



Preliminary Risk Assessment: Desk Study

Mr D Macleod

**Julkes House
Carters Hill
Arborfield
Reading
Wokingham
RG2 9JJ**

04 July 2025

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Executive Summary

Brief	Arbtech Consulting Ltd (Arbtech) was instructed by Mr D Macleod to produce a Preliminary Geo-Environmental Risk Assessment to inform a pre-planning application with Wokingham Borough Council for the development of a swimming pool and pool house at Julkes House, Carters Hill, Arborfield, Reading, Wokingham, RG2 9JJ.
Site Use & Surrounding Area	The application site is located to the northwest of Arborfield c.860m south of the M4 (J.11/10) within a densely rural, agricultural area of Reading Wokingham. The site is roughly rectangular in shape comprising a variety of mixed surfacing, predominantly hardstanding with areas of vegetation and woodland. The main residential building is located to the northwest with a smaller building to the central/east and a small outbuilding to the northwest corner. A former building in the southeast has recently been demolished. The proposed development is for a swimming pool and associated pool house to the southwest of the existing property.
Environmental Setting	The rural site has low contamination potential, with a historic landfill 27m northeast and minor nearby pollution records posing limited risk. It is underlain by Alluvium and London Clay, with low aquifer vulnerability and no Source Protection Zone. Flood risk exists mainly to the east. Ground stability risks are low. Overall, contamination sensitivity and risks to receptors are low to moderate.
Contamination Potential Sources	Potential contamination sources include limited Made Ground from former on-site buildings and prior development, and an off-site historical inert/industrial waste landfill located approximately 27m northeast. These sources present a low risk due to limited Made Ground extent, anticipated excavation works, and the mitigating presence of alluvial deposits.
Development Considerations	Excavations, particularly for a new swimming pool, will remove or significantly disturb Made Ground, reducing contamination risks. The natural geological and hydrogeological conditions support limited contaminant migration, and standard good practice construction measures are expected to effectively mitigate any residual risks.
Uncertainty and Data Gaps	Some uncertainty exists regarding the exact extent and nature of Made Ground on-site, and the potential for ground gas migration from the nearby landfill. However, geological conditions and planned excavation depth provide confidence that these factors will not present significant risk.
Recommendations	No intrusive ground investigation is recommended based on current evidence. It is advised that standard health and safety procedures be followed during excavation, and that any unexpected contamination encountered be managed with professional guidance. Further assessment may be warranted only if unforeseen contamination is encountered during works.

This is intended as a summary only. Further detail and the limitations of the assessment is provided within the main body of the Report.

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Introduction

Background

Arbtech Consulting Ltd (Arbtech) was instructed by Mr D Macleod to produce a Preliminary Geo-Environmental Risk Assessment to inform a pre-planning application with Wokingham Borough Council for the development of a swimming pool and pool house at Julkes House, Carters Hill, Arborfield, Reading, Wokingham, RG2 9JJ.

A Phase I report is required to assess the historical use and present condition of the site, determine the extent and nature of any contamination risk, and identify potential risks to future users of the land, neighbouring properties, workers, and other offsite receptors. This assessment will ensure that the development can be carried out safely without unacceptable risks to workers, neighbours, controlled waters, property, or ecological systems with suitable recommendations.

Objectives

The objectives of the Arbtech Consulting preliminary geoenvironmental site assessment was to undertake a Phase I Desk Study for the site. Guidance set out in LCRM ¹, GPLC1-3² and the National Planning Policy Framework (NPPF)³ states that a Preliminary Risk Assessment with a site reconnaissance is required as a minimum to ascertain if there is a potential contamination risk. If contamination is a potential, then site investigation works are carried out to establish a viable pollutant linkage to assess the potential risks to human health and controlled water receptors. Based on the findings of this report, an appropriate site investigation can be derived, if required, once planning approval has been granted.

1 EA (2020). Land contamination risk management (LCRM).

2 EA (2016). Guiding Principles for Land Contamination. GPLC1- Risk Assessment and Conceptual Models GPLC 2. Site Investigation and Good Practice GPLC 3

