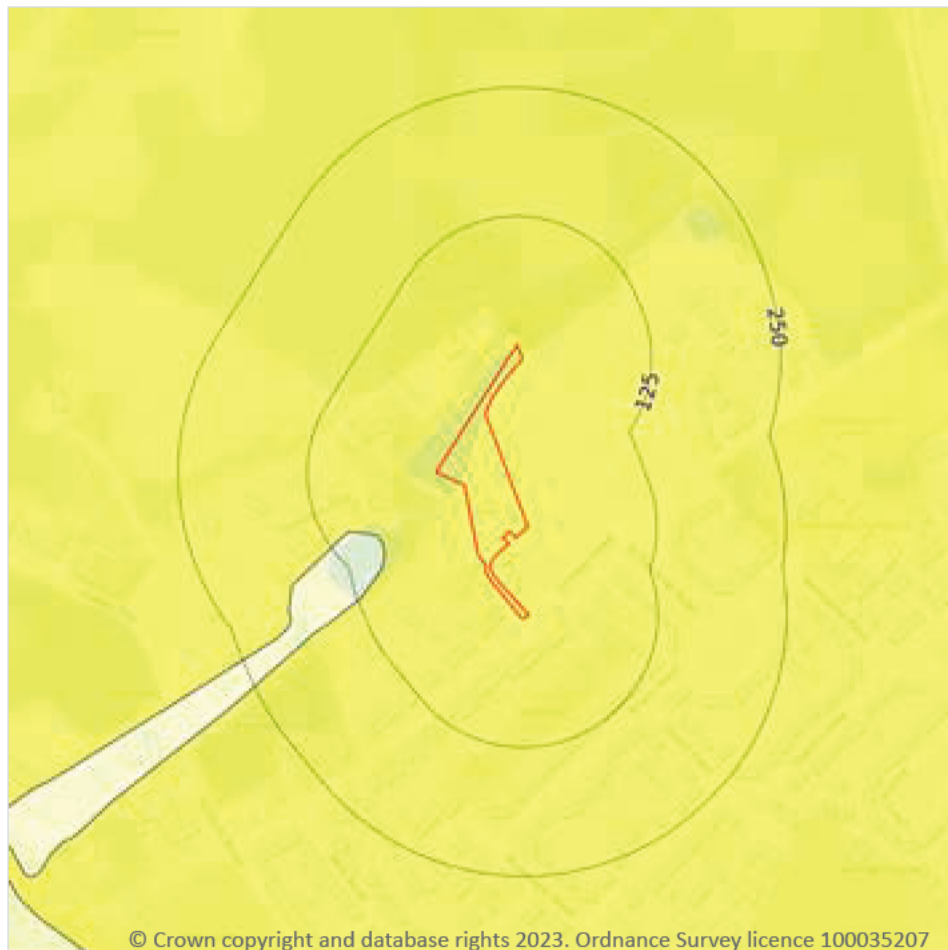
Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 94](#) >

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.

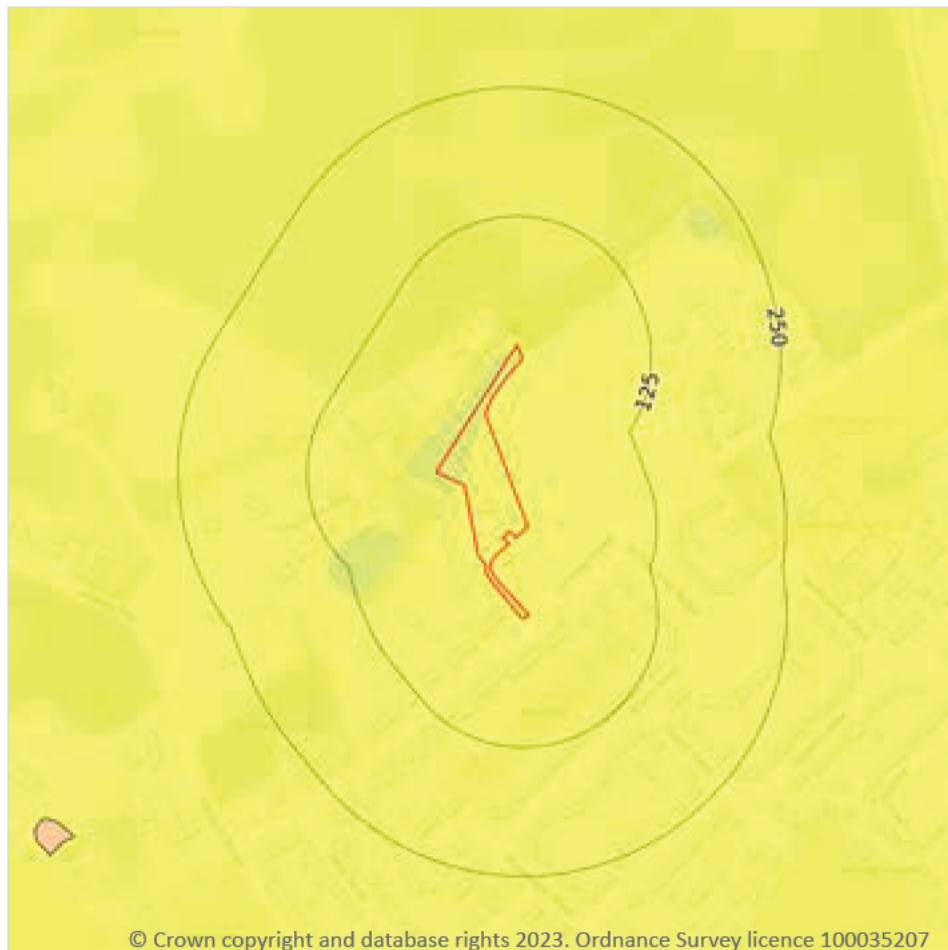
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 95](#) >

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

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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.

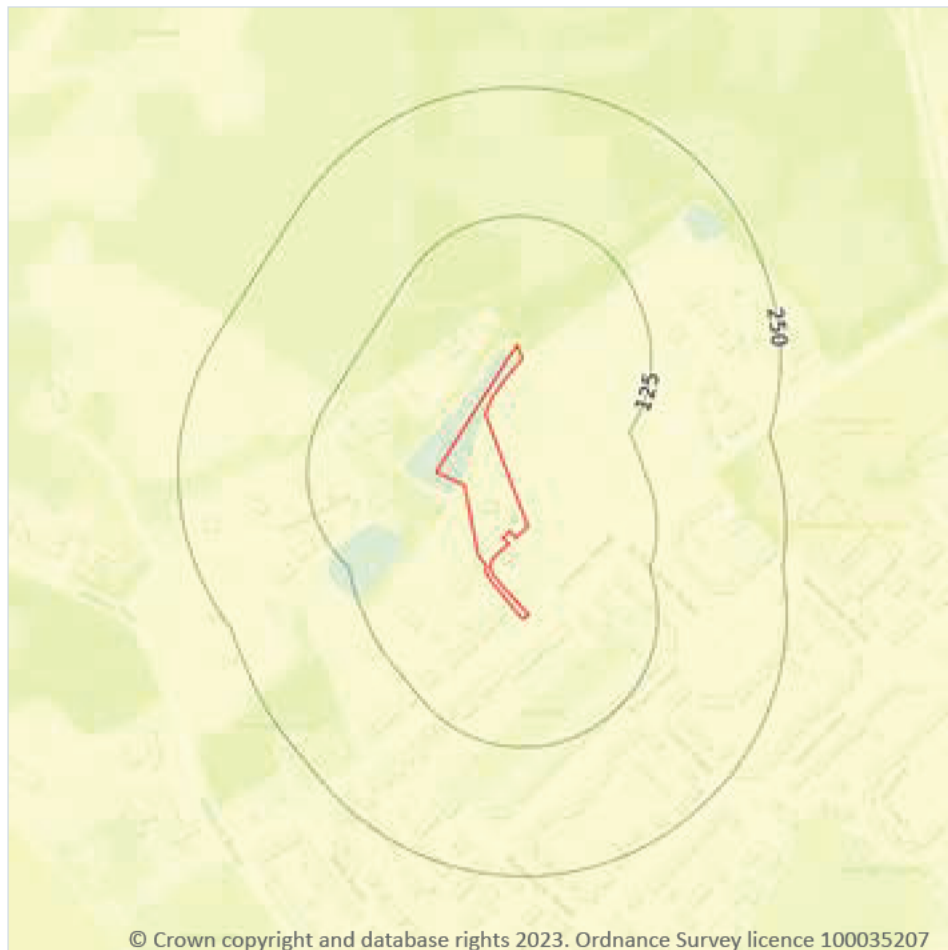
Features are displayed on the Natural ground subsidence - Landslides map on [page 96](#) >

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 97](#)

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

61

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.

Features are displayed on the Mining and ground workings map on [page 99](#) >

ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Fish Ponds	1932	1:10560
A	On site	Fish Ponds	1896	1:10560
A	On site	Pond	1869	1:10560
A	On site	Pond	1942	1:10560
A	On site	Pond	1932	1:10560
A	On site	Pond	1907	1:10560
A	On site	Pond	1971	1:10000
A	On site	Fish Ponds	1957	1:10560
A	On site	Pond	1989	1:10000
A	On site	Pond	1971	1:10000
A	On site	Pond	1971	1:10000
B	8m S	Unspecified Ground Workings	1907	1:10560
C	15m SW	Unspecified Pit	1932	1:10560
C	15m SW	Unspecified Ground Workings	1932	1:10560
C	16m SW	Unspecified Pit	1942	1:10560
C	16m SW	Unspecified Pit	1907	1:10560
D	17m W	Fish Ponds	1869	1:10560
E	32m W	Unspecified Heap	1932	1:10560
E	33m W	Unspecified Pit	1869	1:10560
E	33m W	Unspecified Heap	1932	1:10560
E	35m NW	Unspecified Heap	1957	1:10560
E	36m NW	Unspecified Heap	1942	1:10560
B	42m S	Unspecified Ground Workings	1942	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
B	46m S	Cuttings	1971	1:10000
D	61m SW	Fish Ponds	1932	1:10560
D	61m SW	Fish Ponds	1896	1:10560
D	65m SW	Fish Ponds	1942	1:10560
D	65m SW	Fish Ponds	1932	1:10560
D	65m SW	Fish Pond	1907	1:10560
E	68m W	Unspecified Pit	1869	1:10560
E	70m W	Unspecified Heap	1932	1:10560
D	71m SW	Pond	1971	1:10000
D	71m SW	Pond	1971	1:10000
D	71m SW	Pond	1971	1:10000
D	71m SW	Fish Ponds	1957	1:10560
D	71m SW	Pond	1989	1:10000
E	72m W	Unspecified Heap	1942	1:10560
F	90m NW	Unspecified Pit	1942	1:10560
F	90m NW	Unspecified Pit	1932	1:10560
F	90m NW	Unspecified Pit	1907	1:10560
F	90m NW	Unspecified Pit	1869	1:10560
F	92m NW	Unspecified Ground Workings	1932	1:10560
F	92m NW	Unspecified Ground Workings	1896	1:10560
3	132m NE	Refuse Heap	1989	1:10000
5	163m W	Unspecified Pit	1869	1:10560
G	178m N	Unspecified Pit	1908	1:10560
G	178m N	Unspecified Pit	1932	1:10560
G	179m N	Unspecified Pit	1938	1:10560
G	179m N	Unspecified Pit	1938	1:10560
G	179m N	Unspecified Pit	1938	1:10560
H	197m NE	Pond	1971	1:10000



ID	Location	Land Use	Year of mapping	Mapping scale
H	197m NE	Pond	1971	1:10000
H	199m NE	Pond	1971	1:10000
H	199m NE	Pond	1989	1:10000
H	200m NE	Pond	1896	1:10560
H	200m NE	Pond	1869	1:10560
I	230m N	Unspecified Pit	1938	1:10560
I	230m N	Unspecified Pit	1938	1:10560
I	230m N	Unspecified Pit	1938	1:10560
I	230m N	Unspecified Pit	1908	1:10560
I	230m N	Unspecified Pit	1932	1:10560

This 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 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

7

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

Features are displayed on the Mining and ground workings map on [page 99](#) >



ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
1	25m N	Westwood	Sand (moulding), sand and gravel	Surface mineral working	Valid	Not available
2	85m NW	Westwood	Sand (moulding), sand and gravel	Surface mineral working	Valid	Not available
4	147m N	Westwood	Sand (moulding), sand and gravel	Surface mineral working	Valid	Not available
6	231m N	Westwood	Sand (moulding), sand and gravel	Surface mineral working	Valid	Not available
7	356m NW	Westwood	Sand (moulding), sand and gravel	Surface mineral working	Valid	Not available
11	419m NW	Westwood	Sand (moulding), sand and gravel	Surface mineral working	Valid	21/01/55
M	430m NW	Westwood	Sand (moulding), sand and gravel	Surface mineral working	Valid	Not available

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

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

This data is sourced from the British Geological Survey.



18.7 JPB mining areas

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

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

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

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

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m	1
---------------------	---

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.

Location	Mineral type
50m N	Stone

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.

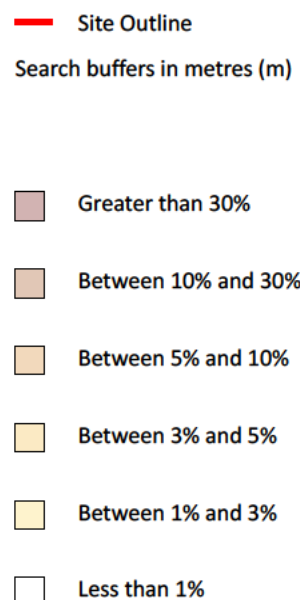
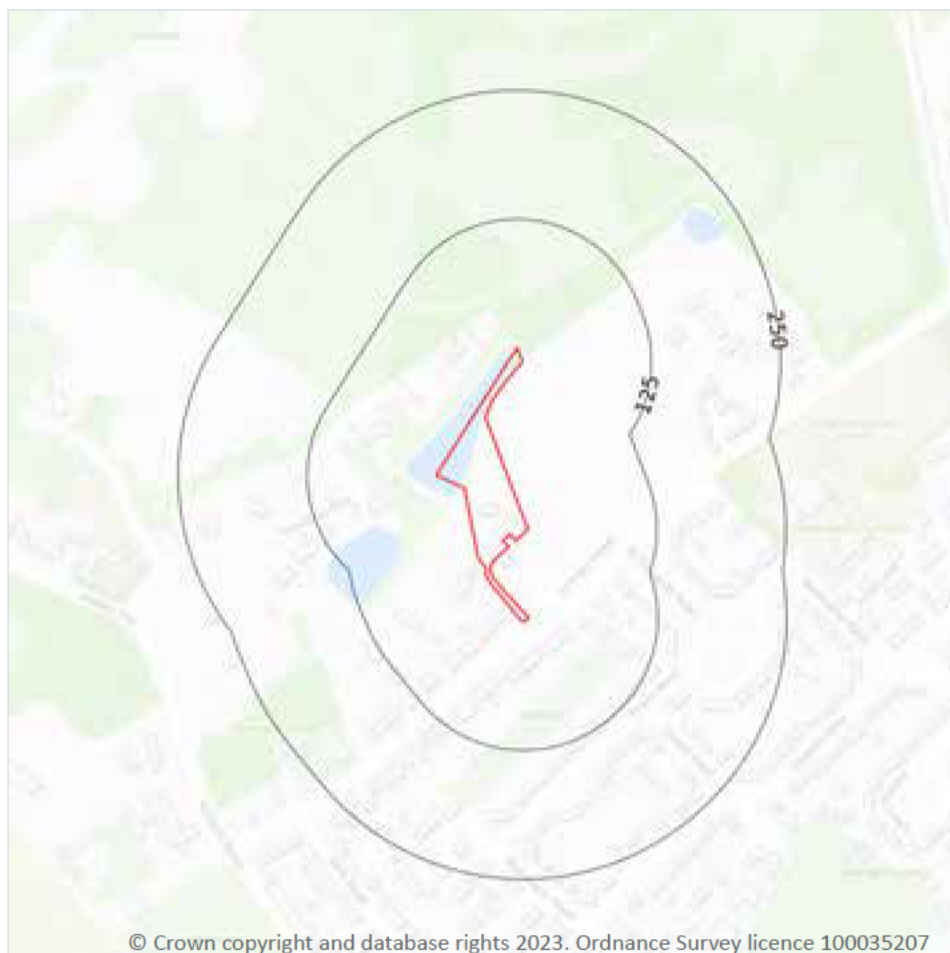
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over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



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 109](#) >

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

8

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
5m S	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
5m S	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
29m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
31m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
35m N	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
36m NE	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.



21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

22.1 Underground railways (London)

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

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

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

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

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

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

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

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

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

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

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



This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

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

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

This data is sourced from OpenStreetMap.

22.7 Railways

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

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

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

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

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

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

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

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

This data is sourced from HS2 Ltd.



