



Geo-Environmental

DESK STUDY REPORT

for the site at

HANWELL FIELDS, DUKES MEADOW DRIVE

BANBURY OX16 1ER

on behalf of

MANOR OAK HOMES



**Desk Study Report**

Report:	DESK STUDY REPORT
Site:	HANWELL FIELDS, DUKES MEADOW DRIVE, BANBURY OX16 1ER
Client:	MANOR OAK HOMES
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1.0 INTRODUCTION

Geo-Environmental Services Limited (Geo-Environmental) was instructed by Manor Oak Homes to undertake a desk based investigation of the geotechnical and geo-environmental factors pertaining to the proposed redevelopment of the land at Hanwell Fields, Dukess Meadow Drive, Banbury OX16 1ER (herein referred to as 'the site'). The site's location is presented in Figure 1.

The proposed development is understood to comprise residential properties with private gardens, communal soft landscaping, estate roads and associated development infrastructure.

1.1 Objectives

The investigation was to comprise a desk study of geotechnical and geo-environmental factors pertaining to the site, including a review of available historical maps and an examination of other available sources of geo-environmental information.

A Preliminary Risk Assessment (PRA) was to be undertaken as part of the desk study in accordance with 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.

1.2 Standards

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

- National Planning Policy Framework – March 2012;
- Planning Policy Statement 23 – Planning and Pollution Control;
- Land Contamination Risk Management (LCRM), Environment Agency, updated April 2021;
- Model Procedures for the Management of Contaminated Land, CLR11, DEFRA and Environment Agency 2004 (withdrawn 2020);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;
- BS1377: 1990 - Soils for Civil Engineering Purposes, BSI1990;
- 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);
- 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 design of protective measures for methane and carbon dioxide ground gases for new buildings;
- Department of Environment - Industry Profiles (1995 - 1996).

1.3 Conditions

The information collected from the desk study 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

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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.

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2.0 DESK STUDY

The findings of the Phase I desk study are presented in the following section. A copy of the historical maps and other information obtained as part of the desk study are presented in Appendix A. Comments made in the following section regarding possible ground conditions on the site are based purely on the desk study and associated site walkover.

2.1 Site Description

A walkover inspection was undertaken on 13th July 2021. The site was located at NGR 444703, 242564 and extended to c. 3.29Ha. A photographic record from the site walkover is presented in Appendix B.

The site comprised an irregularly shaped parcel of land with a linear northern and western boundary. The south and south-east boundary curved between the south-west and eastern corner of the site. Topographically, the site sloped moderately downhill in a broadly easterly to south-easterly direction. The topographic high point was noted to be the north-west corner.

The site was covered by long grass, weeds and other vegetation including bramble. As such, detailed inspection of the site surface was not possible. Where visible, the ground surface appeared to comprise Topsoil. A number of small bushes were sporadically present across the site. What appeared to be an informal path used by pedestrians was located running inside and parallel to the northern boundary. The path entered the site in the north-west corner through a large gap in the hedgerow. A further overgrown gap in the hedgerow, with the remnants of a gate post, was located in the western half of the northern boundary. To the west of this gap, a heap of timber and wire fencing and wood was observed. A half-width wooden gate was located in the south-east boundary in the east adjacent to the roundabout on Dukes Meadow Drive. The gate was secured with wire to prevent entry.

The site boundaries comprised tall deciduous hedgerows with occasional mature trees to the north and west. The south and south-east boundary comprising timber post and rail fencing with wire mesh. A ditch was located running in an easterly direction within the northern boundary and, whilst overgrown, was noted to contain water. A ditch was also noted running parallel and outside the southern and south-eastern boundary in an easterly direction. The ditch was overgrown and appeared to contain water in some locations. This ditch passed under a culvert in front of the half-width gate in the south-east boundary. The culvert included two brick headwalls, with the upstream (west) culvert including a steel trash-screen.

The land to the north and west comprised open fields of long grass and weeds, similar to the site itself. Dukes Meadow Drive and an associated grass and tree covered embankment was located to the south and south-south-east. A park was located beyond the road. To the south-east a roundabout and associated approaches were present with residential flats and a commercial centre beyond. A Thames Water pumping station was located to the south-east, just west of the roundabout, surrounded by a retaining wall on two sides. Further residential areas were present to the east and south-west of the site on the far side of the road.

2.2 Geology

With reference to British Geological Survey (BGS) mapping, the geology of the site was anticipated to comprise Dyrham Formation in the west and Charmouth Mudstone Formation in the east of the site. No superficial deposits were mapped at the site. In addition, given the previous agricultural land use and nearby development, there remains the possibility that there may be areas of reworked, disturbed or Made Ground across the site.

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, where identified it is not uncommon for asbestos to be present within Made Ground soils.

The **Dyrham Formation** consists of silty and sandy mudstones interbedded with siltstone or very fine grained sandstone, pale to dark grey and greenish grey in colour. Mica is variably present. Beds of ferruginous limestone and sandstone tend to occur at the top of sedimentary cycles.

Charmouth Mudstone Formation is identified as dark grey laminated shales, and dark, pale and bluish grey mudstones with limestone, phosphatic or ironstone (sideritic mudstone) nodules, paper shales, and fine sandy beds.

2.3 Hydrogeology

With reference to the Groundsure dataset, the Dyrham Formation and Charmouth Mudstone Formation were both recorded as Secondary Undifferentiated Aquifers.

Secondary Undifferentiated Aquifer is the assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.

The site was not recorded as being located within a Source Protection Zone.

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

No discharge consents to groundwater were identified within a radius of 500m of the site boundary.

The Ambient Risk Analytics Data indicated that the site was within an area at negligible risk of groundwater flooding.

2.4 Hydrology

With reference to the Groundsure dataset, the nearest surface water feature was identified 145m south of the site and comprised an inland river. The site walkover also identified a ditch containing water within the northern boundary and a further ditch containing water in places outside the south and south-east boundary.

No surface water abstractions were identified within a radius of 500m of the site boundary.

One discharge consent to surface water was identified within a radius of 500m of the site boundary:

- 387m north-east – Hanwell Fields Sports Pavilion, Duke's Meadow Drive, Duke's Meadow, Banbury, Oxfordshire; sewage; Final/Treated Effluent - Not Water Company; Receiving Water: The Hanwell Brook; Status: REVOKED (WRA 91, S88 & Sched 10 as Amended by Env Act 1995); Issue date: 09/11/2004; Effective Date: 17/02/2004; Revocation Date: 14/11/2005.

One pollution incident was recorded within a radius of 500m of the site boundary:

- 494m south-east – Incident Date: 10/04/2002; Incident Identification: 70418; Pollutant: Oils and Fuel; Pollutant Description: Gas and Fuel Oils; Water Impact: Category 4 (No Impact); Land Impact: Category 4 (No Impact); Air Impact: Category 4 (No Impact).

Given the distance from the site, the discharge consent and pollution incident are not considered likely to have had an adverse effect on the site and are not considered further in the assessment.

The site was indicated to be at a very low risk of Flooding from Rivers or Sea without Defences (less than 1 in 1000 in any given year).

2.5 Sensitive Land Uses

A search was made of environmentally sensitive areas, including areas of green belt, scenic or natural beauty, parks, reserves, nitrate zones, protected conservation and scientific areas.

No sensitive land uses were identified within 500m of the site.

The site was noted to be located within a recorded Nitrate Vulnerable Zone (Balscote NVZ for groundwater and Cherwell (Ray to Thames) and Woodeaton Brook NVZ for surface water).

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) site, registered radioactive substances, COMAH sites, explosives sites, Notification of Installations Handling Hazardous Substances (NIHHS) sites, planning permissions for sites involving hazardous substances, contemporary trade directories and fuel station registers.

Five potentially contaminative sites were recorded within 250m of the site:

- 120m south-east – Electricity substation;
- 154m north-east – Electricity substation;
- 236m south – Ayebia Clarke Publishing Ltd, 7, Syringa Walk, Banbury, Oxfordshire, OX16 1FR; Published Goods – Industrial Products;
- 236m south – Windmill Tiles, 26, Harlequin Way, Banbury, Oxfordshire, OX16 1FS; Construction Completion Services – Construction Services;
- 243m east – Electricity substation.

These land uses are not considered sufficiently contaminative or located within a sufficient distance to have a detrimental effect on the site and as such have not been considered further within the assessment

No fuel station entries were recorded within 500m of the site.

2.7 Geotechnical Data

The site was recorded as being located outside of any area which could be affected by past, current or future coal mining.

National databases for a number of geological hazards have been compiled by the BGS, and a summary of the hazard data pertaining to the site is presented in Table 2.1.

Hazard	Hazard Rating
Collapsible ground	Very Low
Compressible ground	Negligible
Ground dissolution	Negligible
Landslide	Low
Running sand	Negligible
Swelling clay	Low

Table 2.1 Summary of BGS Geological Hazards

2.8 Landfill and Ground Workings

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.

No such sites were identified within 500m of the site.

One record of potentially infilled ground was recorded within 250m of the site:

- 236m to 244m south – Unspecified pit; years of mapping 1920 to 1954.

2.9 Radon

The Groundsure data report indicated that the site lies within a lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). As such, no radon protection measures are deemed necessary in the construction of new dwellings or extensions.

2.10 Geochemistry

Data obtained as part of the Groundsure Report provides details on the estimated soil chemistry for natural soils in the vicinity of the site. The estimated quality of natural soils beneath the subject site is presented in Table 2.2.

Determinand	Estimated Concentration (mg/kg)
Arsenic	15-120
Cadmium	1.8
Chromium	90->180
Lead	100
Nickel	30-80

Table 2.2 Summary of Site Geochemistry

The natural background concentrations (where available) were below respective published Soil Guideline Values, Generic Assessment Criteria and Category 4 Screening Levels for the protection of human health under a residential land use with the exception of Arsenic. Naturally occurring elevated Arsenic is common in the Banbury area associated with the Marlstone Rock Formation which lies to the west of the site.

However, these values are not necessarily representative of the site's soil chemistry, nor do they account for a site's historic uses, nor the presence or condition of any Made Ground soils. Furthermore, SGVs and GAC are dependent on pH and soil organic matter content. Therefore, concentrations of specific determinands and the utilised SGV/GAC cannot be determined without site specific investigation and analysis.

2.11 Historical Data

A summary of site history dating back to 1881 is presented in Table 2.3 and has been determined through examination of historical maps obtained as part of the desk study.

Date	On Site	Off Site
1881-82	The site comprised a section of wider field with a fence or hedgerow present on the north, west and west half of the southern boundaries. A track was indicated running parallel with and inside the northern site boundary.	The site was surrounded by further open fields. A stream was located c. 150m south of the site flowing east joining a canal 750m to the east. Hanwell Fields, a complex of farm buildings, was located c. 250m west of the site. Penhill Farm was shown c. 490m south-east of the site. The village of Hanwell was located some 1000m to the north-west.
1892	No significant changes noted.	No significant changes noted.
1900	The track on the northern boundary was no longer shown.	A small pit was indicated c. 240m south-west of the site.
1922-23	No significant changes noted.	A further small pit was located c. 350m west of the site beyond Hanwell Fields. A mineral railway was constructed c. 350m south-east of the site. The railway ran within a cutting in a north-east/south-west direction. Sidings and two railway buildings were located c. 350m south of the site.
1938	No significant changes noted.	Further railway buildings were constructed near the sidings. A large building with numerous smaller buildings, later labelled aluminium works, was shown 750m east of the site.
1955	No significant changes noted.	A small, possibly residential development, was shown west of the aluminium works, c. 600m east of the site.
1965-68	No significant changes noted.	No significant changes noted.
1976	No significant changes noted.	No significant changes noted.
1980	The track in the north of the site was again indicated in its original location. Contours on the mapping indicated a downhill slope to the east.	The track linked the site to a large new building north of Hanwell Fields farm, c. 350m west of the site. The two small pits were no longer shown. The mineral railway had also been removed, although the cuttings were still shown in some locations. Significant expansion of Banbury had taken place so that an industrial estate with warehouses, depots and works was located c. 400m south-east of the site. Residential areas were located c. 480m south and south-west of the site.
1994	No significant changes noted.	Further significant expansion of Banbury occurred so that residential areas are present c. 200m south of the site.
2001	No significant changes noted.	No significant changes noted.
2010	No significant changes noted.	Dukes Meadow Drive was located along the southern boundary with a roundabout located to the east. A community centre, school, commercial buildings and a residential area were located c. 20m south-east. A further residential area was located c. 50m west of the site to the south of Dukes Meadow

Date	On Site	Off Site
		Drive.
2021	No significant changes noted.	No significant changes noted.

Table 2.3 Summary of Site History

The site was shown from the historical mapping to comprise a section of open field with a track located in the north for the duration of the mapping period.

The surrounding area initially comprised open fields with a number of farms. A mineral railway was located 350m south-east of the site until the 1980s. From the 1980s onwards, significant expansion of Banbury took place with residential and commercial land uses encroaching up to the site over time to reach their present day configuration. Two small pits were identified 240m south-west and 350m west of the site and were no longer shown by 1980 and were developed over by 2010.

2.12 Previous Ground Investigations

Geo-Environmental is not aware of any previous investigations for the site.

2.13 Asbestos

In line with current best practice, asbestos and ACM should be assumed to be potentially present within the shallow soils and any Made Ground on site until proven otherwise. The absence of asbestos in soil samples analysed or recorded as part of the site walkover is not a guarantee of the absence of asbestos elsewhere on a site.

2.14 Potential Contamination

The site was shown from the historical mapping to comprise a section of open field with a track in the north for the duration of the mapping period. The surrounding area comprised mainly agricultural land use with residential and some commercial development encroaching towards the site over time.

A mineral railway was located 350m south-east of the site until the 1980s. However, this is considered unlikely to adversely affect the site given its distance.

The site's apparent previous and current use is as agricultural land. The specific land use as farmland is not covered by the National House Building Council (NHBC), Environment Agency (EA) and Chartered Institute of Environmental Health (CIEH) publication 'Guidance for the Safe Development of Housing on Land Affected by Contamination' (2008), which provides a summary of industrial profiles (1995 - 1996) published by the former Department of the Environment (DoE) (now part of the Department for Environment, Food and Rural Affairs [DEFRA]).

The potential contaminants associated with the site's former and current use and the potential presence of Made Ground resulting from nearby developed land is considered to include the potential for heavy metals, organic pollutants such as poly-aromatic hydrocarbons (PAH), petroleum hydrocarbons/oils, pesticides and asbestos (potentially introduced in Made Ground).

Naturally occurring elevated Arsenic concentrations are potentially present within the soils at the site associated with the local geology.

2.15 Ground Gas and Vapour Summary

The site has previously been used for agricultural land. If Made Ground is present and contained a significant amount of organic matter or organic contamination, it could have the potential to represent a source of ground gases/vapours.

Potentially infilled former small pits have been identified 240m south-west and 350m west, however, due the combination of the small scale of these features, their age, and their distance from the site, it is considered that they do not represent a viable source of ground gases.

As such, ground gas monitoring would only be deemed necessary should Made Ground containing a significant proportion of organic material be encountered on the site.

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 Geotechnical Risk 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 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 perched and shallow groundwater beneath the site.
- 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 suitability of the shallow soils for the use of soakaways on the site as part of the proposed development.

3.2 Preliminary Environmental Conceptual Site Model & Risk Assessment

3.2.1 Methodology

A Preliminary Risk Assessment (PRA) and Conceptual Site Model (CSM) has been prepared in accordance with Land Contamination Risk Management (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 assessed following a source-pathway-receptor (SPR) approach in accordance with current UK protocols. The Conceptual Site Model is shown in Figure 3.

A risk may only exist where a plausible SPR linkage is present, and where the quantity or concentration of a contaminant is sufficient so as to cause harm. Under the statutory definition, "Contamination" may only strictly exist where contaminants pose a risk of harm to a receptor. Risk may be defined as a function of the likelihood and severity of any adverse effects arising from contamination. 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 & 3.2 below.

		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	<p>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.</p> <p>This risk, if realised, is likely to result in a substantial liability.</p> <p>Urgent investigation (if not already undertaken) and remediation are likely to be required.</p>
High risk	<p>Harm is likely to arise to a designated receptor from an identified hazard</p> <p>Realisation of the risk is likely to present a substantial liability.</p> <p>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.</p>
Moderate risk	<p>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.</p>
Moderate to low risk	<p>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.</p>
Low risk	<p>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.</p>
Very low risk	<p>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.</p>

Table 3.2 Risk Ratings Definition

3.2.2 Summary of Plausible Sources

Possible sources of contamination identified or discounted as part of the desk study are summarised in Table 3.3.

Source	Description	Comments
Shallow Soils and Made Ground (if present)	General chemical quality of the near surface soils.	Possible elevated concentrations of metals, organic, inorganic contaminants, pesticides and asbestos. Naturally occurring Arsenic.
Ground gases/vapours	Possible presence of Made Ground beneath the site, (only considered a viable source of ground gas if significant proportions of organic material are present). Former small pits have been discounted.	Methane, carbon dioxide, depleted oxygen, volatile organic compounds and trace gases.
Naturally occurring aggressive ground conditions	Naturally occurring compounds in the ground which could damage buried concrete.	Possible elevated sulphate concentrations.

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, residential development including private gardens.

Pathway	Description
Direct Contact	Ingestion of soil particles, inhalation of soil derived dust (including tracked back dust), dermal contact. Bioaccumulation within home grown vegetation.
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 bedded strata or within groundwater.
Shallow Groundwater	Shallow groundwater or perched water may be present and, if encountered, could result in the vertical and lateral migration of contaminants.
Chemical Attack	Attack of buried plastics and concrete by aggressive ground conditions.
Flooding	Discounted – the site was indicated to be located outside of any current indicative tidal and fluvial flood plain.

Table 3.4 Possible Contaminant Pathways

3.3.4 Summary of Plausible Receptors

Potential receptors associated with the site and its development, identified or otherwise discounted, are summarised in Table 3.5.

Receptor	Description	Comments
End Users	Future users of the proposed development.	The development will include residential properties with gardens and associated infrastructure.
Adjacent Land Users	Sensitive land uses identified within the immediate vicinity.	Adjacent land uses are a mixture of residential, commercial and agriculture.
Soft Landscaping	Areas of planting including lawns, shrubs, trees, etc.	Private gardens and soft landscaped areas are proposed.
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.
Groundwater	Controlled Waters contained within the aquifer(s) beneath the site.	The site lies upon Secondary Undifferentiated aquifers and is located outside any SPZ.
Surface Water	Controlled Waters within lakes, rivers, ponds, etc., or coastal waters.	An inland river was located 145m south of the site. The site walkover also identified a ditch containing water within the northern boundary and a further ditch with water in places outside the south and south-east boundary.
Ecological Receptors	Sensitive areas of ecological significance.	No environmentally sensitive areas in terms of contamination within 500m. As such, this has not been considered further as part of this assessment.

Table 3.5 Possible Receptors of Contamination

Site workers involved in the preparation and construction of the development have not been considered 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.

Potential Source/Media	Potential Receptors	Possible Pathways	Probability	Consequence	Risk & Justification
Contaminants of Concern (Made Ground and Shallow Soils)	End Users	Direct contact and inhalation of soil derived dust	Likely	Mild	Moderate/Low Future occupiers are likely to come into direct contact with soils where soft landscaping is present. Where private gardens and soft landscaping is proposed it will be completed with uncontaminated soils in the near surface root zone which will reduce the risk.
	Adjacent Land Users	Direct contact and inhalation of soil derived dust	Unlikely	Minor	Very Low Adjacent site users are unlikely to come into contact with the soils at the site. Where soft landscaping is proposed it will be completed with uncontaminated soils in the near surface root zone.
	Soft Landscaping	Root uptake	Likely	Minor	Low Soft landscaping is proposed on the site and thus, root uptake is possible. However, landscaping would be completed with uncontaminated soils in the near surface root zone. Furthermore, no clear evidence of harm to existing vegetation was observed. Where soft landscaping is proposed it will be completed with uncontaminated soils in the near surface root zone.
	Water Supply Pipes	Direct contact	Low	Minor	Very Low Water supply pipes are likely to come into contact with impacted soils depending upon depth of installation and extent of soil impact.
	Buildings and Infrastructure	Direct contact	Likely	Minor	Low Foundations and utilities will be placed within potentially aggressive soils (e.g. sulphate). However, the consequence is anticipated to be minor.
	Groundwater	Vertical Migration	Unlikely	Minor	Very Low The site overlies Secondary Undifferentiated aquifers. However, the desk study has not identified any significant sources of potentially mobile contamination on-site.

Potential Source/Media	Potential Receptors	Possible Pathways	Probability	Consequence	Risk & Justification
	Surface Water	Vertical & Lateral Migration	Unlikely	Minor	Very Low An inland river was located 145m south of the site. The site walkover also identified a ditch containing water within the northern boundary and a further ditch with water present in places outside the south and south-east boundary. However, the desk study has not identified any significant sources of potentially mobile contamination on-site.
Ground gases from any Made Ground	End Users	Inhalation	Low likelihood	Mild	Low Future occupiers may inhale potential ground gases produced by this source. However, extensive or deep Made Ground sufficient for significant ground gas generation is not anticipated.
	Soft Landscaping	Root uptake	Unlikely	Minor	Very low Soft landscaping is not expected to be adversely affected by any ground gases from these sources. No vegetation distress was noted during the site walkover survey.
	Buildings and infrastructure	Gas accumulation and potential explosion of flammable gases	Unlikely	Minor	Very Low Extensive putrescible material sufficient for significant methane production is not anticipated at the site.
Naturally occurring aggressive ground conditions	End users	Direct contact and inhalation / ingestion of soil derived dust	Unlikely	Minor	Very Low No naturally occurring potential sources which could harm human health have been identified. The consequence is likely to be minor.
	Soft Landscaping	Root Uptake	Low	Minor	Very Low Soft landscaping is proposed, it is unlikely to be affected by naturally occurring aggressive ground conditions. The consequence is likely to be minor.

Potential Source/Media	Potential Receptors	Possible Pathways	Probability	Consequence	Risk & Justification
	Adjacent land users	Direct contact	Unlikely	Minor	Very Low No potential sources which could harm human health have been identified. The consequence is likely to be minor.
	Water supply pipes	Direct contact	Unlikely	Minor	Very Low No potential sources which could harm human health have been identified. The consequence is likely to be minor.
	Buildings and Infrastructure	Direct contact	Likely	Minor	Low Foundations will be placed within soils which may be an aggressive environment for concrete. However, the consequence is anticipated to be minor.

Table 3.6 Plausible Pollution Linkages



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 several plausible pollutant linkages that exist in relation to the proposed development of the site and the preliminary risk rating for the majority of pollution linkages have been classified as low or very low. A moderate/low risk rating has been assigned in terms of soil contamination and proposed end users.

The potential pollutant linkages established within this desk study are not considered to prevent development on the subject site but could require remediation or the employment of risk mitigation measures to reduce the risks to key receptors.

In order to progress this assessment in line with the National Planning Policy Framework, to provide further characterisation of the site and refinement of the PRA and CSM, it is recommended that intrusive investigation and associated testing is undertaken to confirm the findings of the desk study report and to provide a robust risk assessment for the site and proposed development. As such, it is recommended that geochemical and geotechnical investigation be carried out on the site to include analysis of soil samples for the range of potential contaminants identified within the desk study.

3.4 Preliminary Geotechnical Assessment Summary

The site is anticipated to be underlain by the Dyrham Formation and Charmouth Mudstone Formation. It is possible that conventional strip or pad foundations could be suitable for the proposed development where natural ground is encountered at ground level. However, where foundations are required in any areas of Made Ground or infilled ground, which may be present to depth beneath areas of the site, a deeper or piled foundation solution may be required. The development should also take into account the presence of trees and/or desiccation at the site if shrinkable soils are present. Localised deepening of foundations may be required in the vicinity of trees.

The soils of the Dyrham Formation and Charmouth Mudstone Formation are likely to be of low permeability. Therefore, depending on the results of soakage testing and groundwater conditions, it may be necessary to utilise on-site storage and attenuation of peak storm flow through systems such as porous paving and cellular storage crates.



4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

The desk study has shown the site to comprise open fields with a track in the north since the earliest mapping period. There is the potential for limited Made Ground to be present on the site relating to adjacent developed land. The desk study has also identified that naturally occurring elevated Arsenic concentrations, associated with the local geology, may affect soils at the site.

The proposed development is understood to comprise residential properties with private gardens, estate roads and associated development infrastructure.

Very low to low risk ratings have been classified related to, ground gases and vapours, and naturally occurring aggressive ground conditions at the site. A moderate/low risk rating has been assigned in relation to shallow soils and human health. Further assessment is recommended to better characterise the contamination status of the site to inform an update of the conceptual site model and allow a robust assessment of the risk to human health and the environment.

It is possible that conventional foundations would be suitable for parts of the proposed development, although any design should account for the potential presence of shrinkable soils, possible shallow groundwater, as well as the presence of trees on site and/or desiccation of the shallow soils.

4.2 Recommendations

At this stage and based on the findings of the desk study and preliminary risk assessment, the following scope of works is recommended for the intrusive investigation on the site.

- Intrusive investigation works should be carried out in order to clarify the geotechnical and geo-environmental issues pertaining to redevelopment of the site.
- Soil sampling and analysis should be undertaken to inform subsequent geotechnical and geo-environmental risk assessment.
- Laboratory analysis, on soil samples recovered from the exploratory holes for a range of geotechnical parameters to support foundation design.
- Laboratory analysis, on soil samples recovered from the exploratory holes, for an analytical suite to include the potential contaminants identified within the desk study and encountered during any intrusive investigation. The suite should include commonly occurring metals, non-metals, asbestos, TPH, PAH and pesticides.
- Soakage testing in line with BRE Digest 365. Whilst soakage tests are unlikely to be successful, it is often necessary to undertake testing to demonstrate this and thus inform an emerging drainage strategy.
- Winter groundwater monitoring (October to late March).

It may be necessary to undertake remediation/risk mitigation measures on this site to break pollutant linkages and thus protect key receptors such as human health, controlled waters, built environment, soft landscaping and the like. The requirement and extent of any such remediation cannot be determined until such time as an intrusive investigation and associated testing has been completed.

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 Services 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.

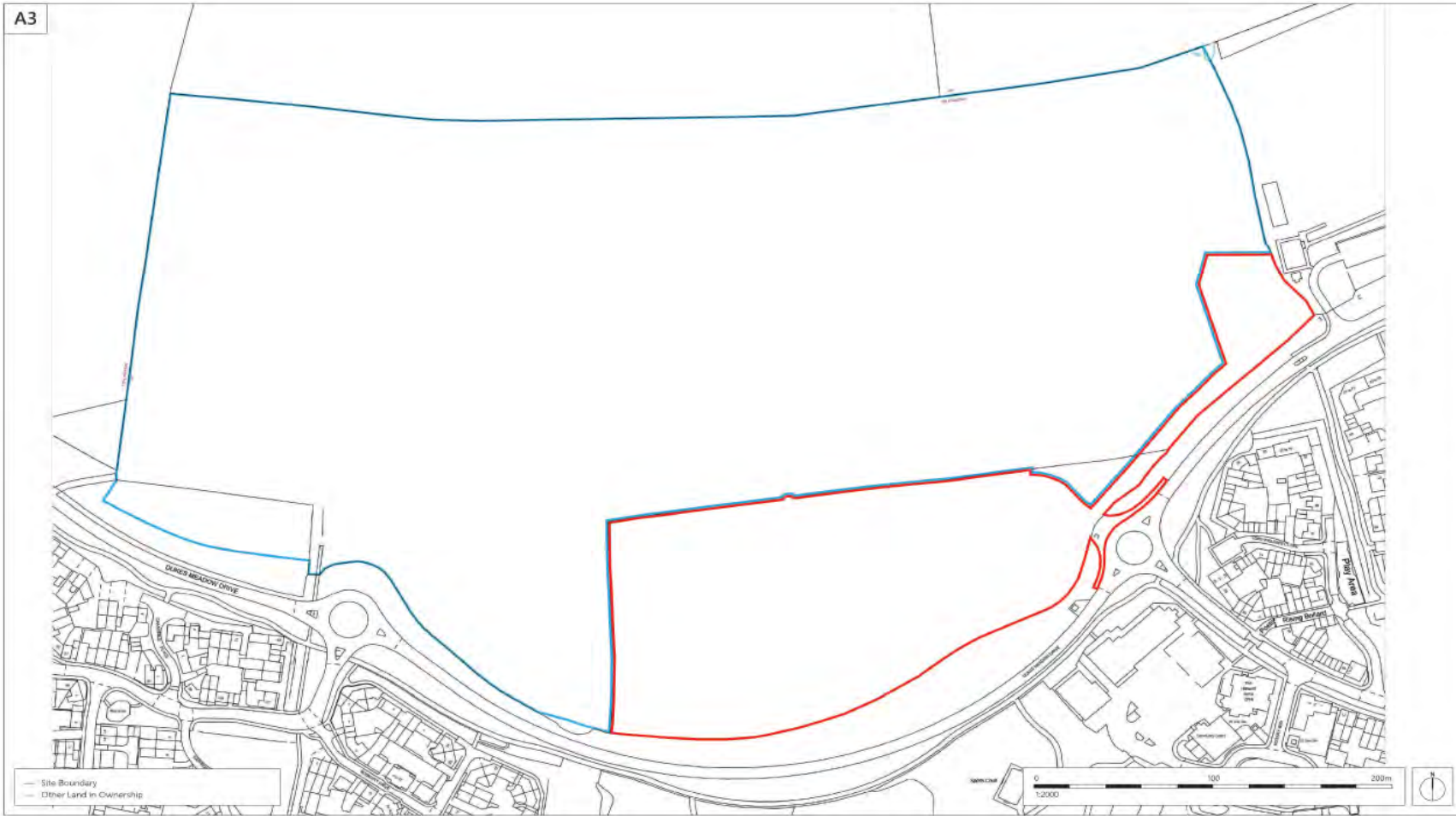
Geo-Environmental Services Limited does not indemnify any third parties such as the vendor against any dispute or claim arising from any finding or result of this investigation or any claim or dispute arising as a result of any decisions made thereof.

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A decorative graphic on the right side of the page, consisting of several overlapping, wavy, blue horizontal bands that create a sense of movement and depth. The bands vary in width and are positioned to the right of the 'FIGURES' text.