3 DCL (2025). National Planning Policy Framework. Department of Communities and Local Government.

Scope of Works

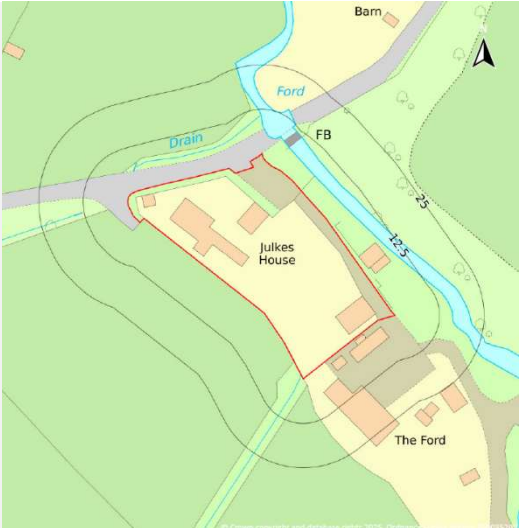
- ⇒ Review of the environmental setting of the Site, including the current use / status of the Site and surrounding area, and review of the geology, hydrogeology and hydrology;
- ⇒ Review of the historical activities of the Site and surrounding area;
- ⇒ Review of regulatory information relating to the Site;
- ⇒ Review of the online planning records for the Site;
- ⇒ Consult and review information from the Local Authority in relation to Part 2A of the 1990 Environmental Protection Act; and
- ⇒ Develop an outline Conceptual Site Model and undertake a Preliminary Risk Assessment with respect to potential contamination focussed on the proposed end use of the Site.

In completing this Assessment, Arbtech Consulting Ltd has utilised the following data sources and third-party information:

- ⇒ Current and Historical Ordnance Survey (OS) maps;
- ⇒ British Geological Survey (BGS) data;
- ⇒ Environment Agency (EA) online data; and
- ⇒ Review of third-party environmental reports, if applicable¹.

Site Context

Site Information

			
Fig.1 2022 Aerial Photograph Contains Data from, © 2025 Groundsure Insights (Appendix 3)		Fig 2 OS Mastermap site plan Contains Data from, © 2025 Groundsure Insights	
Site co-ordinates:	(NGR) 476352 168827	Site Area:	0.21ha
Site Location	The application site is located to the northwest of Arborfield c.860m south of the M4 (J.11/10) within a densely rural, agricultural area of Reading Wokingham.		
Current Site use	The site is roughly rectangular in shape comprising a variety of mixed surfacing, predominantly hardstanding with areas of vegetation and woodland. The main residential building is located to the northwest with a smaller building to the central/east and a small outbuilding to the northwest corner. A former building in the southeast has recently been demolished. The proposed development is for a swimming pool and associated pool house to the southwest of the existing property. Representative photos are presented as Appendix 2.		
Surrounding Area features	North	Lane access to Julkes House, agricultural land with residential properties beyond.	
	East	Barkham Brook, dense woodland, agricultural fields with residential properties beyond.	
	South	Agricultural land	
	West	Agricultural land	

Data Review

Historical Features	
Strategy	The historical development of the Site and surrounding area has been assessed through a review of available historical OS maps and Google Earth historical satellite imagery. A summary of the key historical Site uses and developments in the surrounding area is presented below. Copies of pertinent historical maps are included as Appendix 4.
Historical Features On-Site	Historically, based on the earliest available mapping dated 1872 the site forms as part of a wider area of open rural land associate with Newland Farm to the northeast. Mapping dated 1967 identifies a drain entering the southwest of the site and positioned along the western boundary-oriented southeast to northwest and exits the site in the northwest boundary to an offsite drain and Ford to the east of site. The site remains vacant until mapping dated 1986-88 identifies a residential property named 'Sanjoe House' to the northwest and a larger building to the southeast of the site straddling the boundary associated with a property to the south known as the Ford. Mapping dated 2010 identifies the building to the southern boundary is no longer present, a smaller outbuilding is noted to the southwest. Current configuration identifies a series of developments across the site which are cross referenced with several active planning applications with Wokingham Borough Council.
Potentially Contaminative Historical Features Off-Site	There is an absence of potential sources of contamination identified in the surrounding area within 100m.
Implications for historic Land Contamination Risk	A limited potential for historic contamination has been identified on the subject site itself and within close proximity. Whilst there is an absence of identified features exist the focus is placed upon potential risk to construction workers during groundworks and future residents. The site itself has historically been vacant until its first development c. 1980's with subsequent redevelopment occurring, predominantly to the south of the site. Generally, the wider area is noted for its rural and agricultural activity with limited residential development increasing in time. This context will be further assessed in the risk assessment.