Data providers

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

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Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: County Series

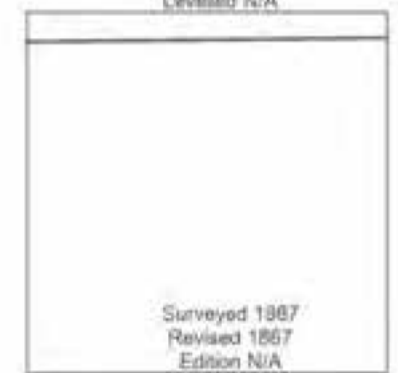
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Scale: 1:2,500

Printed at: 1:2,500



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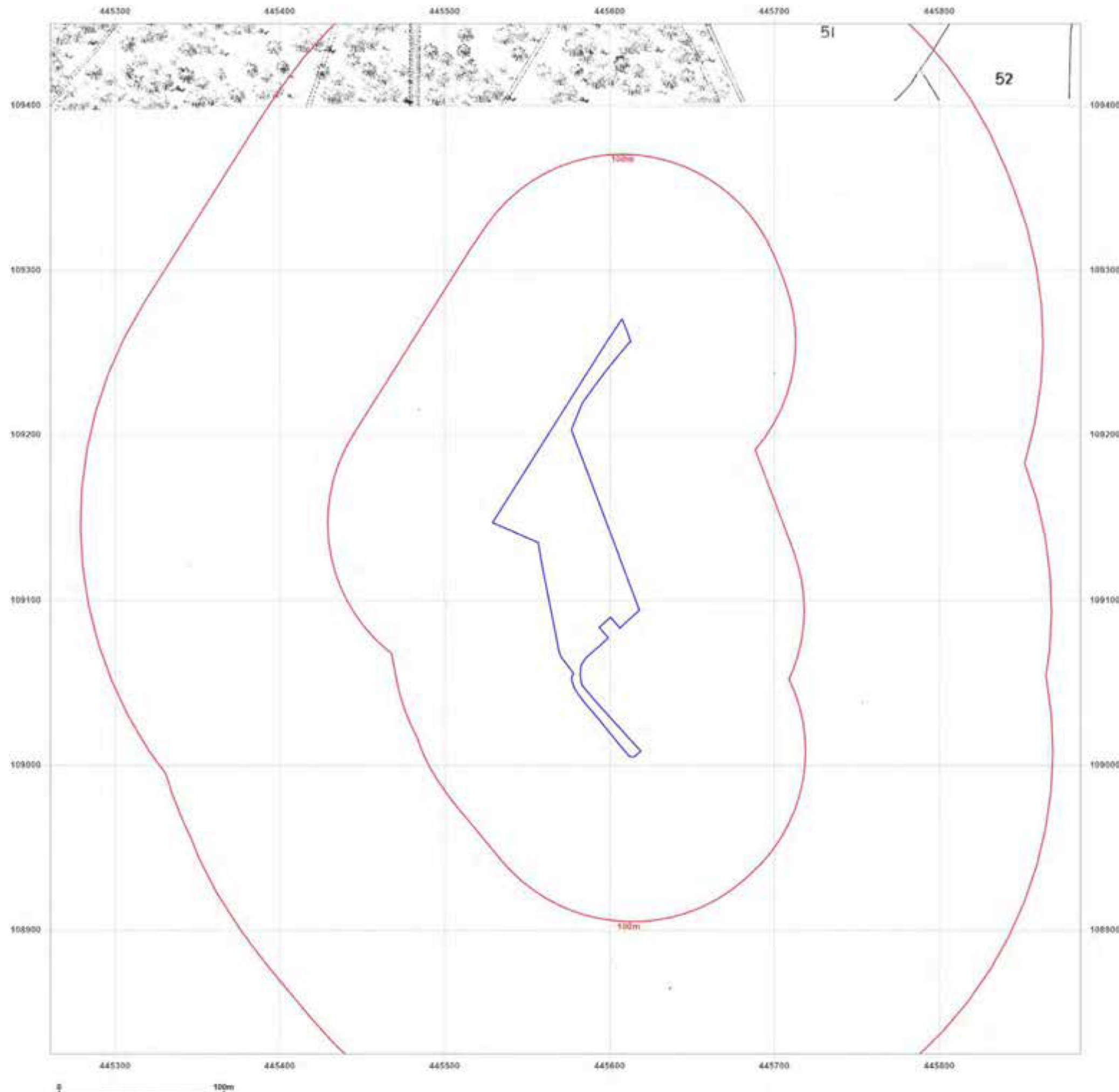


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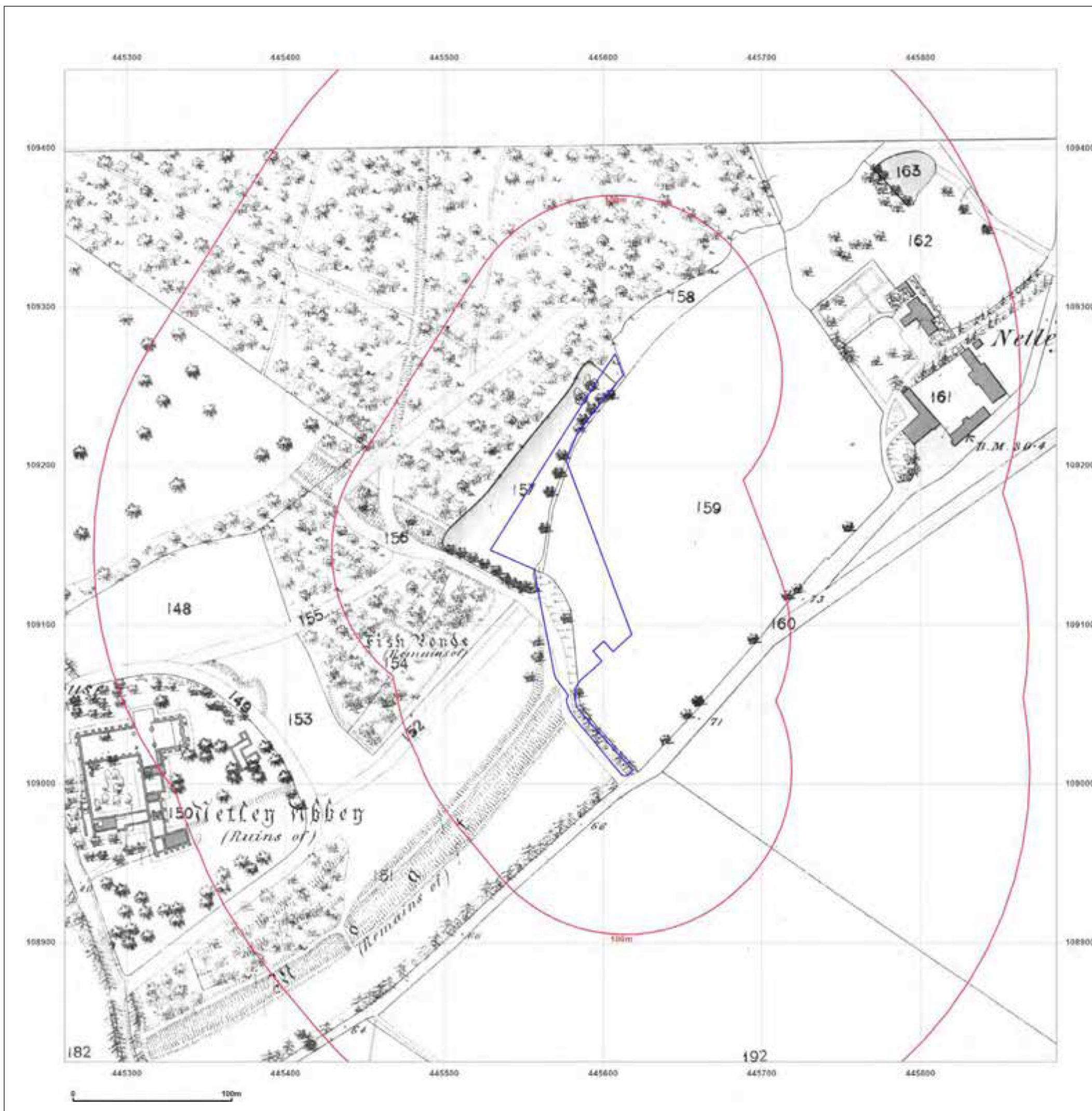


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Map Name: County Series

Map date: 1897

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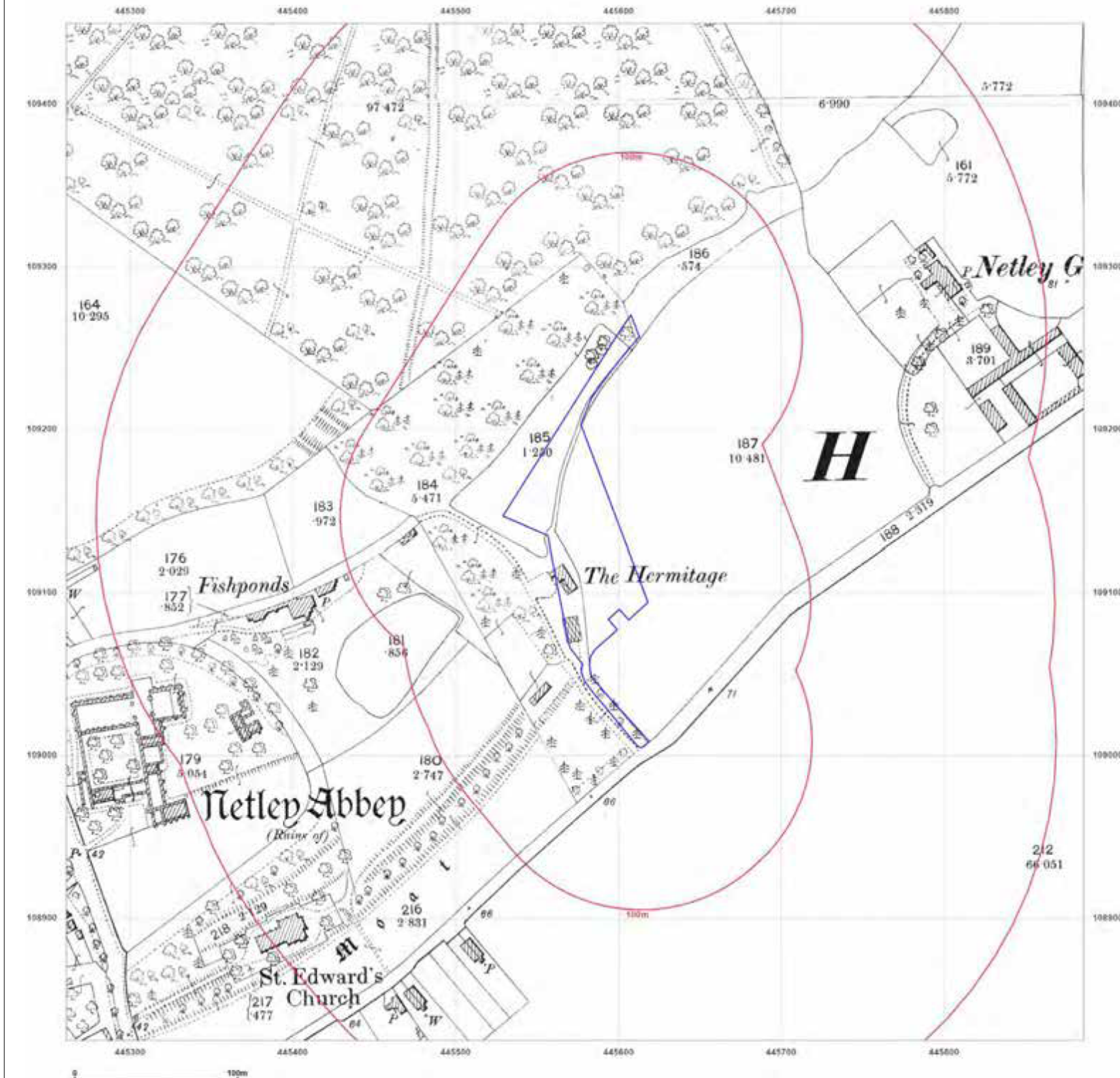


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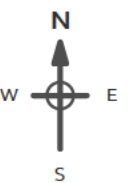
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Grid Ref: 445573, 109137

Map Name: County Series

Map date: 1909-1910

Scale: 1:2,500

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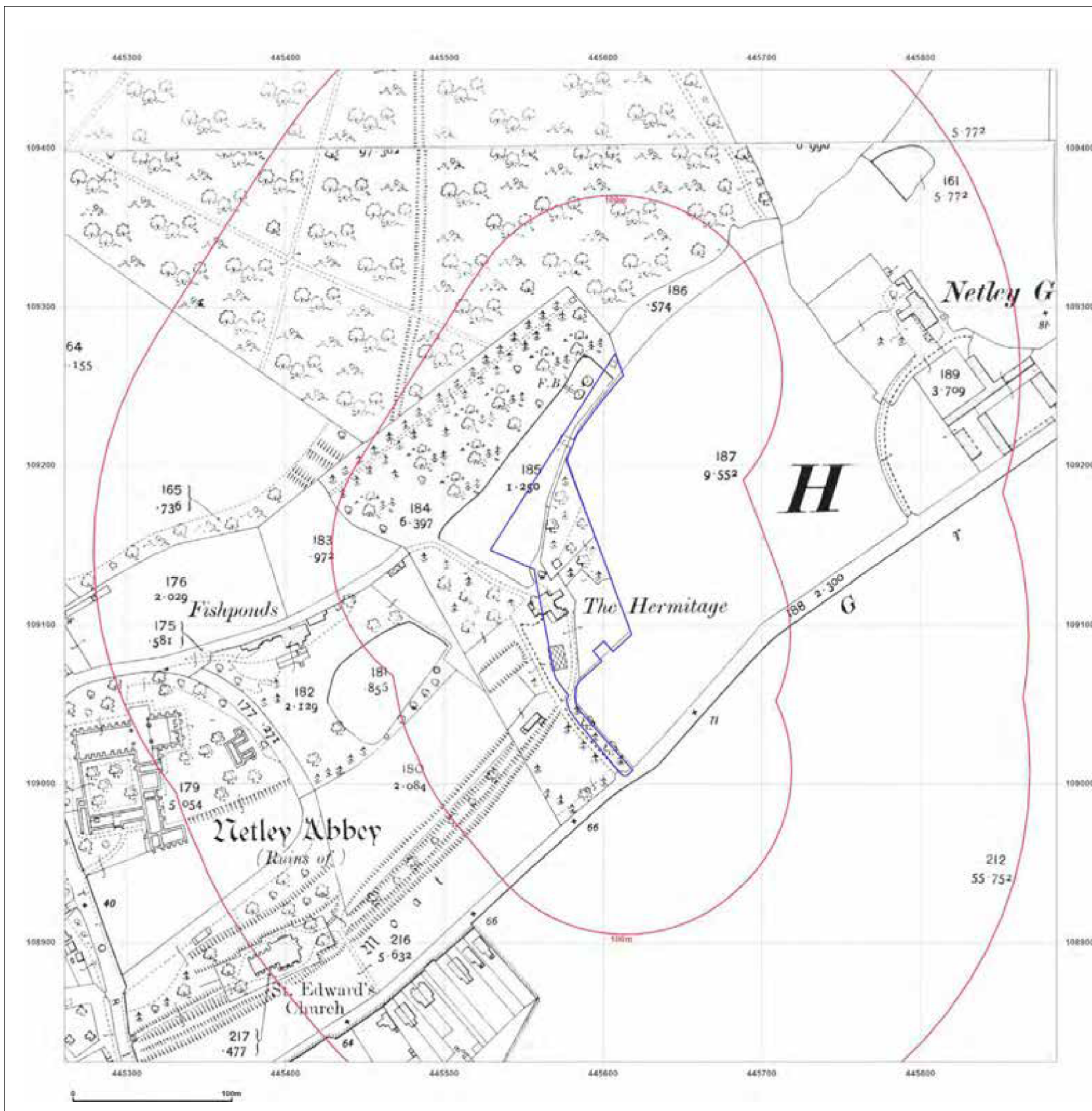


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Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: County Series

Map date: 1933

Scale: 1:2,500

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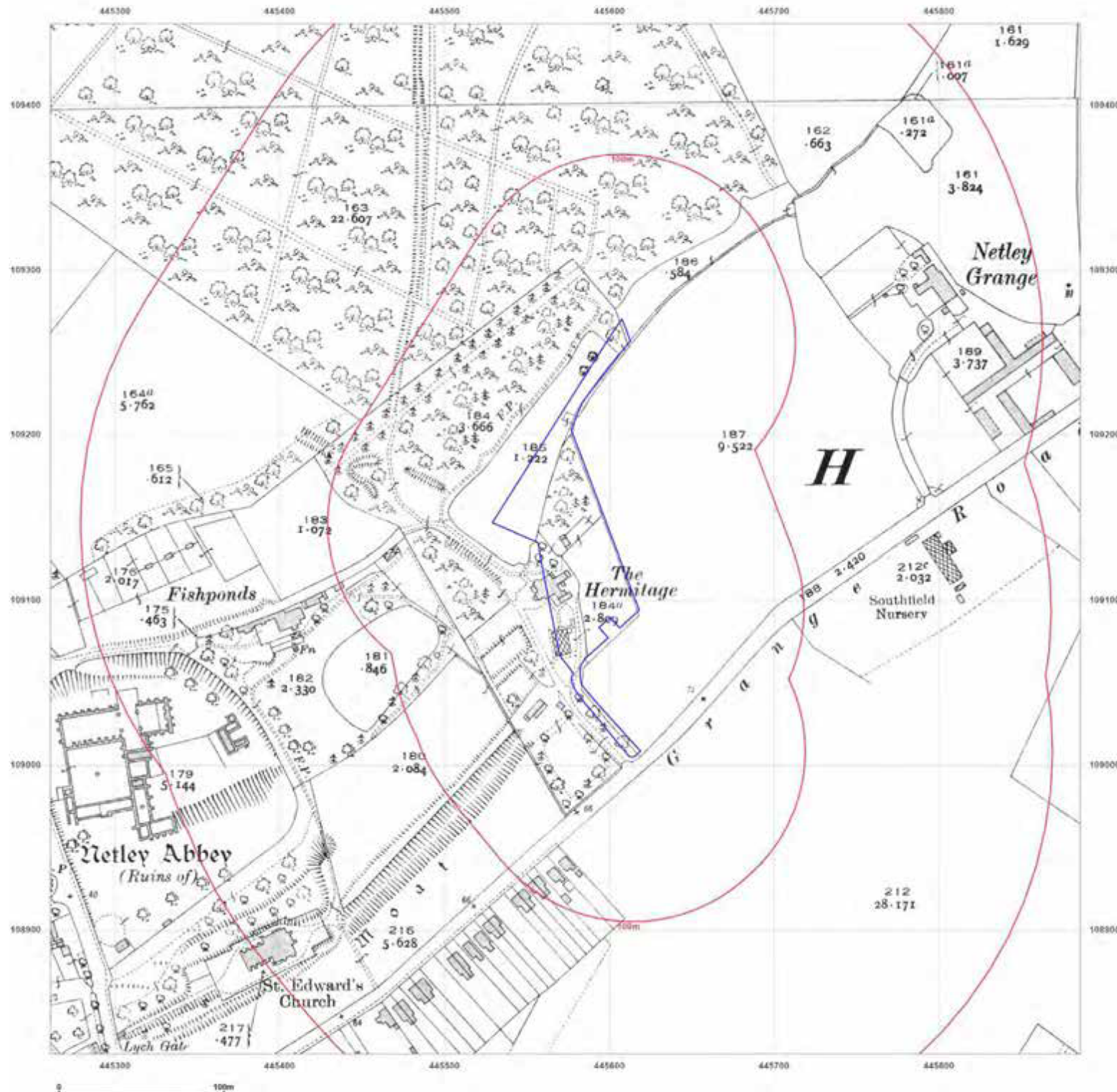