FIGURES

A3



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Rev	Description	Date	Aut	Chk
01	Preliminary Issue	10.09.21	PM/JL	—
02	Revised rectify	22.09.21	PM/JL	—
03	Revised rectify	24.09.21	PM/JL	—
04	Revised rectify	24.09.21	PM/JL	—

Project: Hanwell Fields, Banbury
 Drawing: Site Location Plan - 02

Client:	MANOR OAK HOMES		
Job no.:	MANO210730	Date:	10.09.21
Dwg no.:	SLP-02	Rev.:	04
Author:	PM/JL	Checked:	✓/—
Status:	PRELIMINARY	Scale:	1:2000@A3
Client ref.:	—		
Office:	Ramsey		

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Project:	Hanwell Fields, Duke Meadow Drive, Banbury			Title	Site Location Plan	
Client:	Manor Oak Homes			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net		
Ref No:	GE20200	Revision:	1			
Drawn:	SA	Date:	30/09/2021			
Figure:	1	Scale:	Not To Scale			
				 Geo-Environmental		

A2



- Site Boundary
- Other Land Ownership
- UP TO 1 STOREY
- UP TO 2 STOREY
- UP TO 3 STOREY
- UP TO 4 STOREY
- ▲ Site Access
- ▲ Pedestrian Links
- ▲ Existing Vegetation
- ▲ Proposed Trees
- ▲ Green Fingers
- ▲ Green Corridor
- ▲ Public Open Space
- ▲ Proposed Development Parcels
- ▲ Proposed Vehicular Routes
- ▲ Proposed SuDS Locations
- ▲ Proposed Play Area

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Rev	Description	Date	By	Chk
P1	Preliminary Issue	17.08.21	PM/wh	—
P2	Revised in accordance with OHP-01 P2	27.09.21	PM/wh	—
P3	Site boundary amended	06.09.21	PM/CT	—
P4	Site boundary amended	28.09.21	PM/wh	—

Project	Hanwell Fields, Banbury		
Drawing	Land Use Parameter Plan - 01		
Client	MANOR OAK HOMES		
Job no.	MANO210710	Date	17.08.21
Draw no.	LUPP-01	Rev.	04
Author	PM/wh	Checked	✓
Status	PRELIMINARY	Scale	1:1000@A2
Client ref.		Office	Romsey

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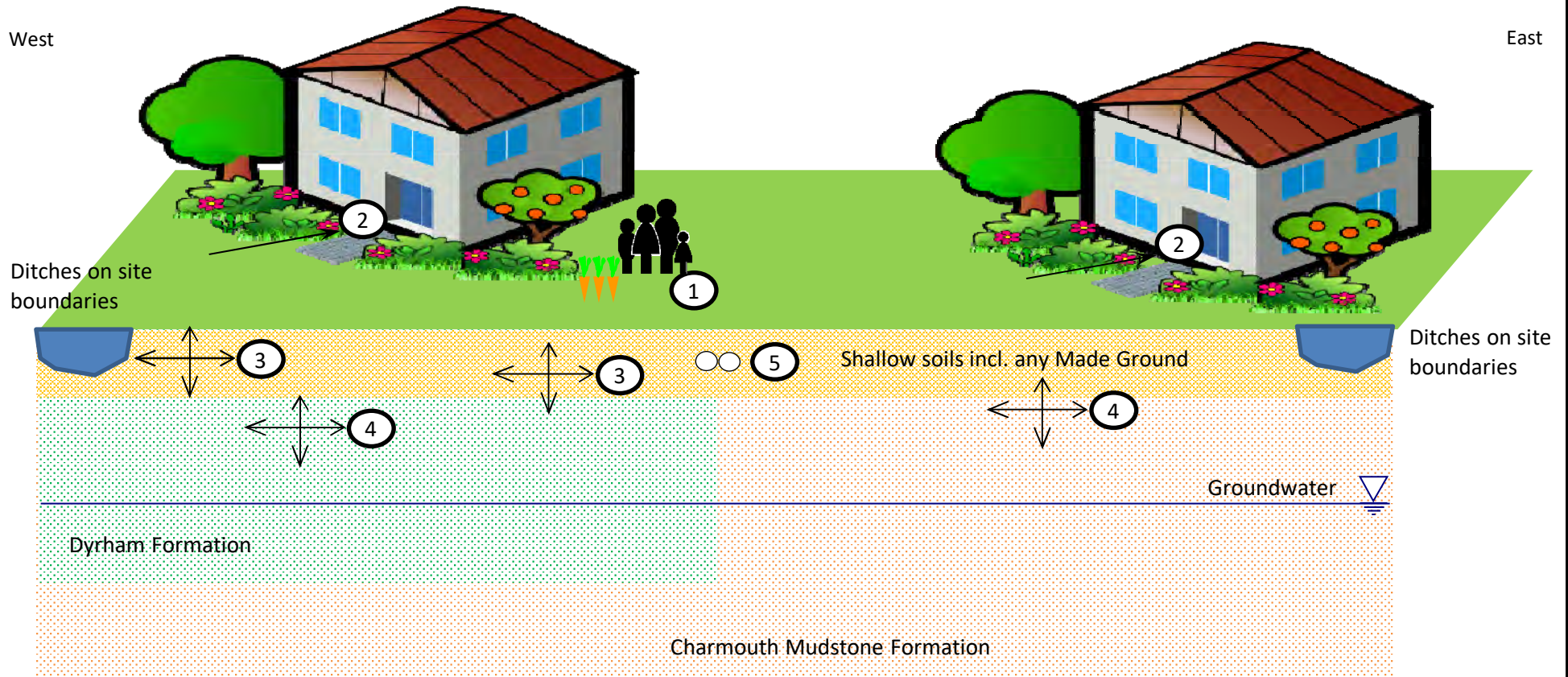



Project:	Hanwell Fields, Duke Meadow Drive, Banbury			Title	Parameter Plan		
Client:	Manor Oak Homes			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net			
Ref No:	GE20200	Revision:	1				
Drawn:	SA	Date:	30/09/2021				
Figure:	2	Scale:	Not To Scale				



Possible Pollutant Linkages:

1. Direct contact with contaminated soils, ingestion of contaminated soils, bioaccumulation in homegrown produce
2. Inhalation of soil dusts indoor and outdoor, and inhalation of gases/vapours within buildings
3. Vertical and lateral migration through permeable strata
4. Shallow groundwater vertical and lateral migration
5. Chemical attack of buried plastics and concrete



Project:	Hanwell Fields, Duke Meadow Drive, Banbury			Title	Conceptual Site Model (Proposed Development)	
Client:	Manor Oak Homes			<p style="text-align: center;">Geo-Environmental Services Ltd</p> <p style="text-align: center;">Unit 7 Danworth Farm, Cuckfield Road</p> <p style="text-align: center;">Hurstpierpoint, West Sussex BN6 9GL</p> <p style="text-align: center;">+44(0)1273 832972 www.gesl.net</p>		
Ref No:	GE20200	Revision:	0			
Drawn:	SA	Date:	14/07/2021			
Figure:	3	Scale:	Not To Scale			
				 Geo-Environmental		



APPENDIX A

Desk Study Information

HANWELL FIELDS, DUKES MEADOW DRIVE, BANBURY, OX16 1ER

Order Details

Date: 09/07/2021
Your ref: GE20200_PO-4242
Our Ref: GS-8030355
Client: Geo-Environmental Services Ltd

Site Details

Location: 444703 242564
Area: 3.29 ha
Authority: [Cherwell District Council](#)



Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.13

groundsure.com/insightuserguide

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	<u>Historical industrial land uses</u>	0	0	3	29	-
16	1.2	<u>Historical tanks</u>	0	0	0	10	-
17	1.3	<u>Historical energy features</u>	0	0	0	4	-
17	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	<u>Historical garages</u>	0	0	0	1	-
18	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
19	2.1	<u>Historical industrial land uses</u>	0	0	5	38	-
21	2.2	<u>Historical tanks</u>	0	0	0	16	-
22	2.3	<u>Historical energy features</u>	0	0	0	17	-
23	2.4	Historical petrol stations	0	0	0	0	-
23	2.5	<u>Historical garages</u>	0	0	0	1	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
24	3.1	Active or recent landfill	0	0	0	0	-
24	3.2	Historical landfill (BGS records)	0	0	0	0	-
25	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
25	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
25	3.5	Historical waste sites	0	0	0	0	-
25	3.6	Licensed waste sites	0	0	0	0	-
25	3.7	<u>Waste exemptions</u>	0	0	0	8	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
27	4.1	<u>Recent industrial land uses</u>	0	0	5	-	-
28	4.2	Current or recent petrol stations	0	0	0	0	-
28	4.3	Electricity cables	0	0	0	0	-
28	4.4	Gas pipelines	0	0	0	0	-
28	4.5	Sites determined as Contaminated Land	0	0	0	0	-



29	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
29	4.7	Regulated explosive sites	0	0	0	0	-
29	4.8	Hazardous substance storage/usage	0	0	0	0	-
29	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
29	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
30	4.11	<u>Licensed pollutant release (Part A(2)/B)</u>	0	0	0	1	-
30	4.12	Radioactive Substance Authorisations	0	0	0	0	-
30	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	0	1	-
31	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
31	4.15	Pollutant release to public sewer	0	0	0	0	-
31	4.16	List 1 Dangerous Substances	0	0	0	0	-
31	4.17	List 2 Dangerous Substances	0	0	0	0	-
31	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	0	1	-
32	4.19	Pollution inventory substances	0	0	0	0	-
32	4.20	Pollution inventory waste transfers	0	0	0	0	-
32	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
33	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
35	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
37	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
38	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
38	5.5	Groundwater vulnerability- local information	None (within 0m)				
39	5.6	<u>Groundwater abstractions</u>	0	0	0	0	1
40	5.7	<u>Surface water abstractions</u>	0	0	0	0	5
41	5.8	<u>Potable abstractions</u>	0	0	0	0	4
42	5.9	Source Protection Zones	0	0	0	0	-
43	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
44	6.1	<u>Water Network (OS MasterMap)</u>	0	0	3	-	-



45	6.2	<u>Surface water features</u>	0	0	3	-	-
45	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
46	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
46	6.5	<u>WFD Groundwater bodies</u>	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 Sea (RoFRaS)	None (within 50m)				
47	7.2	Historical Flood Events	0	0	0	-	-
47	7.3	Flood Defences	0	0	0	-	-
47	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	None (within 50m)				
49	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
50	8.1	Surface water flooding	Negligible (within 50m)				
Page	Section	Groundwater flooding					
51	9.1	<u>Groundwater flooding</u>	Negligible (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
52	10.1	<u>Sites of Special Scientific Interest (SSSI)</u>	0	0	0	0	1
53	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
53	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
53	10.4	Special Protection Areas (SPA)	0	0	0	0	0
53	10.5	National Nature Reserves (NNR)	0	0	0	0	0
54	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
54	10.7	Designated Ancient Woodland	0	0	0	0	0
54	10.8	Biosphere Reserves	0	0	0	0	0
54	10.9	Forest Parks	0	0	0	0	0
55	10.10	Marine Conservation Zones	0	0	0	0	0
55	10.11	Green Belt	0	0	0	0	0
55	10.12	Proposed Ramsar sites	0	0	0	0	0



55	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
55	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
56	10.15	Nitrate Sensitive Areas	0	0	0	0	0
56	10.16	<u>Nitrate Vulnerable Zones</u>	2	0	0	2	0
57	10.17	SSSI Impact Risk Zones	0	-	-	-	-
58	10.18	<u>SSSI Units</u>	0	0	0	0	1
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
59	11.1	World Heritage Sites	0	0	0	-	-
59	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
59	11.3	National Parks	0	0	0	-	-
59	11.4	Listed Buildings	0	0	0	-	-
60	11.5	Conservation Areas	0	0	0	-	-
60	11.6	Scheduled Ancient Monuments	0	0	0	-	-
60	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
61	12.1	<u>Agricultural Land Classification</u>	Grade 3b (within 250m)				
63	12.2	Open Access Land	0	0	0	-	-
63	12.3	Tree Felling Licences	0	0	0	-	-
63	12.4	Environmental Stewardship Schemes	0	0	0	-	-
63	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
64	13.1	Priority Habitat Inventory	0	0	0	-	-
64	13.2	Habitat Networks	0	0	0	-	-
64	13.3	Open Mosaic Habitat	0	0	0	-	-
64	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
65	14.1	<u>10k Availability</u>	Identified (within 500m)				
66	14.2	Artificial and made ground (10k)	0	0	0	0	-
67	14.3	<u>Superficial geology (10k)</u>	0	0	0	2	-



68	14.4	Landslip (10k)	0	0	0	0	-
69	14.5	<u>Bedrock geology (10k)</u>	2	0	5	2	-
70	14.6	<u>Bedrock faults and other linear features (10k)</u>	0	0	2	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
71	15.1	<u>50k Availability</u>	Identified (within 500m)				
72	15.2	Artificial and made ground (50k)	0	0	0	0	-
72	15.3	Artificial ground permeability (50k)	0	0	-	-	-
73	15.4	<u>Superficial geology (50k)</u>	0	0	0	1	-
74	15.5	Superficial permeability (50k)	None (within 50m)				
74	15.6	Landslip (50k)	0	0	0	0	-
74	15.7	Landslip permeability (50k)	None (within 50m)				
75	15.8	<u>Bedrock geology (50k)</u>	2	0	4	2	-
76	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
76	15.10	<u>Bedrock faults and other linear features (50k)</u>	0	0	2	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
78	16.1	<u>BGS Boreholes</u>	0	0	1	-	-
Page	Section	Natural ground subsidence					
79	17.1	<u>Shrink swell clays</u>	Low (within 50m)				
80	17.2	<u>Running sands</u>	Negligible (within 50m)				
81	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
82	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
83	17.5	<u>Landslides</u>	Low (within 50m)				
85	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
86	18.1	Natural cavities	0	0	0	0	-
87	18.2	BritPits	0	0	0	0	-
87	18.3	<u>Surface ground workings</u>	0	0	5	-	-
87	18.4	Underground workings	0	0	0	0	0
87	18.5	<u>Historical Mineral Planning Areas</u>	0	0	1	1	-



88	18.6	Non-coal mining	0	0	0	0	0
88	18.7	Mining cavities	0	0	0	0	0
88	18.8	JPB mining areas	None (within 0m)				
88	18.9	Coal mining	None (within 0m)				
89	18.10	Brine areas	None (within 0m)				
89	18.11	Gypsum areas	None (within 0m)				
89	18.12	Tin mining	None (within 0m)				
89	18.13	Clay mining	None (within 0m)				

Page	Section	Radon					
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90 **19.1** **Radon** Less than 1% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
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91	20.1	<u>BGS Estimated Background Soil Chemistry</u>	4	0	-	-	-
91	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
92	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-

Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
------	---------	-------------------------------------	---------	-------	---------	----------	-----------

93	21.1	Underground railways (London)	0	0	0	-	-
93	21.2	Underground railways (Non-London)	0	0	0	-	-
93	21.3	Railway tunnels	0	0	0	-	-
93	21.4	Historical railway and tunnel features	0	0	0	-	-
93	21.5	Royal Mail tunnels	0	0	0	-	-
94	21.6	Historical railways	0	0	0	-	-
94	21.7	Railways	0	0	0	-	-
94	21.8	Crossrail 1	0	0	0	0	-
94	21.9	Crossrail 2	0	0	0	0	-
94	21.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 24/08/2019

Site Area: 3.29ha



Recent site history - 2016 aerial photograph



Capture Date: 04/05/2016

Site Area: 3.29ha



Recent site history - 2009 aerial photograph



Capture Date: 02/06/2009

Site Area: 3.29ha



Recent site history - 2006 aerial photograph



Capture Date: 04/11/2006

Site Area: 3.29ha



Recent site history - 1999 aerial photograph



Capture Date: 05/10/1999

Site Area: 3.29ha



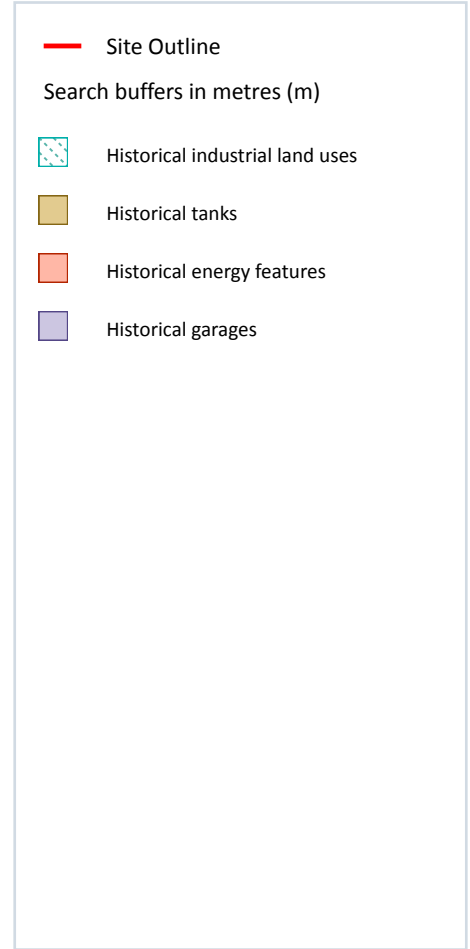
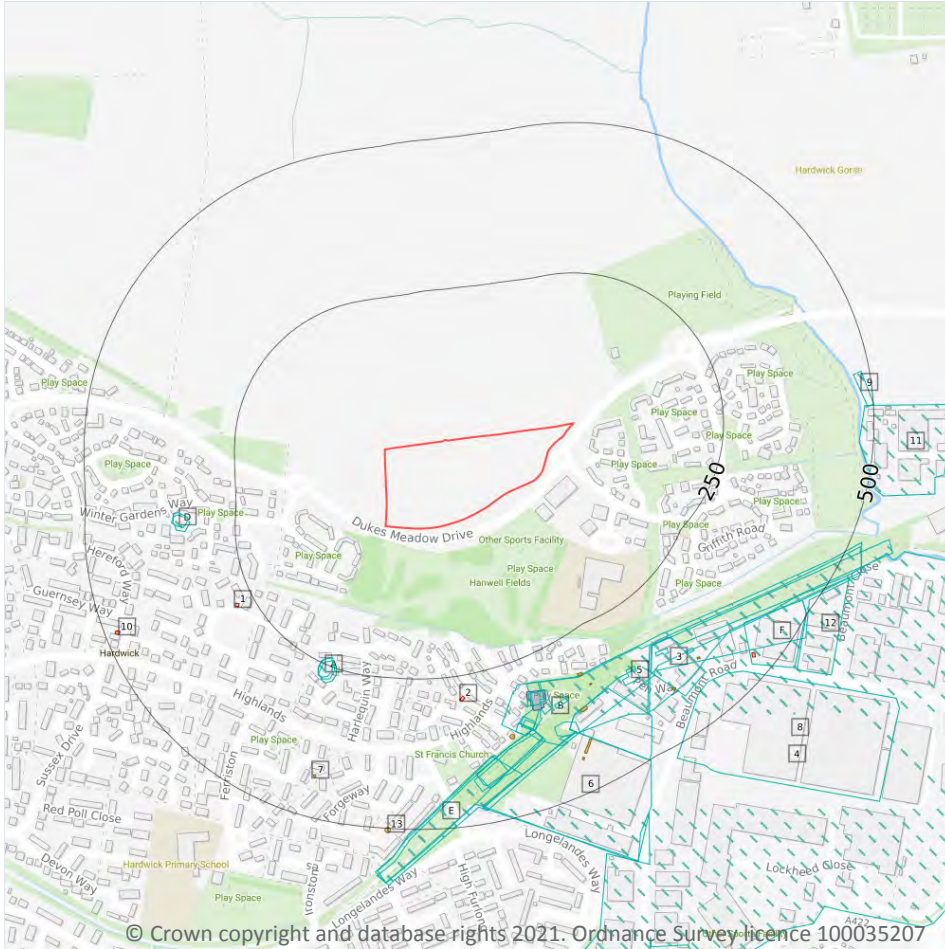
OS MasterMap site plan



Site Area: 3.29ha



1 Past land use



1.1 Historical industrial land uses

Records within 500m **32**

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

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

ID	Location	Land use	Dates present	Group ID
A	236m S	Unspecified Pit	1920 - 1923	1819017

ID	Location	Land use	Dates present	Group ID
A	237m S	Unspecified Pit	1938	1782842
A	240m S	Unspecified Pit	1954	1837645
B	289m S	Mineral Railway Sidings	1920 - 1923	1801684
C	292m S	Railway Buildings	1938 - 1954	1845711
C	297m SE	Railway Sidings	1938 - 1954	1800425
C	309m S	Railway Building	1920 - 1923	1793353
D	325m W	Unspecified Pit	1923 - 1954	1850877
D	328m W	Unspecified Pit	1920	1819097
B	335m SE	Unspecified Depot	1976	1763974
3	336m SE	Railway Sidings	1967	1828197
4	337m SE	Industrial Estate	1994	1788602
C	340m SE	Railway Building	1954	1765273
C	341m S	Railway Building	1920	1803322
C	348m S	Railway Building	1954	1819332
C	350m S	Railway Building	1923	1817873
B	350m SE	Railway Building	1967	1765268
5	351m SE	Railway Building	1938	1765269
C	362m SE	Unspecified Depot	1977	1763975
C	367m S	Cuttings	1923 - 1938	1781019
C	367m S	Cuttings	1920	1832420
C	374m S	Cuttings	1954	1845911
C	375m SE	Cuttings	1954	1751528
B	378m SE	Railway Building	1967	1765267
E	390m S	Mineral Railway Sidings	1920	1773626
E	391m S	Railway Sidings	1938	1827112
6	399m SE	Unspecified Works	1977	1846371
F	419m SE	Unspecified Works	1976	1771558
8	442m SE	Unspecified Warehouses	1976	1760355



ID	Location	Land use	Dates present	Group ID
9	473m E	Filter Beds	1976	1761012
11	476m E	Unspecified Laboratory	1994	1774035
12	481m SE	Unspecified Depot	1976	1763973

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	10
----------------------------	-----------

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 14**

ID	Location	Land use	Dates present	Group ID
C	315m SE	Tanks	1965 - 1976	290586
C	340m SE	Unspecified Tank	1965	284592
C	365m S	Unspecified Tank	1965	284597
C	369m SE	Tanks	1965	287565
B	399m SE	Unspecified Tank	1976 - 1984	295451
B	414m SE	Unspecified Tank	1976 - 1984	299918
C	420m SE	Tanks	1989 - 1993	293560
7	429m S	Unspecified Tank	1987 - 1988	292270
C	442m SE	Tanks	1989	287566
13	499m S	Unspecified Tank	1973	284599

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	4
----------------------------	----------

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original 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 14**

ID	Location	Land use	Dates present	Group ID
1	275m SW	Electricity Substation	1987 - 1989	183497
2	284m S	Electricity Substation	1989 - 1993	185825
F	460m SE	Electricity Substation	1976 - 1997	178749
10	475m W	Electricity Substation	1976 - 1989	179115

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 14**

ID	Location	Land use	Dates present	Group ID
C	305m S	Engine Repair Shed	1965	54989

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

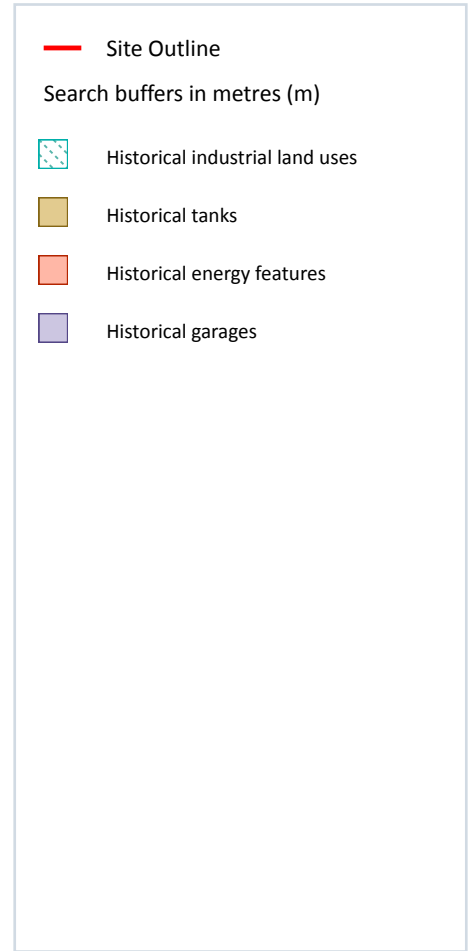
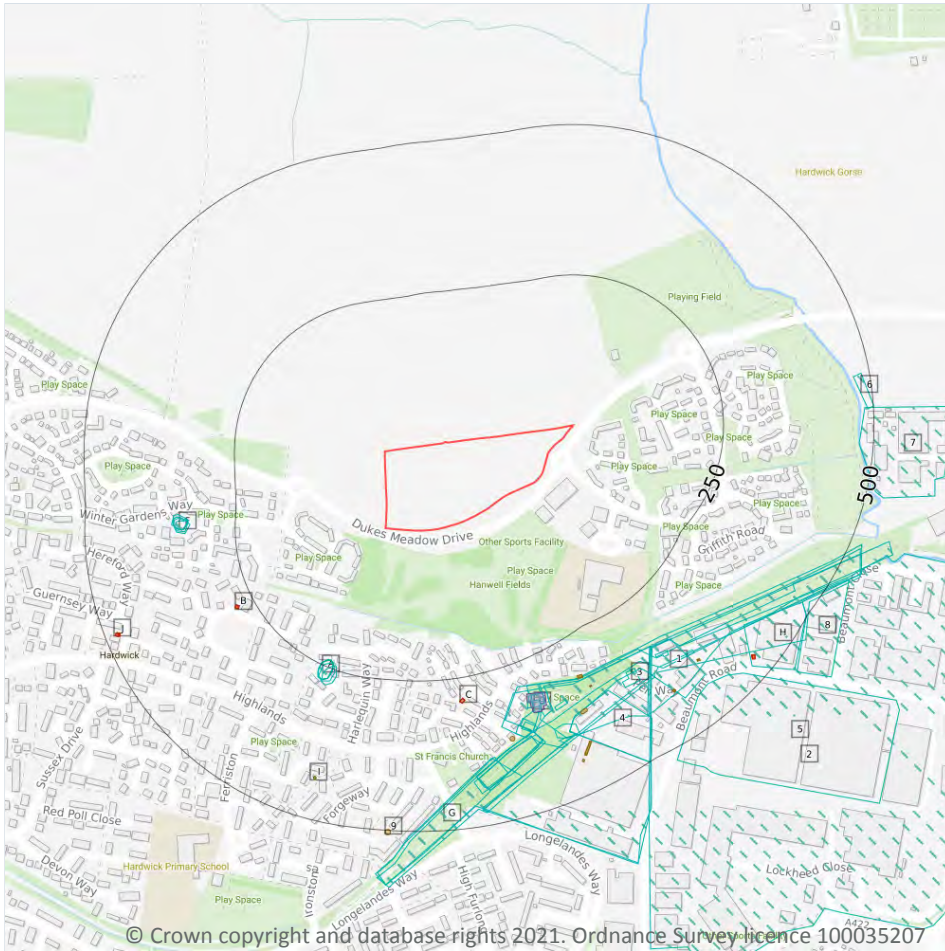
Records within 500m

0

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

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

2 Past land use - un-grouped



2.1 Historical industrial land uses

Records within 500m **43**

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 19**

ID	Location	Land Use	Date	Group ID
A	236m S	Unspecified Pit	1920	1819017
A	237m S	Unspecified Pit	1938	1782842
A	237m S	Unspecified Pit	1938	1782842

ID	Location	Land Use	Date	Group ID
A	240m S	Unspecified Pit	1954	1837645
A	244m S	Unspecified Pit	1923	1819017
D	289m S	Mineral Railway Sidings	1920	1801684
E	292m S	Railway Buildings	1938	1845711
D	297m S	Mineral Railway Sidings	1923	1801684
D	297m SE	Railway Sidings	1938	1800425
E	304m SE	Railway Sidings	1954	1800425
E	309m S	Railway Building	1920	1793353
E	310m S	Railway Buildings	1954	1845711
E	317m S	Railway Building	1923	1793353
F	325m W	Unspecified Pit	1923	1850877
F	328m W	Unspecified Pit	1954	1850877
F	328m W	Unspecified Pit	1920	1819097
F	329m W	Unspecified Pit	1938	1850877
F	329m W	Unspecified Pit	1938	1850877
D	335m SE	Unspecified Depot	1976	1763974
1	336m SE	Railway Sidings	1967	1828197
2	337m SE	Industrial Estate	1994	1788602
E	340m SE	Railway Building	1954	1765273
E	341m S	Railway Building	1920	1803322
E	348m S	Railway Building	1954	1819332
E	350m S	Railway Building	1923	1817873
D	350m SE	Railway Building	1967	1765268
3	351m SE	Railway Building	1938	1765269
E	356m SE	Industrial Estate	1994	1788602
4	362m SE	Unspecified Depot	1977	1763975
E	367m S	Cuttings	1938	1781019
E	367m S	Cuttings	1920	1832420



ID	Location	Land Use	Date	Group ID
E	374m S	Cuttings	1923	1781019
E	374m S	Cuttings	1954	1845911
E	375m SE	Cuttings	1954	1751528
D	378m SE	Railway Building	1967	1765267
G	390m S	Mineral Railway Sidings	1920	1773626
G	391m S	Railway Sidings	1938	1827112
E	399m SE	Unspecified Works	1977	1846371
H	419m SE	Unspecified Works	1976	1771558
5	442m SE	Unspecified Warehouses	1976	1760355
6	473m E	Filter Beds	1976	1761012
7	476m E	Unspecified Laboratory	1994	1774035
8	481m SE	Unspecified Depot	1976	1763973

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

16

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 19**

ID	Location	Land Use	Date	Group ID
E	315m SE	Tanks	1965	290586
E	315m SE	Tanks	1976	290586
E	340m SE	Unspecified Tank	1965	284592
E	365m S	Unspecified Tank	1965	284597
E	369m SE	Tanks	1965	287565
D	399m SE	Unspecified Tank	1976	295451
D	400m SE	Unspecified Tank	1984	295451
D	414m SE	Unspecified Tank	1976	299918



ID	Location	Land Use	Date	Group ID
D	415m SE	Unspecified Tank	1984	299918
E	420m SE	Tanks	1993	293560
E	420m SE	Tanks	1989	293560
I	429m S	Unspecified Tank	1987	292270
I	429m S	Unspecified Tank	1987	292270
I	429m S	Unspecified Tank	1988	292270
E	442m SE	Tanks	1989	287566
9	499m S	Unspecified Tank	1973	284599

This data is sourced from Ordnance Survey / Groundsure.