Environmental Setting

Feature		Information	
Published Geology	Artificial	No Artificial and Made Ground records on the subject site.	
	Superficial	Superficial geology is recorded on site to the north and southeast as Alluvium - Clay, Silt, Sand and Gravel. Noted as intergranular with high to very low permeability. No superficial deposits recorded to the southwest, west and northwest of the site. No landslip records within 500m.	
	Bedrock	Bedrock geology is recorded as London Clay Formation - Clay, Silt and Sand. Noted as mixed with moderate to very low permeability. No Bedrock faults and other linear features within 500m.	
	BGS Logs	1No. BGS logs within 250m - 57m north northeast Ref. SU76NE1 dated 1937 as a test hole at Carters Hill Farm. Rest level of water below top of well is noted at 3.9mbgl. Strata is recorded as loamy sandy Clay to 4.88mbgl over Clay to a termination depth of 9.1mbgl.	
Hydrogeology	Aquifer Designation	Superficial	Secondary A (northeast, east and southeast perimeter only)
		Bedrock	Unproductive
	Source Protection Zone (SPZ)	No Source Protection Zones within 500m. The site is in an area of medium vulnerability for the combined Aquifer. Bedrock shows mixed flow.	
	Groundwater Abstractions	10No. recorded groundwater abstractions within 1km. The nearest is historical 524m east for Commercial/Industrial/Public Services. The nearest active abstraction is 622m east for Spray Irrigation – Direct. 5No. potable abstractions within 2km – the nearest is historical at 524m east. The nearest active is 1552m southwest.	
Hydrology	Nearest Surface Water	6No. surface water features and 11No. Water Network (OS Master Map) within 250m - the nearest is on site for inland river not influenced by normal tidal action (Barkham Brook and drainage). 1No entry on site for WFD Surface water body catchments for the Barkham Brook	

Environmental Setting

Feature		Information
	Water Data	Barkham Brook 14m northeast has an overall moderate rating. Groundwater body unrecorded.
	Flooding	5No. entries recorded within 50m for risk of flooding from rivers or sea – high risk. No historical flood events, no flood defences or areas benefiting from flood defences, and no flood storage areas. flood zones 2 and 3 (fluvial / tidal models) on site. Surface water highest flooding risk on site 1 in 30 year, 0.3m - 1.0m and in 50m – 1 in 30 year, Greater than 1.0m. Highest groundwater flooding risk on site and within 50m – high.
	Surface Water Abstractions	3No. surface water abstractions within 1km - the nearest is historical 686m east. The nearest active is 550m west as supply to a canal for throughflow.
	Discharge Consents	3No. Licensed discharge to controlled waters within 500m - the nearest is 16m southeast (revoked). The nearest active is 65m southeast for sewage discharges. No Licensed pollutant (Part A(2)/B) release within 500m.
	Pollution Incidents	3No. pollution incidents recorded within 500m - the nearest is 108m north - Water impact: Cat. 2 (significant impact) for sewage materials.
Minerals and Mining	Coal Report	The site and surrounding areas are not within a JPB mining area. The site is not within an area which could be affected by past, current or future coal mining.
	Coal Mining Development Risk	No development high risk is associated with the site from coal mining.
	Surface Extractions	No entries within 250m for Surface Ground Workings. No Brit pits within 500m.

Environmental Setting

Feature		Information
	Mining Instability / Non-Coal Mining Area	No entries for non-coal mining within 500m.
Ground Stability	Collapsible Ground	Very low (western areas) – Low (eastern boundary)
	Compressible Ground	Negligible (western areas) – Moderate (eastern boundary)
	Ground Dissolution	Negligible
	Landslide	Very low
	Running Sand	Very low (majority of western areas) – Low (eastern areas)
	Shrinking/Swelling Clay	Low
Landfill Site	Registered	No active or recent landfill records within 500m. 1No. historical landfill records within 500m – 27m northeast for Inert, Industrial (1990 - 1993) No historic or licensed waste sites recorded within 500m. 1No. Waste exemption sites within 500m - 144m east for Non-agricultural waste only.
	Potential: infilled land	3No. Artificial and Made Ground records within 500m - the nearest is 30m northeast as worked ground (undivided) void.
Radon	Less than 1% no protective measures required.	
Designated Sites	Within 1km: SSSI Impact Zones and Units and Nitrate vulnerable zone 4No. Designated ancient woodland - the nearest is 389m north (Gravel pit Wood) 1No. listed building – 134m north Carter’s Hill House 1No. conservation area 116m southeast 3No. Priority Habitat Inventory – the nearest is 185m northwest for Deciduous woodland No other environmental designation records.	
Contemporary Trade Directory	No Entries for Recent industrial land uses within 250m	

Environmental Setting

Feature	Information
Fuel Station Entries	No fuel station entries within 500m.
Unexploded Bomb Risk (UXO)	Zetica Risk maps presented in Appendix 5 identifies a low risk of UXO.
Environmental Search (other)	N/A