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Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: National Grid

Map date: 1964-1965

Scale: 1:2,500

Printed at: 1:2,500



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Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: National Grid

Map date: 1965

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
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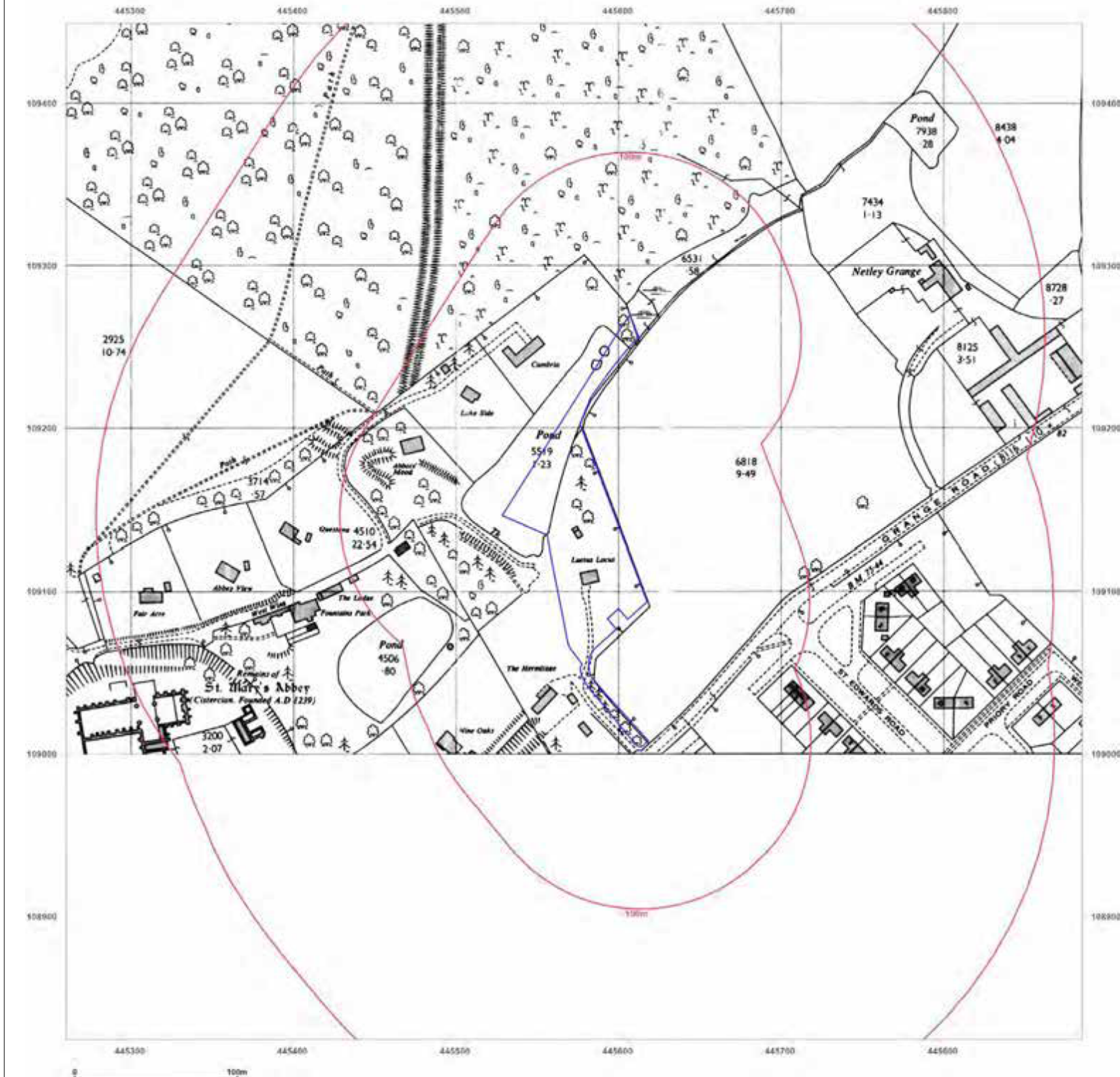


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Site Details:

MONKS LAKE, GRANGE ROAD,
NETLEY ABBEY, SO31 5FF

Client Ref: GE21897_-_PO-6642
Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: National Grid

Map date: 1973

Scale: 1:2,500

Printed at: 1:2,500

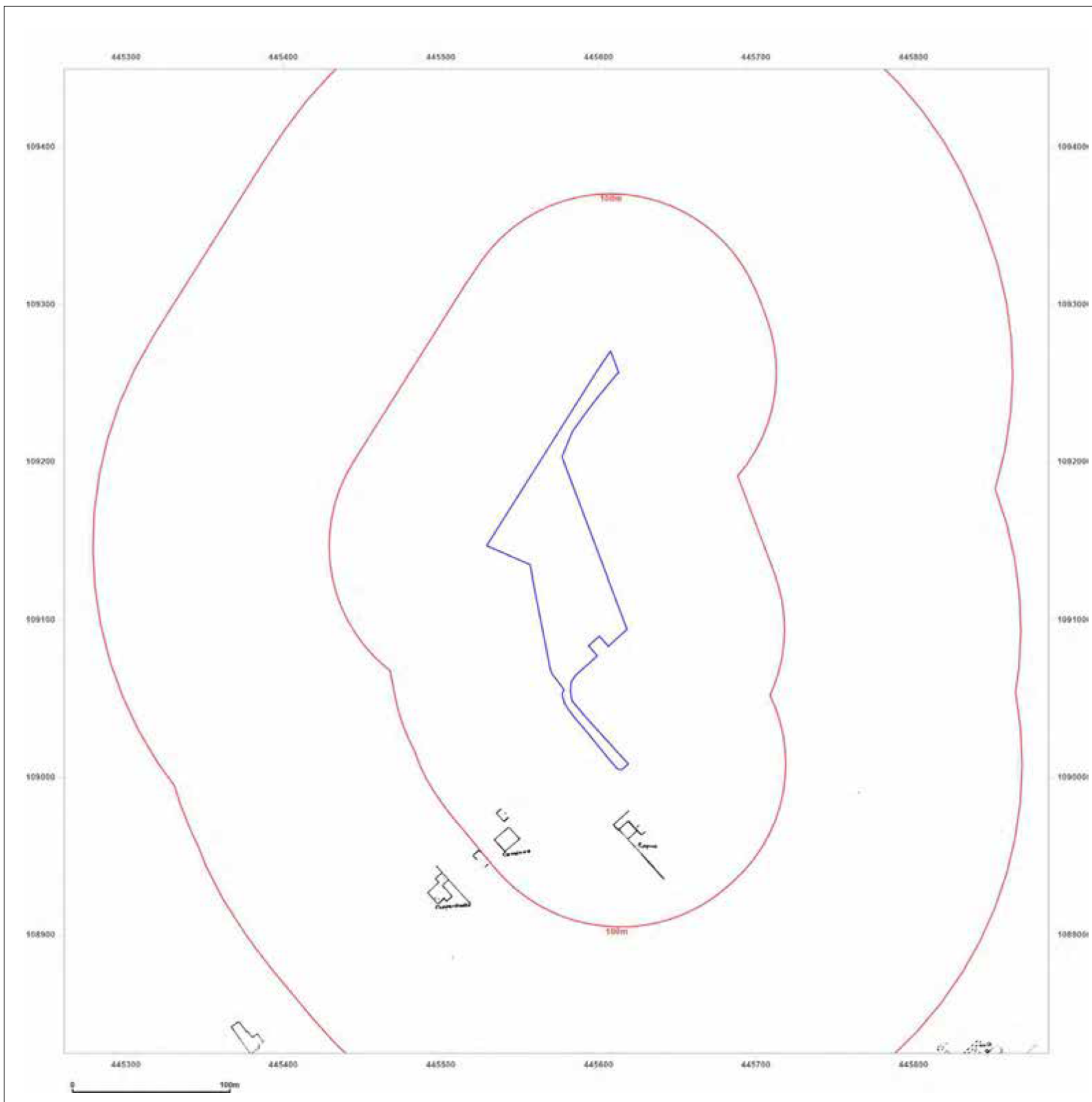


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Site Details:

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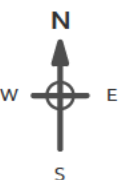
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Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: National Grid

Map date: 1973

Scale: 1:2,500

Printed at: 1:2,500



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

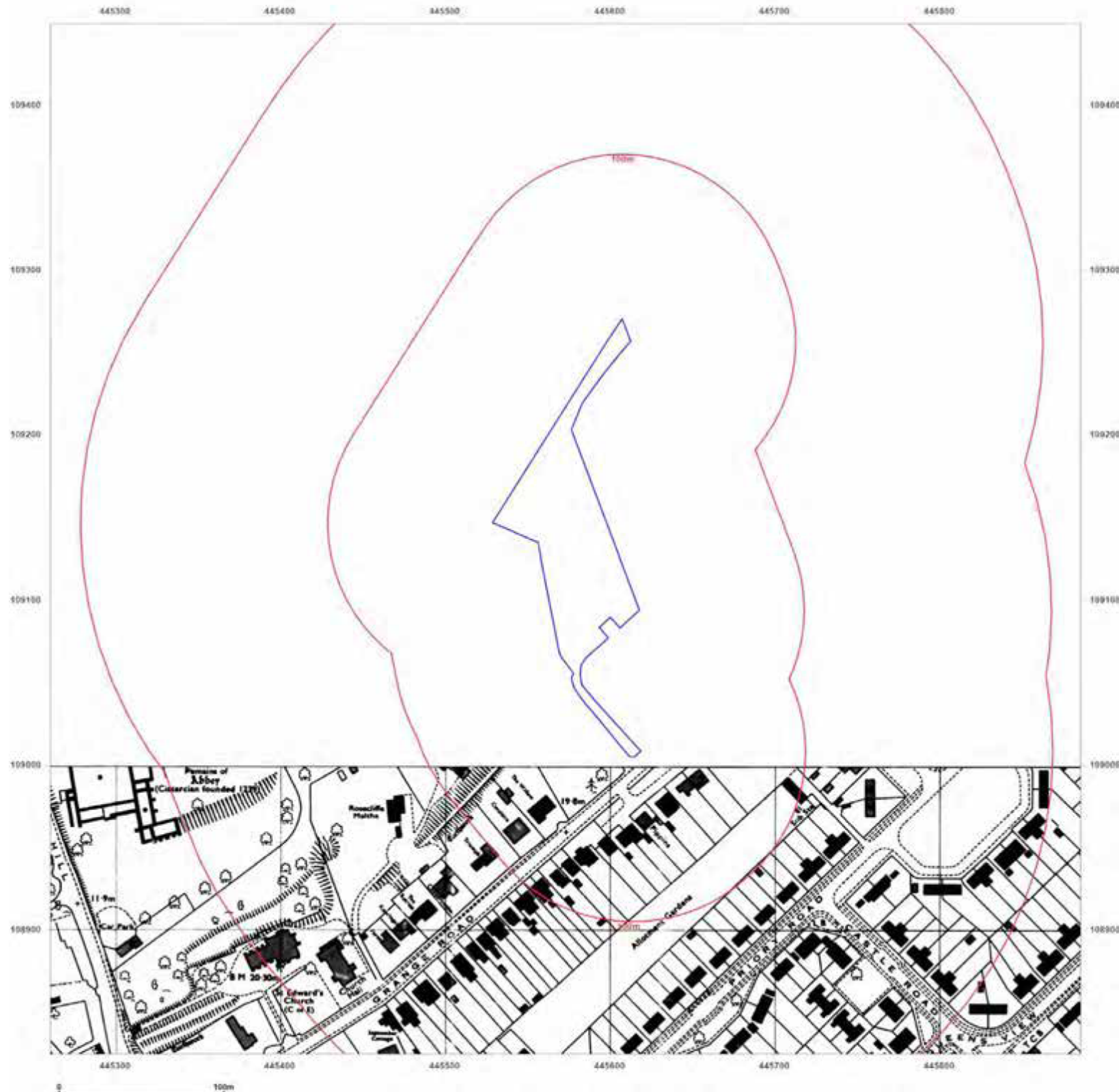


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Site Details:

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NETLEY ABBEY, SO31 5FF

Client Ref: GE21897_-_PO-6642
Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: National Grid

Map date: 1986-1987

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1985 Revised 1985 Edition N/A Copyright 1986 Levelled 1959	Surveyed 1985 Revised 1985 Edition N/A Copyright 1986 Levelled 1959
Surveyed 1985 Revised 1985 Edition N/A Copyright 1986 Levelled 1959	Surveyed 1985 Revised 1985 Edition N/A Copyright 1987 Levelled 1959

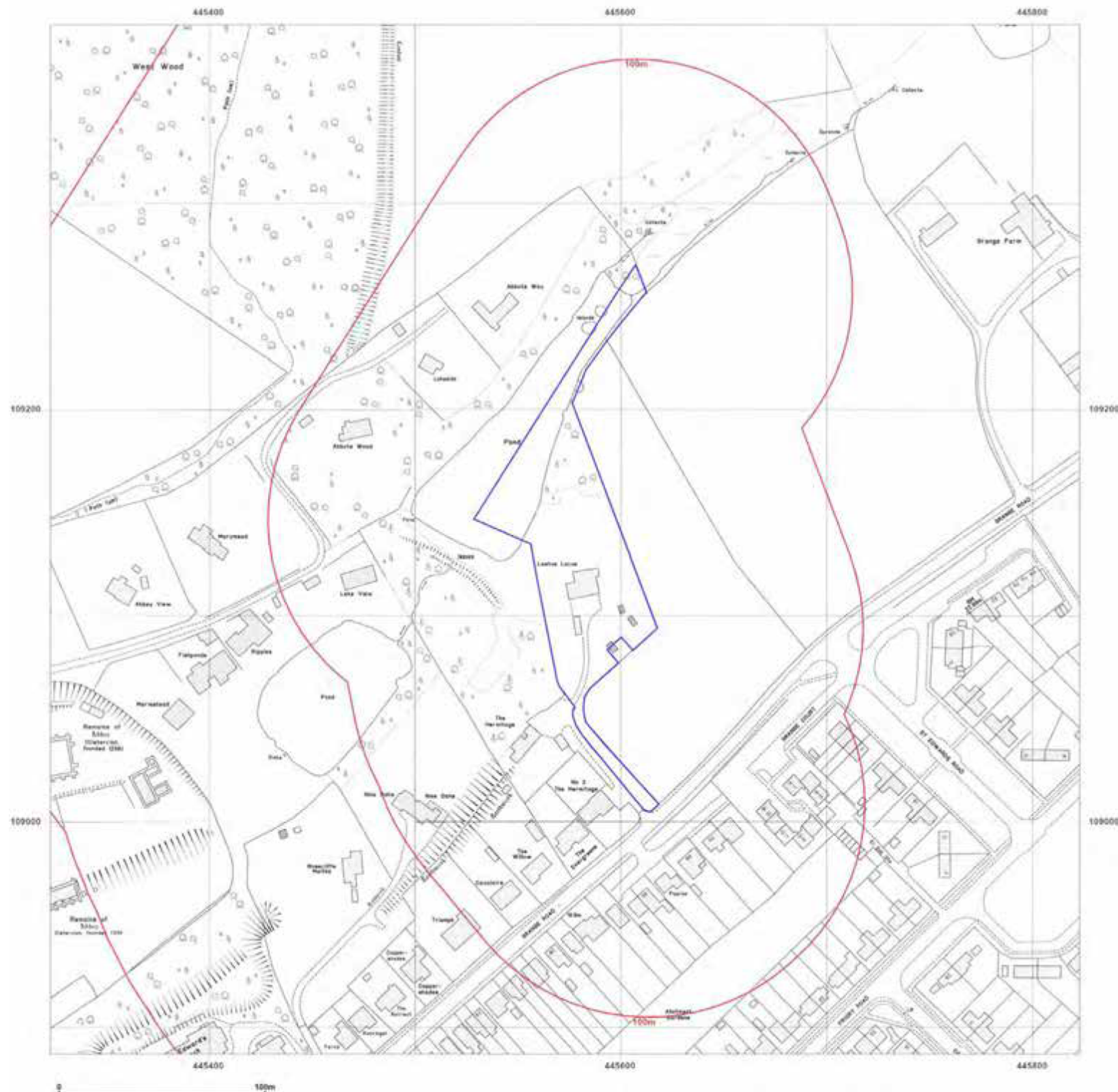


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Site Details:

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Client Ref: GE21897_-_PO-6642
Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: National Grid