2.3 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. 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 19**

ID	Location	Land Use	Date	Group ID
B	275m SW	Electricity Substation	1987	183497
B	275m SW	Electricity Substation	1987	183497
B	275m SW	Electricity Substation	1988	183497
B	277m SW	Electricity Substation	1989	183497
C	284m S	Electricity Substation	1993	185825
C	284m S	Electricity Substation	1989	185825
H	460m SE	Electricity Substation	1984	178749
H	460m SE	Electricity Substation	1990	178749
H	460m SE	Electricity Substation	1990	178749
H	461m SE	Electricity Substation	1976	178749
H	461m SE	Electricity Substation	1997	178749
J	475m W	Electricity Substation	1987	179115



ID	Location	Land Use	Date	Group ID
J	475m W	Electricity Substation	1987	179115
J	475m W	Electricity Substation	1988	179115
J	476m W	Electricity Substation	1985	179115
J	476m W	Electricity Substation	1989	179115
J	477m W	Electricity Substation	1976	179115

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0
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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	1
----------------------------	----------

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 19**

ID	Location	Land Use	Date	Group ID
E	305m S	Engine Repair Shed	1965	54989

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

0

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

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

3.5 Historical waste sites

Records within 500m

0

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

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

3.6 Licensed waste sites

Records within 500m

0

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

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

3.7 Waste exemptions

Records within 500m

8

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 24**

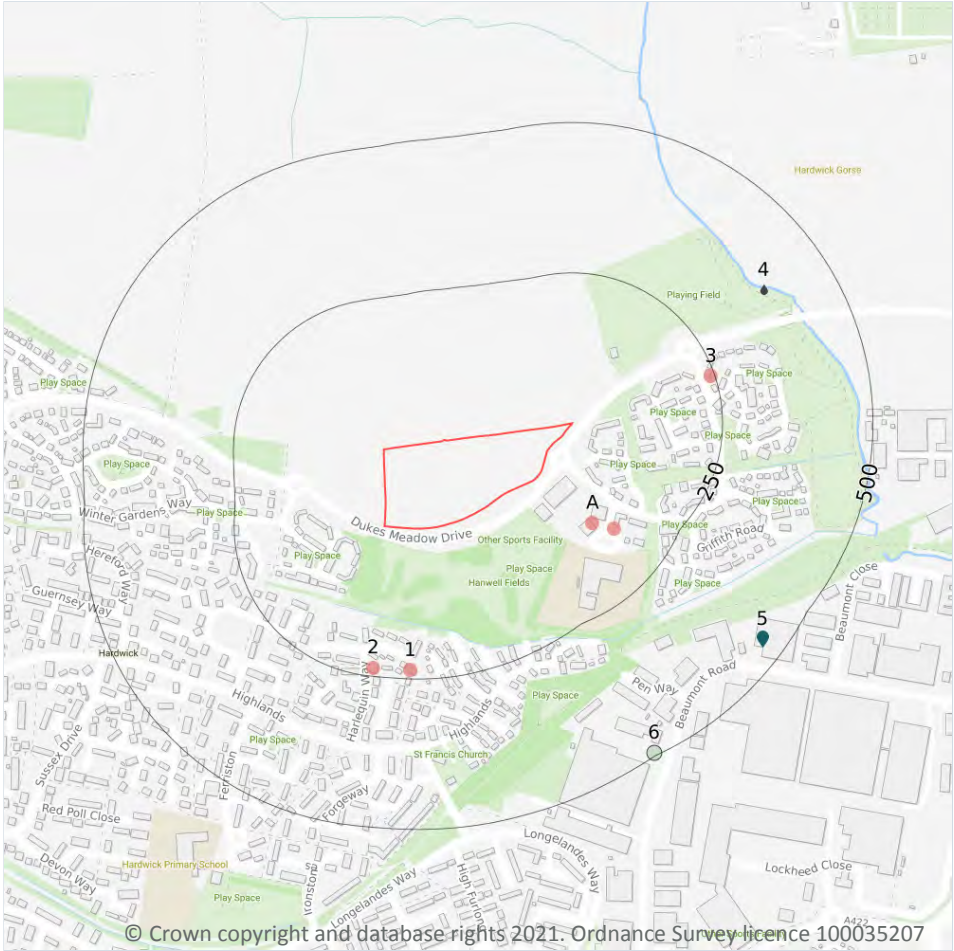
ID	Location	Site	Reference	Category	Sub-Category	Description
A	362m SE	15, PENHILL INDUSTRIAL PARK, BEAUMONT ROAD, Banbury, OX161RW	WEX242962	Storing waste exemption	Not on a farm	Storage of waste in a secure place

ID	Location	Site	Reference	Category	Sub-Category	Description
A	362m SE	15, PENHILL INDUSTRIAL PARK, BEAUMONT ROAD, Banbury, OX161RW	WEX242962	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	362m SE	15, PENHILL INDUSTRIAL PARK, BEAUMONT ROAD, Banbury, OX161RW	WEX242962	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
A	362m SE	15, PENHILL INDUSTRIAL PARK, BEAUMONT ROAD, Banbury, OX161RW	WEX242962	Treating waste exemption	Not on a farm	Recovery of textiles
1	396m SW	Frosts Pharmacy Ltd, Hardwick Shopping Centre, Ferriston, Banbury, OX16 1XE	WEX229153	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
B	466m SW	Frosts Pharmacy	EPR/FF0630V Q/A001	Treating waste exemption	Non-Agricultural Waste Only	Sorting and de-naturing of controlled drugs for disposal
B	468m SW	Frosts Pharmacy Ltd, Hardwick Shopping Centre, Ferriston, Banbury, OX16 1XE	WEX084543	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
B	472m SW	Frosts Pharmacy, Hardwick Shopping Centre, Ferriston, Banbury, OX16 1XE	WEX153234	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal

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 pollutant release (Part A(2)/B)
- ◆ Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	5
----------------------------	----------

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Company	Address	Activity	Category
A	120m SE	Electricity Sub Station	Oxfordshire, OX16	Electrical Features	Infrastructure and Facilities
A	154m SE	Electricity Sub Station	Oxfordshire, OX16	Electrical Features	Infrastructure and Facilities



ID	Location	Company	Address	Activity	Category
1	236m S	Ayebia Clarke Publishing Ltd	7, Syringa Walk, Banbury, Oxfordshire, OX16 1FR	Published Goods	Industrial Products
2	236m S	Windmill Tiles	26, Harlequin Way, Banbury, Oxfordshire, OX16 1FS	Construction Completion Services	Construction Services
3	243m E	Electricity Sub Station	Oxfordshire, OX16	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m

0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m

0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m

0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m

0

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

This data is sourced from Local Authority records.



4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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



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

Records within 500m

1

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

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Address	Details	
5	460m SE	Stabilus Limited, Beaumont Road, Banbury, Oxfordshire, OX16 1QY	Process: Coating Processes Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m

0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m

1

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

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Address	Details	
4	387m NE	HANWELL FIELDS SPORTS PAVILION, DUKE'S MEADOW DRIVE, DUKE'S MEADOW, BANBURY, OXFORDSHIRE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CAWM.0798 Permit Version: 1 Receiving Water: THE HANWELL BROOK	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 09/11/2004 Effective Date: 17/02/2004 Revocation Date: 14/11/2005

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

1

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 27**



ID	Location	Details	
6	494m SE	Incident Date: 10/04/2002 Incident Identification: 70418 Pollutant: Oils and Fuel Pollutant Description: Gas and Fuel Oils	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

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

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

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

4.20 Pollution inventory waste transfers

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

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

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

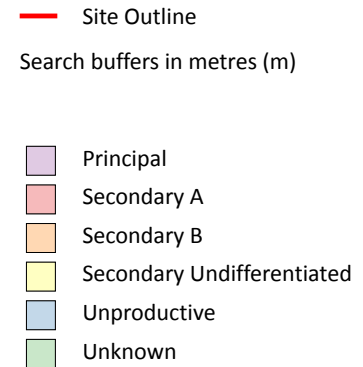
4.21 Pollution inventory radioactive waste

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

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

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

5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m

2

Aquifer status of groundwater held within superficial geology.

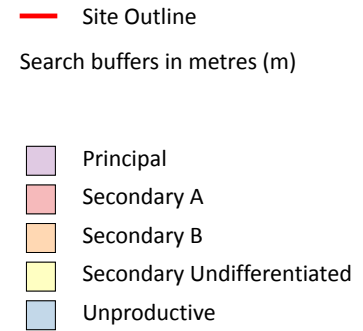
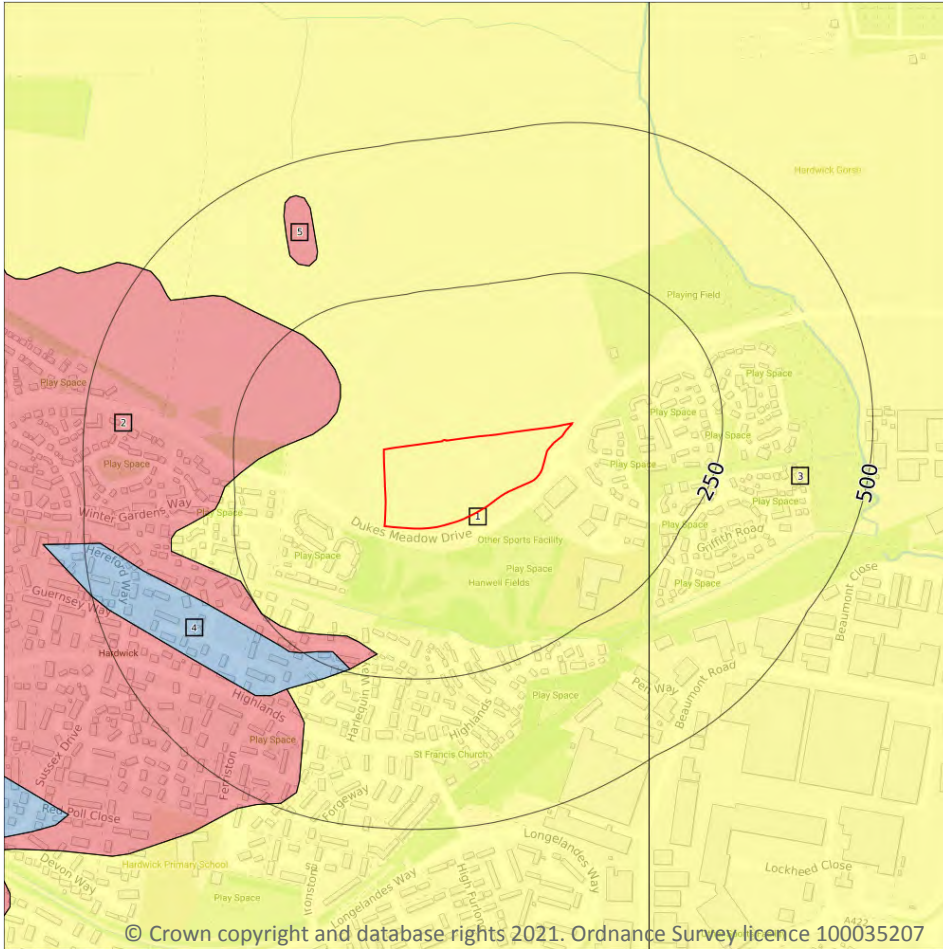
Features are displayed on the Hydrogeology map on **page 33**

ID	Location	Designation	Description
1	338m NE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	447m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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



Bedrock aquifer



5.2 Bedrock aquifer

Records within 500m

5

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 35**

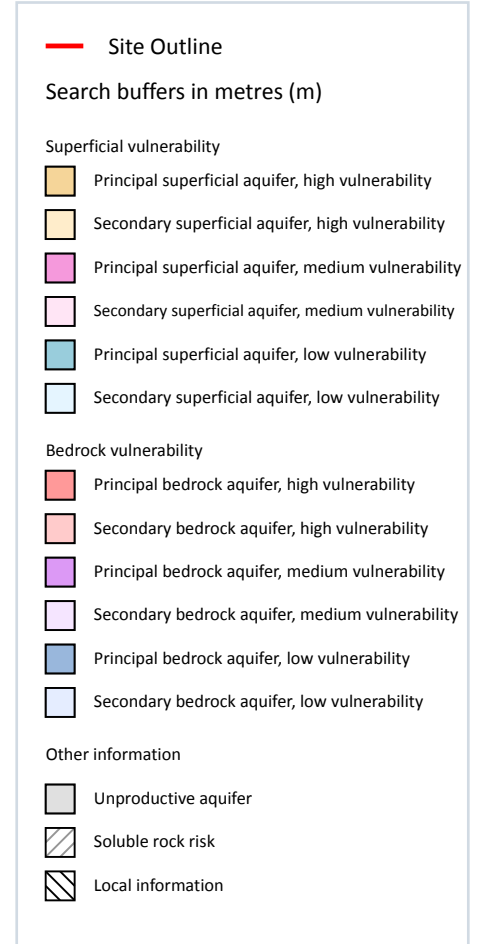
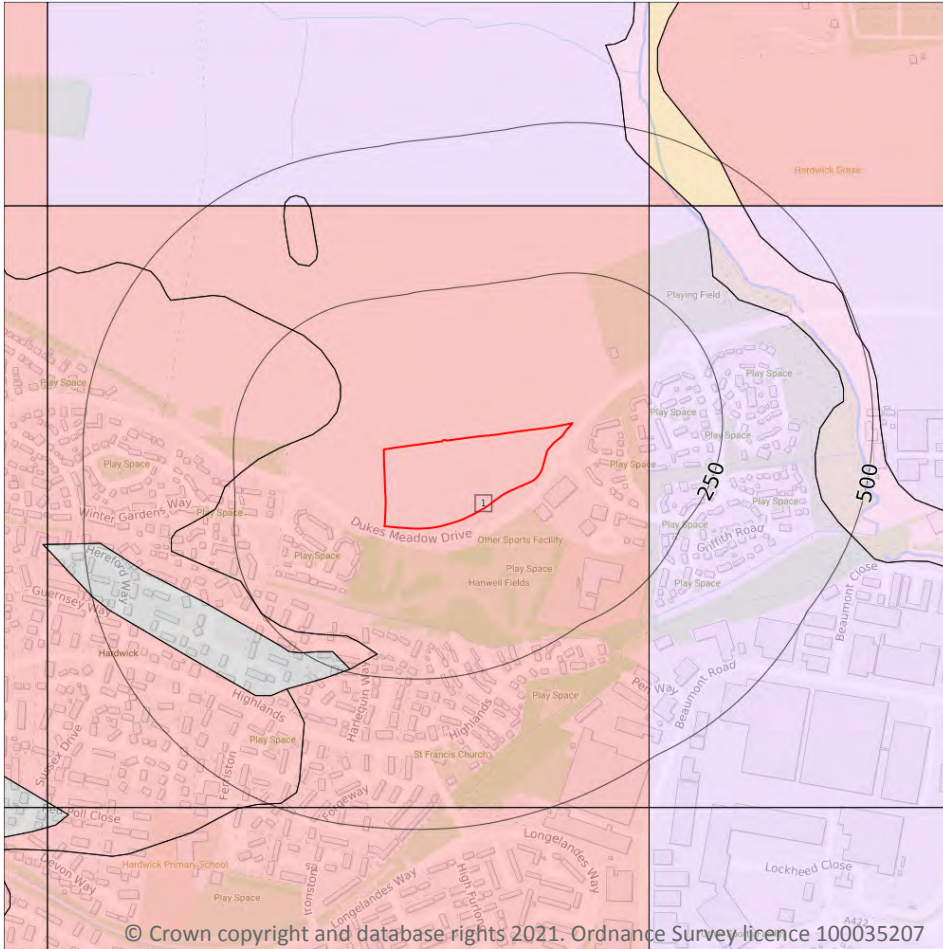
ID	Location	Designation	Description
1	On site	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	100m NW	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

ID	Location	Designation	Description
3	128m E	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	226m S	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
5	329m N	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

1

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 37**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

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

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

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

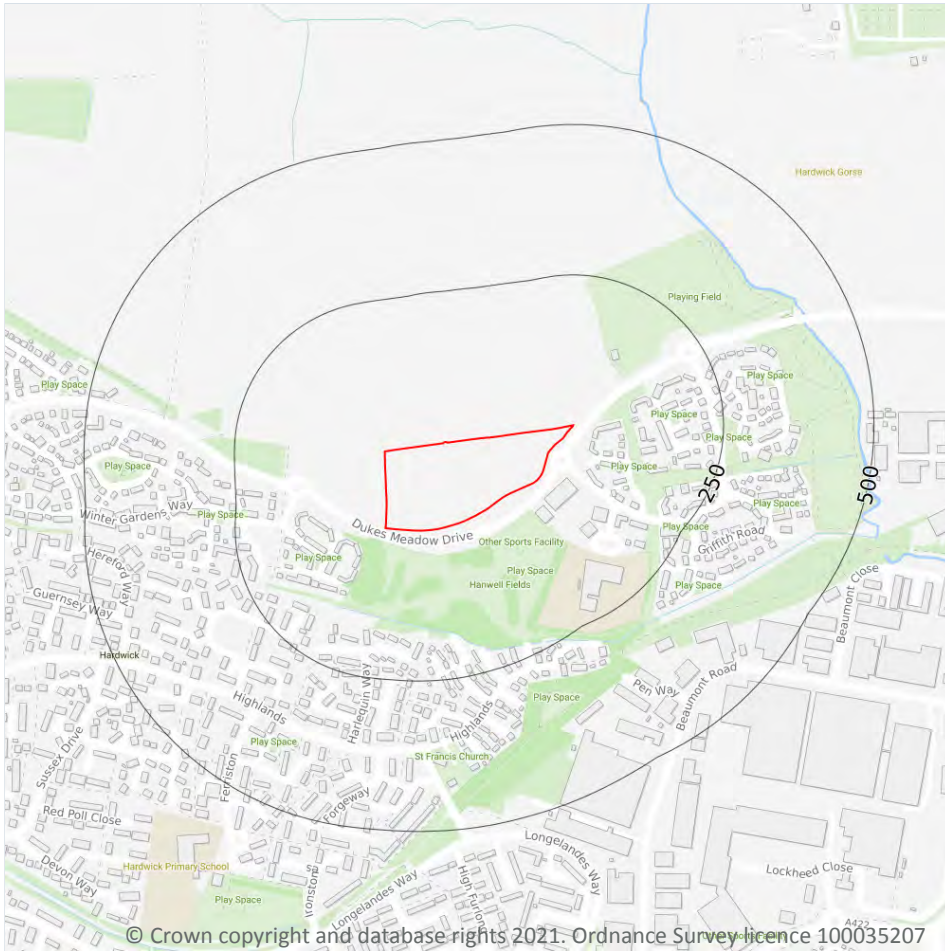
5.5 Groundwater vulnerability- local information

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

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

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

Abstractions and Source Protection Zones



5.6 Groundwater abstractions

Records within 2000m

1

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 39**

ID	Location	Details	
-	1459m W	Status: Historical Licence No: 28/39/14/0138 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: DRAYTON LODGE, HANWELL (A) Data Type: Point Name: TURNER Easting: 443100 Northing: 242600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 09/01/1967 Expiry Date: - Issue No: 100 Version Start Date: 09/01/1967 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	5
-----------------------------	----------

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 39**

ID	Location	Details	
-	1273m E	Status: Historical Licence No: 28/39/14/0240 Details: Potable Water Supply - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: GRIMSBURY MILL POINT 'B' Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 446100 Northing: 242300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/11/1967 Expiry Date: - Issue No: 100 Version Start Date: 13/11/1967 Version End Date: -
-	1273m E	Status: Active Licence No: 28/39/14/0240 Details: Potable Water Supply - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: GRIMSBURY MILL POINT 'B' - RIVER CHERWELL Data Type: Point Name: Thames Water Utilities Ltd Easting: 446100 Northing: 242300	Annual Volume (m ³): 3,636,800 Max Daily Volume (m ³): 35,459 Original Application No: - Original Start Date: 13/11/1967 Expiry Date: - Issue No: 100 Version Start Date: 13/11/1967 Version End Date: -



ID	Location	Details	
-	1328m E	Status: Historical Licence No: 28/39/14/0273 Details: General Use Relating To Secondary Category (Low Loss) Direct Source: THAMES SURFACE WATER - NON TIDAL Point: OXFORD CANAL AT BANBURY Data Type: Point Name: Canal and River Trust Easting: 446200 Northing: 242600	Annual Volume (m ³): 1,500,180 Max Daily Volume (m ³): 18184 Original Application No: - Original Start Date: 11/10/1974 Expiry Date: - Issue No: 101 Version Start Date: 17/12/2007 Version End Date: -
-	1378m SE	Status: Historical Licence No: 28/39/14/0240 Details: Potable Water Supply - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: GRIMSBURY MILL POINT 'A' Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 445900 Northing: 241700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/11/1967 Expiry Date: - Issue No: 100 Version Start Date: 13/11/1967 Version End Date: -
-	1378m SE	Status: Active Licence No: 28/39/14/0240 Details: Potable Water Supply - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: GRIMSBURY MILL POINT 'A' - RIVER CHERWELL Data Type: Point Name: Thames Water Utilities Ltd Easting: 445900 Northing: 241700	Annual Volume (m ³): 3,636,800 Max Daily Volume (m ³): 35,459 Original Application No: - Original Start Date: 13/11/1967 Expiry Date: - Issue No: 100 Version Start Date: 13/11/1967 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

4

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 39**



ID	Location	Details	
-	1273m E	Status: Historical Licence No: 28/39/14/0240 Details: Potable Water Supply - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: GRIMSBURY MILL POINT 'B' Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 446100 Northing: 242300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/11/1967 Expiry Date: - Issue No: 100 Version Start Date: 13/11/1967 Version End Date: -
-	1273m E	Status: Active Licence No: 28/39/14/0240 Details: Potable Water Supply - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: GRIMSBURY MILL POINT 'B' - RIVER CHERWELL Data Type: Point Name: Thames Water Utilities Ltd Easting: 446100 Northing: 242300	Annual Volume (m ³): 3,636,800 Max Daily Volume (m ³): 35,459 Original Application No: - Original Start Date: 13/11/1967 Expiry Date: - Issue No: 100 Version Start Date: 13/11/1967 Version End Date: -
-	1378m SE	Status: Historical Licence No: 28/39/14/0240 Details: Potable Water Supply - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: GRIMSBURY MILL POINT 'A' Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 445900 Northing: 241700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/11/1967 Expiry Date: - Issue No: 100 Version Start Date: 13/11/1967 Version End Date: -
-	1378m SE	Status: Active Licence No: 28/39/14/0240 Details: Potable Water Supply - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: GRIMSBURY MILL POINT 'A' - RIVER CHERWELL Data Type: Point Name: Thames Water Utilities Ltd Easting: 445900 Northing: 241700	Annual Volume (m ³): 3,636,800 Max Daily Volume (m ³): 35,459 Original Application No: - Original Start Date: 13/11/1967 Expiry Date: - Issue No: 100 Version Start Date: 13/11/1967 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m

0

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

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



5.10 Source Protection Zones (confined aquifer)

Records within 500m

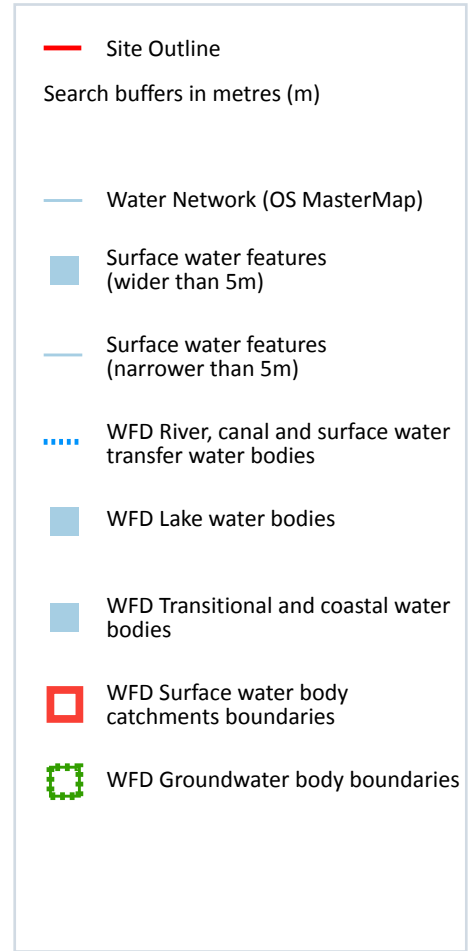
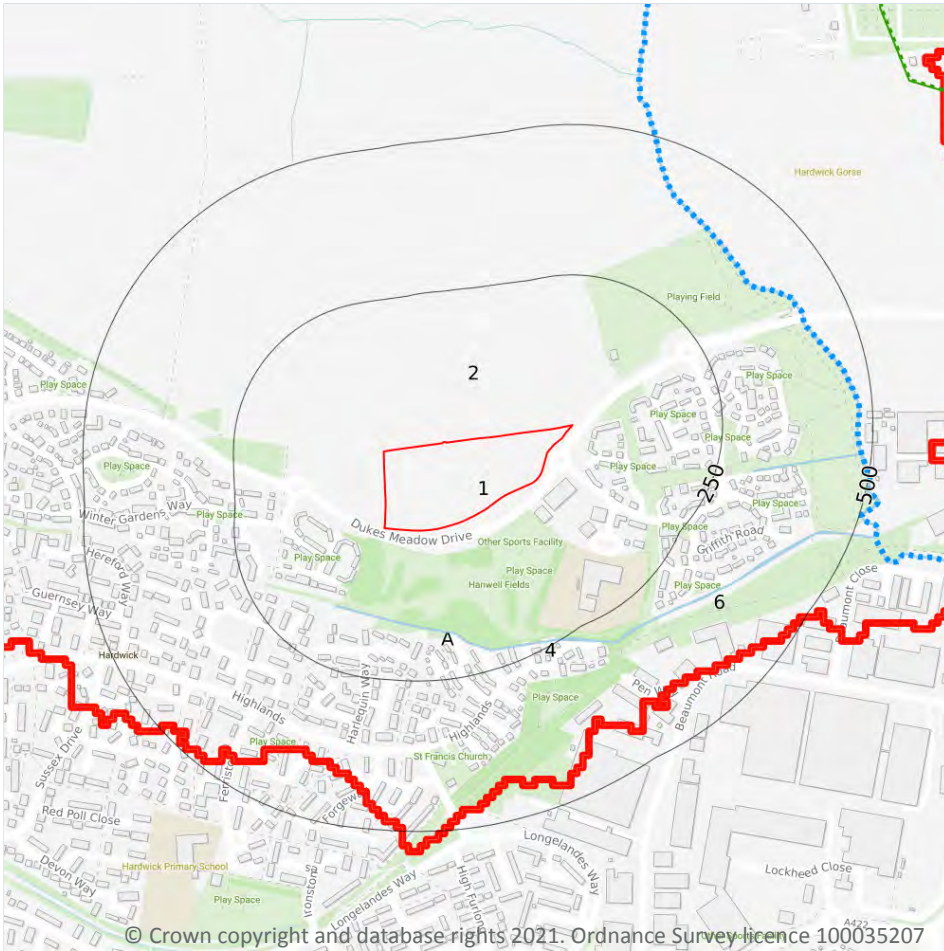
0

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

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



6 Hydrology



6.1 Water Network (OS MasterMap)

Records within 250m

3

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 44**

ID	Location	Type of water feature	Ground level	Permanence	Name
A	145m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
4	237m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	240m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	3
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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 44**

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 44**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
2	On site	River WB catchment	Hanwell Brook	GB106039037340	Cherwell	Cherwell and Ray

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



6.4 WFD Surface water bodies

Records identified	1
---------------------------	----------

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

Features are displayed on the Hydrology map on **page 44**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
10	376m NE	River	Hanwell Brook	GB106039037340	Moderate	Good	Moderate	2016

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 44**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	On site	Banbury Jurassic	GB40602G600200	Poor	Poor	Good	2015

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

7 River and coastal flooding

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m

0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; 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).

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

7.2 Historical Flood Events

Records within 250m

0

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

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

7.3 Flood Defences

Records within 250m

0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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



7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

0

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

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



8 Surface water flooding

8.1 Surface water flooding

Highest risk on site

Negligible

Highest risk within 50m

Negligible

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

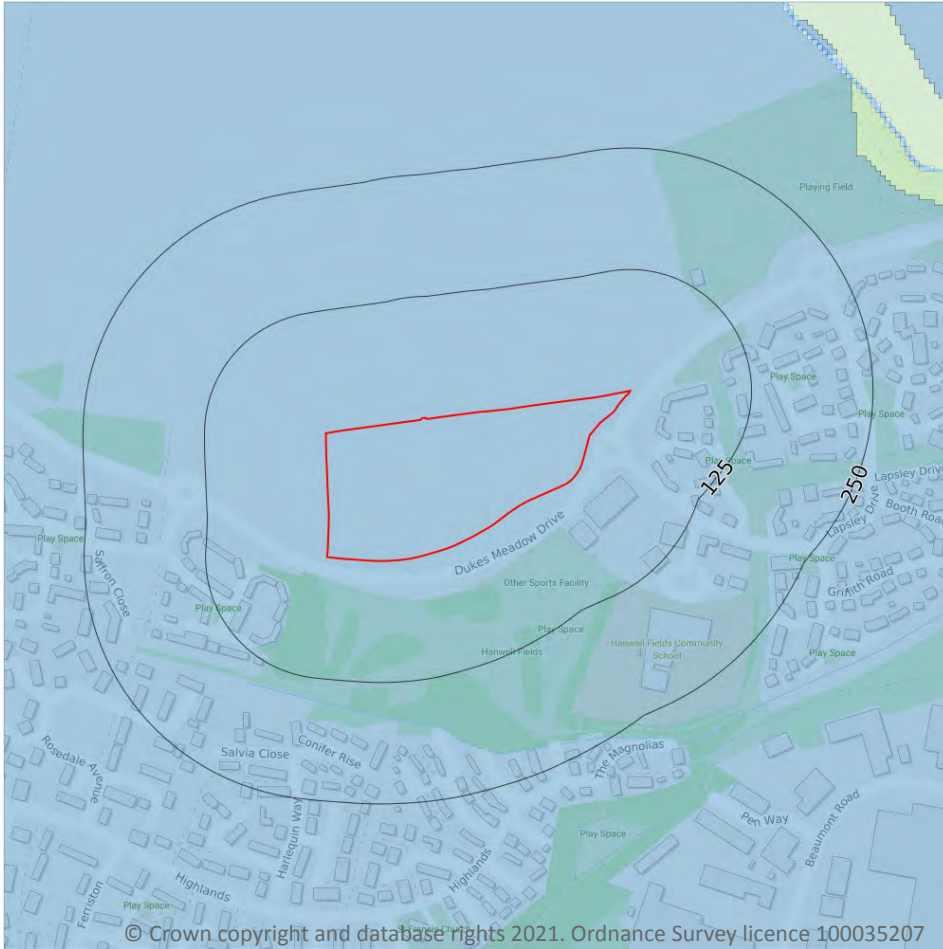
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site. The table below shows the maximum flood depths for a range of return periods for the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

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

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Negligible

Highest risk within 50m

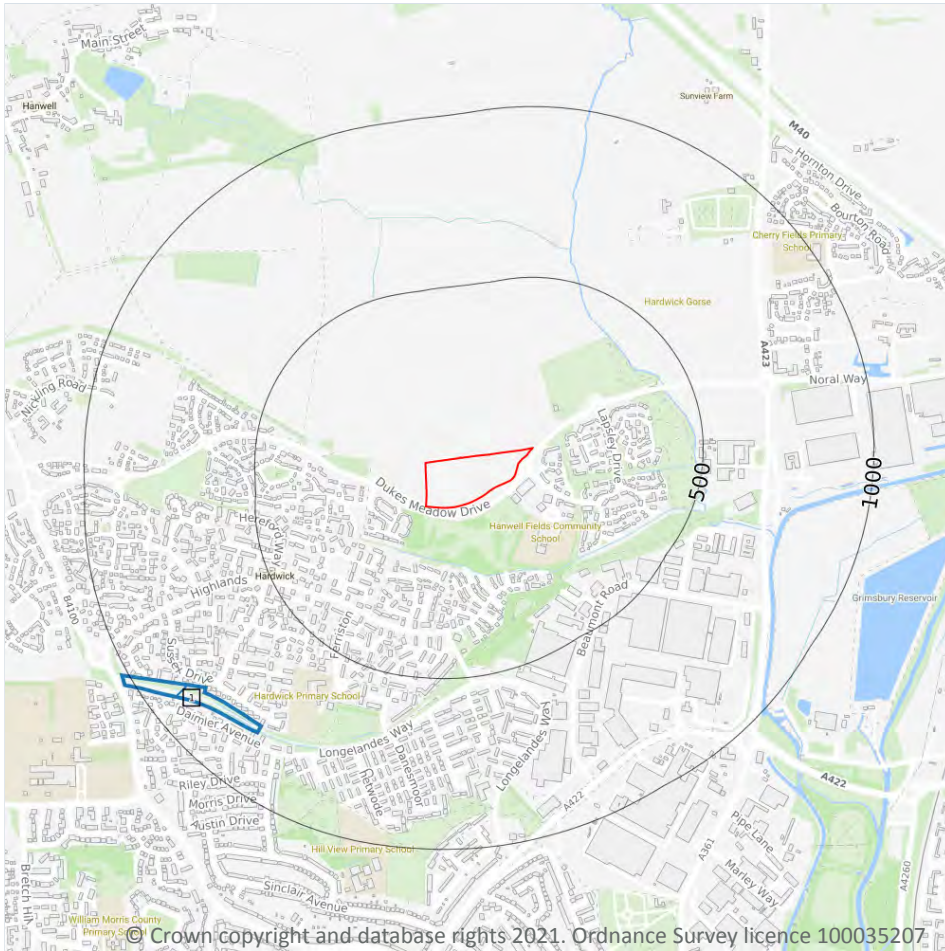
Negligible

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 51**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Sites of Special Scientific Interest (SSSI)

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

1

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

Features are displayed on the Environmental designations map on **page 52**

ID	Location	Name	Data source
1	804m SW	Neithrop Fields Cutting	Natural England



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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m

0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m

0

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

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



10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

10.7 Designated Ancient Woodland

Records within 2000m

0

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

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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

10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.