Environmental Database Review

Strategy	The Groundsure Report provides a database of environmental information held by various statutory bodies including the EA, Local Authority (LA), Health & Safety Executive (HSE) and HPA amongst others. A full copy of the Groundsure Report is provided in Appendix 3, and the most relevant information is summarised below.
Features on Site	The site has a limited potential for contamination. Having been first developed in the 1980's with several modifications of redevelopment the site has only ever been used as residential development within a rural area with an absence of industrial features on or around the site. The current condition of the site is noted to be under construction. No olfactory or potential contamination is noted in any current excavations.
Potentially Contaminative Features Off-Site (250m)	Limited offsite potential to onsite migration potential. ⇒ Landfill/artificial Made Ground 27m northeast for Inert, Industrial (1990 - 1993) / 30m northeast as worked ground (undivided) void.
Implications for Land Contamination Risk	Limited potential sources of contamination have been identified within 100m. This context is considered further in the conceptual site model below.

Planning Review

Planning Records	Portal	The site is presented to inform a pre-planning application with Wokingham Borough Council for the development of a swimming pool and pool house. Indicative development plans are presented as Appendix 6. Planning portal records identifies several entries relating to the site: Householder application for the proposed erection of outbuilding to form swimming pool enclosure ID Ref: 251463.
Part 2A of the Environmental Protection Act (EPA) 1990		No recorded sites determined as Contaminated Land within 500m.
Local Authority Records		Arbtech Consulting Ltd. have not contacted Wokingham Borough Council however, consultations can be made to the Environmental health department Contaminated land. A map of potentially contaminated land is available at v4 Wokingham Contaminated Land Strategy final

Conceptual Site Model

Overview

A conceptual site model (CSM) is a representation of the characteristics of the site. It shows the possible relationships between contaminants, pathways and receptors. The CSM is used to identify potential contaminants, receptors (e.g., humans, groundwater), and pathways (e.g., inhalation, ingestion).

Overall Site Sensitivity

The site is situated within a rural setting with a historically low intensity of development and limited potential for contaminative land uses. While there is a single historical landfill recorded approximately 27m to the northeast and isolated records of pollution incidents and discharge consents within 100m, the majority of potential contaminative features are off-site and are not considered likely to pose a significant risk based on current evidence.

The underlying geology comprises Alluvium and London Clay Formation, with superficial deposits present to the east and southeast only. The bedrock is classed as unproductive, with only marginal Secondary A aquifer potential in the superficial deposits at the perimeter. The site lies within a medium aquifer vulnerability zone, but not within any Source Protection Zone. Groundwater and surface water abstractions are present within 1km, though none are directly reliant on on-site water bodies. Barkham Brook crosses the site and is classified as having a moderate ecological status.

The site is partially within Flood Zones 2 and 3, with both surface water and groundwater flood risks identified, particularly to the east. No artificial ground is recorded on-site, and ground stability risks are generally low, although compressible ground and collapsible deposits increase slightly toward the eastern site boundary.

Based on the environmental setting and historical development, the site is considered to have low to moderate overall sensitivity to contamination. Risks to controlled waters, nearby ecological receptors, and human health are considered limited.

Identified potential contamination sources within 100m of the Site are presented in the following table:

Contamination Sources				
Ref.	Source	Location	Dates Present	Potential Associated Contaminants of Concern
Source 1	Former on-site buildings (pre-2010 structure to south of site, straddling boundary)	On-site	Pre-2010	Potential limited Made Ground
Source 2	Potential Made Ground associated with prior development and drainage features	On-site	Unknown	Made Ground
Source 3	Off-site historical landfill (Inert/Industrial waste)	27m northeast	1990–1993	Ground gas and vapours

Potential Receptors

Relevant potential receptors are considered to include:

- ⇒ Construction workers during groundworks (hardstanding).
- ⇒ Third parties (adjacent Site users and adjacent residents).
- ⇒ Future Site users (residential).
- ⇒ Secondary A Aquifer / surface waters
- ⇒ The Built Environment (the building and infrastructure / utilities).

Potential Pathways

The potential pathways are considered to be:

- ⇒ Direct contact, ingestion or inhalation of soil bound contaminants / dust during or following redevelopment.
- ⇒ Inhalation of organic vapours associated with contamination.
- ⇒ Migration of ground gas / vapours into on-site buildings.
- ⇒ Leaching of contamination into groundwater followed by migration of groundwater to the wider groundwater environment.