Map date: 1993

Scale: 1:1,250

Printed at: 1:2,000



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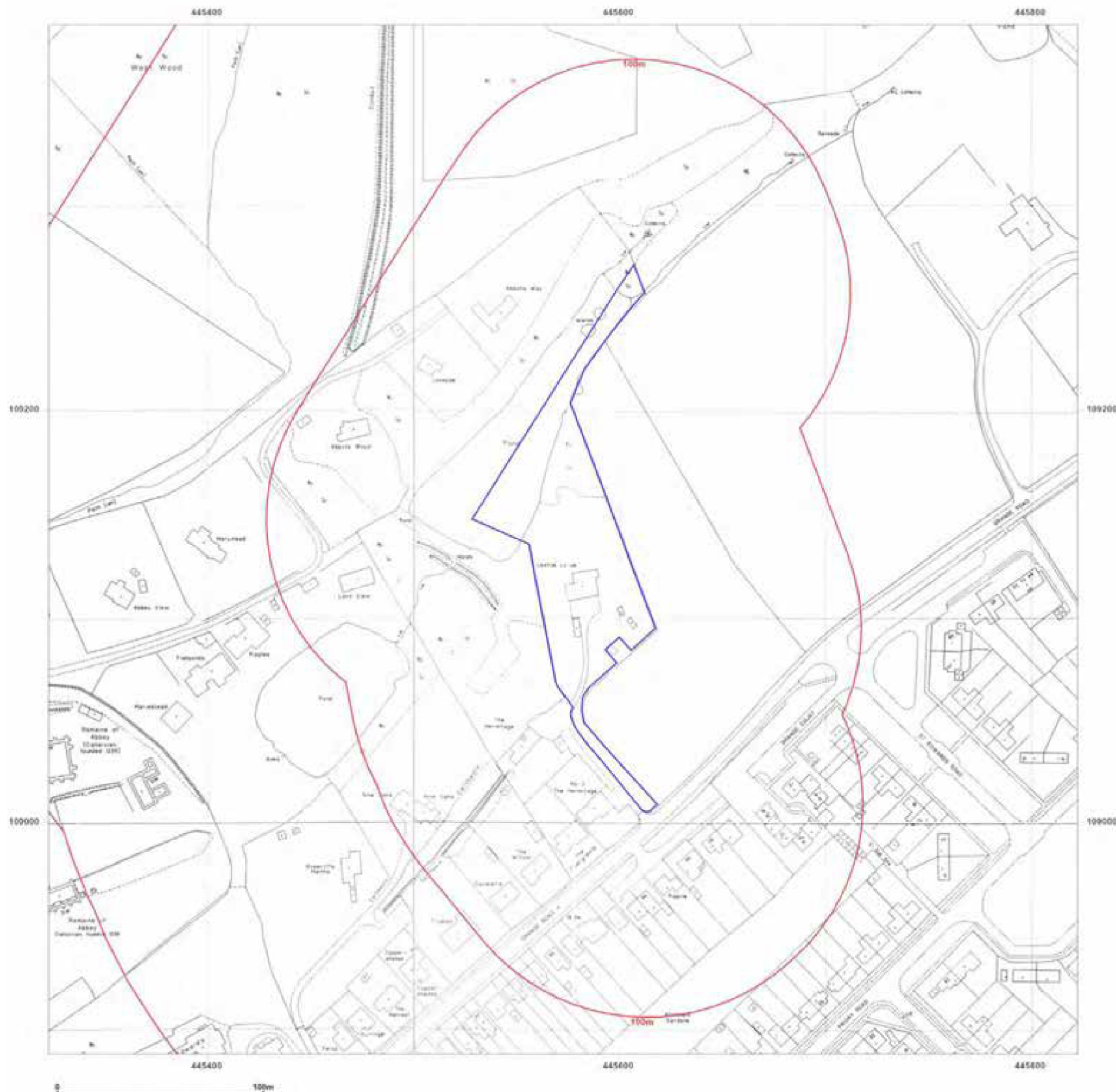


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Site Details:

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Client Ref: GE21897_-_PO-6642
Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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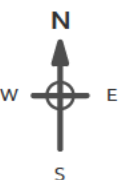
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Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: County Series

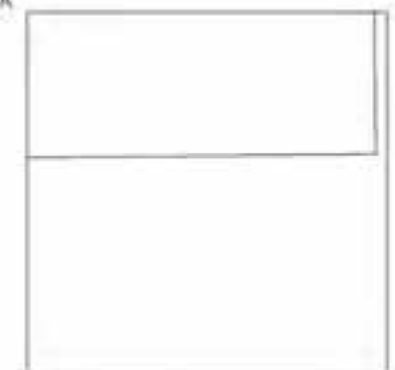
Map date: 1869

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1889
Revised 1889
Edition N/A
Copyright N/A
Levelled N/A

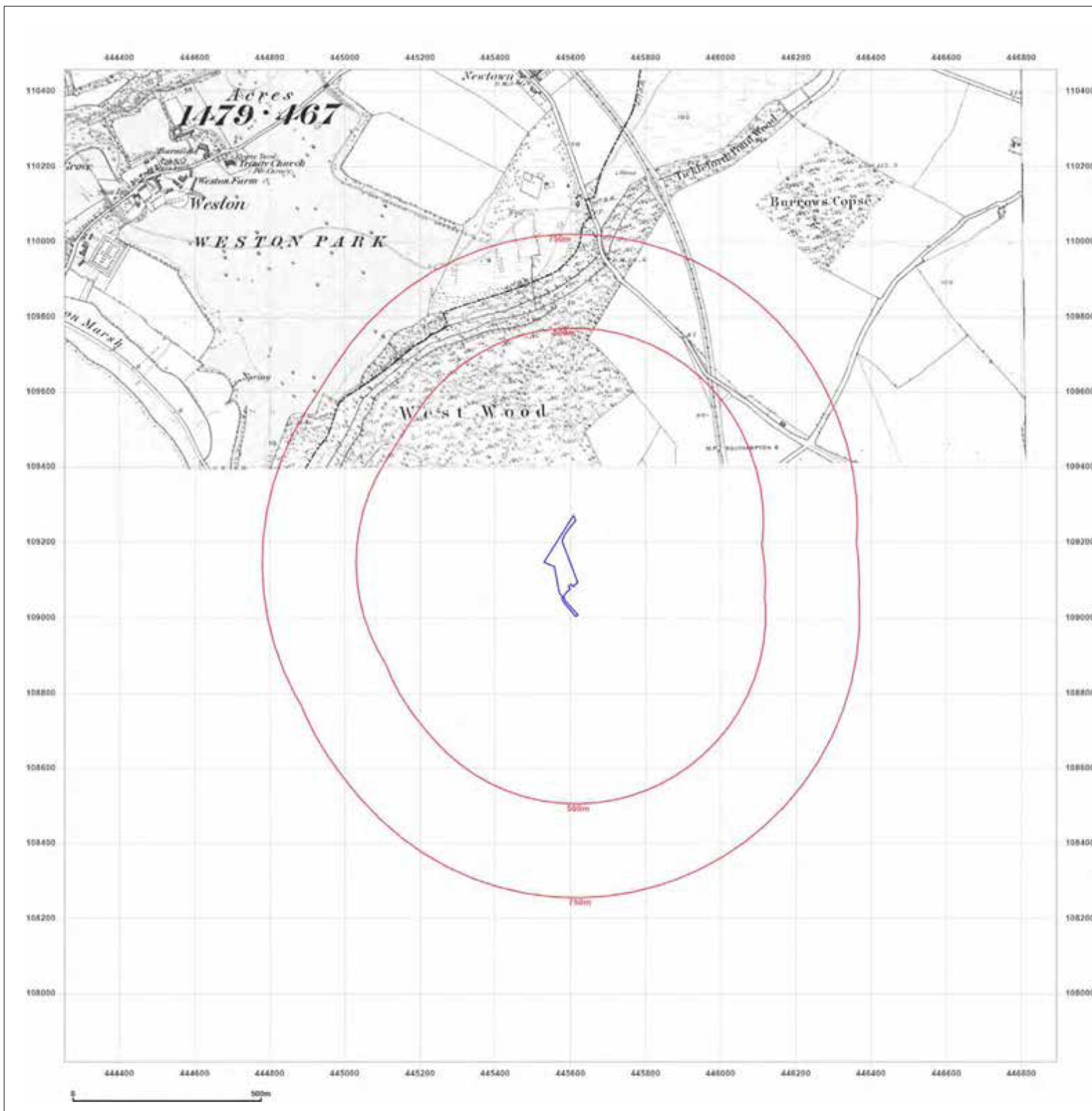


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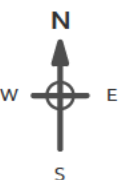
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Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: County Series

Map date: 1868-1871

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1869
Revised N/A
Edition 1871
Copyright N/A
Levelled N/A

Surveyed 1868
Revised 1868
Edition N/A
Copyright N/A
Levelled N/A

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

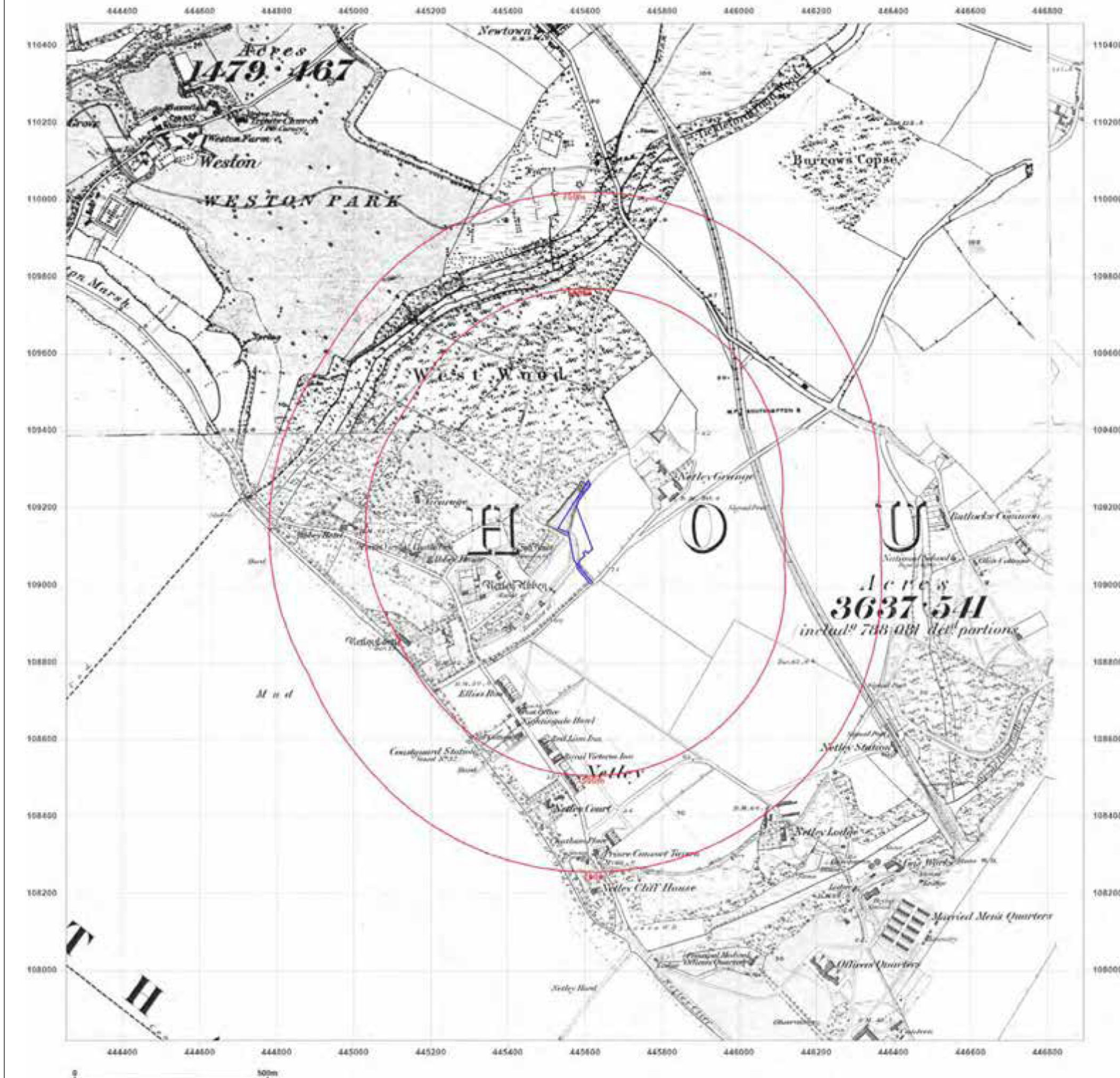


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Client Ref: GE21897_-_PO-6642
Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: County Series

Map date: 1871

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1869
Revised N/A
Edition 1871
Copyright N/A
Levelled N/A

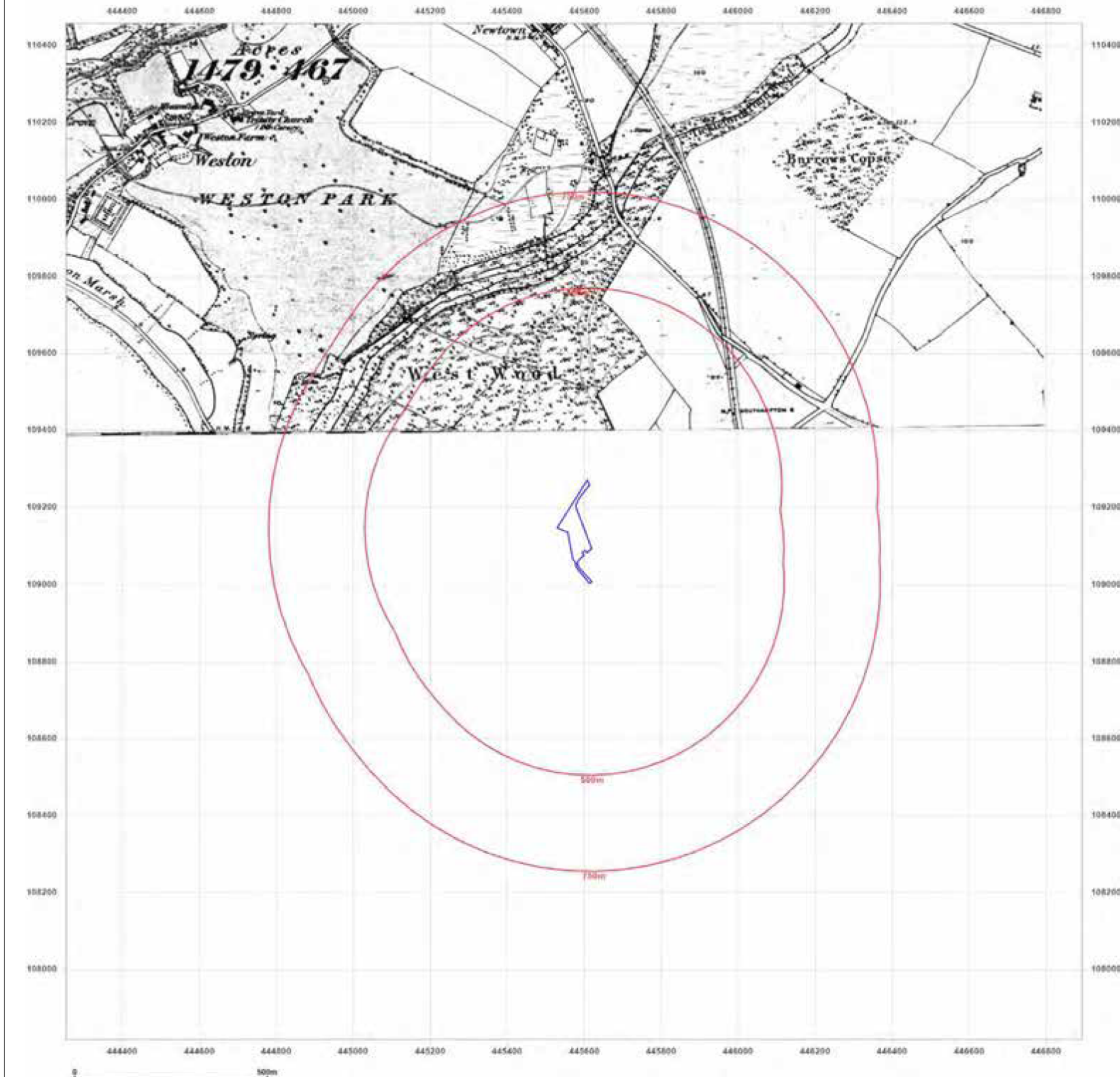


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Client Ref: GE21897_-_PO-6642
Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: County Series

Map date: 1895-1896

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1868
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1867
Revised 1895
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1868
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1867
Revised 1895
Edition N/A
Copyright N/A
Levelled N/A