10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

0

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

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

10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.



10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

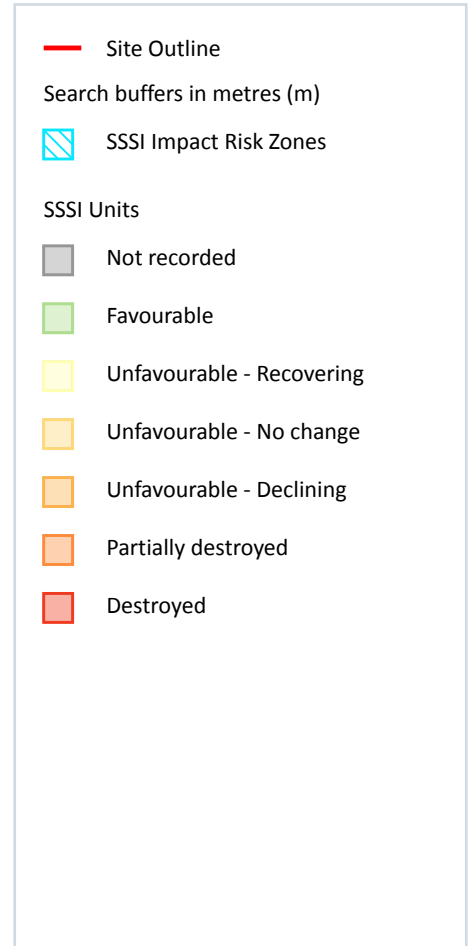
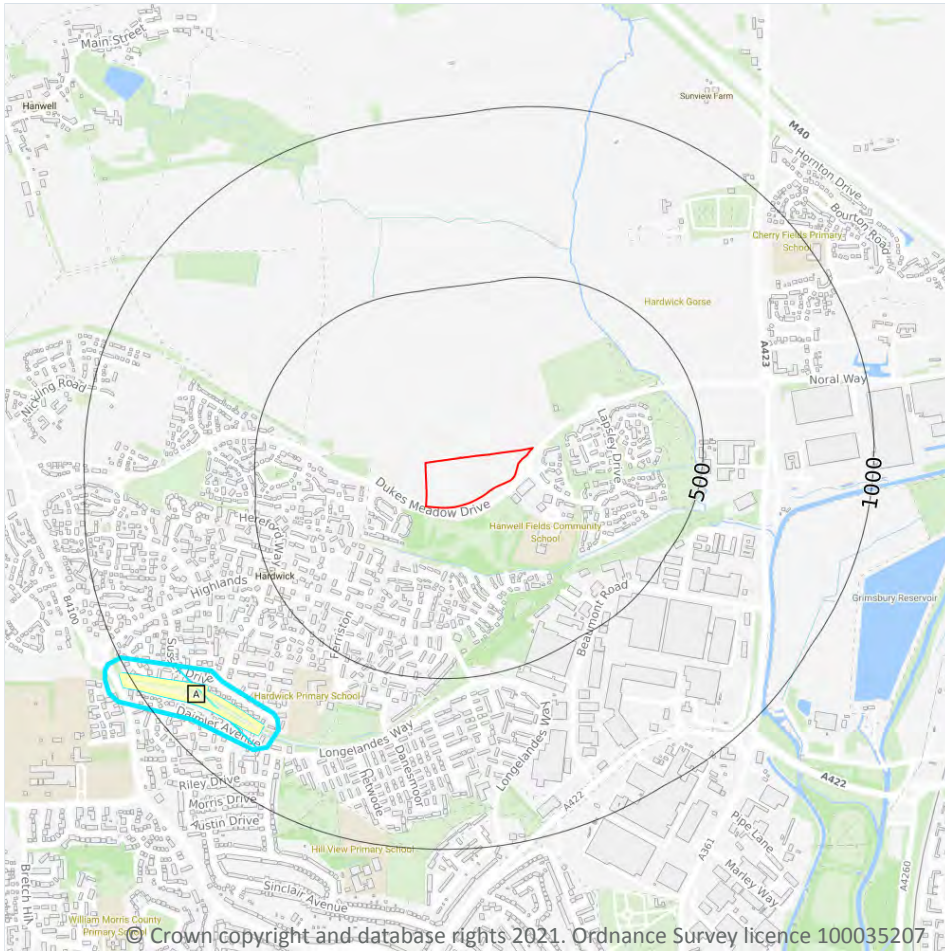
4

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	Balscote	Groundwater	G164	Existing
On site	Cherwell (Ray to Thames) and Woodeaton Brook NVZ	Surface Water	S472	Existing
467m W	Cherwell (Ray to Thames) and Woodeaton Brook NVZ	Surface Water	S472	Existing
470m W	Balscote	Groundwater	G164	Existing

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

SSSI Impact Zones and Units



10.17 SSSI Impact Risk Zones

Records on site

0

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.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

1

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

Features are displayed on the SSSI Impact Zones and Units map on **page 57**

ID: A
Location: 804m SW
SSSI name: Neithrop Fields Cutting
Unit name: Neithrop Fields Cutting
Broad habitat: Earth Heritage
Condition: Unfavourable - Recovering
Reportable features:

Feature name	Feature condition	Date of assessment
ER - Hettangian Sinemurian and Pliensbachian	Unfavourable - Recovering	07/09/2012

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



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

0

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



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

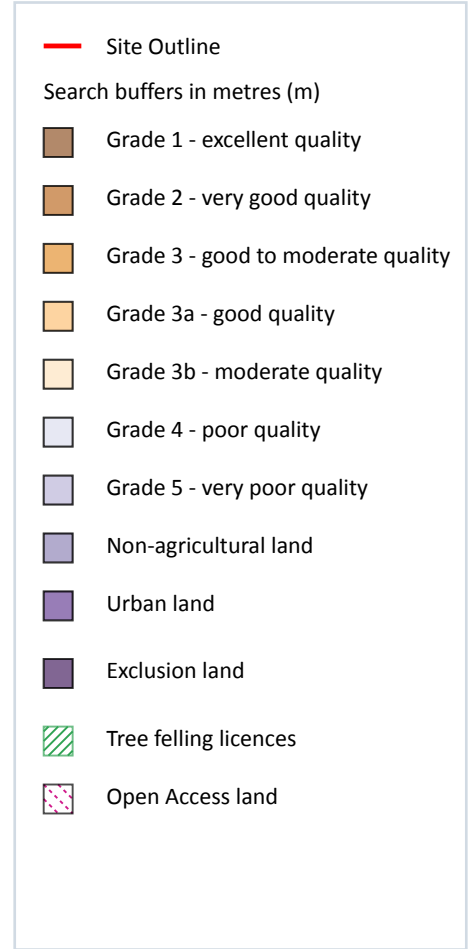
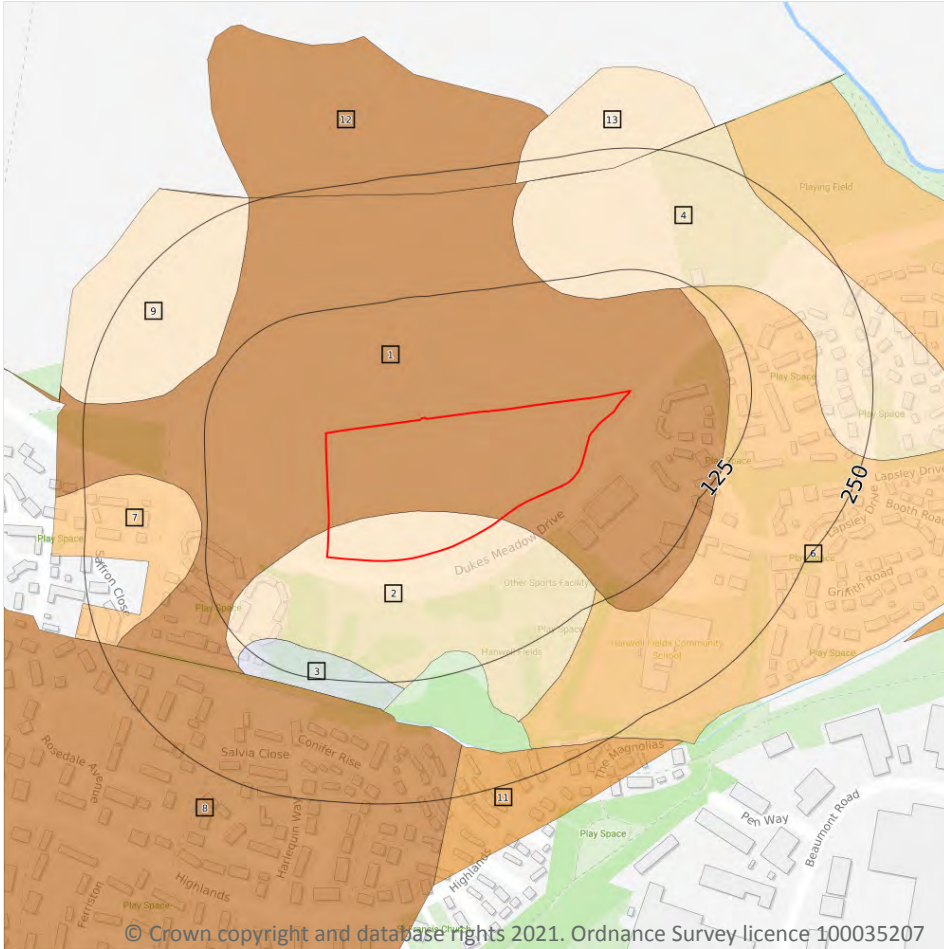
Records within 250m

0

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

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

12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m

11

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 61**

ID	Location	Classification	Description
1	On site	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
2	On site	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
3	95m S	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.
4	98m N	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
6	102m E	Grade 3a	Good quality agricultural land. Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.
7	131m W	Grade 3a	Good quality agricultural land. Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.
8	137m S	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
9	139m NW	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
11	199m S	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.
12	229m N	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.



ID	Location	Classification	Description
13	229m N	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

This data is sourced from Natural England.

12.2 Open Access Land

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

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

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

12.3 Tree Felling Licences

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

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

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

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

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

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

This data is sourced from Natural England.



13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m

0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

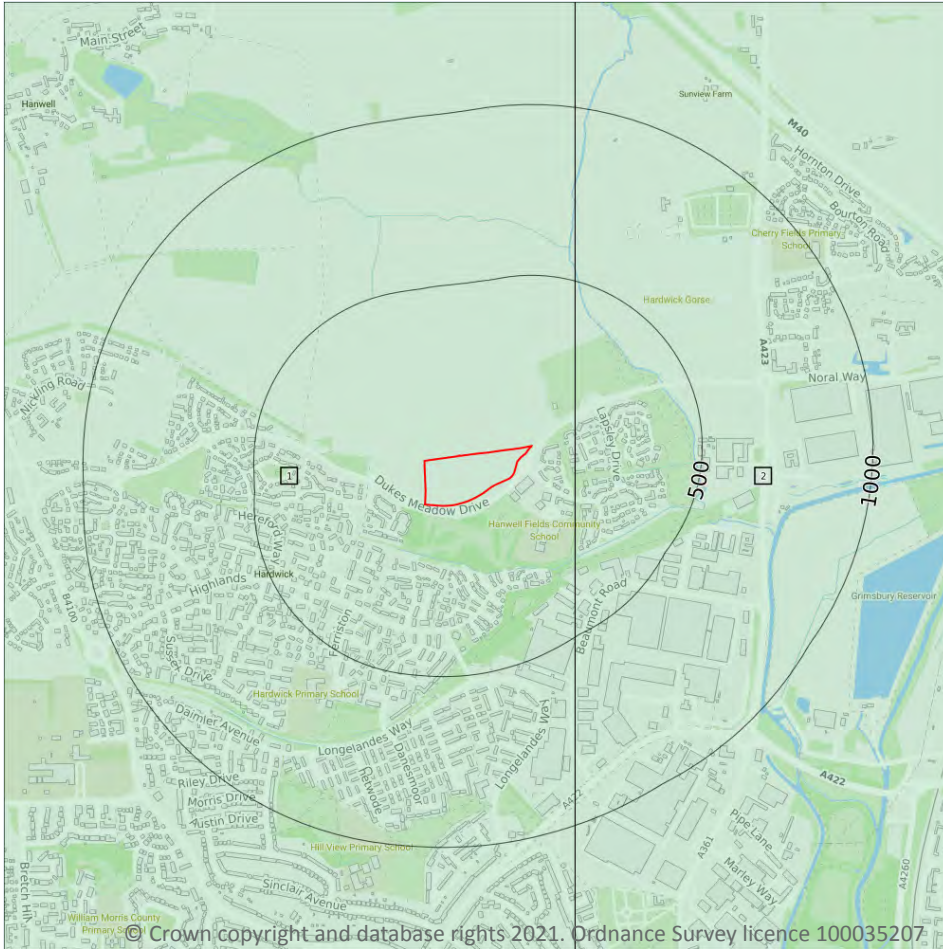
0

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

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
 Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

2

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 65**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	SP44SW
2	128m E	No coverage	Full	Full	No coverage	SP44SE

This data is sourced from the British Geological Survey.

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

14.2 Artificial and made ground (10k)

Records within 500m

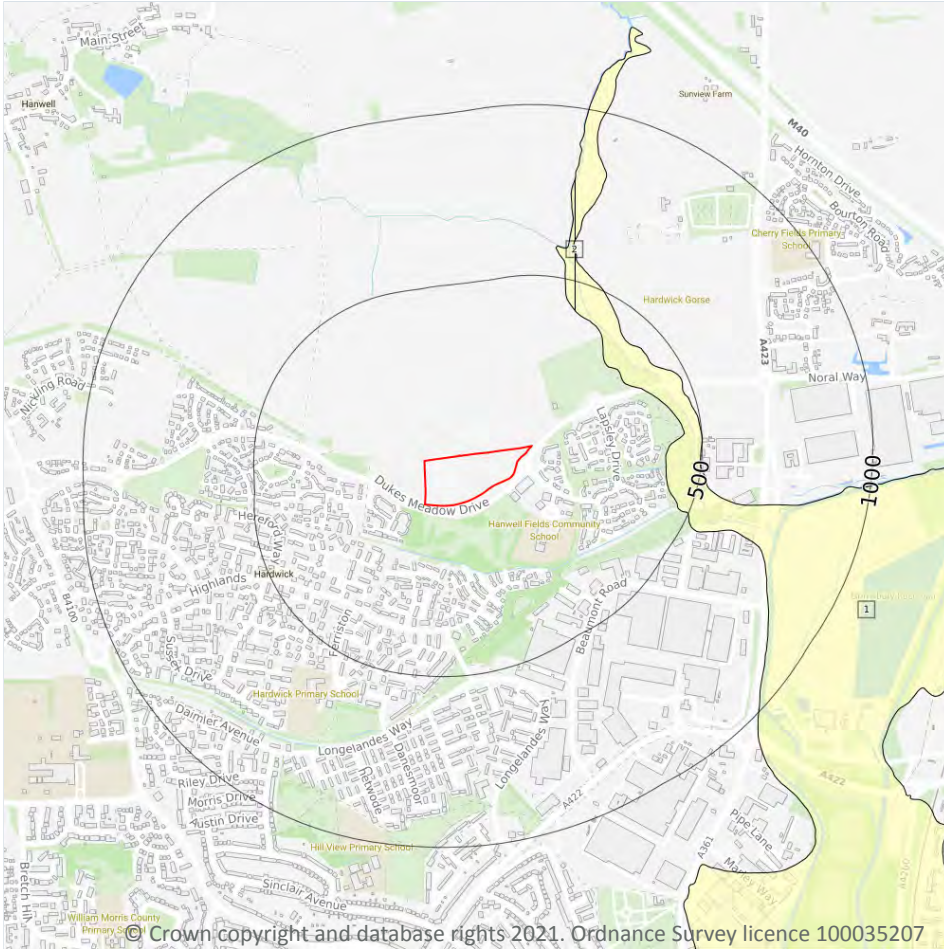
0


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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



- 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

2

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 67**

ID	Location	LEX Code	Description	Rock description
1	323m NE	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
2	417m N	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

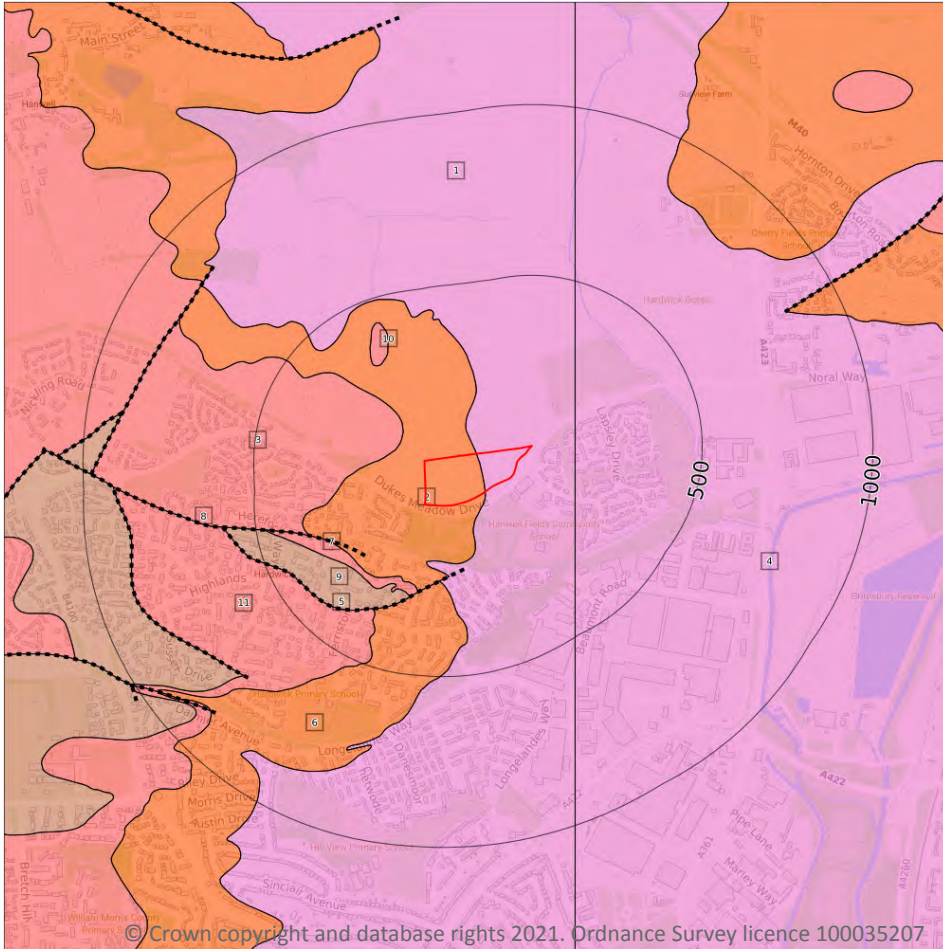
0

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

9

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 69**

ID	Location	LEX Code	Description	Rock age
1	On site	CHAM-MDST	Charmouth Mudstone Formation - Mudstone	Pliensbachian Age - Sinemurian Age
2	On site	DYS-SIMD	Dyrham Formation - Siltstone And Mudstone, Interbedded	Pliensbachian Age

ID	Location	LEX Code	Description	Rock age
3	88m NW	MRB-FLIR	Marlstone Rock Formation - Ferruginous Limestone And Ironstone	Toarcian Age - Pliensbachian Age
4	128m E	CHAM-MDST	Charmouth Mudstone Formation - Mudstone	Pliensbachian Age - Sinemurian Age
6	221m S	DYS-SIMD	Dyrham Formation - Siltstone And Mudstone, Interbedded	Pliensbachian Age
7	223m S	MRB-FLIR	Marlstone Rock Formation - Ferruginous Limestone And Ironstone	Toarcian Age - Pliensbachian Age
9	249m S	WHM-MDST	Whitby Mudstone Formation - Mudstone	Toarcian Age
10	309m NW	MRB-FLIR	Marlstone Rock Formation - Ferruginous Limestone And Ironstone	Toarcian Age - Pliensbachian Age
11	341m SW	MRB-FLIR	Marlstone Rock Formation - Ferruginous Limestone And Ironstone	Toarcian Age - Pliensbachian Age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

2

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.

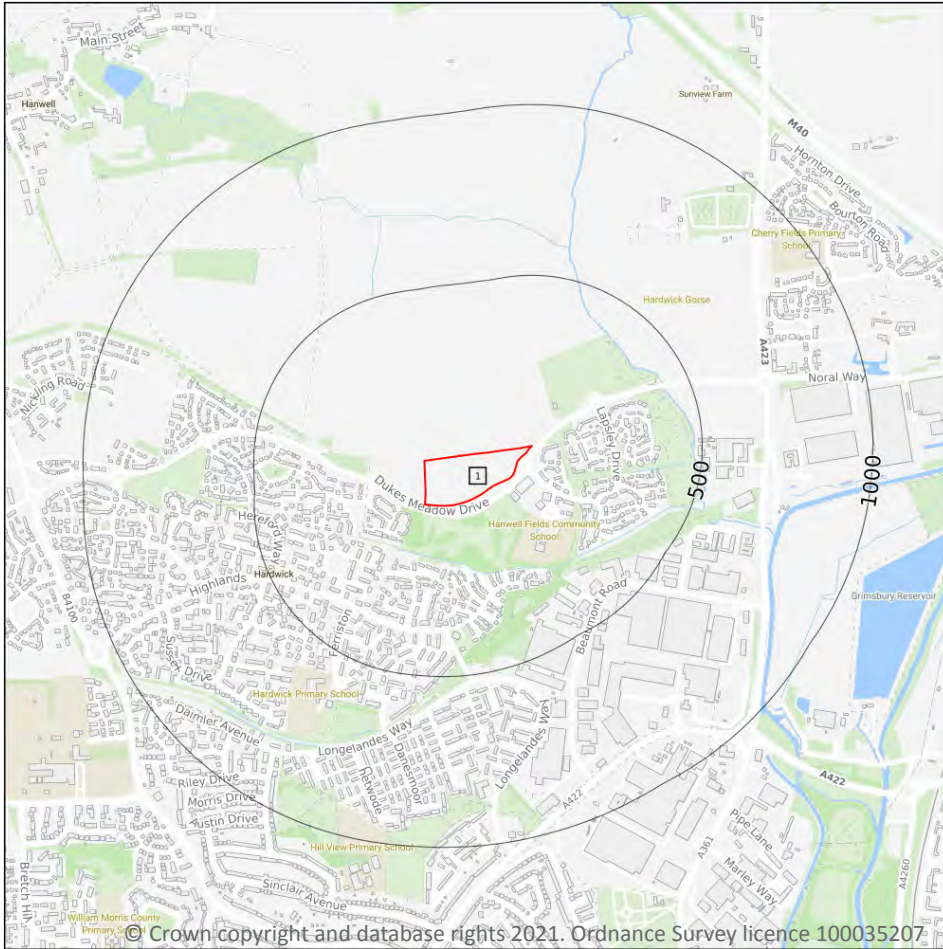
Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 69**

ID	Location	Category	Description
5	187m S	FAULT	Normal fault, inferred; crossmarks on downthrow side
8	230m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side

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 71**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW201_banbury_v4

This data is sourced from the British Geological Survey.

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

15.2 Artificial and made ground (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

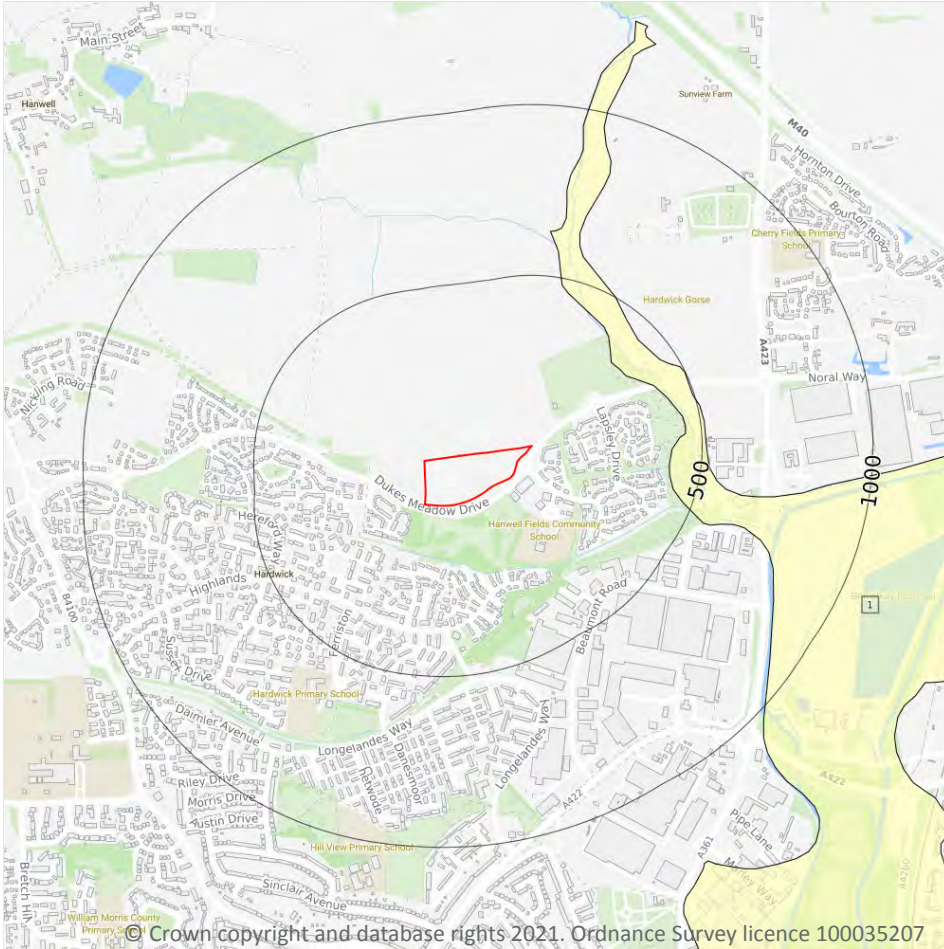
Records within 50m


0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



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

15.4 Superficial geology (50k)

Records within 500m

1

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 73**

ID	Location	LEX Code	Description	Rock description
1	338m NE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial 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 superficial deposits (the zone between the land surface and the water table).

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

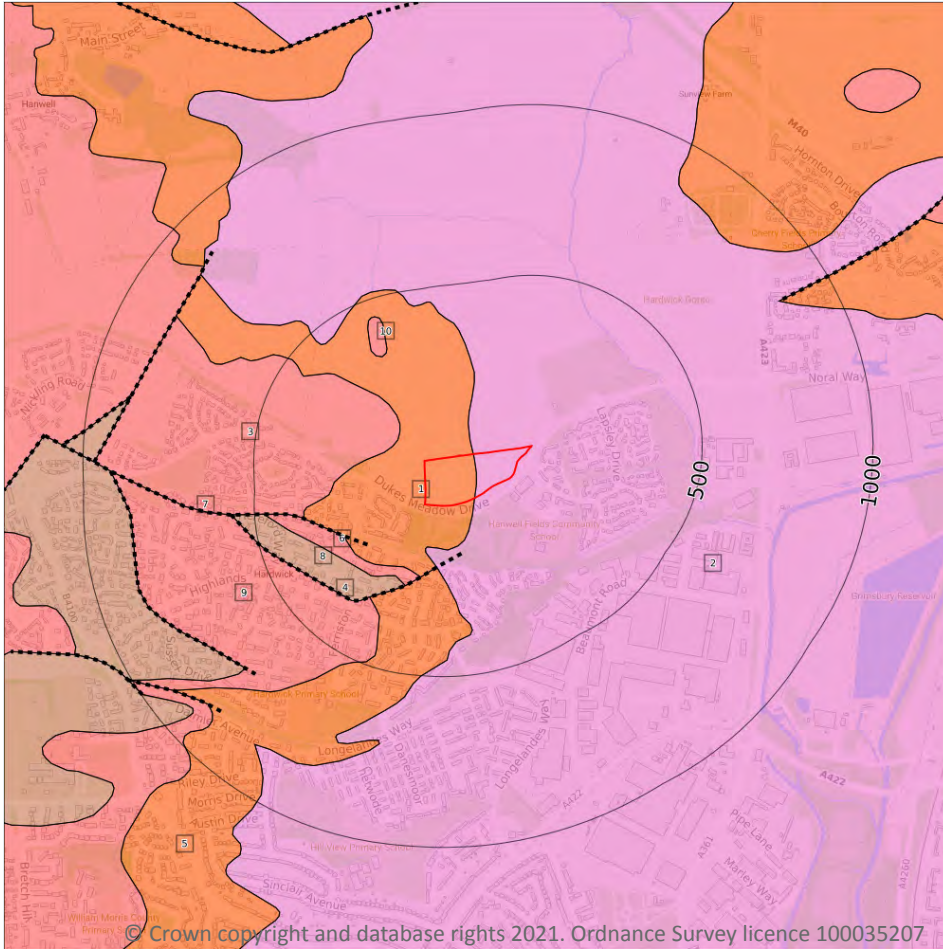
0

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

8

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 75**

ID	Location	LEX Code	Description	Rock age
1	On site	DYS-SIMD	DYRHAM FORMATION - SILTSTONE AND MUDSTONE, INTERBEDDED	PLIENSCHACHIAN
2	On site	CHAM-MDST	CHARMOUTH MUDSTONE FORMATION - MUDSTONE	SINEMURIAN

ID	Location	LEX Code	Description	Rock age
3	100m NW	MRB-FLIR	MARLSTONE ROCK FORMATION - FERRUGINOUS LIMESTONE AND IRONSTONE	PLIENSBACHIAN
5	180m S	DYS-SIMD	DYRHAM FORMATION - SILTSTONE AND MUDSTONE, INTERBEDDED	PLIENSBACHIAN
6	193m S	MRB-FLIR	MARLSTONE ROCK FORMATION - FERRUGINOUS LIMESTONE AND IRONSTONE	PLIENSBACHIAN
8	226m S	WHM-MDST	WHITBY MUDSTONE FORMATION - MUDSTONE	TOARCIAN
9	316m SW	MRB-FLIR	MARLSTONE ROCK FORMATION - FERRUGINOUS LIMESTONE AND IRONSTONE	PLIENSBACHIAN
10	329m N	MRB-FLIR	MARLSTONE ROCK FORMATION - FERRUGINOUS LIMESTONE AND IRONSTONE	PLIENSBACHIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

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

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	2
----------------------------	----------

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 75**

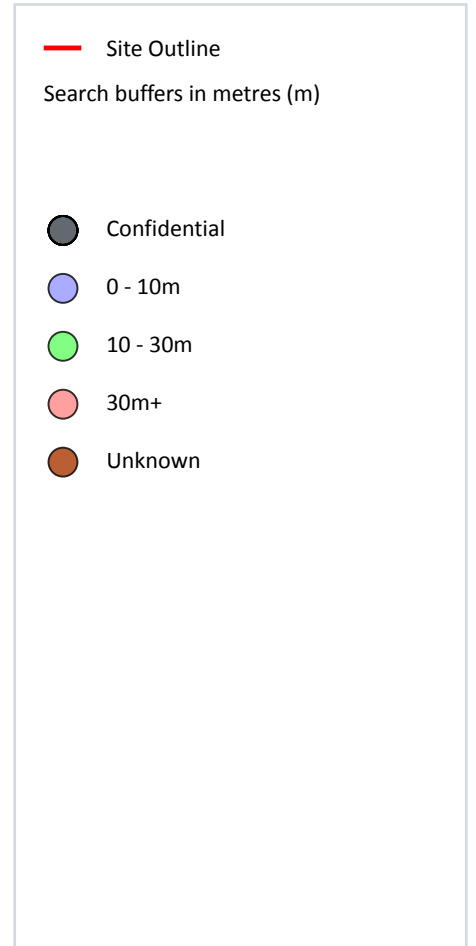
ID	Location	Category	Description
4	144m S	FAULT	Fault, inferred
7	205m SW	FAULT	Fault, inferred



This data is sourced from the British Geological Survey.



16 Boreholes



16.1 BGS Boreholes

Records within 250m

1

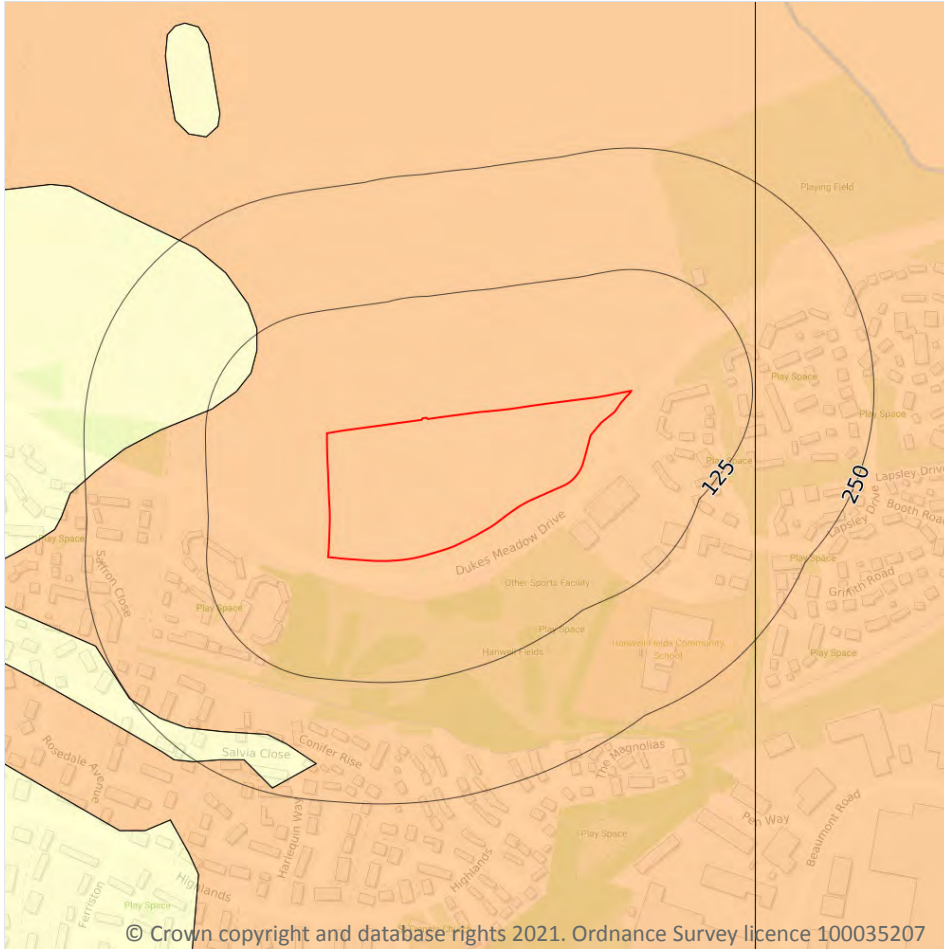
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several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

Features are displayed on the Boreholes map on **page 78**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	208m S	444720 242270	HANWELL FIELDS FARM	-2.0	N	332304

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



— Site Outline
Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m

1

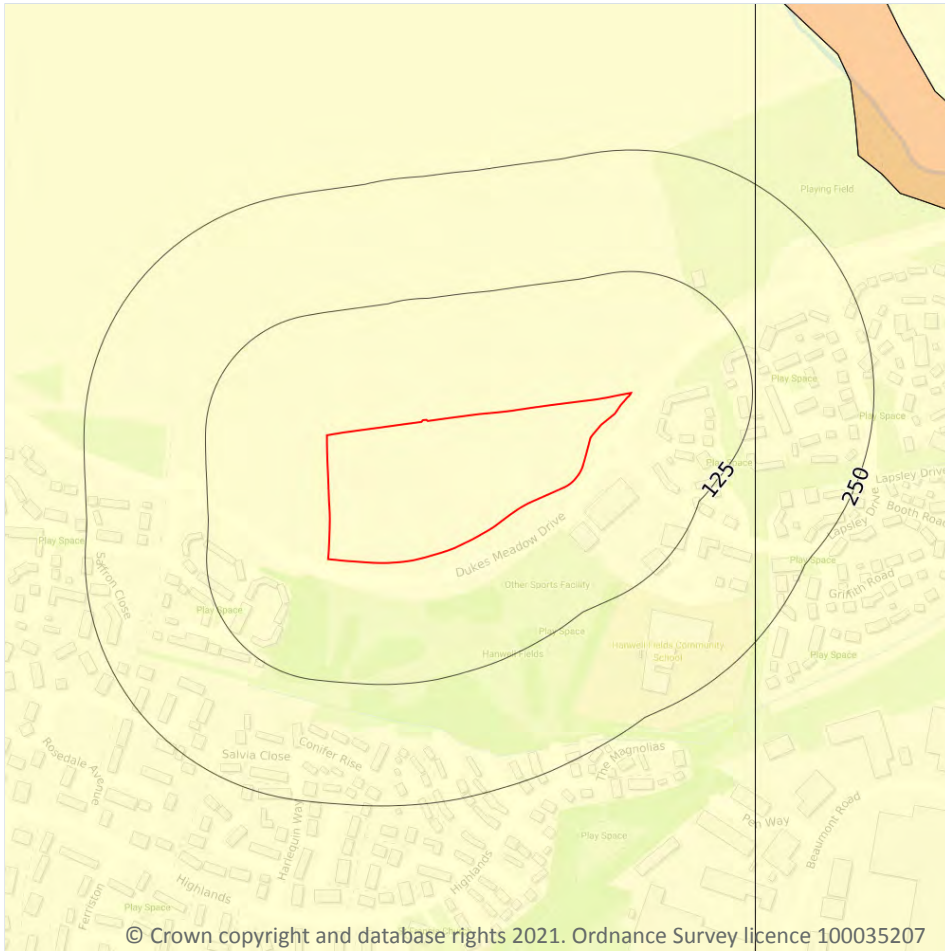
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 79**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



— Site Outline
Search buffers in metres (m)

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

17.2 Running sands

Records within 50m

1

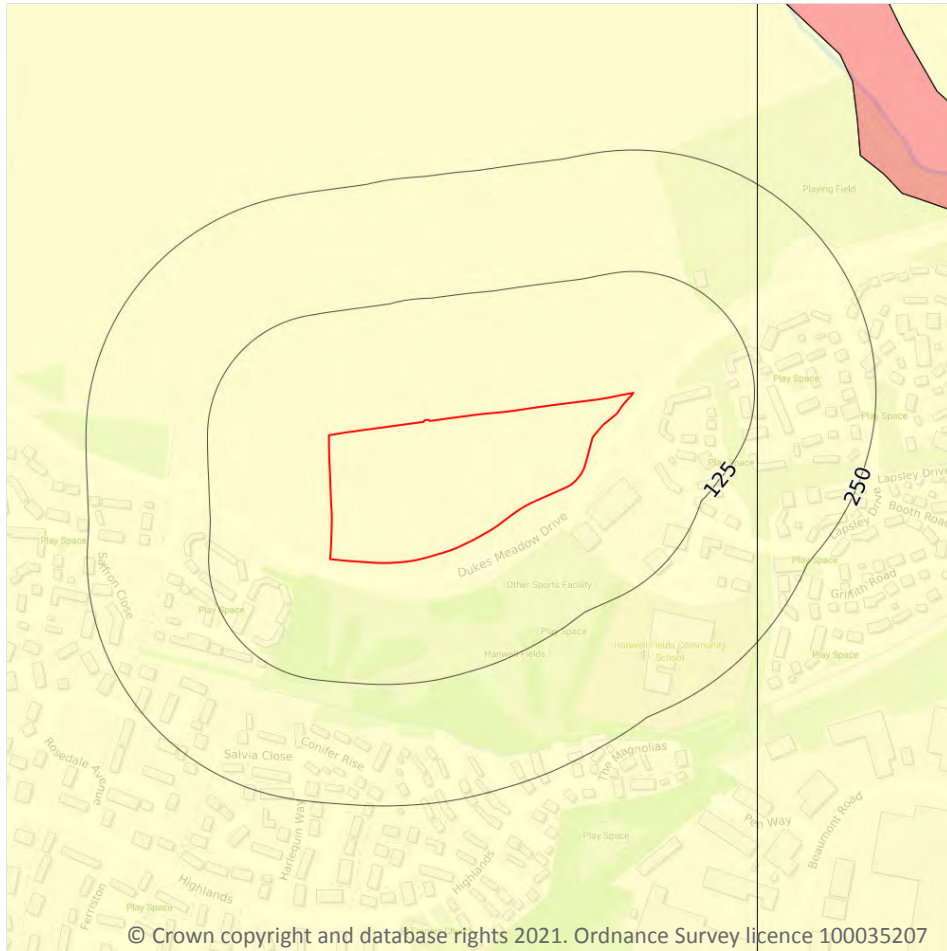
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 80**

Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



— Site Outline
Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m

1

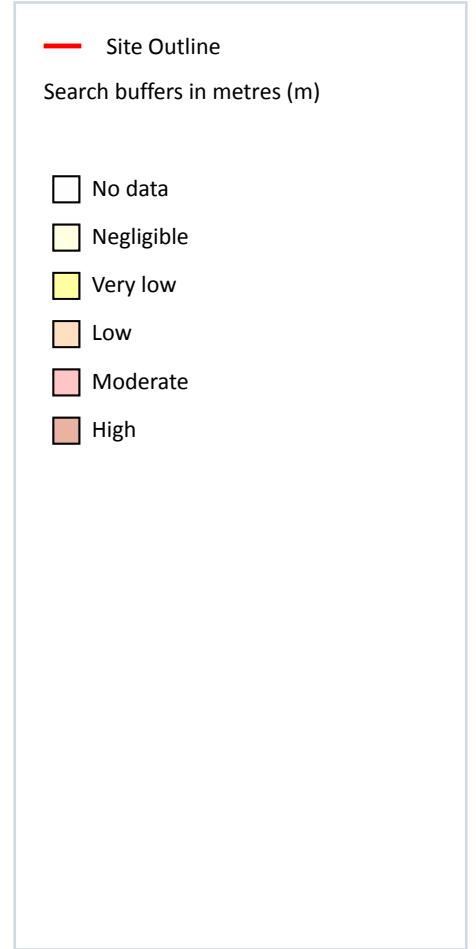
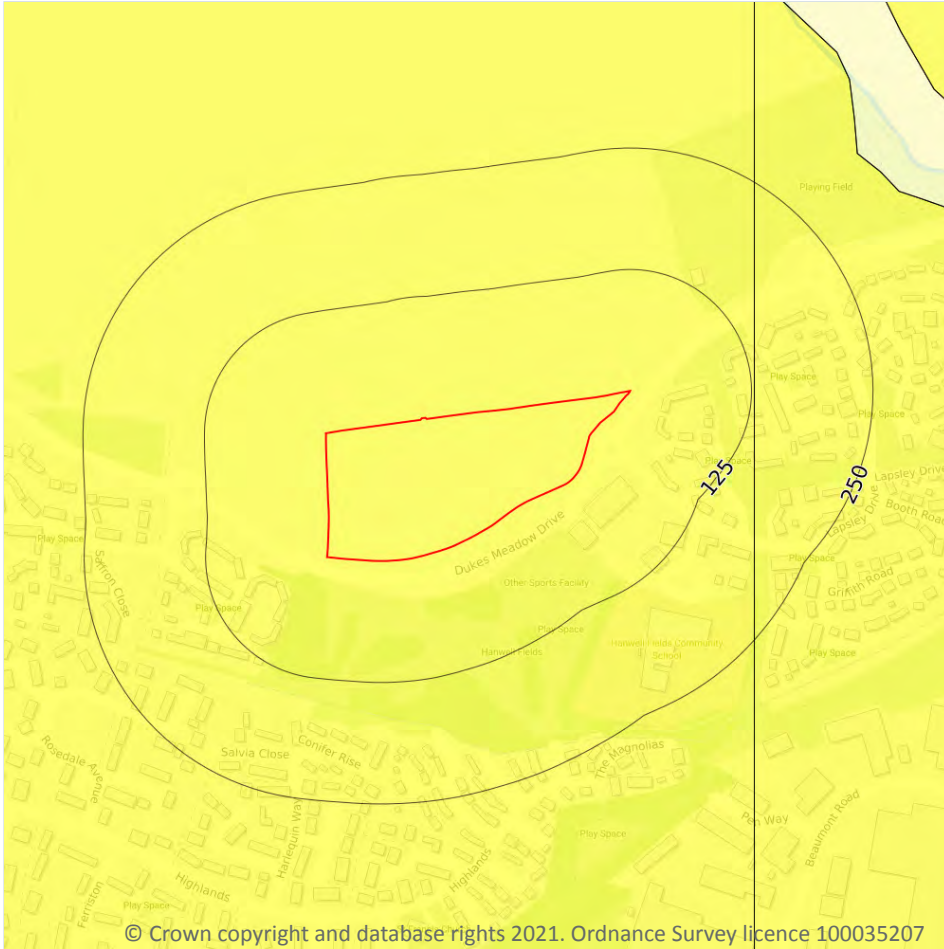
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 81**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

1

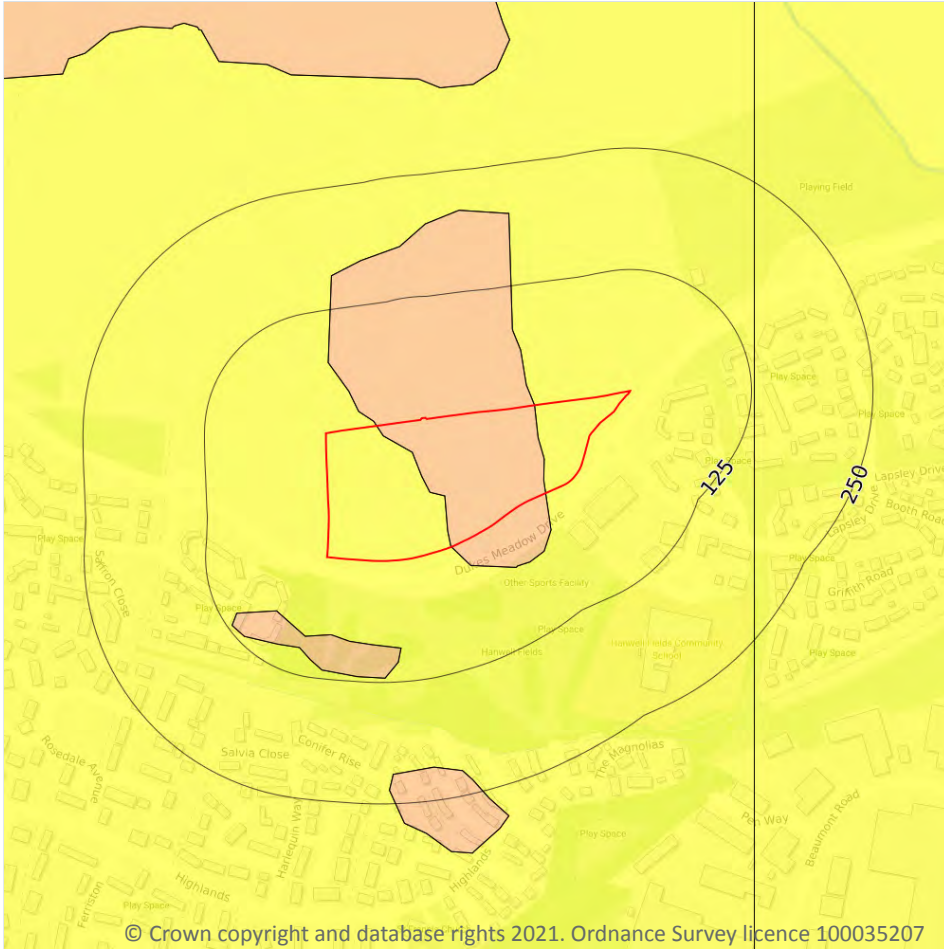
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 82**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



— Site Outline
Search buffers in metres (m)

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

17.5 Landslides

Records within 50m

2

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 83**

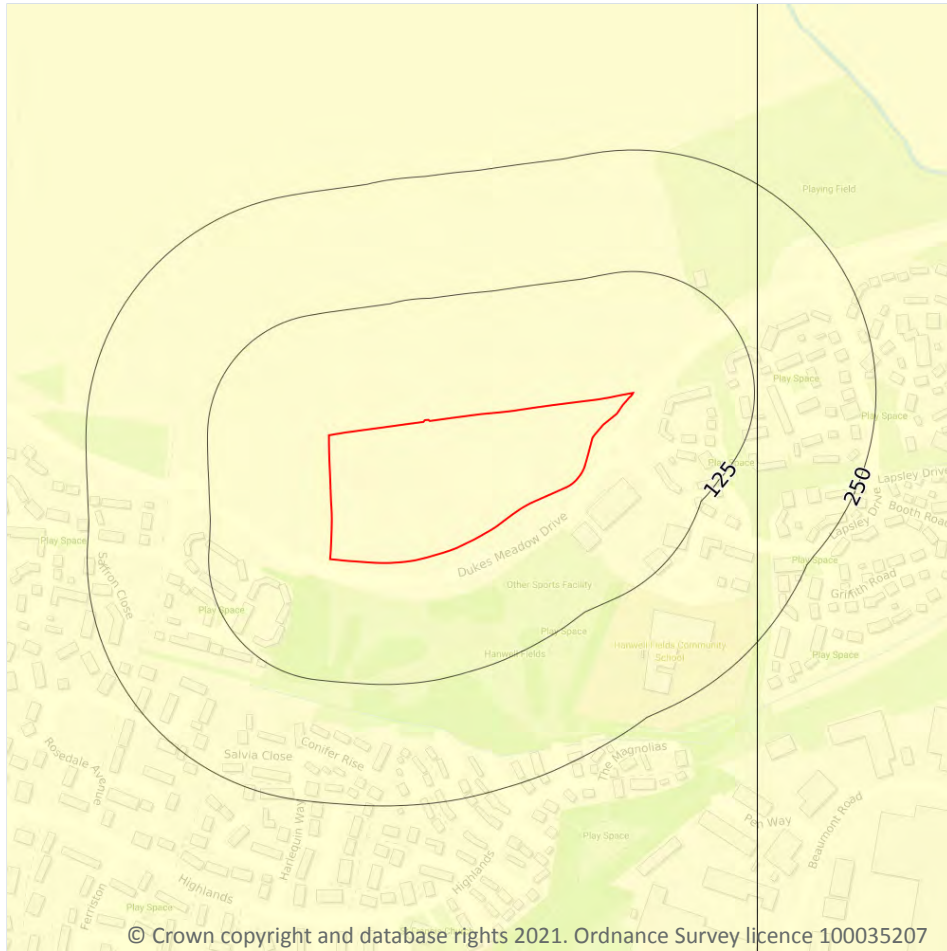
Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

Location	Hazard rating	Details
On site	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

1

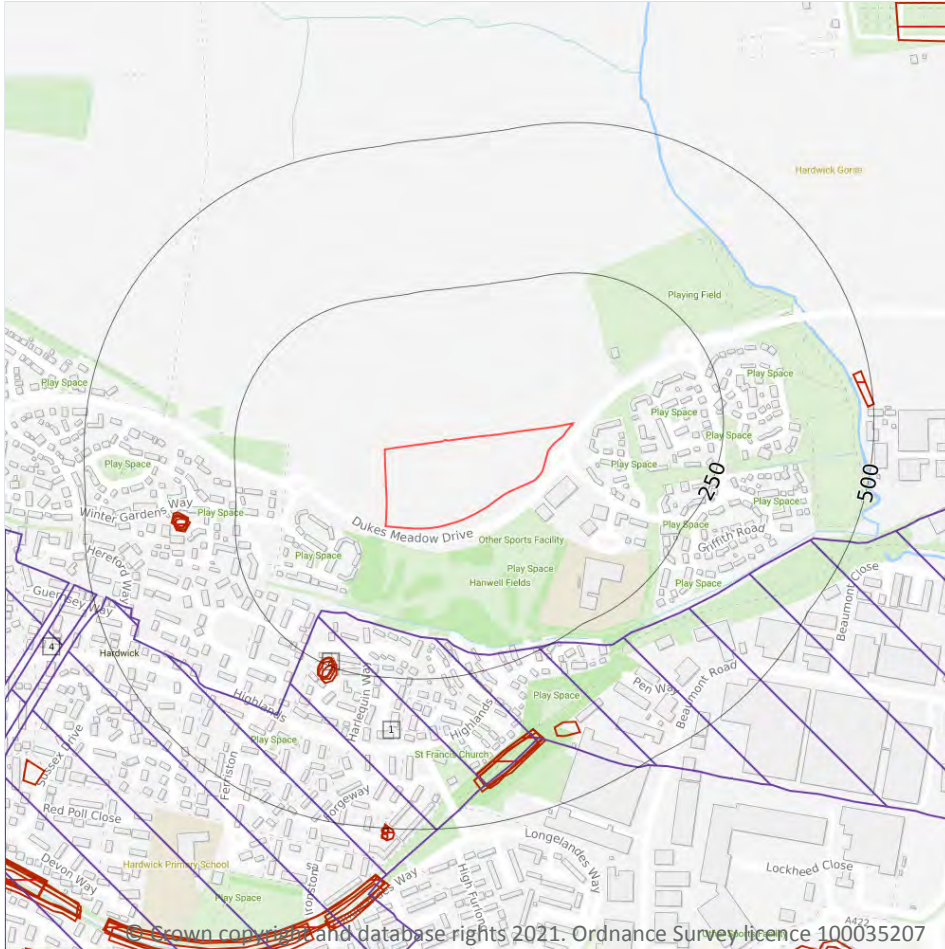
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 85**

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

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- 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 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

5

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, ground workings and natural cavities map on **page 86**

ID	Location	Land Use	Year of mapping	Mapping scale
A	236m S	Unspecified Pit	1920	1:10560
A	237m S	Unspecified Pit	1938	1:10560
A	237m S	Unspecified Pit	1938	1:10560
A	240m S	Unspecified Pit	1954	1:10560
A	244m S	Unspecified Pit	1923	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

2

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, ground workings and natural cavities map on **page 86**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
1	158m SW	Drayton	Ironstone	Surface mineral working	Withdrawn	14/11/63
4	494m W	Drayton	Ironstone	Surface mineral working	Refused	28/2/57

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

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

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site

0

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

This data is sourced from the Coal Authority.



18.10 Brine areas

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

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

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

18.11 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

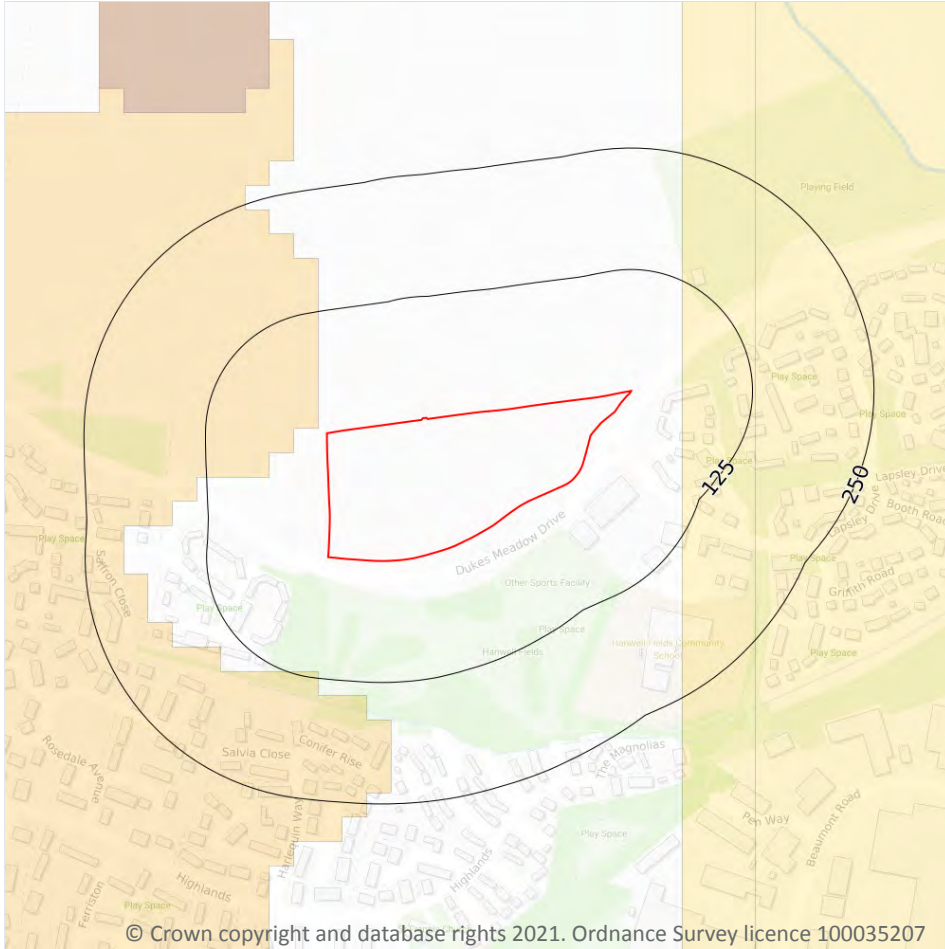
18.13 Clay mining

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

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

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

19 Radon



— Site Outline
Search buffers in metres (m)

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

19.1 Radon

Records on site

1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on [page 90](#)

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

This data is sourced from the British Geological Survey and Public Health England.