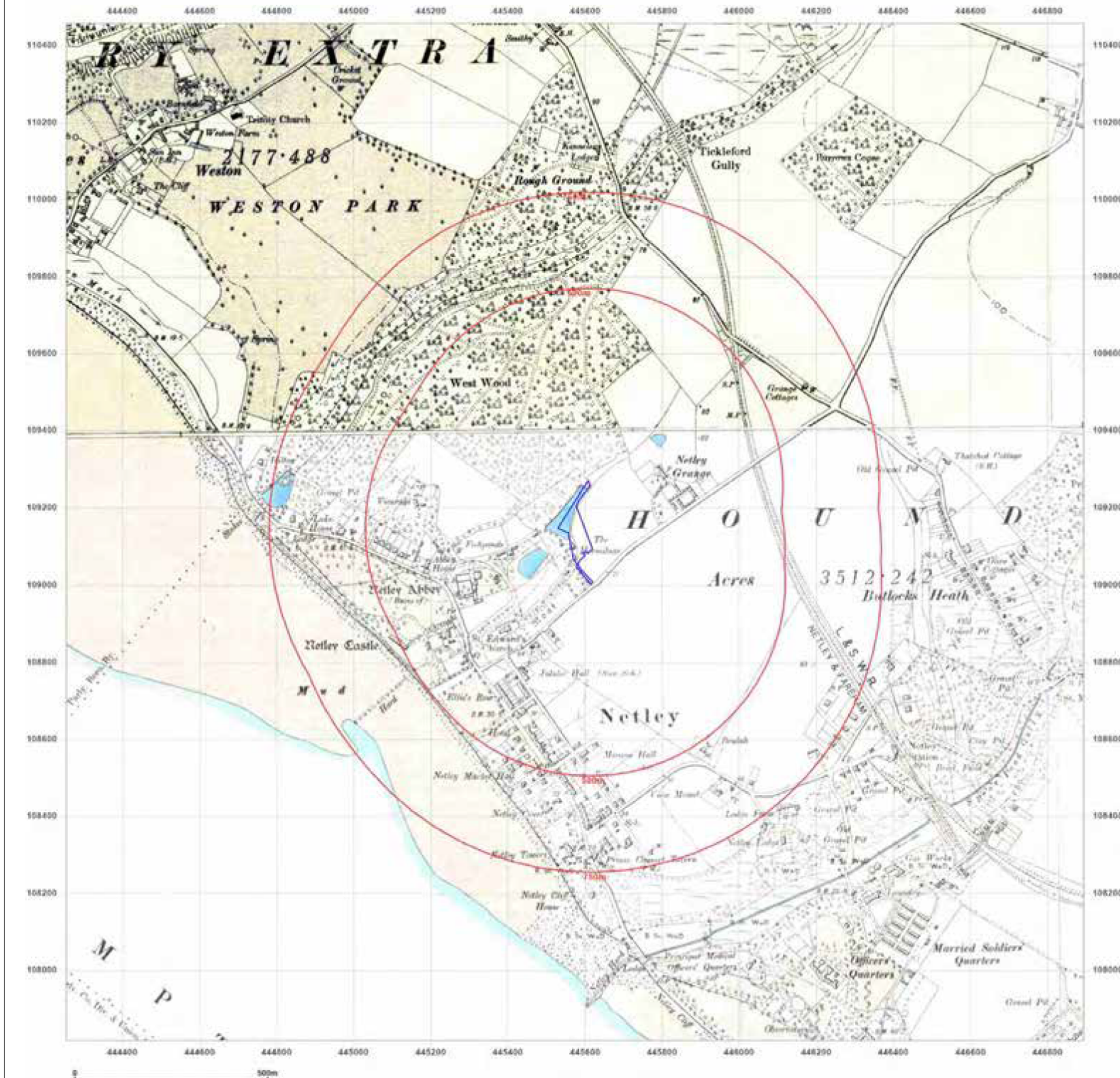


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Client Ref: GE21897_-_PO-6642
Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: County Series

Map date: 1896-1898

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1868
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1867
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1868
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1867
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

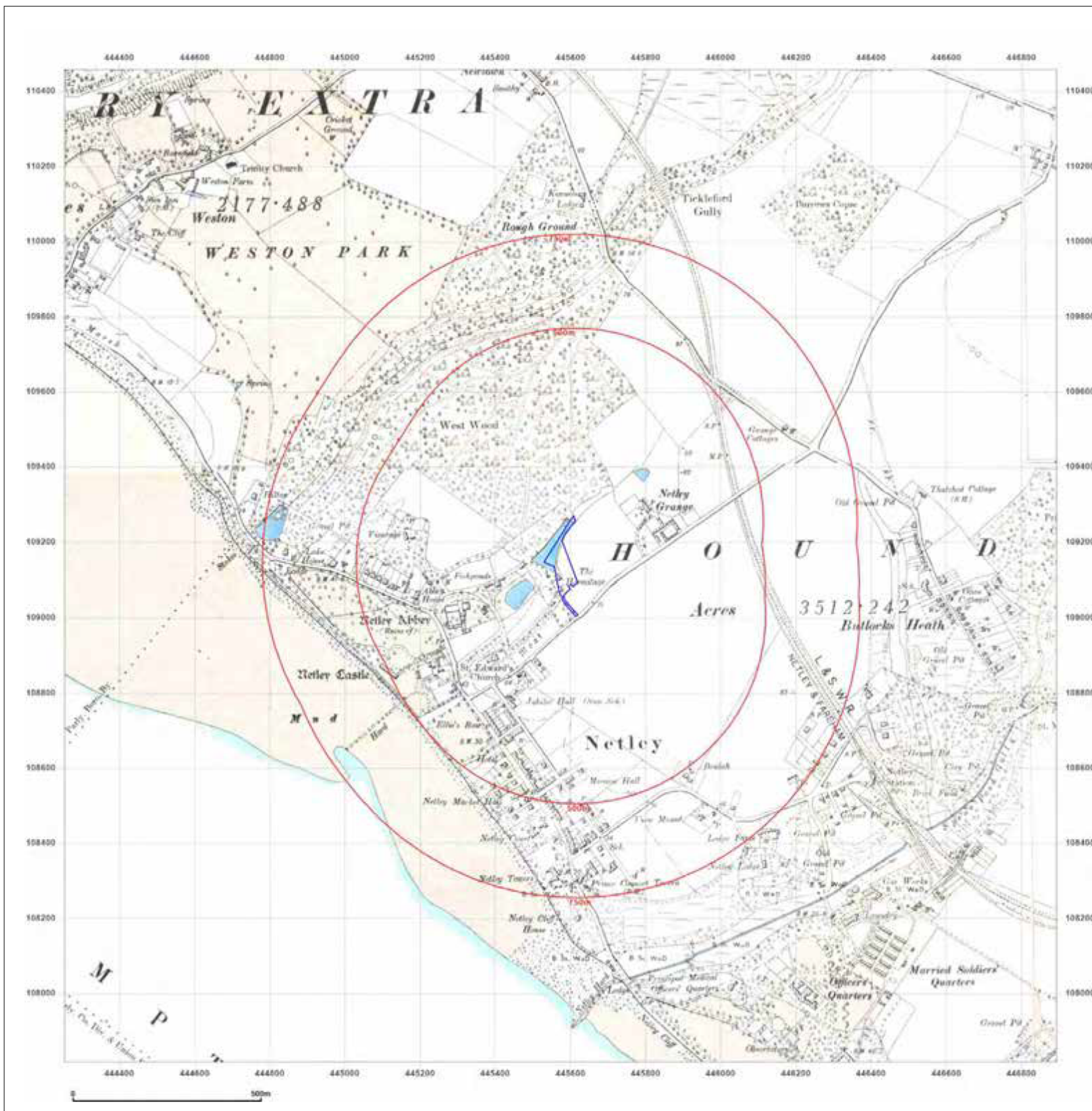


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Client Ref: GE21897_-_PO-6642
Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: County Series

Map date: 1907-1908

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1866
Revised 1908
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1867
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1865
Revised 1908
Edition N/A
Copyright N/A
Levelled N/A

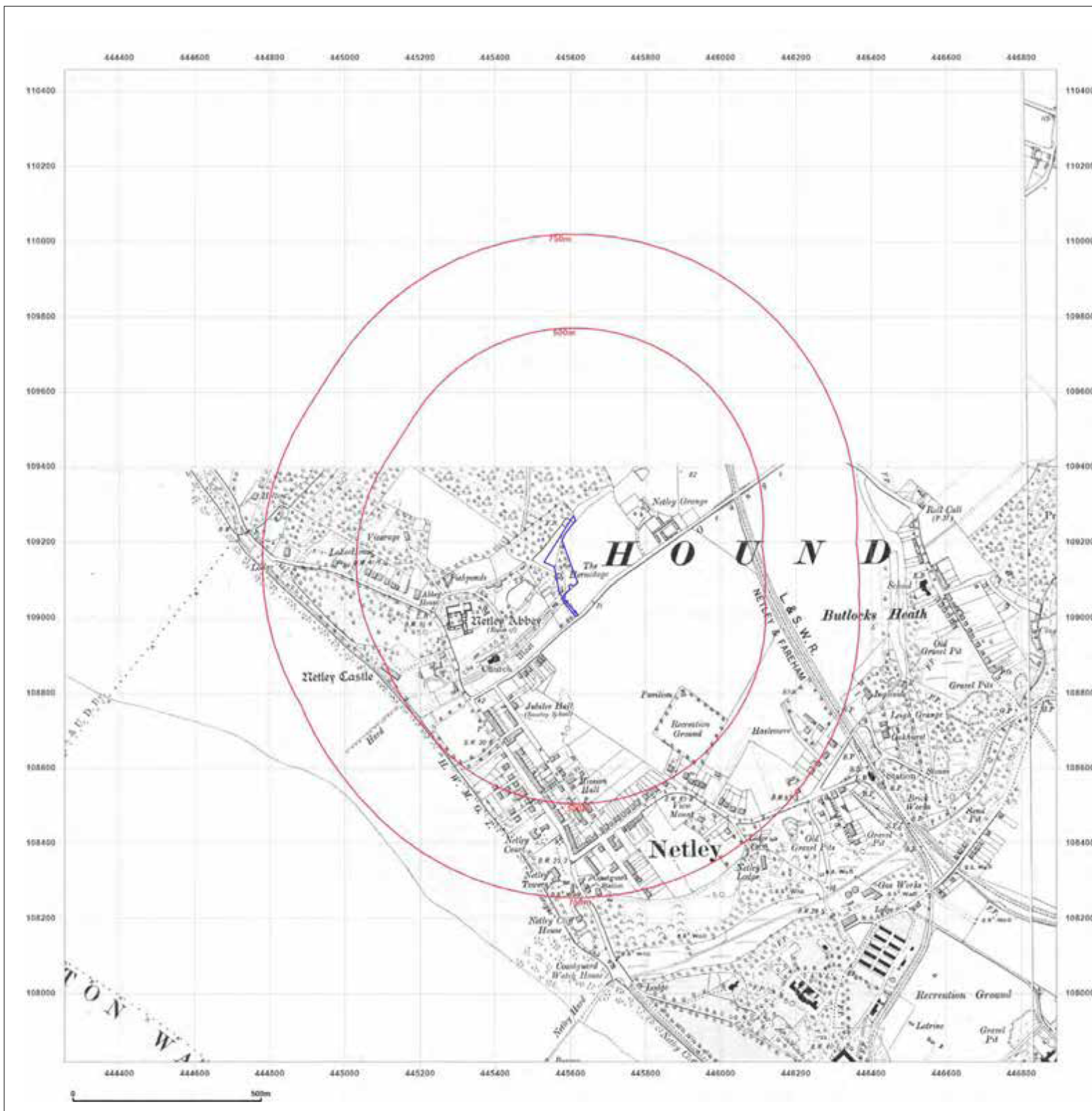


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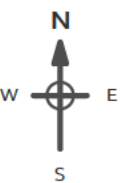
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Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: County Series

Map date: 1908

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1857
Revised 1908
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1856
Revised 1908
Edition N/A
Copyright N/A
Levelled N/A

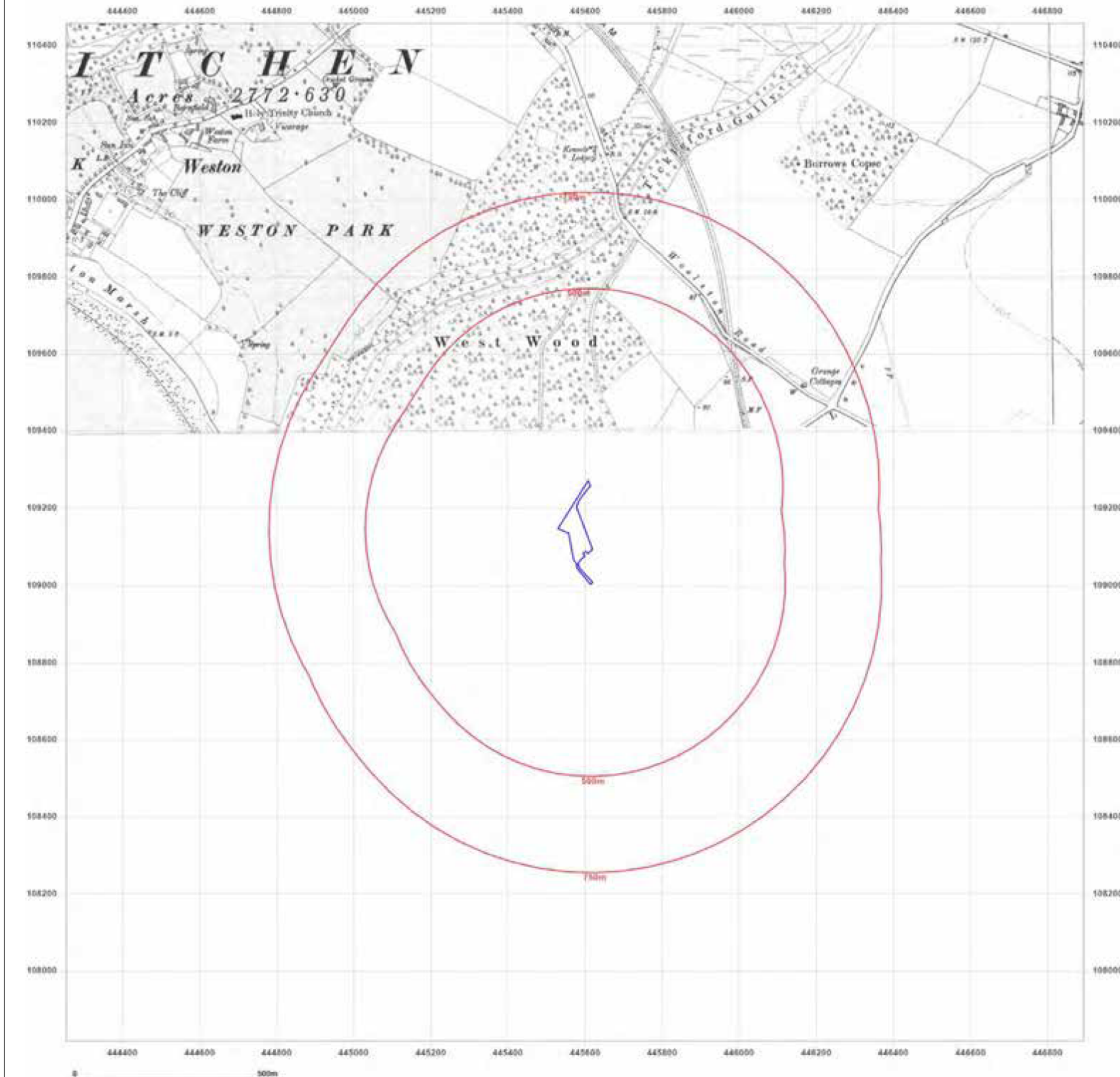


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Client Ref: GE21897_-_PO-6642
Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: County Series

Map date: 1931-1932

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1867
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1867
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1865
Revised 1931
Edition N/A
Copyright N/A
Levelled N/A

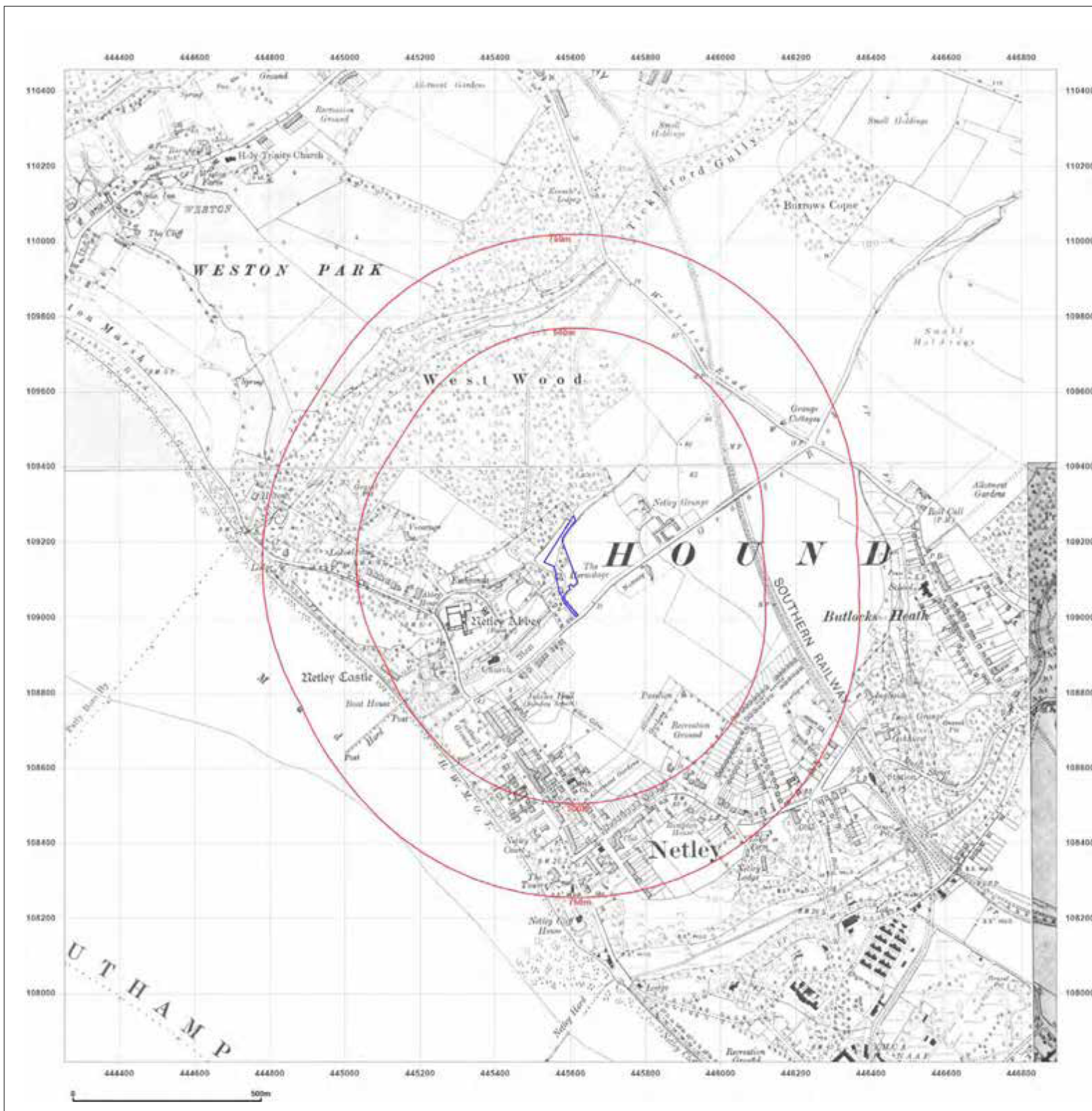


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Client Ref: GE21897_-_PO-6642
Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: County Series