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

4

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 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	60 - 120 mg/kg	3 - 6 mg/kg	100 mg/kg	60 mg/kg	1.8 mg/kg	>180 mg/kg	60 - 80 mg/kg
On site	60 - 120 mg/kg	3 - 6 mg/kg	100 mg/kg	60 mg/kg	1.8 mg/kg	>180 mg/kg	60 - 80 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



20.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m 0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m 0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m 0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m 0

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

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m 0

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



This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

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Report Ref: GS-8030354_2500
Grid Ref: 444715, 242550

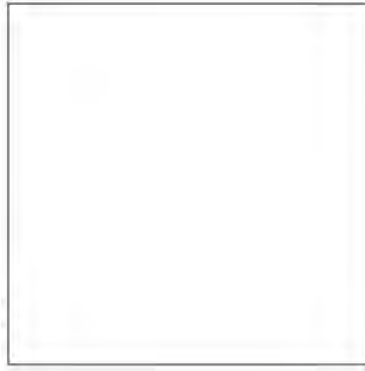
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Map date: 1882

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Printed at: 1:2,500





Surveyed 1882
Revised 1882
Edition N/A
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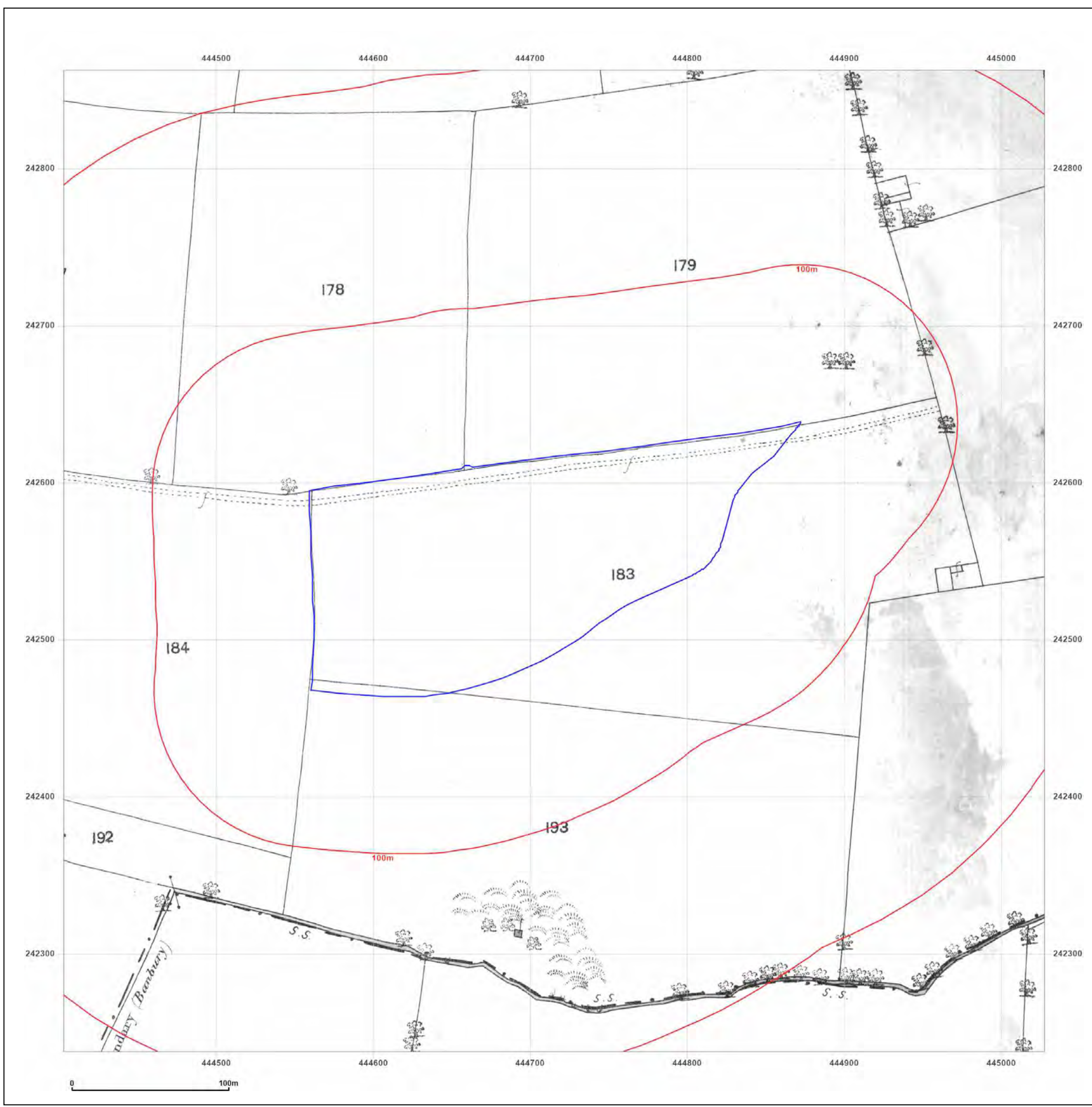


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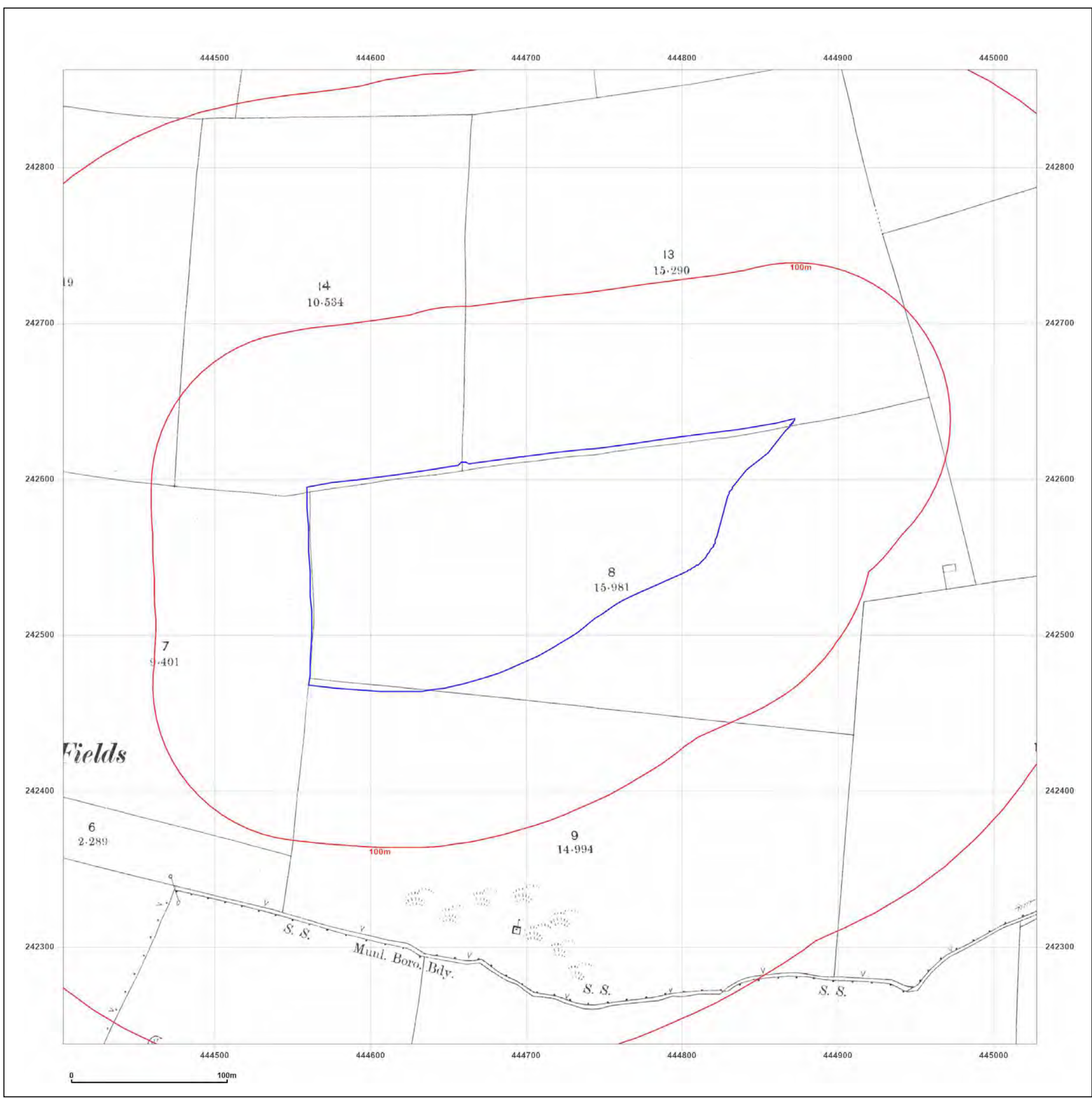


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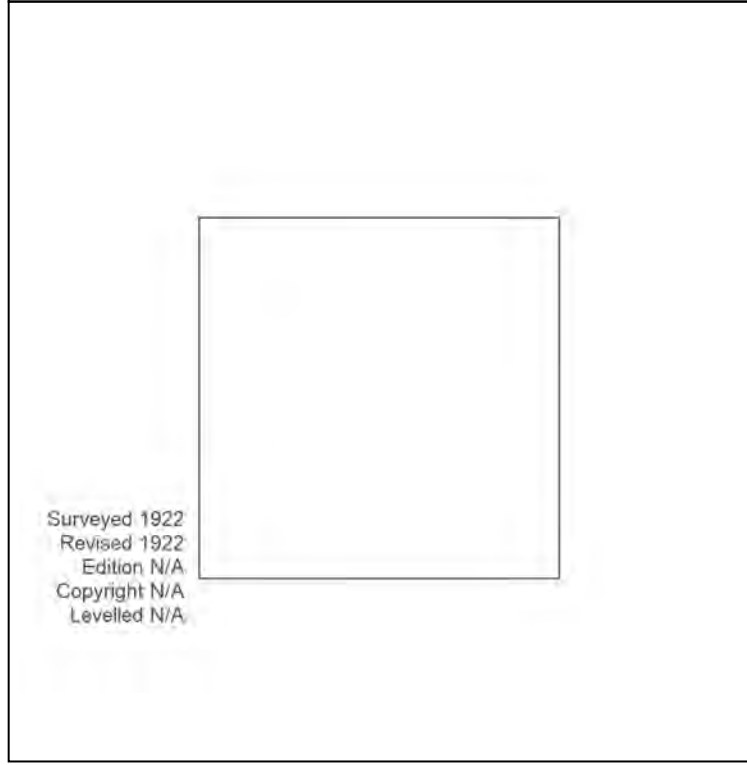
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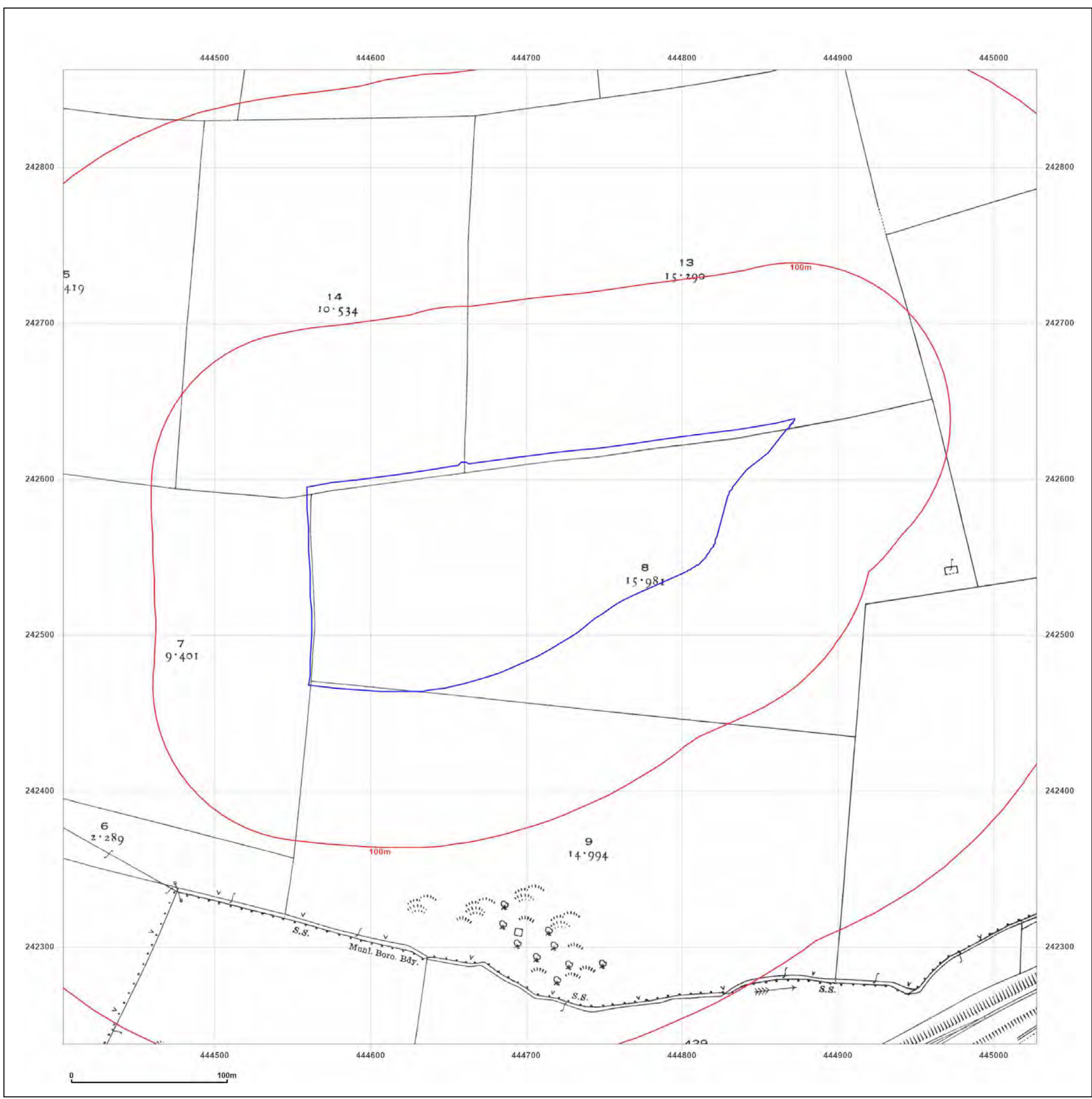


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Map Name: National Grid

Map date: 1965

Scale: 1:2,500

Printed at: 1:2,500



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Revised 1965
Edition N/A
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Levelled 1952

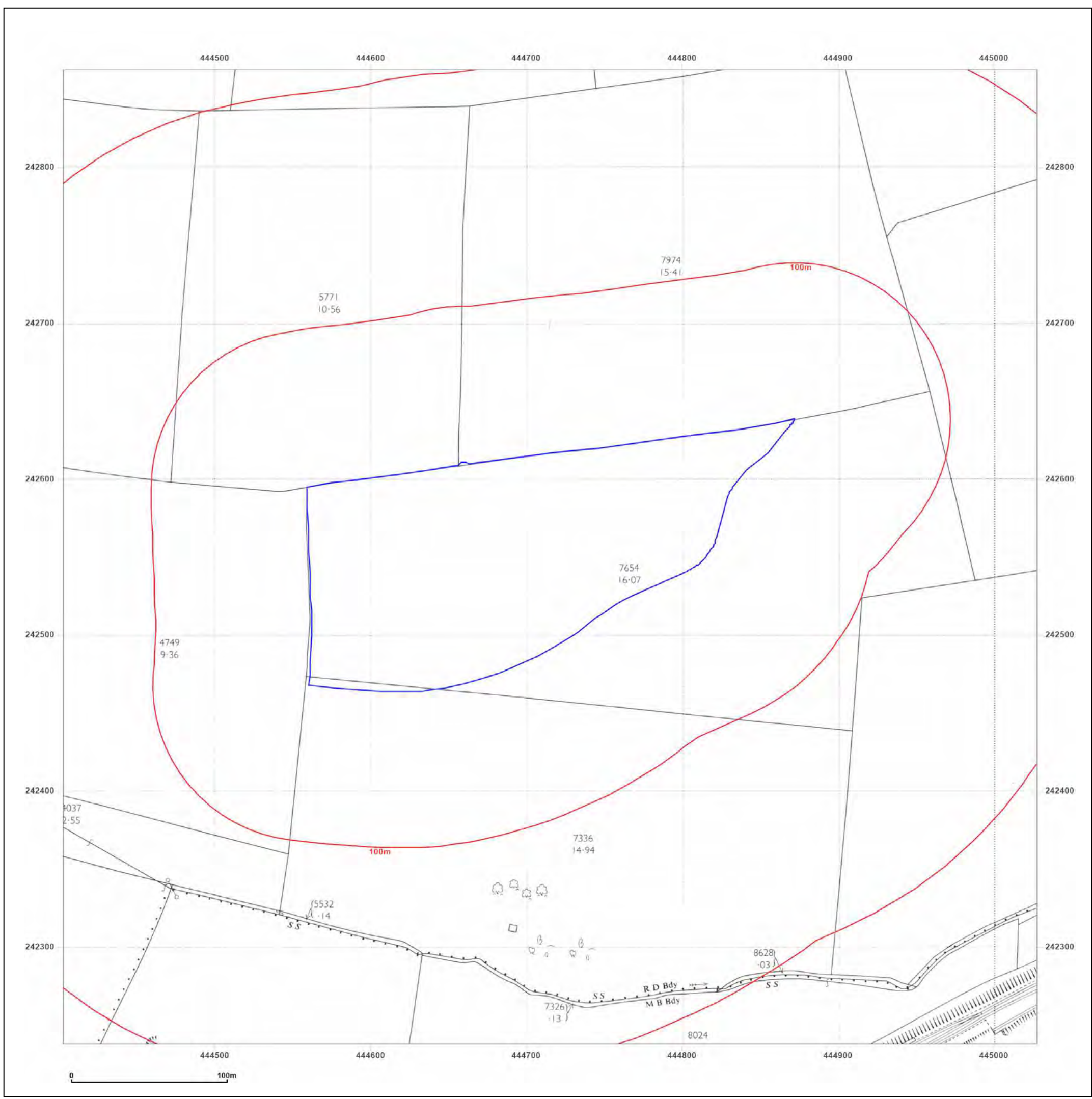


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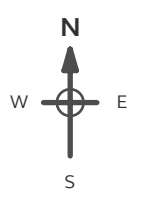
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Grid Ref: 444715, 242550

Map Name: National Grid
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Printed at: 1:2,500



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

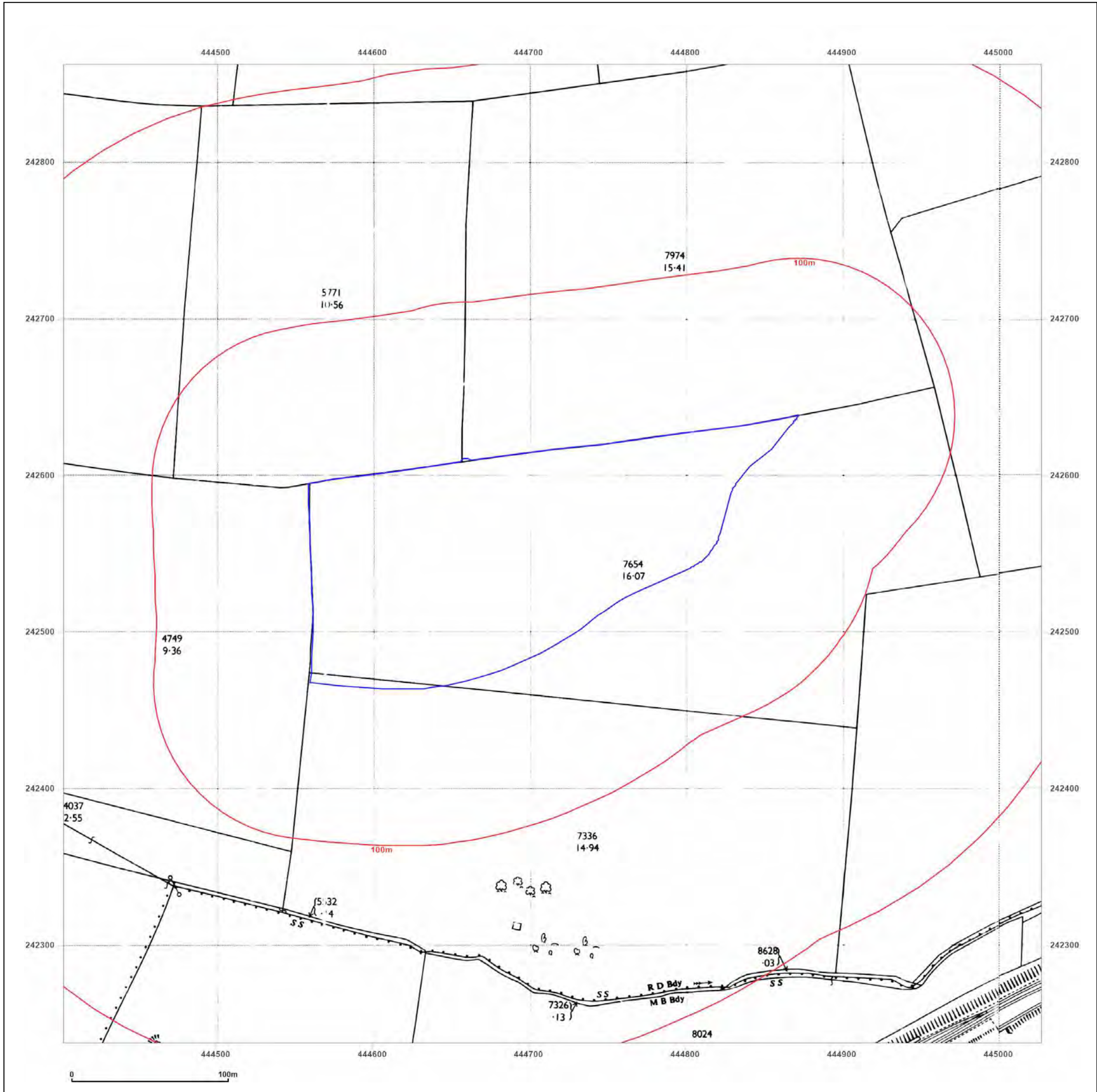
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Map Name: National Grid

Map date: 1976

Scale: 1:2,500

Printed at: 1:2,500



Surveyed	1966	Levelled	N/A
Revised	1976	Levelled	N/A
Edition	N/A	Levelled	N/A
Copyright	1977	Levelled	N/A
Levelled	1967	Levelled	N/A

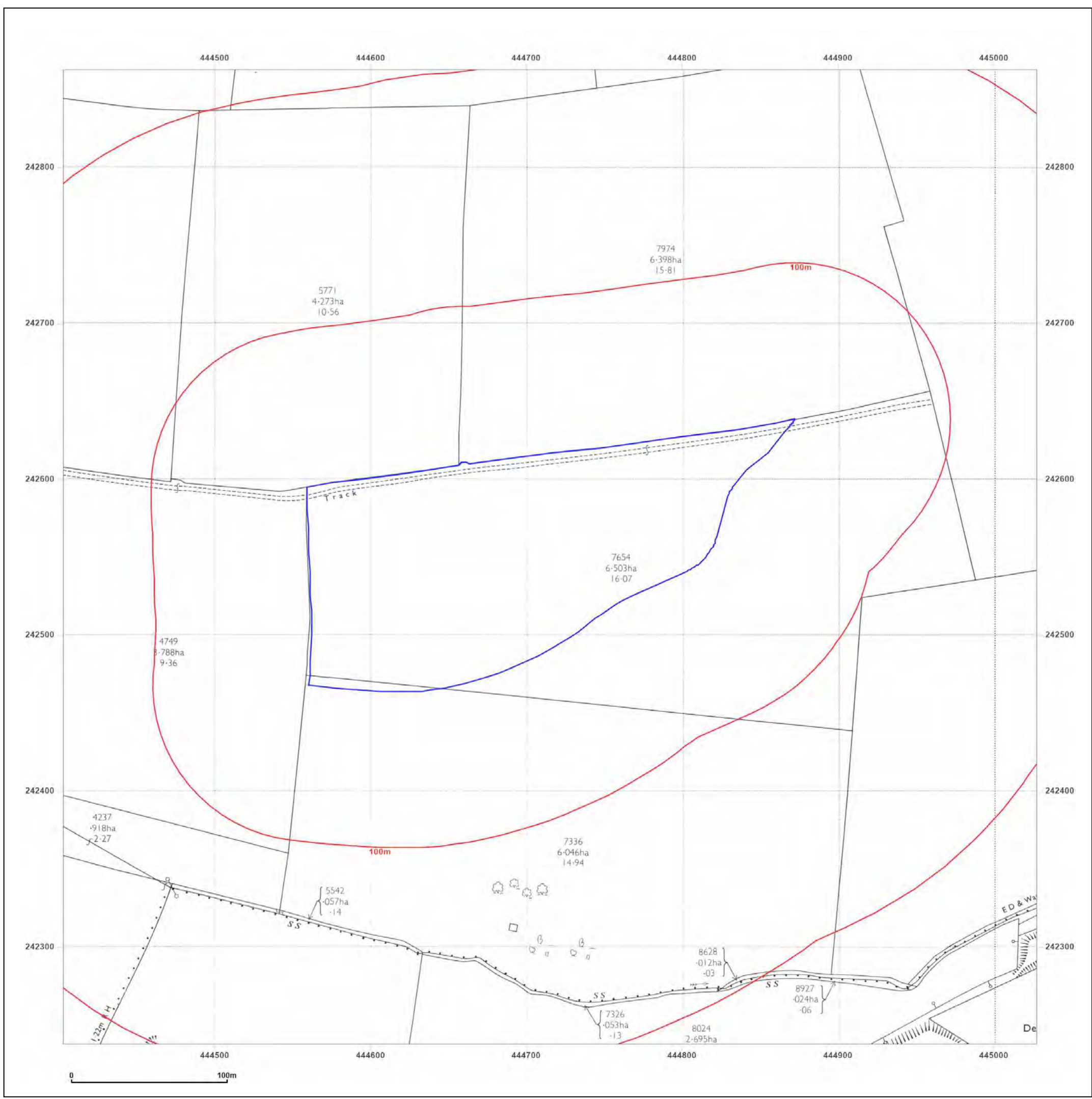


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Grid Ref: 444715, 242551

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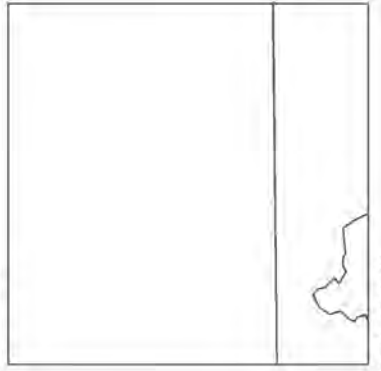
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 Edition N/A
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 Revised 1881
 Edition N/A
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 Levelled N/A

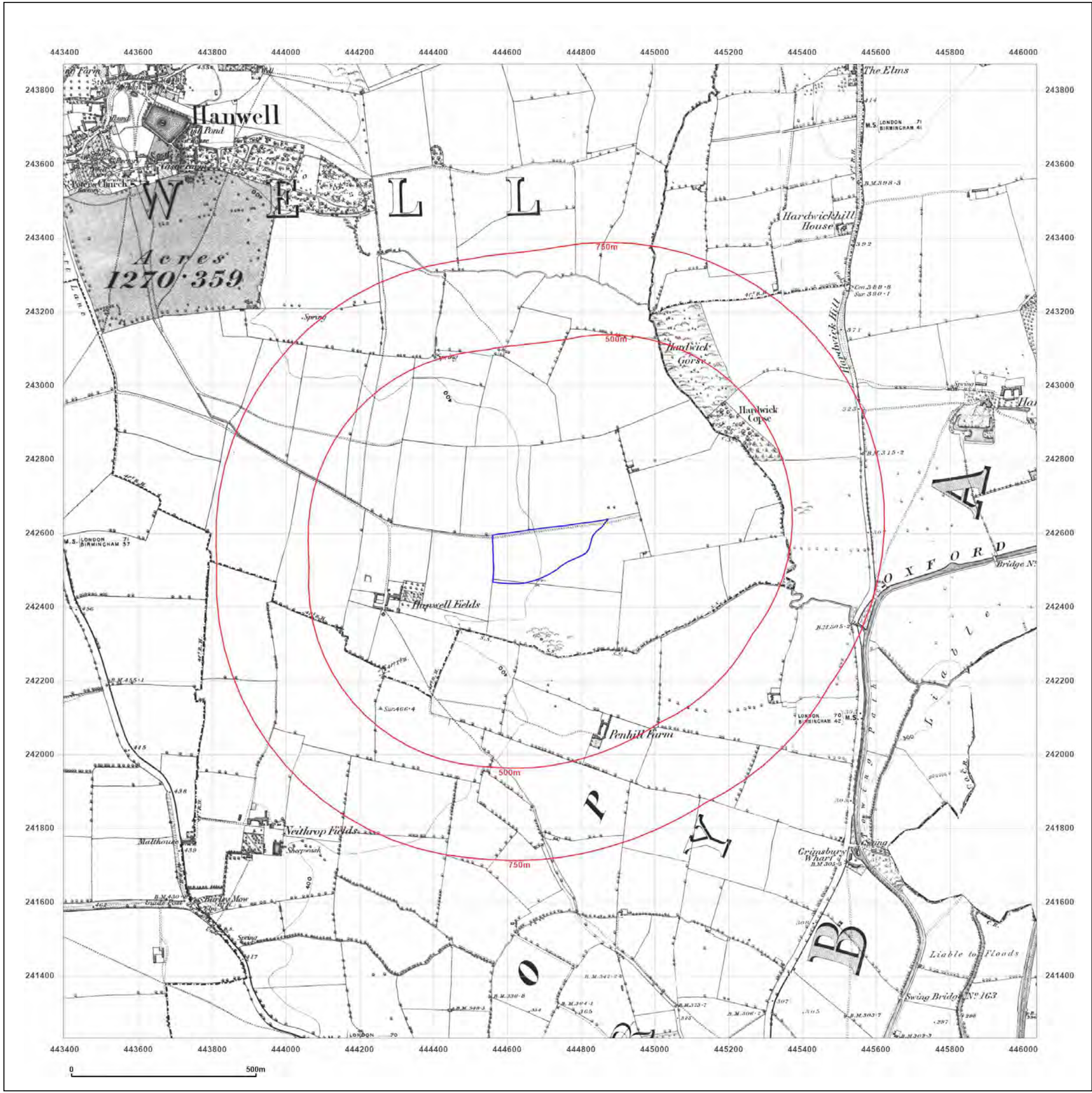


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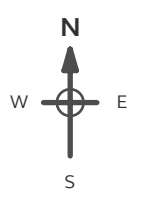
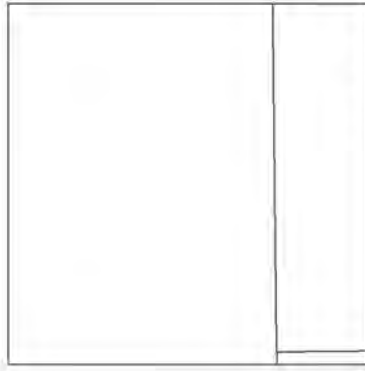
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Map Name: County Series
Map date: 1883-1884
Scale: 1:10,560
Printed at: 1:10,560

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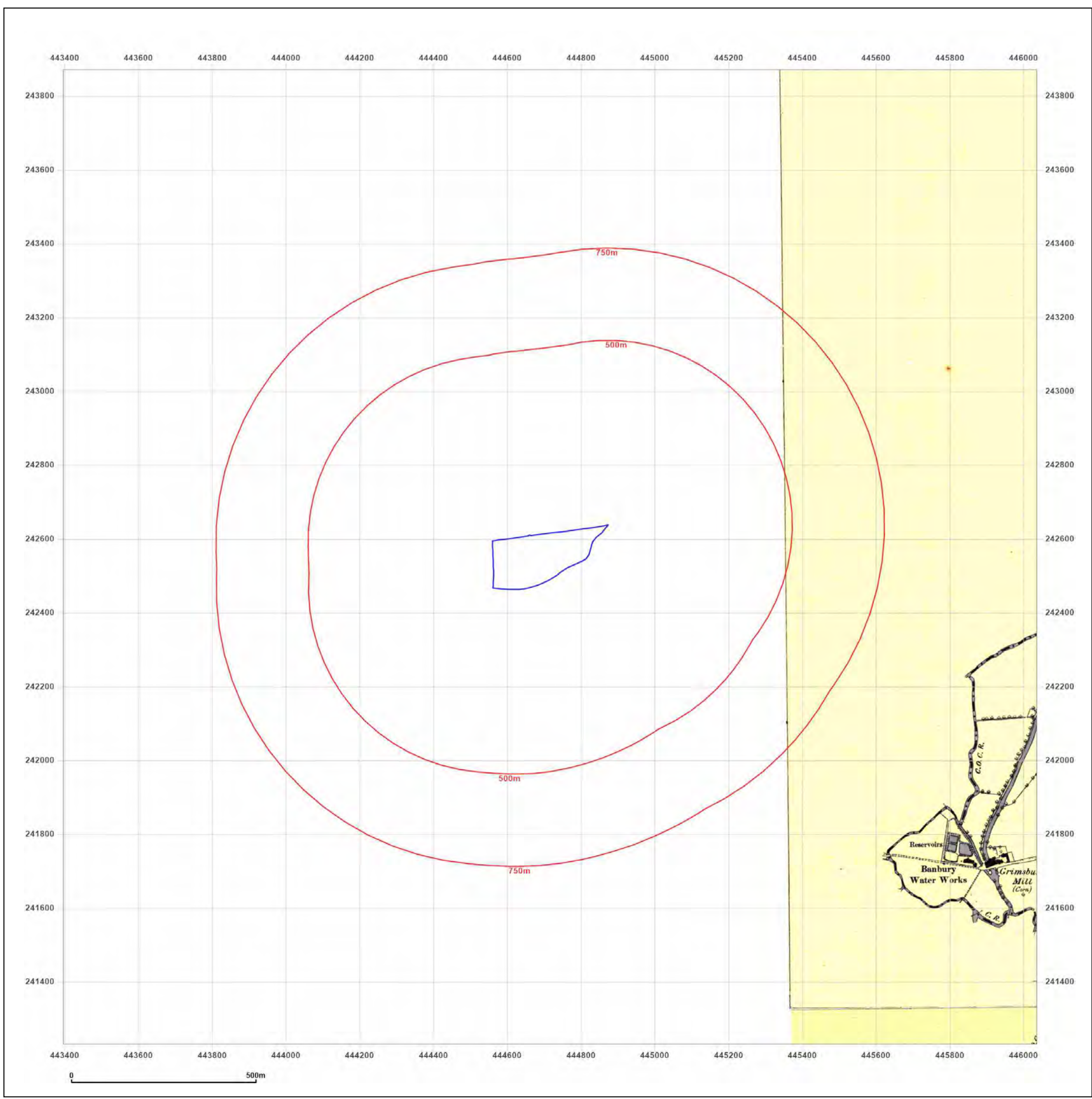