Map date: 1932

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1887
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

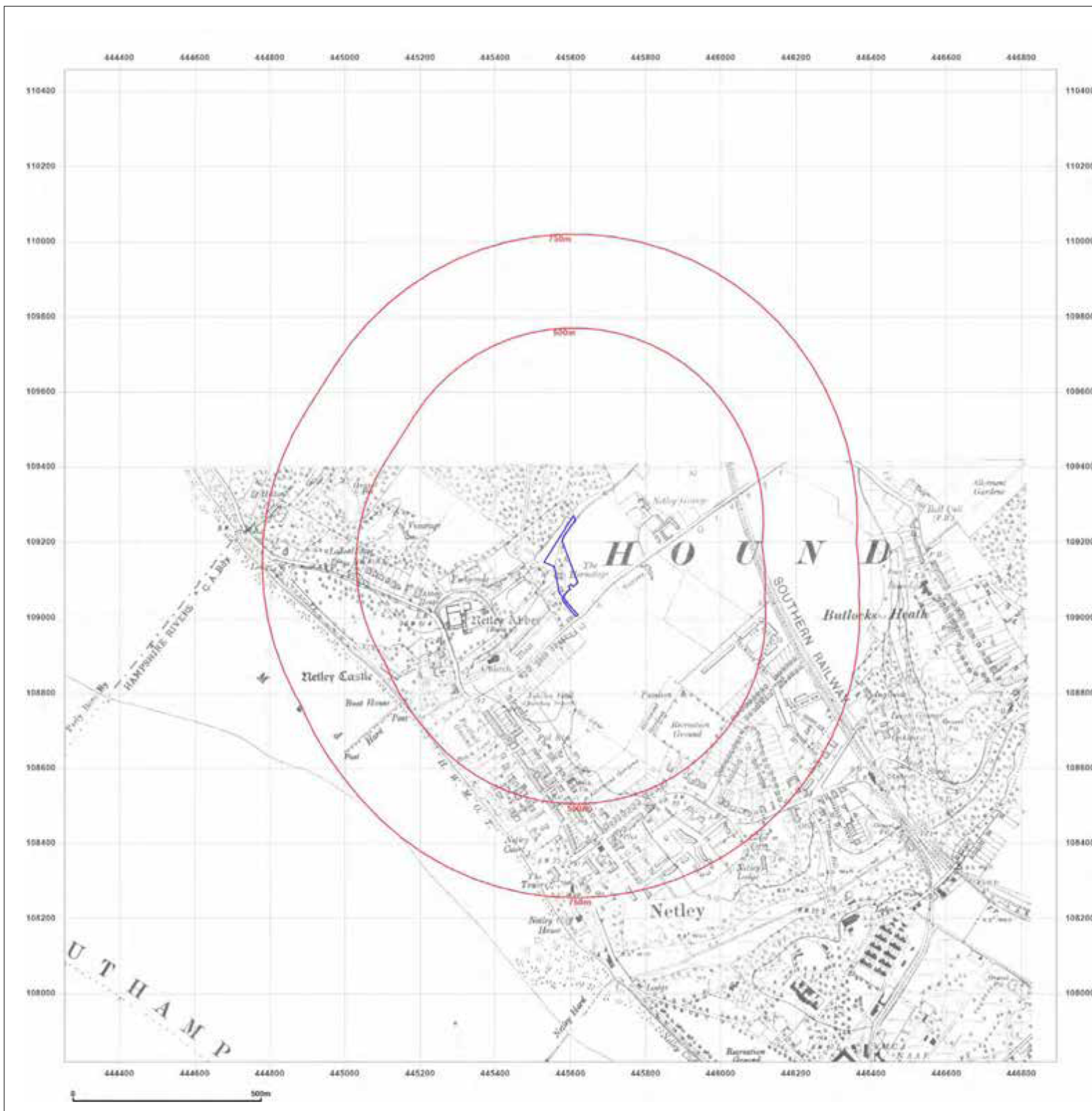


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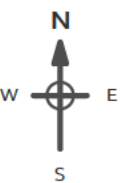
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Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1857
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

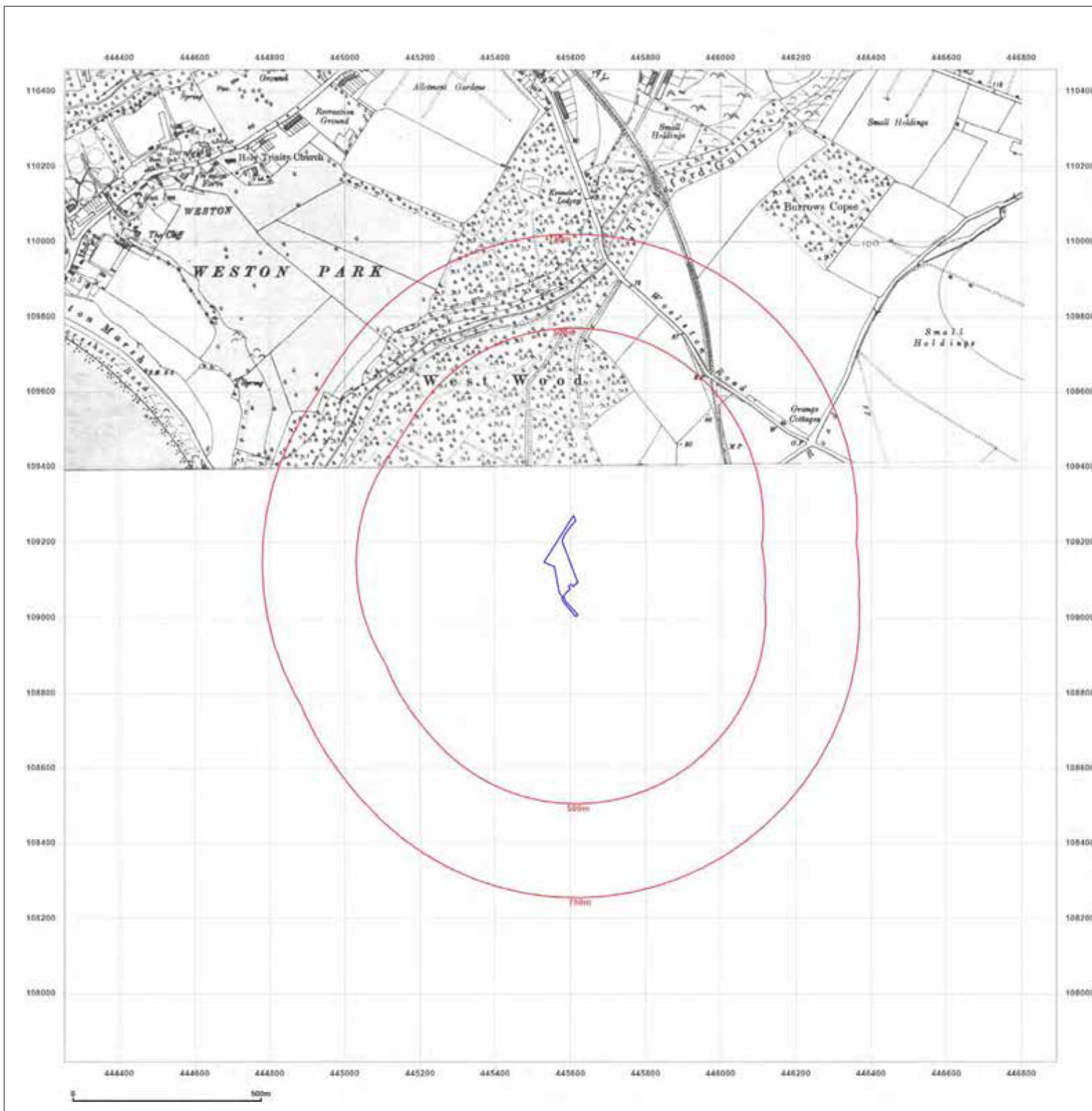


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Client Ref: GE21897_-_PO-6642
Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: County Series

Map date: 1938-1942

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1867
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A

Surveyed 1866
Revised 1942
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1867
Revised 1942
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1865
Revised 1942
Edition N/A
Copyright N/A
Levelled N/A

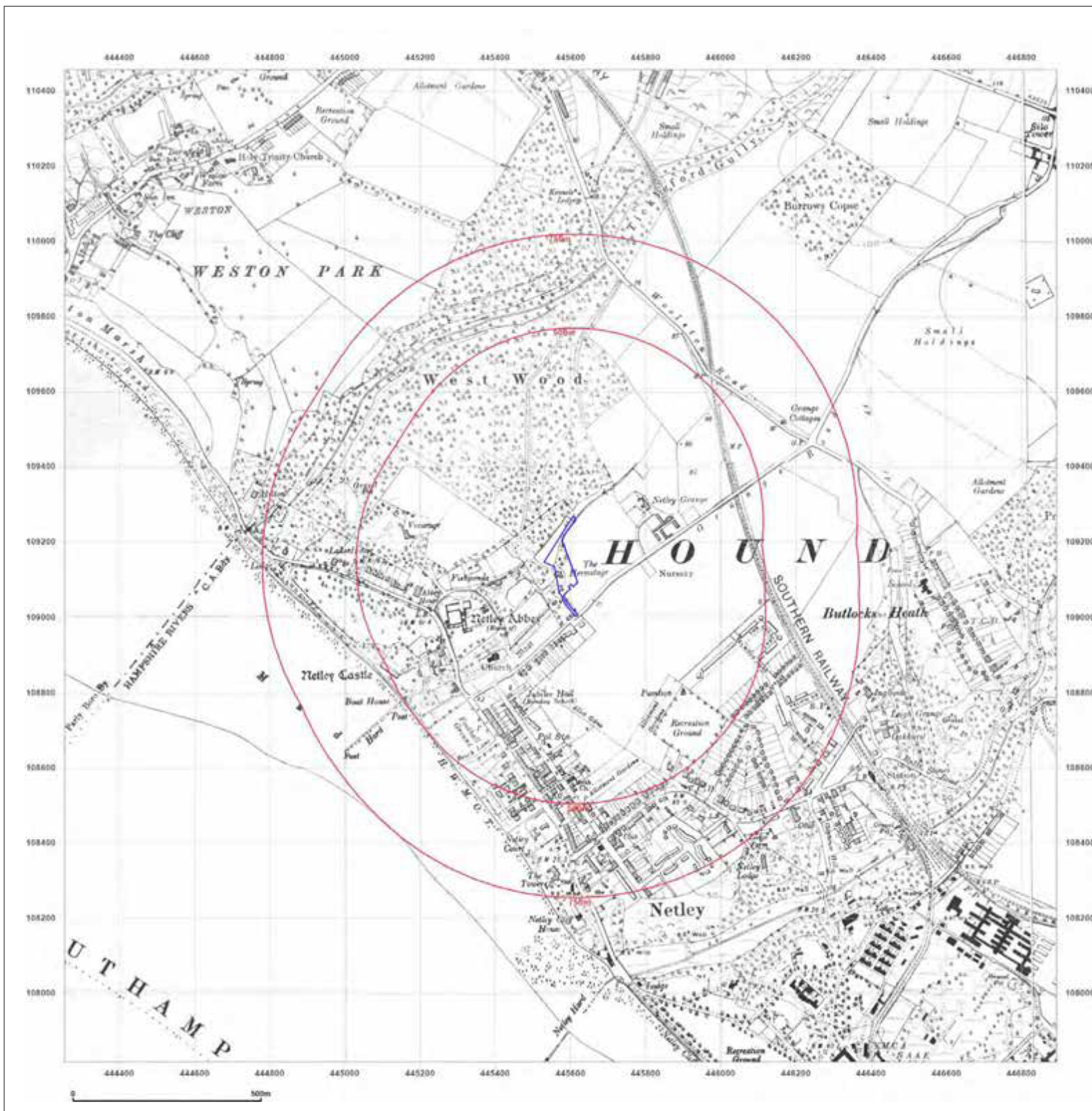


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Client Ref: GE21897_-_PO-6642
Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: Provisional

Map date: 1957-1962

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1867
Revised 1957
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1867
Revised 1957
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised 1961
Edition N/A
Copyright 1962
Levelled N/A

Surveyed 1957
Revised 1957
Edition N/A
Copyright N/A
Levelled N/A

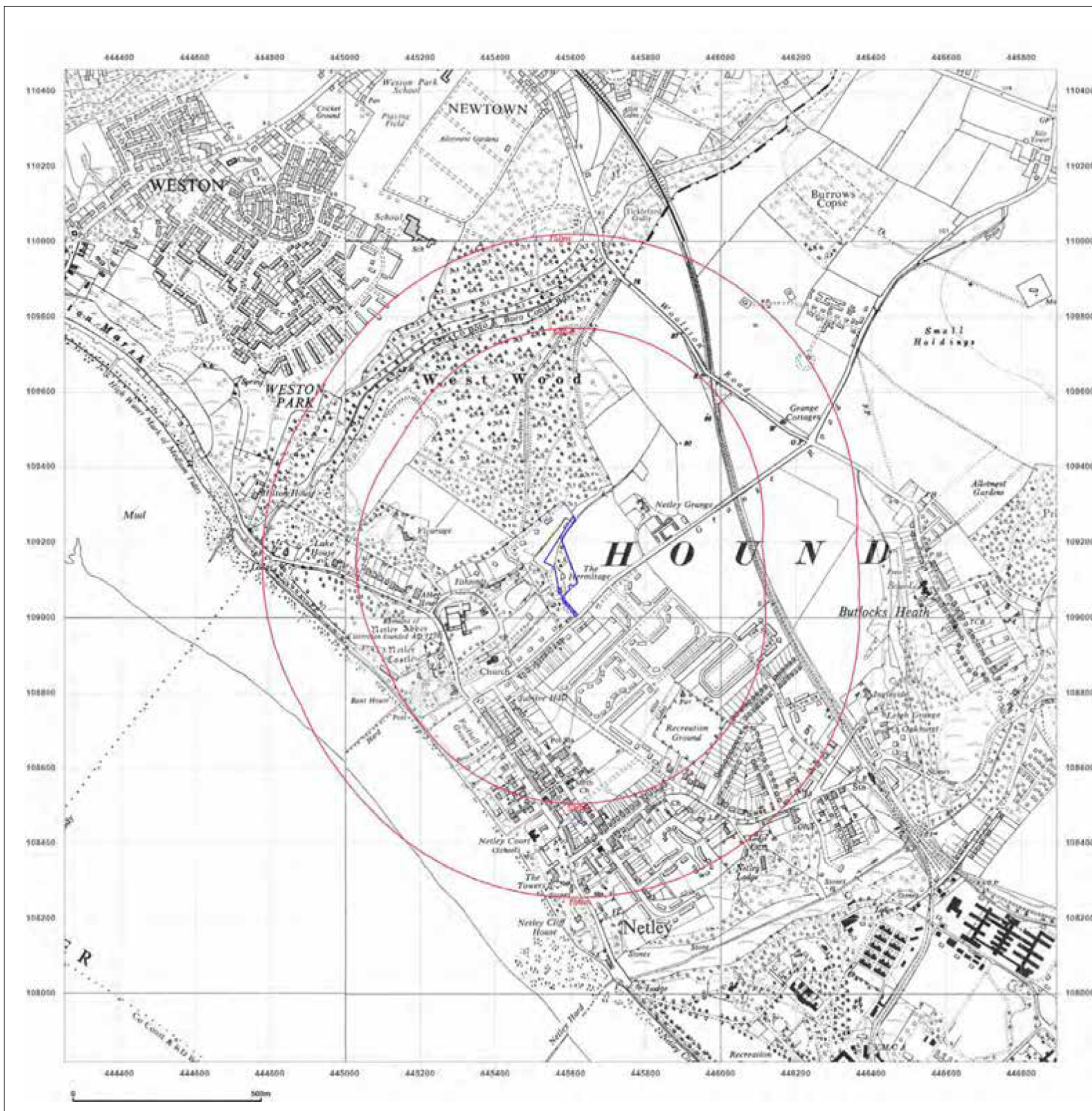


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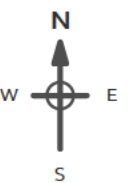
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Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: Provisional

Map date: 1967-1969

Scale: 1:10,560

Printed at: 1:10,560



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

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

Surveyed N/A
Revised 1969
Edition N/A
Copyright 1962
Levelled N/A

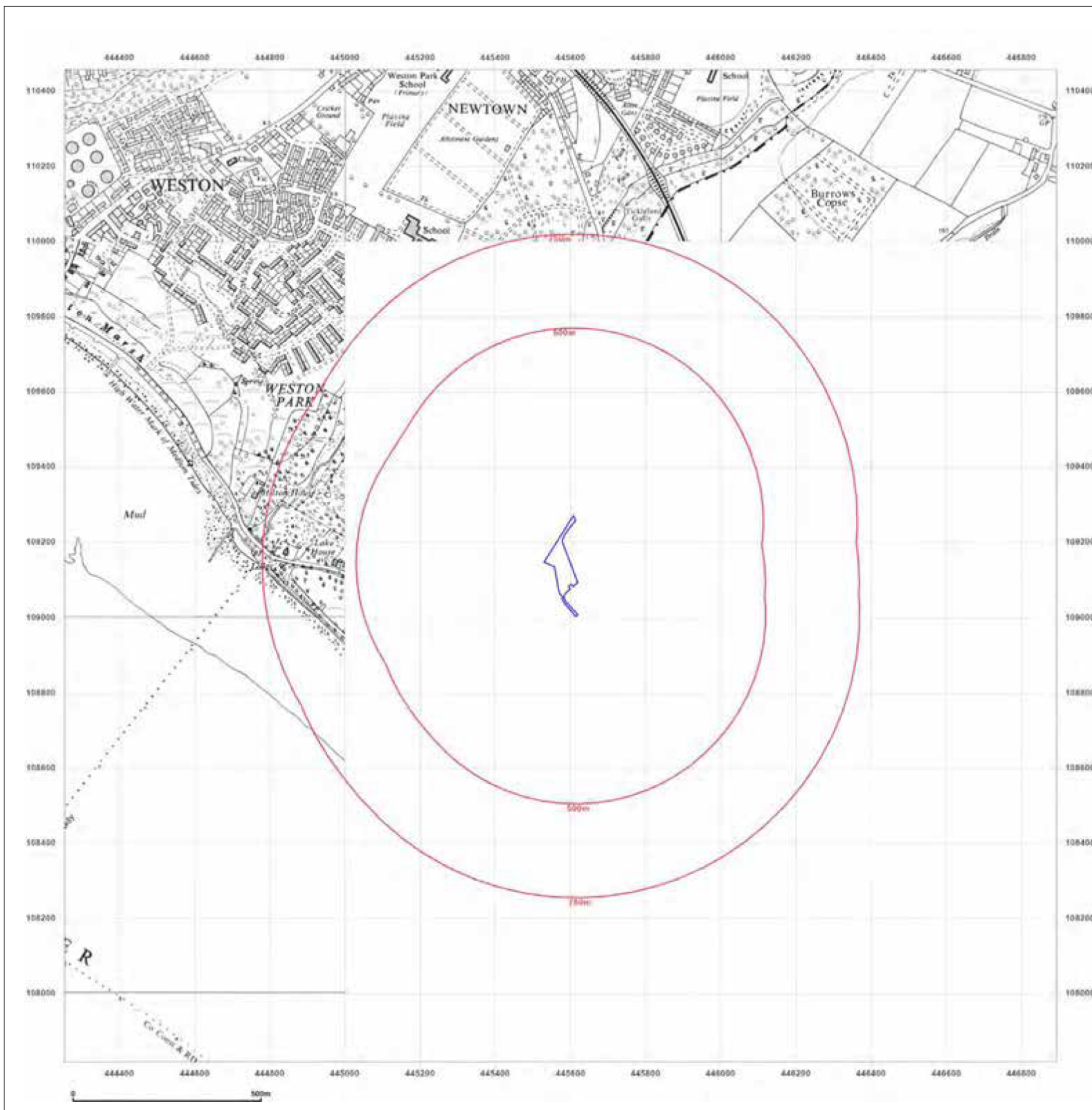


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Site Details:

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Client Ref: GE21897_-_PO-6642
Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: National Grid

Map date: 1972-1973

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1971
Revised 1973
Edition N/A
Copyright 1973
Levelled 1971

Surveyed 1970
Revised 1972
Edition N/A
Copyright 1972
Levelled 1968

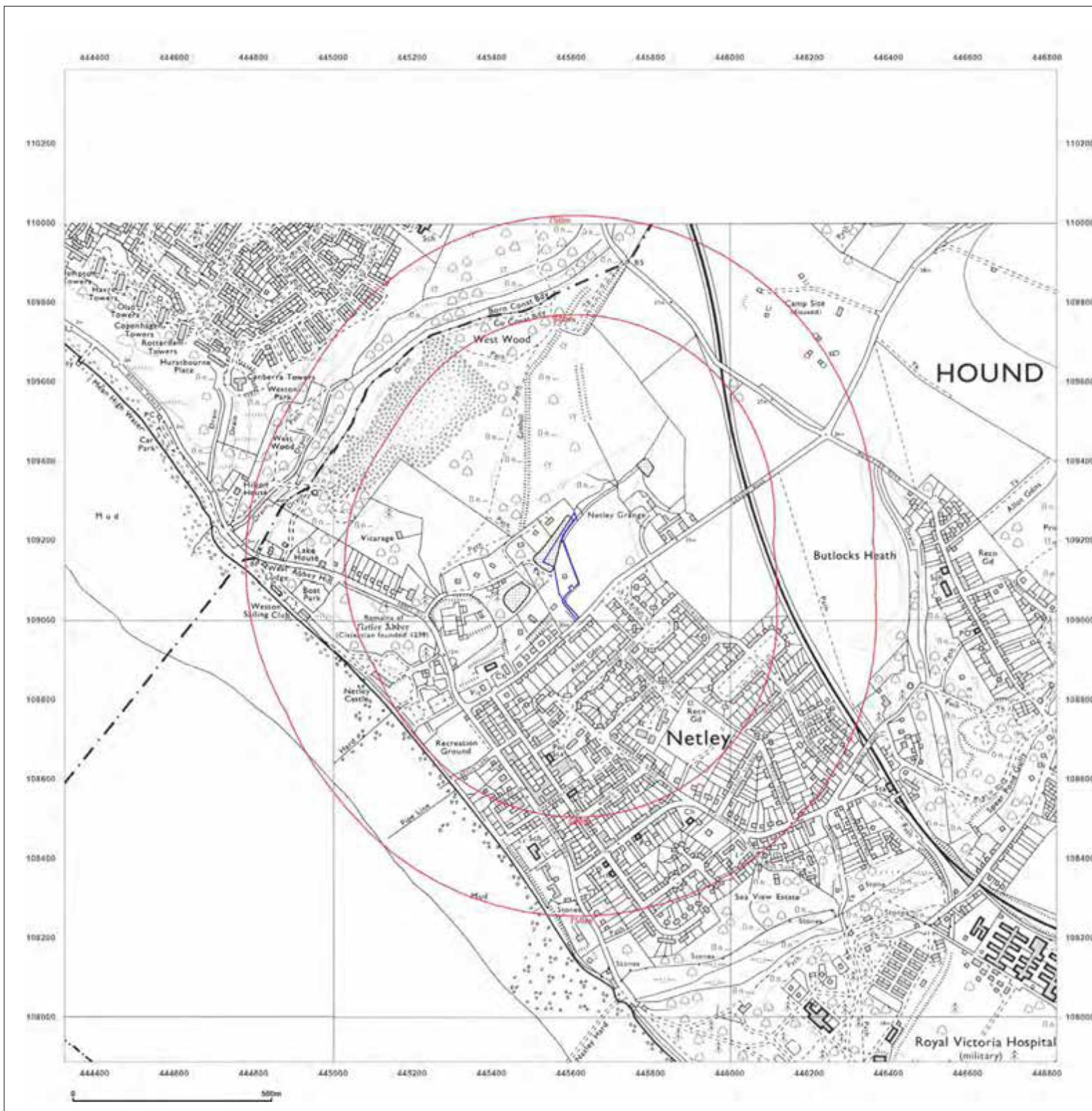


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Client Ref: GE21897_-_PO-6642
Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: National Grid

Map date: 1976-1979

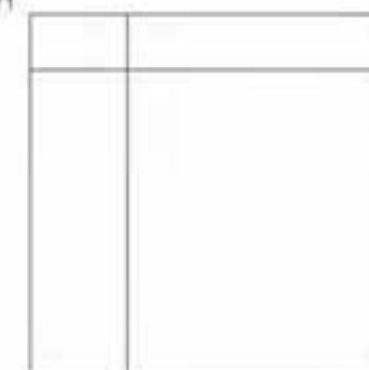
Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1977
Revised 1979
Edition N/A
Copyright 1979
Levelled 1971

Surveyed 1976
Revised 1979
Edition N/A
Copyright 1978
Levelled 1973



Surveyed 1970
Revised 1978
Edition N/A
Copyright 1972
Levelled 1971

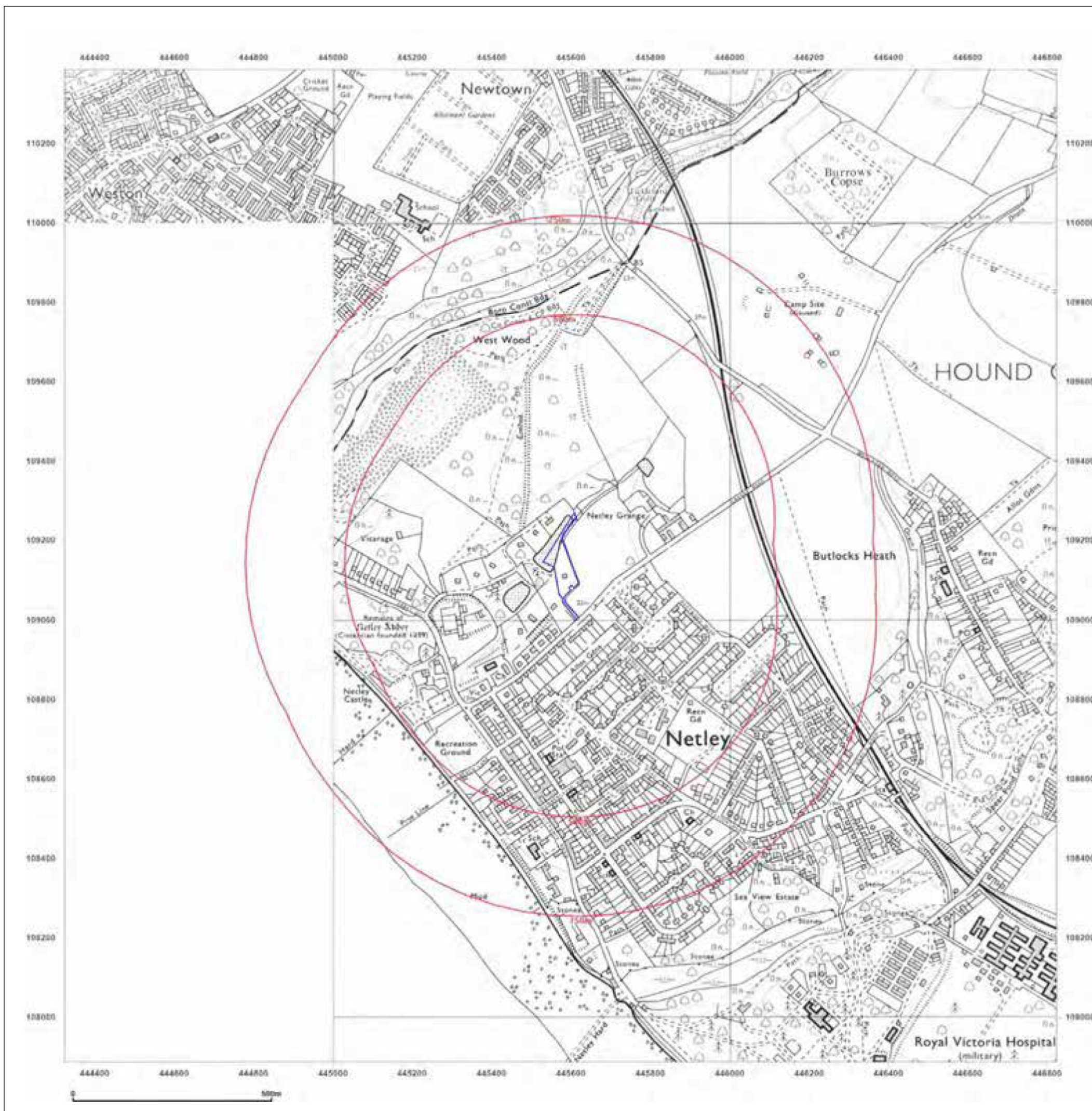


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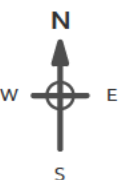
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Report Ref: GS-PH9-E6F-VRM-JW7
Grid Ref: 445573, 109137

Map Name: National Grid

Map date: 1983-1988

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1977
Revised 1983
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1985
Revised 1987
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1985
Revised 1988
Edition N/A
Copyright N/A
Levelled N/A

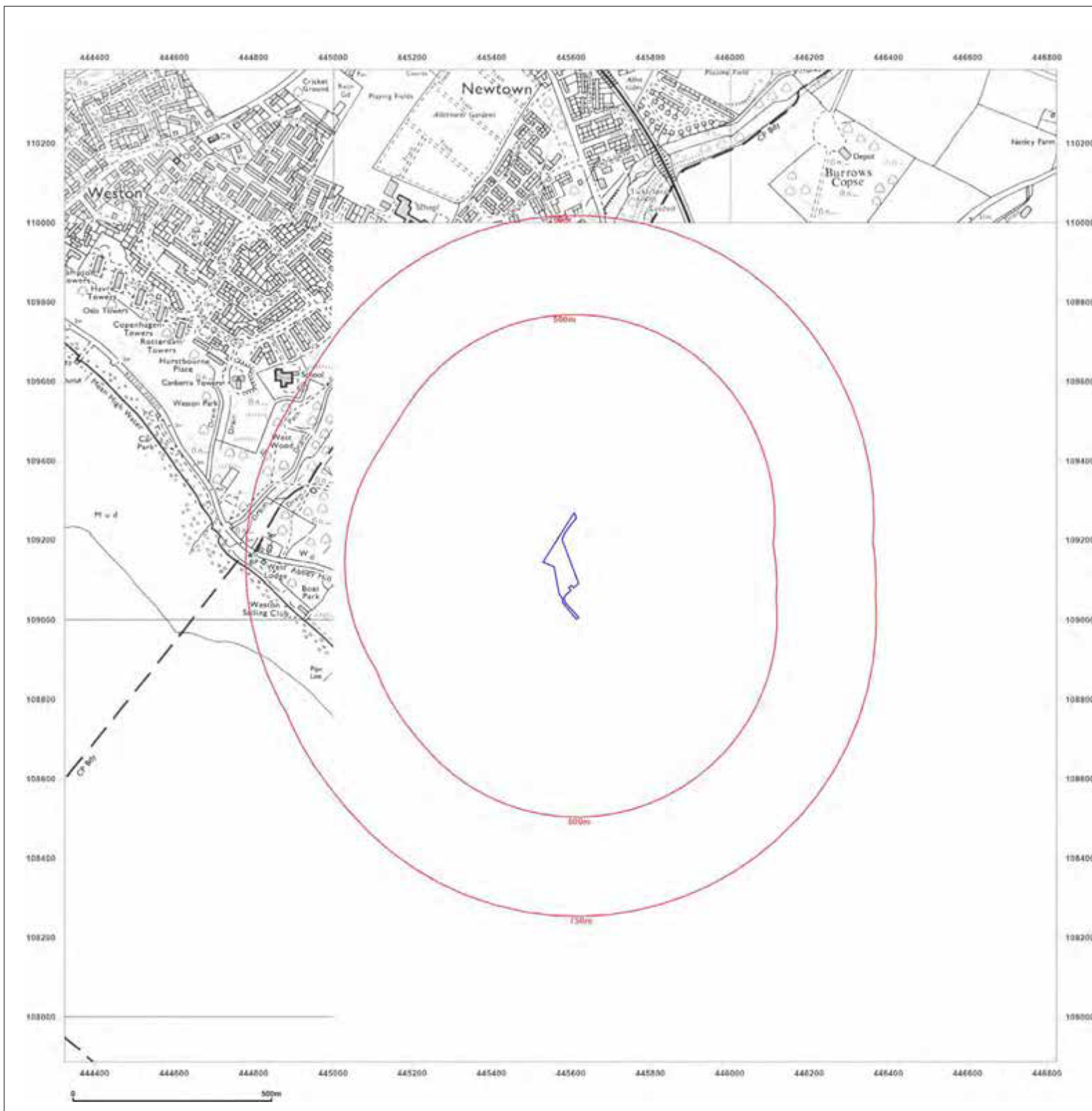


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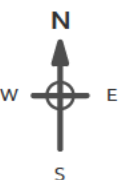
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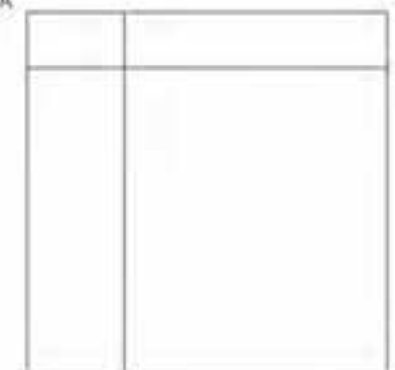
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Revised 1990
Edition N/A
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Surveyed 1991
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1985
Revised 1989
Edition N/A
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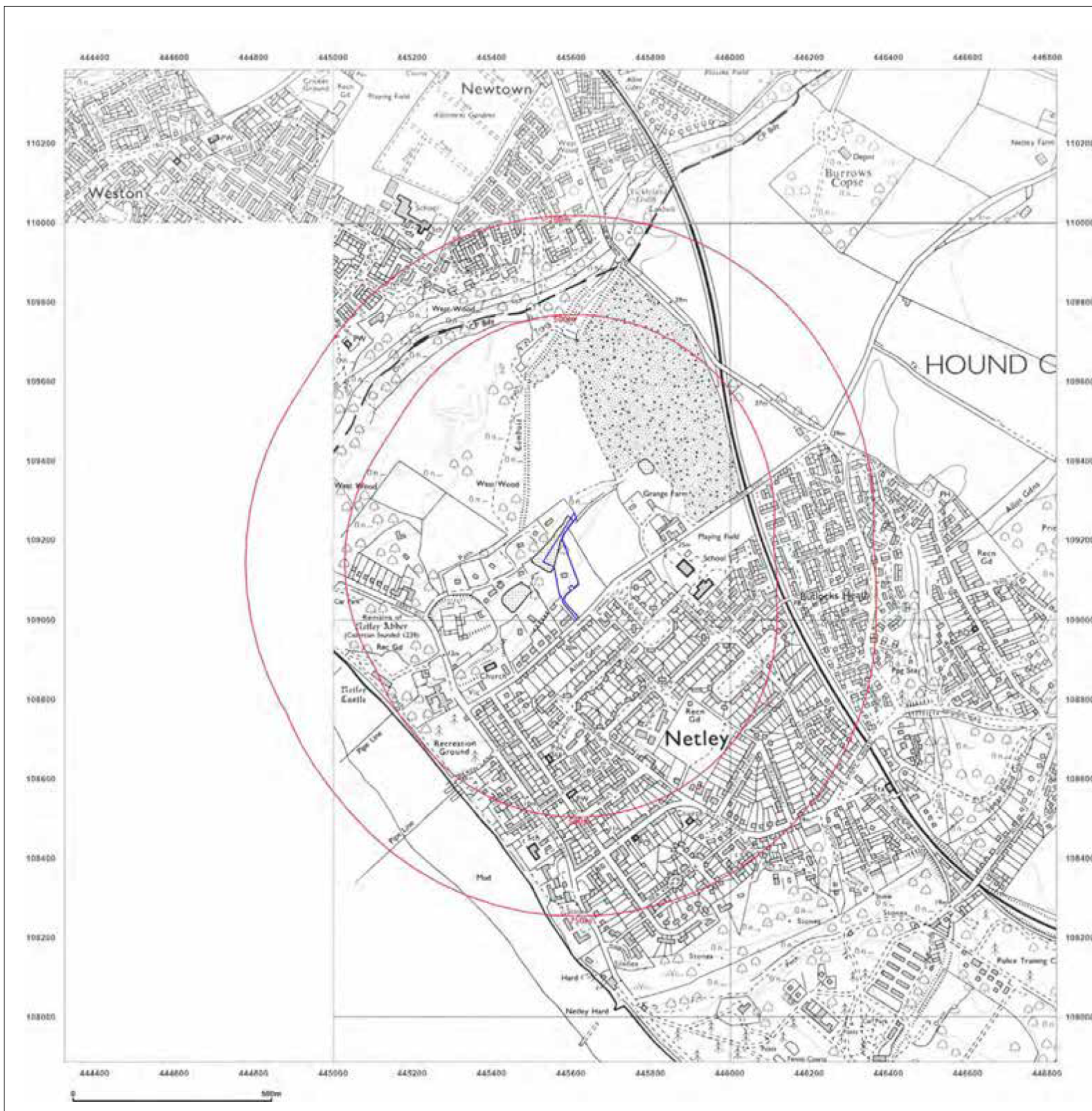