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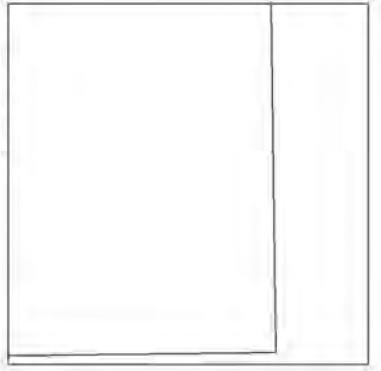
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Map Name: County Series
Map date: 1892
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 Edition N/A
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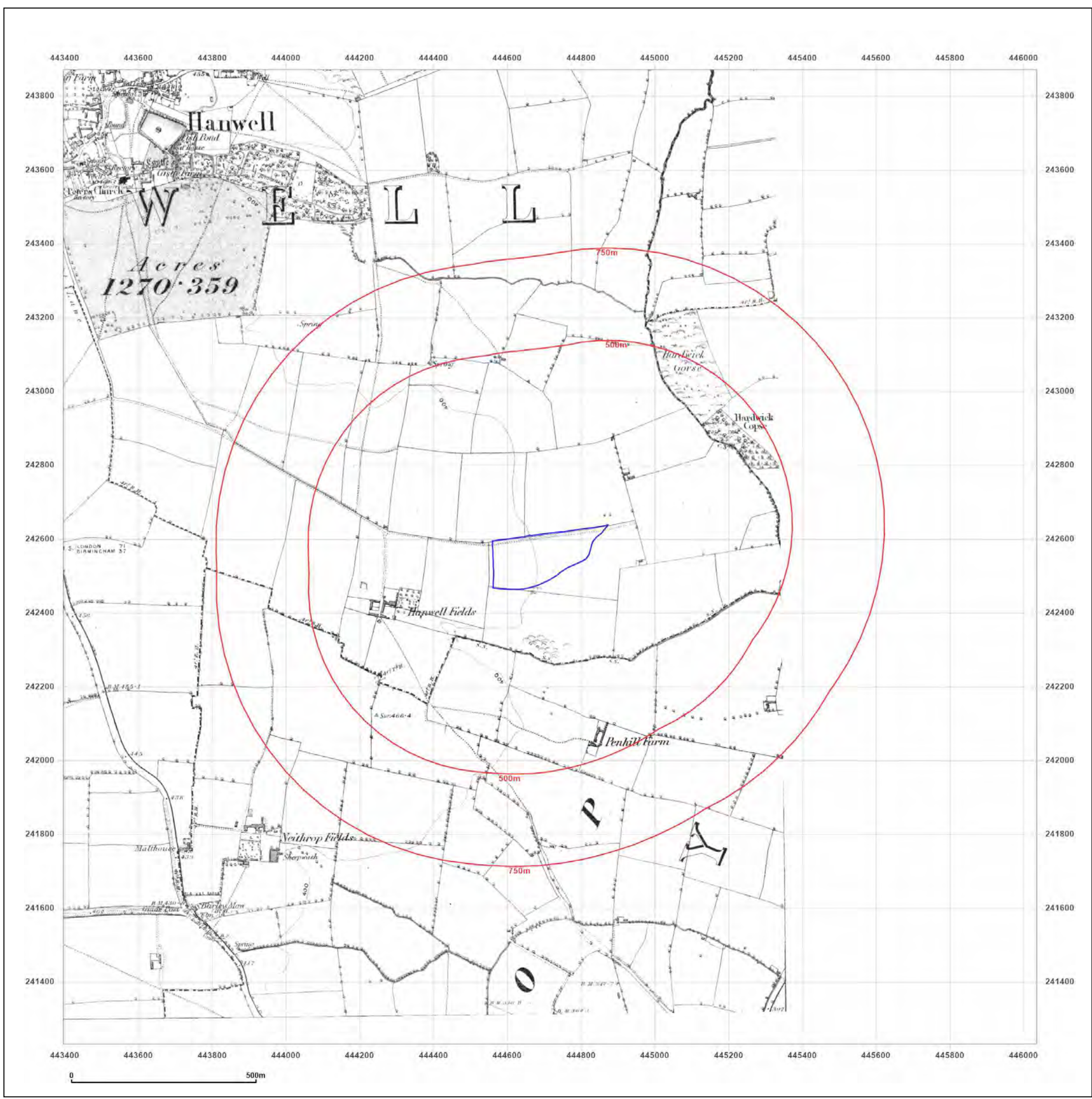


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Map Name: County Series

Map date: 1899-1900

Scale: 1:10,560

Printed at: 1:10,560



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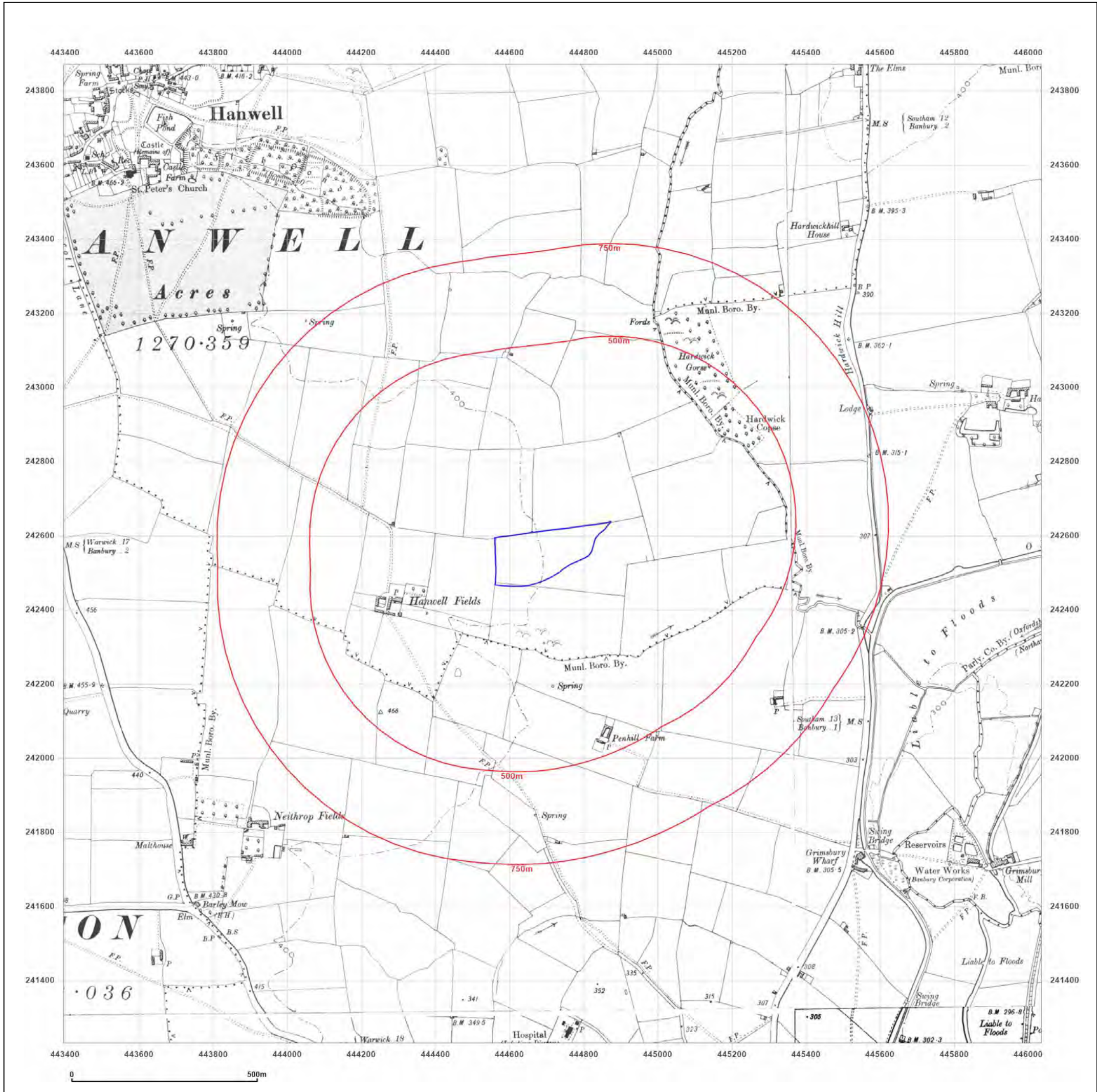


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Grid Ref: 444715, 242551

Map Name: County Series

Map date: 1900

Scale: 1:10,560

Printed at: 1:10,560



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 Revised 1899
 Edition 1900
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 Levelled N/A

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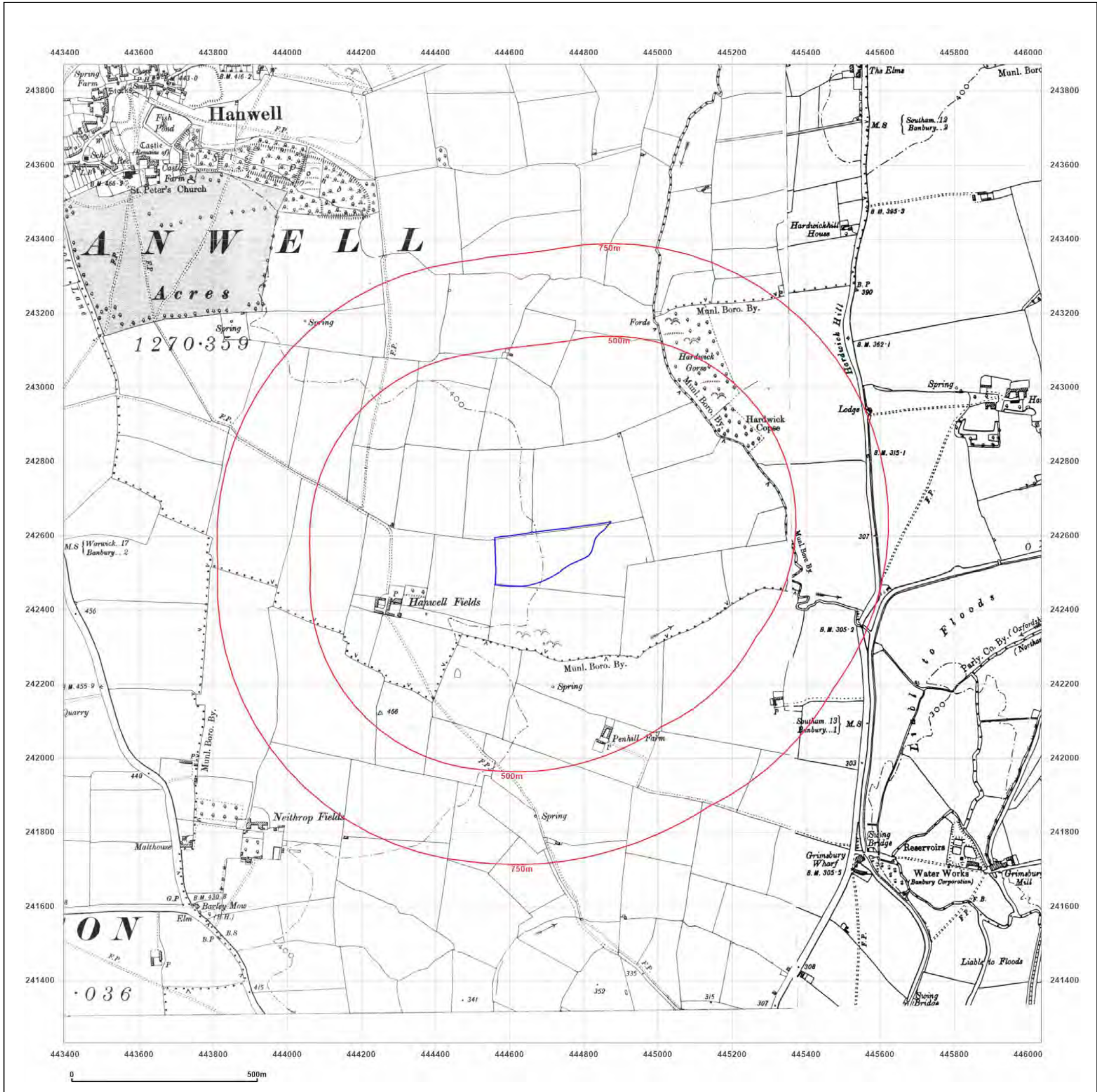


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Client Ref: GE20200_PO-4242
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Grid Ref: 444715, 242551

Map Name: County Series

Map date: 1920-1923

Scale: 1:10,560

Printed at: 1:10,560



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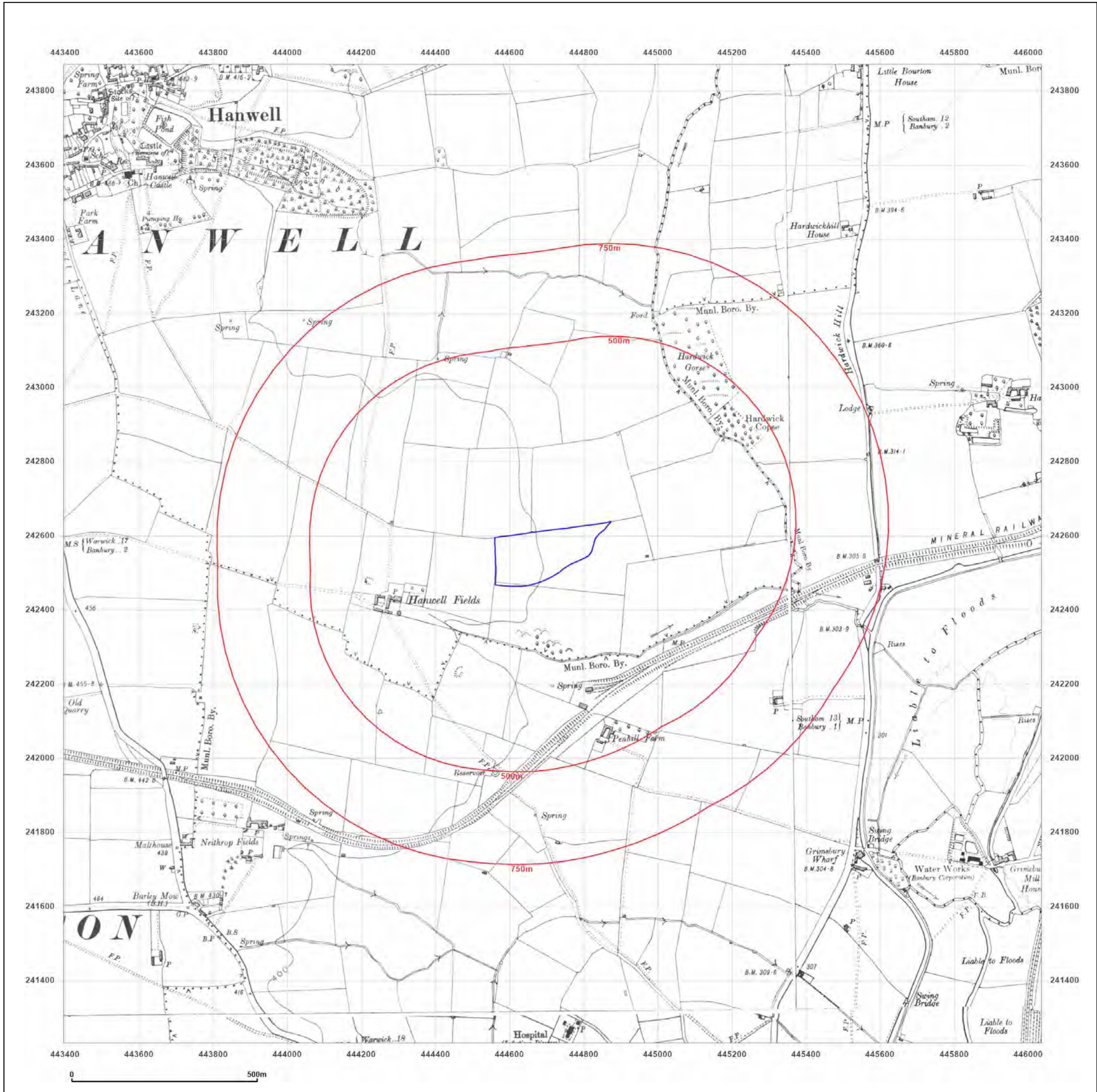


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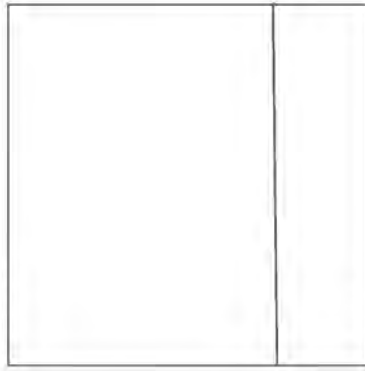
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Map date: 1923

Scale: 1:10,560

Printed at: 1:10,560





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 Revised 1923
 Edition N/A
 Copyright N/A
 Levelled N/A

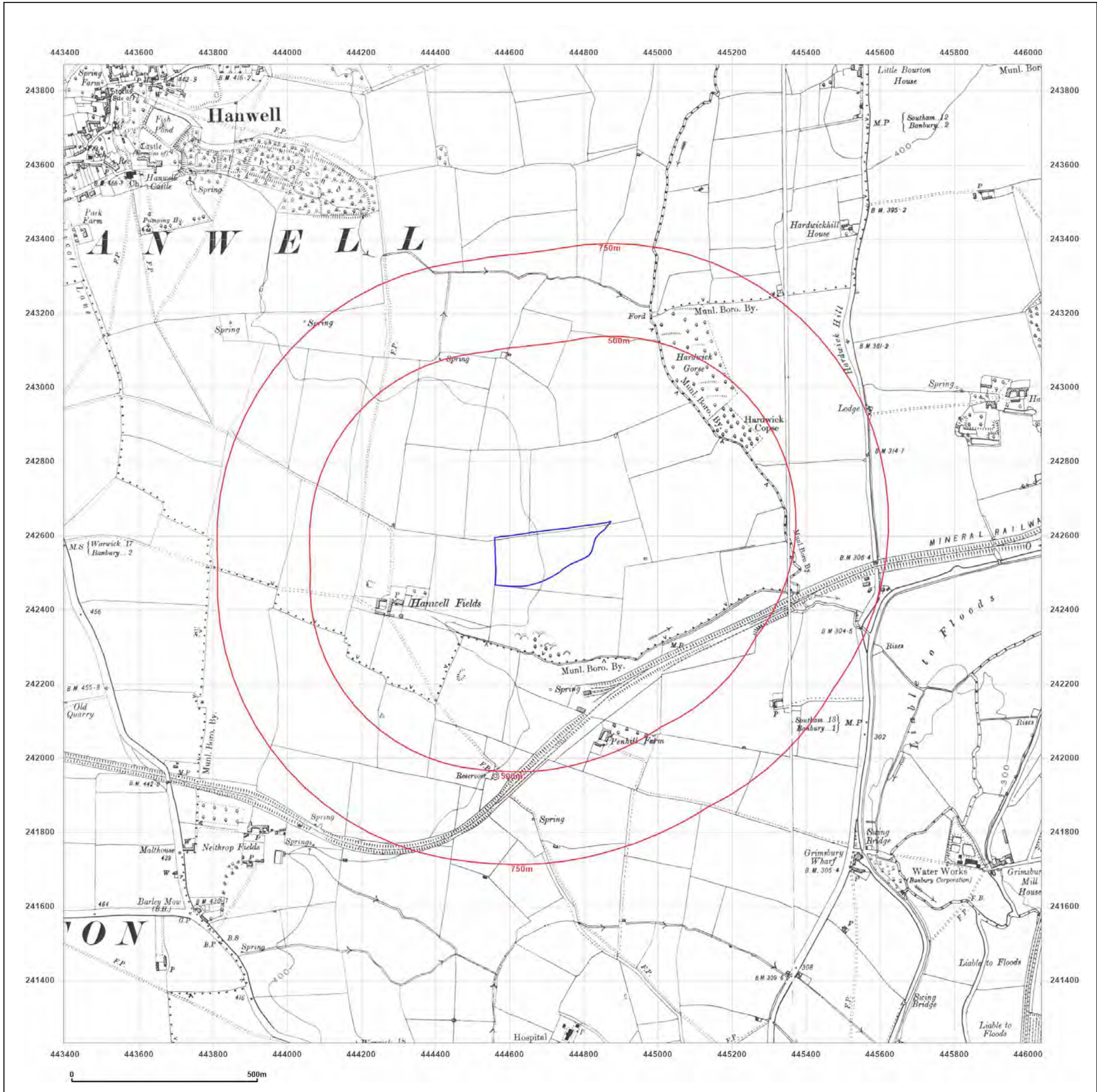


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Grid Ref: 444715, 242551

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



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 Copyright N/A
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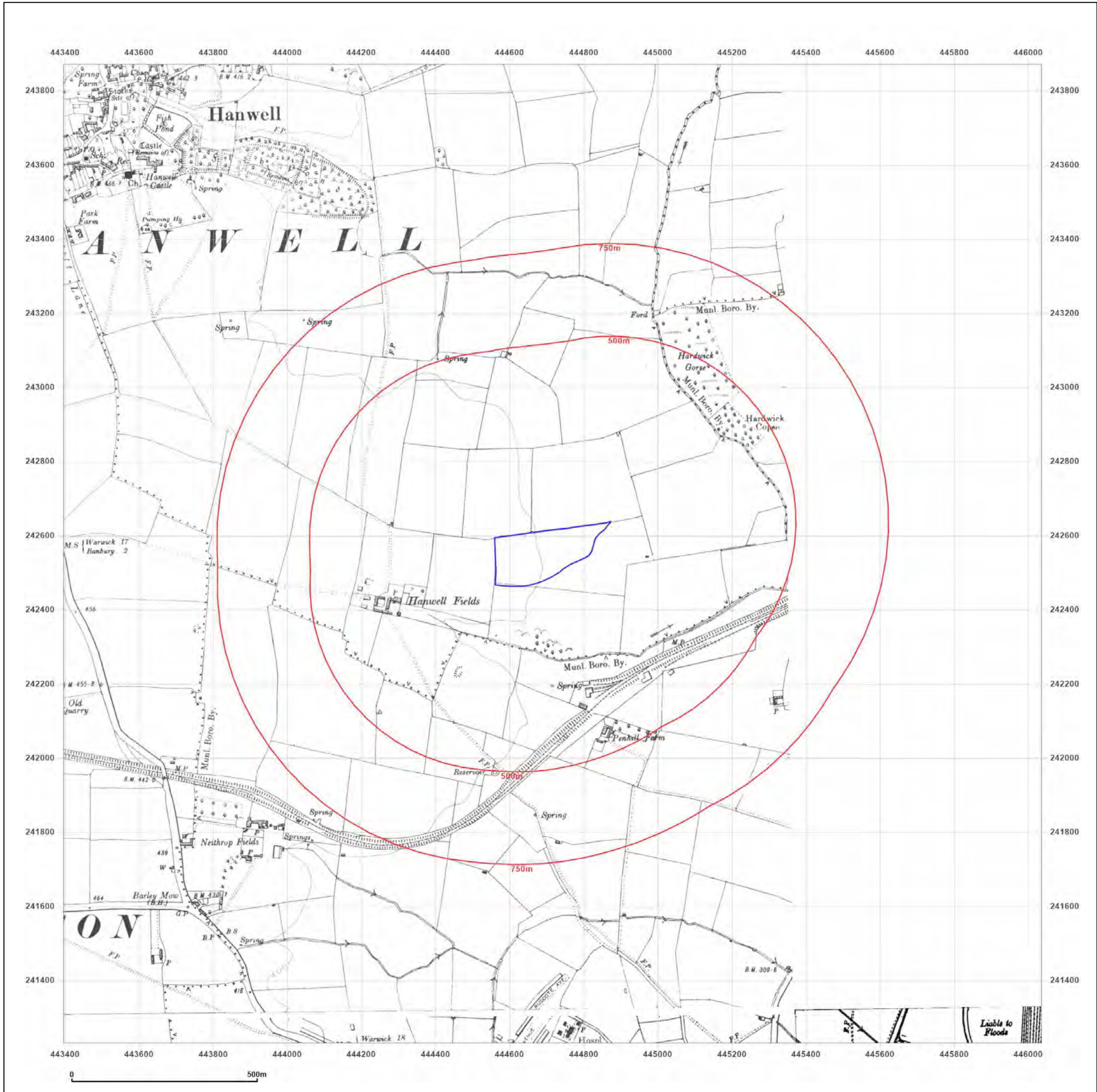


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Site Details:

HANWELL FIELDS, DUKES MEADOW DRIVE, BANBURY, OX16 1ER

Client Ref: GE20200_PO-4242
Report Ref: GS-8030354
Grid Ref: 444715, 242551

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1880 Revised 1938 Edition 1938 Copyright N/A Levelled N/A	Surveyed 1882 Revised 1938 Edition N/A Copyright N/A Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A
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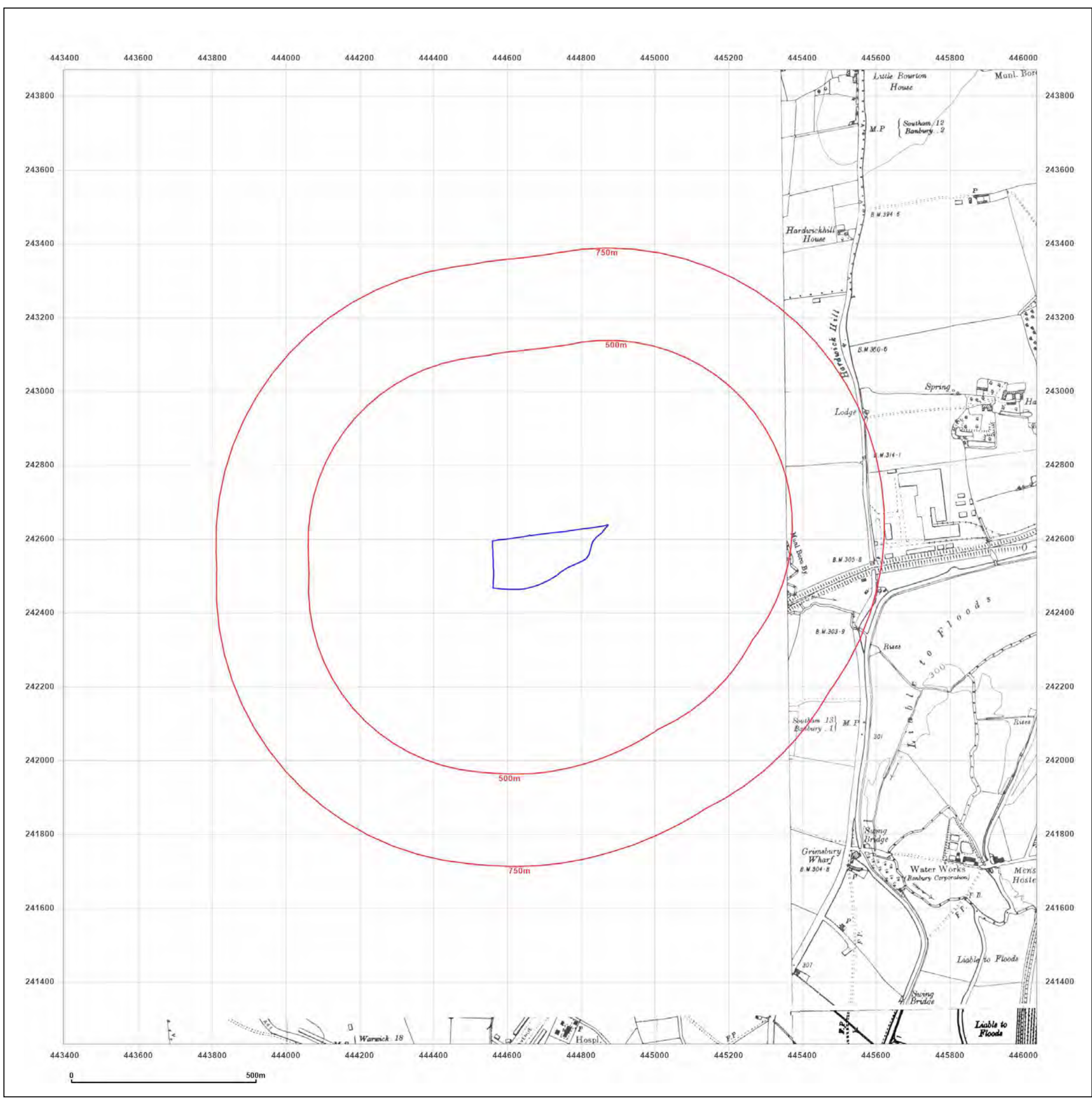


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Client Ref: GE20200_PO-4242
Report Ref: GS-8030354
Grid Ref: 444715, 242551

Map Name: Provisional

Map date: 1955

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A
 Revised 1954
 Edition 1955
 Copyright N/A
 Levelled N/A

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 Levelled N/A

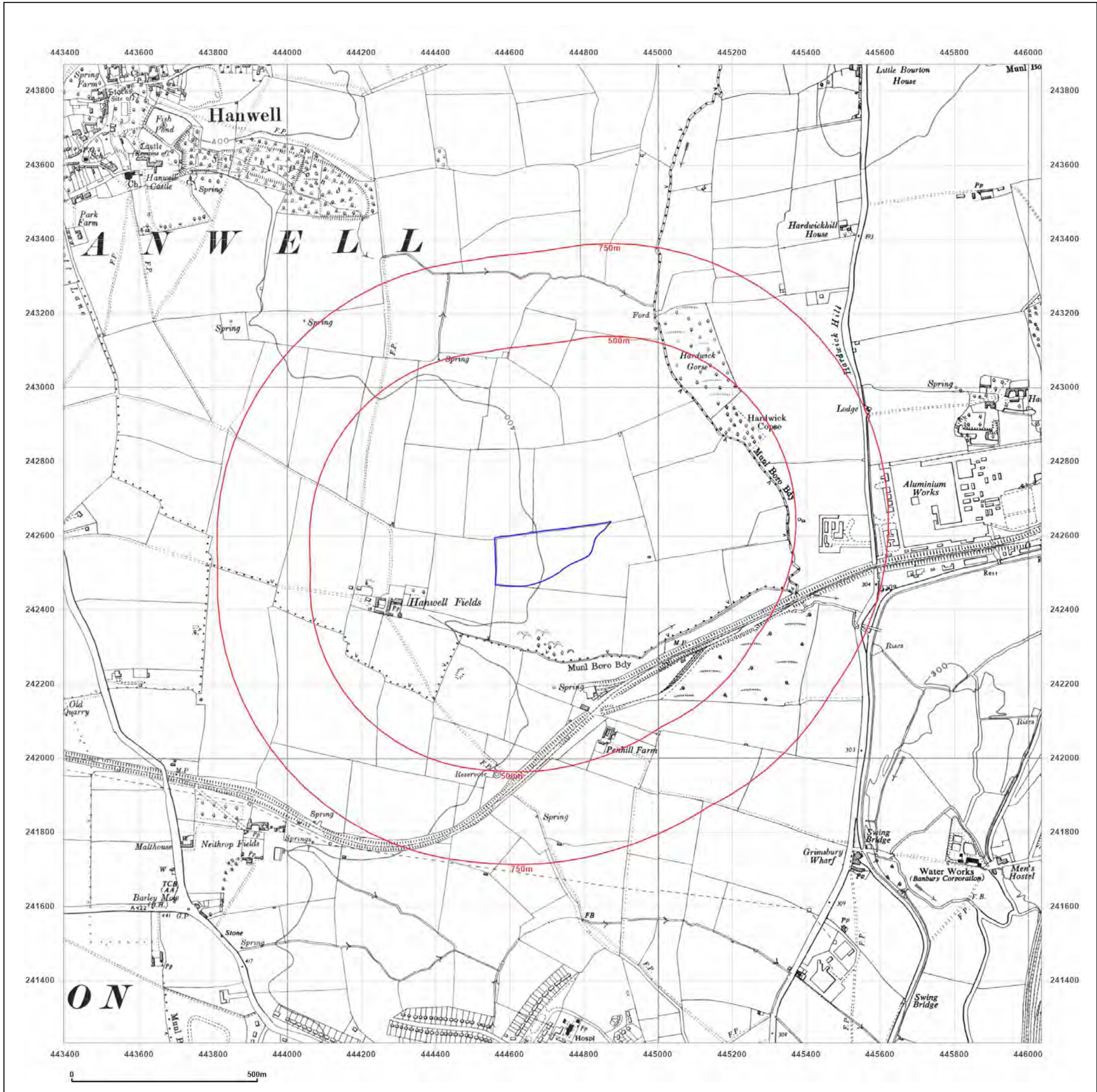


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Site Details:

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Client Ref: GE20200_PO-4242
Report Ref: GS-8030354
Grid Ref: 444715, 242551

Map Name: Provisional

Map date: 1968

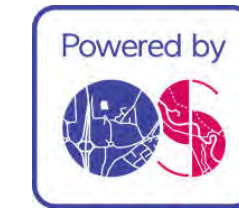
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Surveyed N/A
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 Copyright N/A
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 Copyright N/A
 Levelled N/A

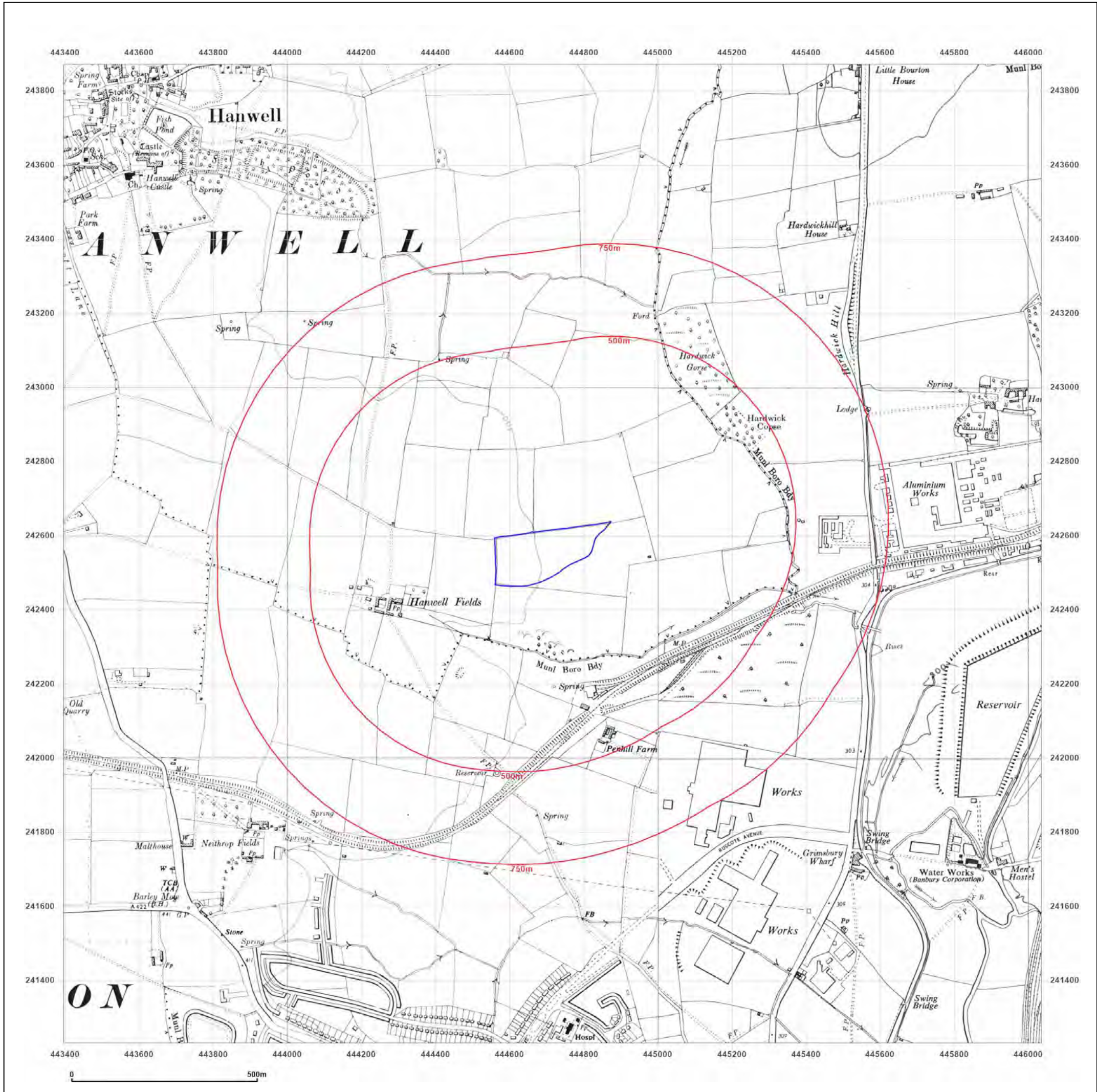


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Client Ref: GE20200_PO-4242
Report Ref: GS-8030354
Grid Ref: 444715, 242551

Map Name: National Grid
Map date: 1978-1980
Scale: 1:10,000
Printed at: 1:10,000



Surveyed 1973
 Revised 1980
 Edition N/A
 Copyright 1980
 Levelled 1972

Surveyed 1976
 Revised 1977
 Edition N/A
 Copyright 1978
 Levelled 1972

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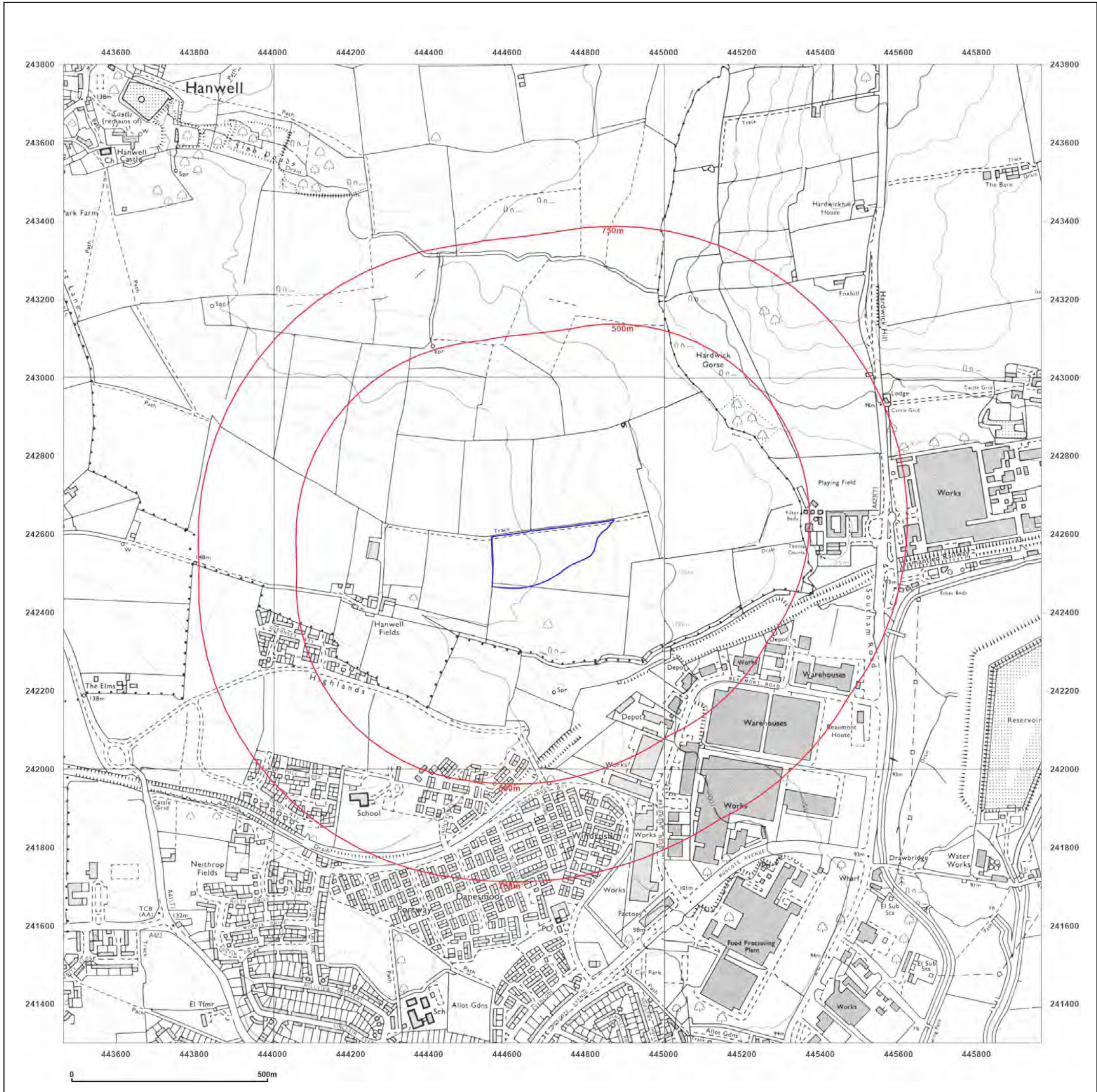


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OX16 1ER

Client Ref: GE20200_PO-4242
Report Ref: GS-8030354
Grid Ref: 444715, 242551

Map Name: National Grid

Map date: 1994

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1990
Revised 1994
Edition N/A
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Levelled N/A

Surveyed 1990
Revised 1994
Edition N/A
Copyright N/A
Levelled N/A

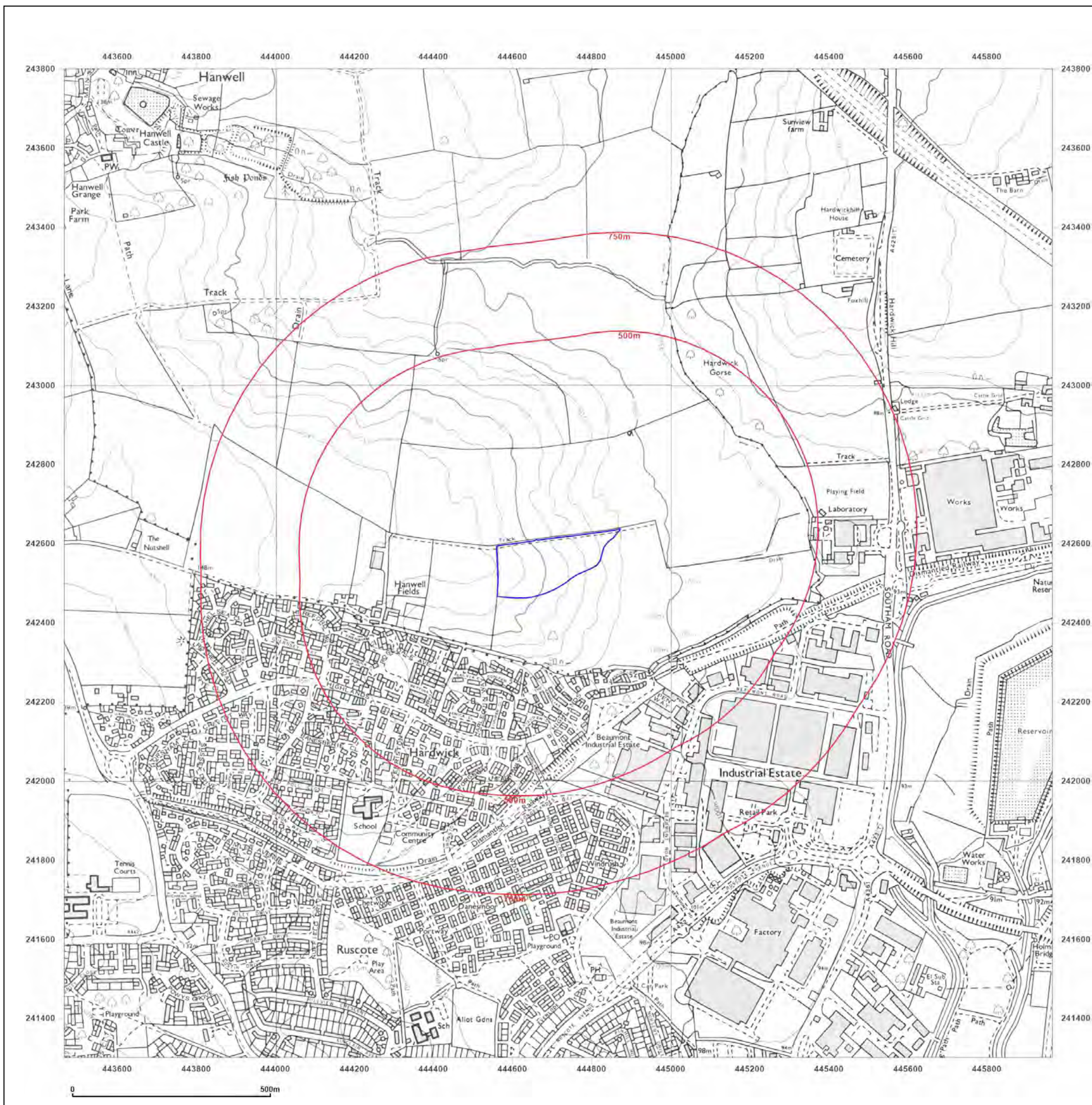


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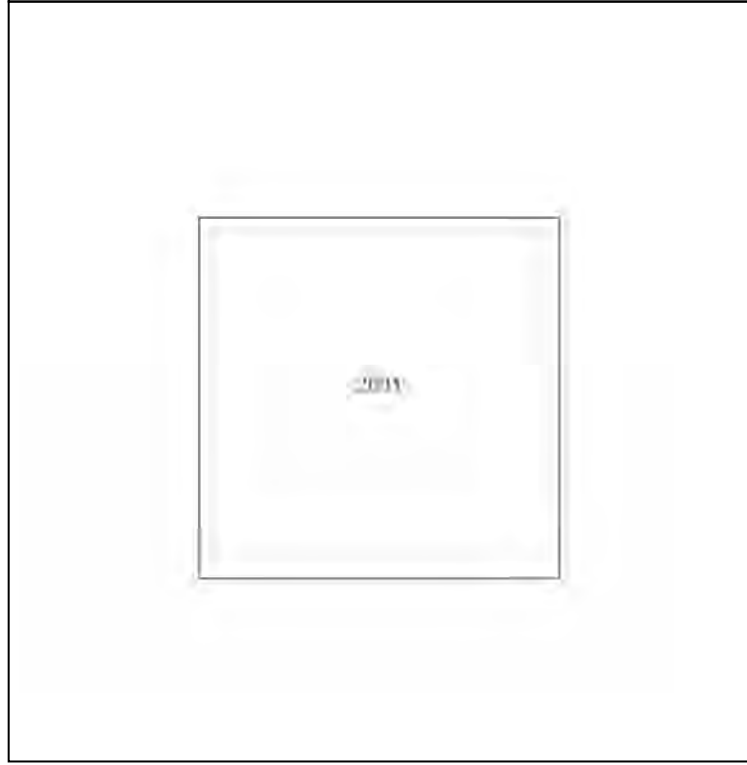
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Site Details:
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Client Ref: GE20200_PO-4242
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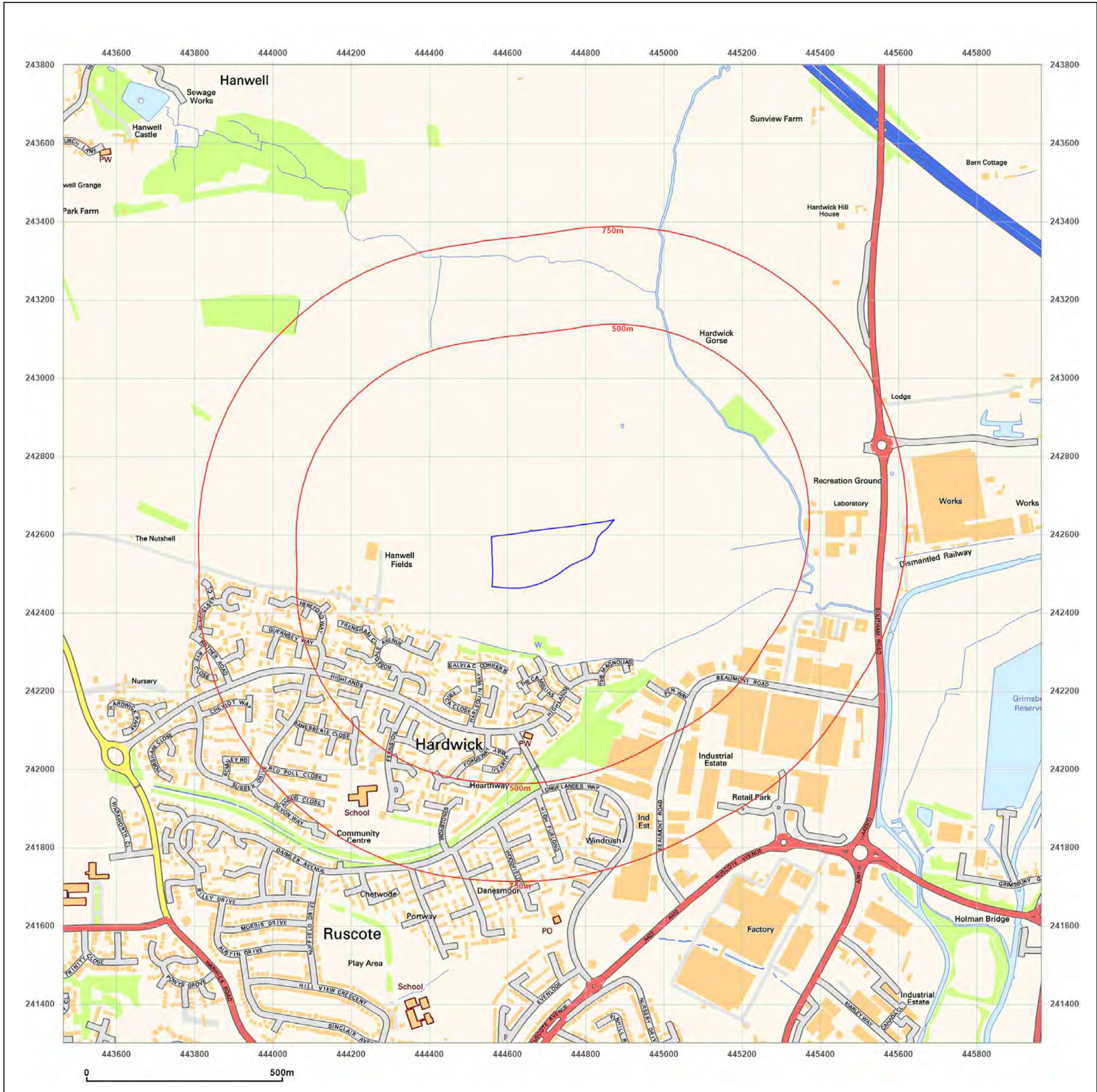


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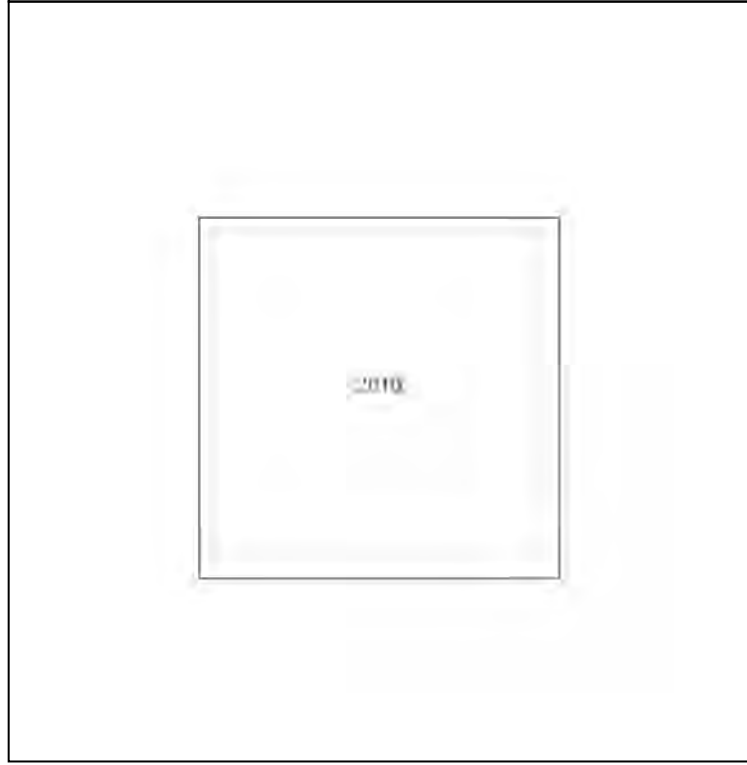
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Grid Ref: 444715, 242551

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Printed at: 1:10,000



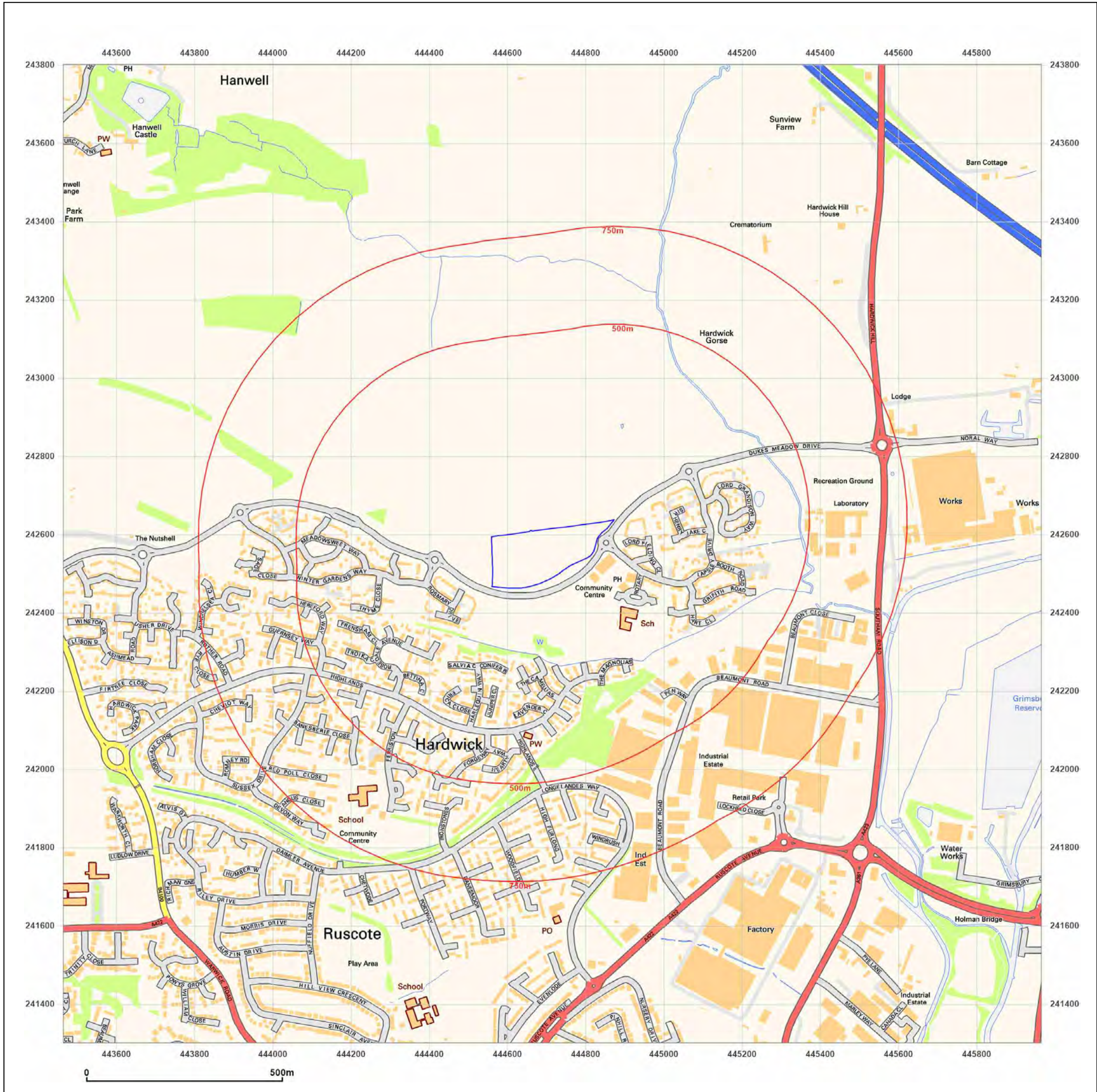
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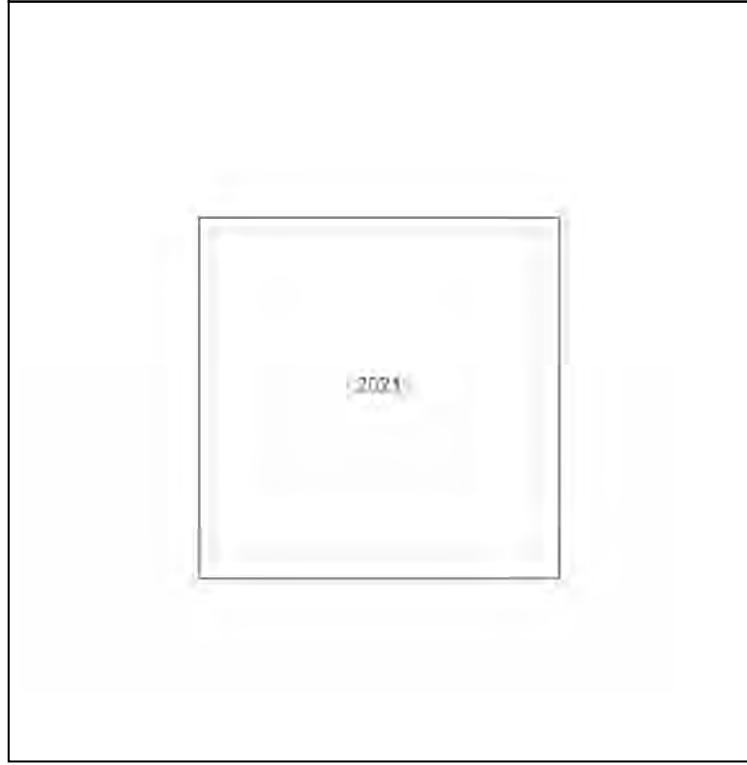
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Client Ref: GE20200_PO-4242
Report Ref: GS-8030354
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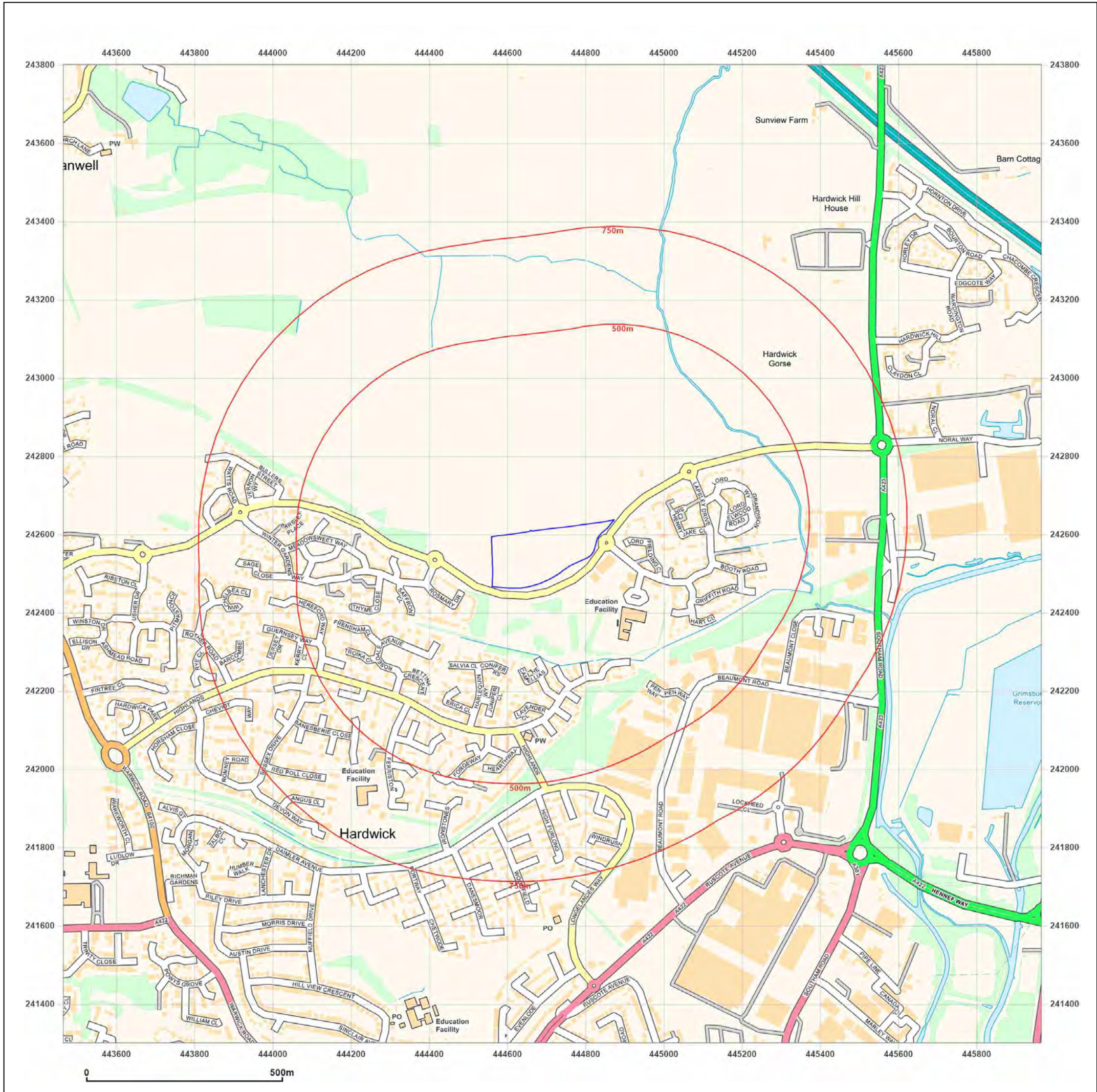


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APPENDIX B

Photographic Record



Plate 1 – View west along the northern boundary



Plate 2 – View east of the eastern corner of the site



Plate 3 – View east across the site from the north-west corner



Plate 4 – View south-east along the southern boundary



Plate 5 – View east across the site



Plate 6 – Gap in the hedgerow in the northern boundary



Plate 7 – Heap of discarded timber and wire fencing and wood in the north-west



Plate 8 – Gap in the hedgerow the north-west corner



Plate 9 – Embankment outside the south-eastern boundary



Plate 10 – Gate in the south-east of the site



Plate 11 – Ditch, headwall and trash-screen adjacent to the gate in the south-east