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Site Details:

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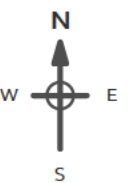
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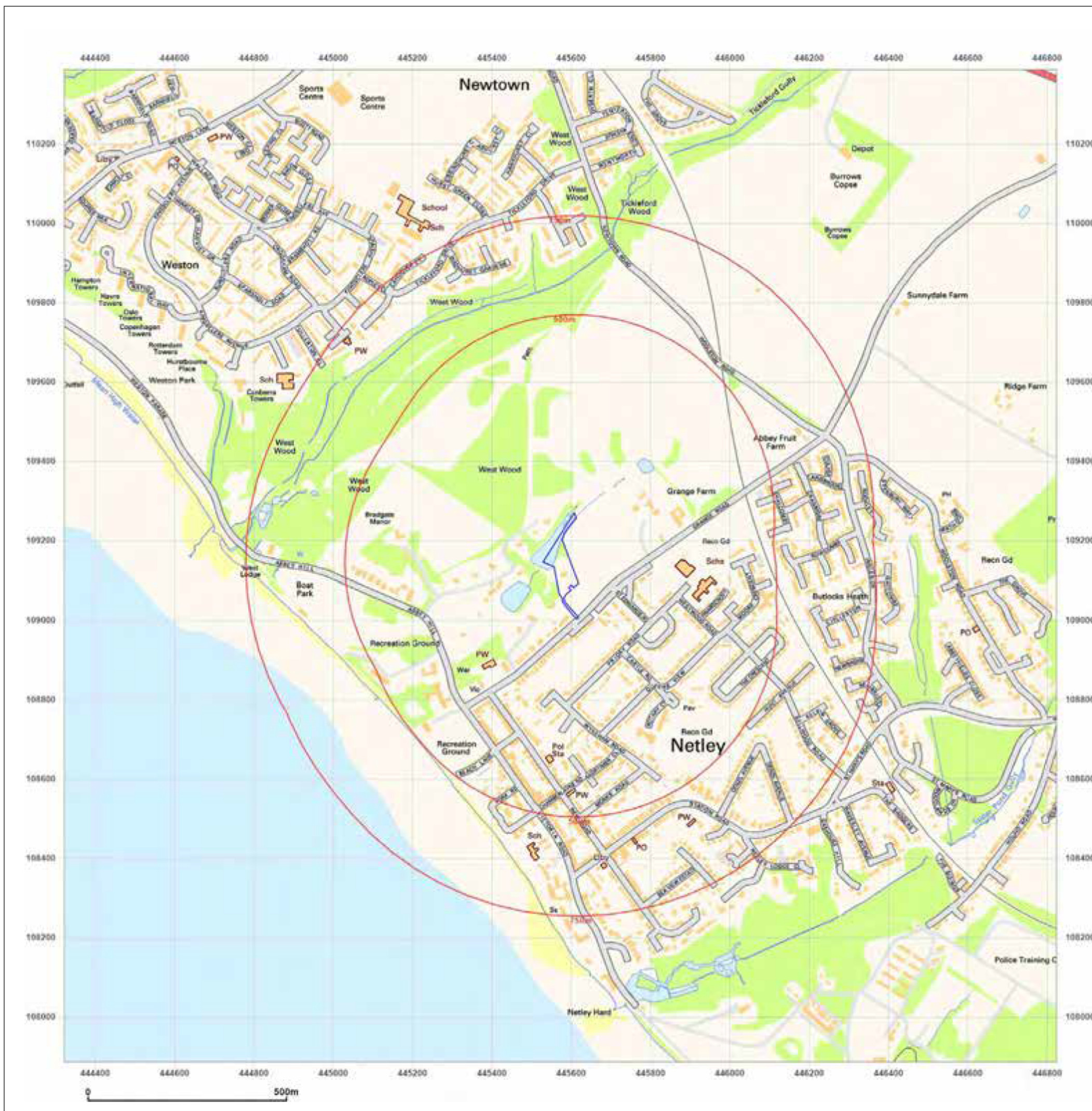


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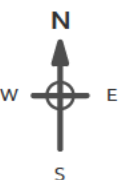
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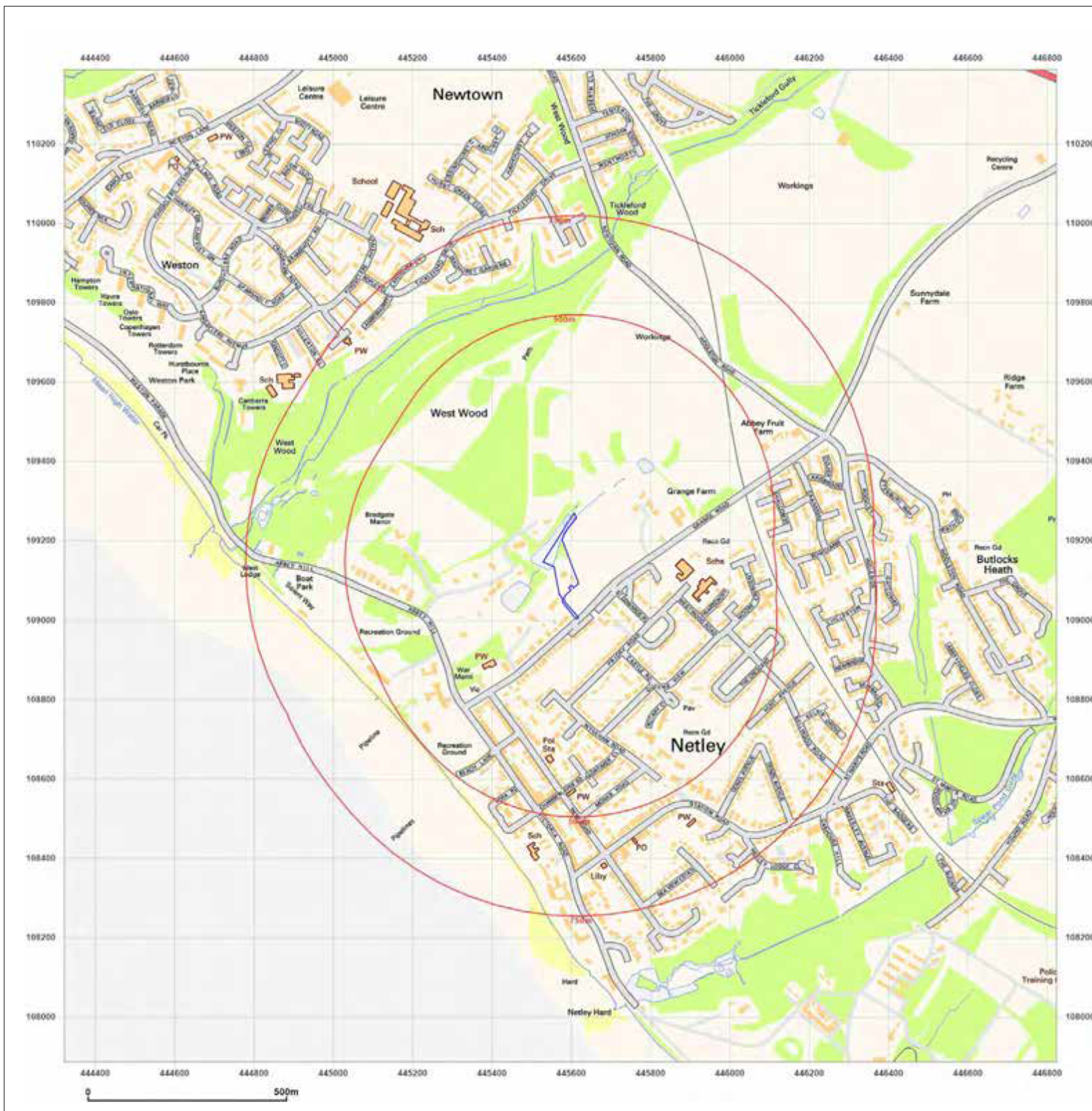


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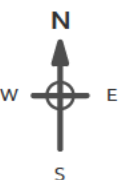
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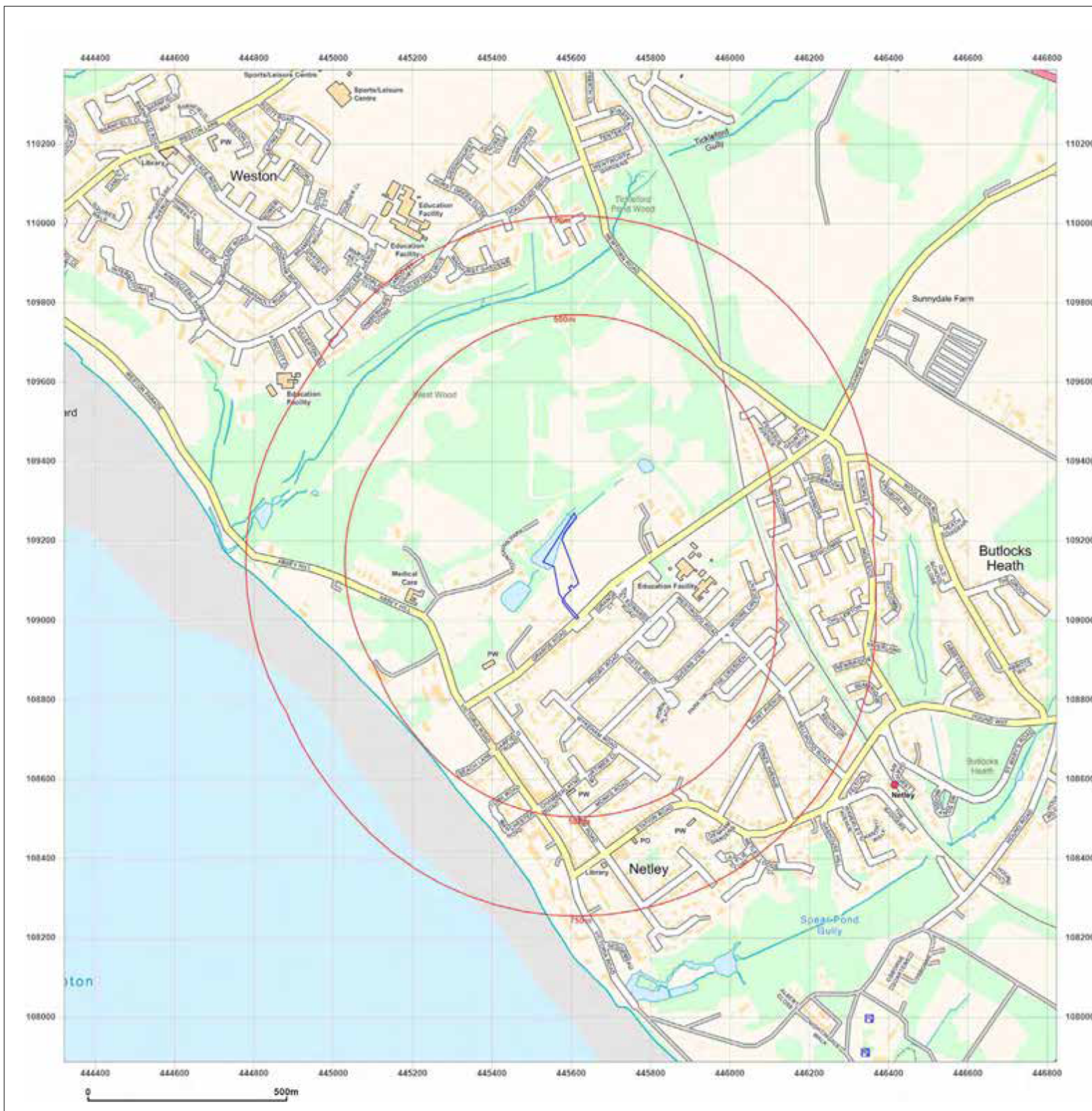


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Appendix B

Site Photographs

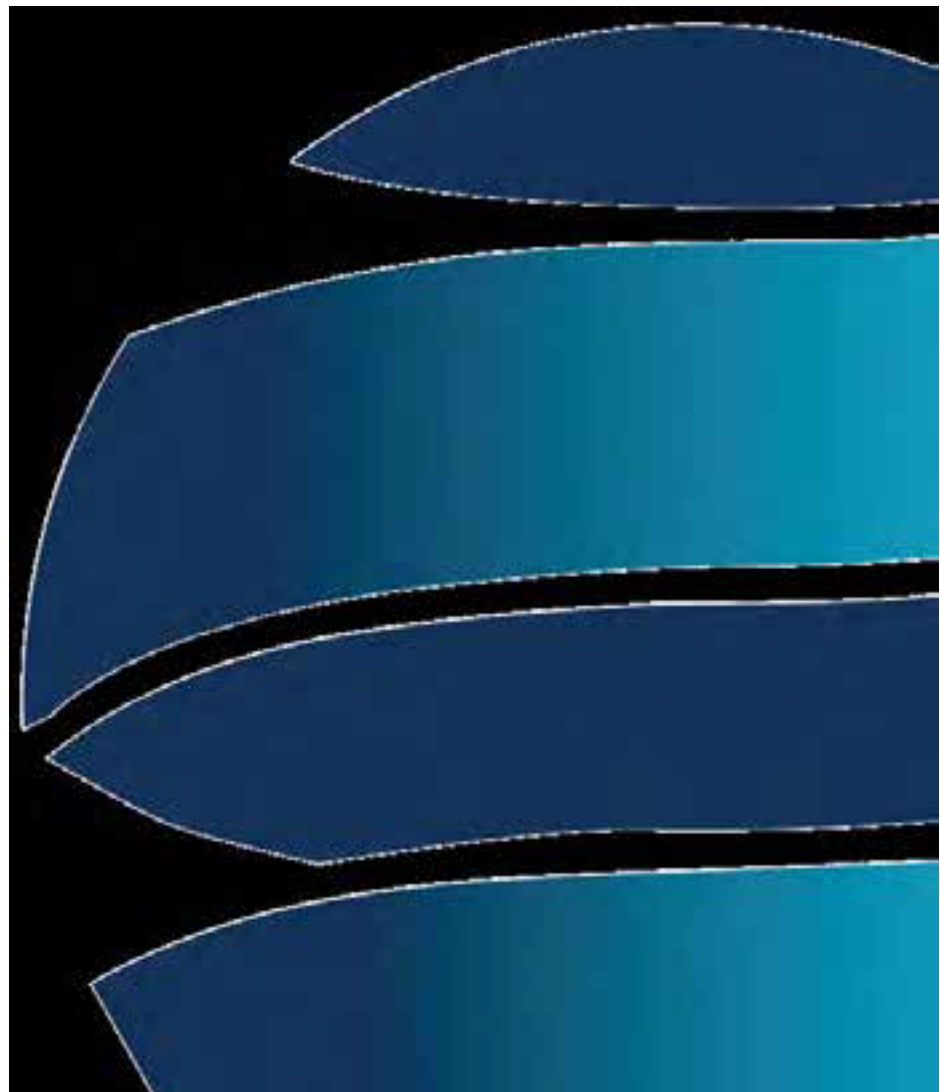




Plate 1 View of the entrance to the site



Plate 2 View along driveway to the current residential property



Plate 3 View north west along south western boundary



Plate 4 View of the two single storey outbuildings/garages



Plate 5 View of the residential property



Plate 6 View north towards the lake



Plate 7 View north towards the lake



Plate 8 View south towards the residential property



Plate 9 View of the lake



Plate 10 View south towards the residential property



Plate 11 View of the lake



Plate 12 View south uphill towards the residential property



Plate 13 View across the lake



Plate 14 View of the rear of the residential property



Plate 15 View north west along south western boundary