Pollutant Linkage Assessment

Source	Pathway	Receptor	Risk Rating	Justification and any Mitigation	Investigation Required
Source 1 Former on-site buildings (pre-2010 structure to south of site, straddling boundary)	Direct contact with Made Ground	Construction workers and future site users	Low	Potential limited Made Ground present but excavation for swimming pool will remove Made Ground locally, reducing risk	No
Source 2 Potential Made Ground associated with prior development and drainage features	Direct contact and migration via soil	Construction workers and future site users	Low	Made Ground may be present but significant excavation works will remove or reduce Made Ground; no significant contamination suspected	No
Source 3 Off-site historical landfill (Inert/Industrial waste)	Ground gas migration	Construction workers and future site users	Low	Alluvium deposits expected to reduce ground gas migration; landfill age high water level presents with low migration potential	No

Conclusions and Recommendations

Land Contamination Summary

Uncertainty and Data Gaps	While historical information and site walkovers indicate limited contamination sources on-site, some uncertainty remains about the precise extent and nature of Made Ground beneath the surface. However, the planned significant excavation works (e.g., swimming pool construction) will largely remove or disturb these materials, substantially mitigating residual risks. The presence of alluvial deposits further reduces potential contaminant migration pathways. Therefore, although some data gaps exist, they are unlikely to materially affect the overall risk assessment, and a ground investigation is not deemed necessary.
Soils	Potential Made Ground is likely to be present in localized areas associated with former buildings and prior development. However, evidence suggests that Made Ground is limited in extent and thickness. Furthermore, the planned excavation for the swimming pool and other construction works will remove or significantly disturb this material, reducing direct contact risks to construction workers and future users. No evidence of highly contaminated soils is available or anticipated from site history or nearby sources, supporting the low-risk designation and removing the need for intrusive soil investigation.
Groundwater	The site's underlying geology and hydrology, including alluvial deposits and a relatively seasonal high water table, suggest limited potential for contaminant leaching or groundwater pollution from on-site sources. The absence of identified contaminative activities and the off-site landfill's inert/industrial waste classification further reduce groundwater risk. No indications of contamination in nearby boreholes or water quality data exist to warrant investigation. Consequently, groundwater risks are considered low, and no groundwater monitoring or sampling is required at this stage.
Ground Gas	Although there is an off-site historical landfill approximately 27m northeast of the site, it is classified as inert/industrial waste and dates from the early 1990s. The presence of alluvial deposits and the relatively seasonal high groundwater level are expected to reduce ground gas migration towards the site. Coupled with the lack of evidence of gas migration, the risk posed by ground gases is assessed as low. Planned excavations will further reduce potential pathways. Therefore, ground gas monitoring or risk assessment via intrusive investigation is not required.
Volatile Organic Vapours	No known sources of volatile organic compounds (VOCs) are present on-site or immediately adjacent. The historical landfill is considered low risk for VOC generation due to its inert/industrial waste nature and age. Moreover, the geological setting and groundwater conditions do not favor vapour migration. Given the absence of VOC contamination indicators, vapour risk is low, and no additional vapour risk investigation or monitoring is necessary.

Potential Contaminated Land Development Risks	The overall risk of contamination affecting construction workers, future site users, or the wider environment is low based on current information. Planned groundworks involving significant excavation will disrupt or remove potential contamination sources such as Made Ground. Natural geological barriers (alluvium) further reduce migration pathways for contaminants and ground gases. Given these mitigating factors, the potential contaminated land risks do not justify the cost or disruption of a dedicated ground investigation. Instead, appropriate site management and good construction practices are recommended during development.
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Recommendations and Development

Ground Investigation Recommendations	Based on the preliminary assessment, an intrusive investigation is not considered necessary for this site. The historical and environmental information indicates only low risk from potential contamination sources. The anticipated excavation works, particularly for the swimming pool, will remove or significantly disturb any limited Made Ground present, effectively mitigating risks to construction workers and future site users. Furthermore, the presence of alluvial deposits is expected to limit the migration of ground gases and volatile contaminants from the nearby off-site historical landfill. The landfill's inert/industrial waste classification, coupled with its age and distance, further reduces potential risks. In light of these factors, it is considered that the risk to human health and the environment can be managed through standard good practice measures during construction, without the need for intrusive ground investigation. However, if unexpected contamination or hazardous materials are encountered during site works, appropriate professional advice should be sought and works managed accordingly.
Development Considerations	Health and Safety: Safe working practices must be followed throughout all intrusive works. Site workers should be equipped with appropriate Personal Protective Equipment (PPE) to minimize exposure to potential contaminants. Material Management: Soil testing and classification should guide the reuse or disposal of excavated materials to ensure compliance with waste regulations and avoid spreading contamination.

Appendices

Appendix 1: Risk Evaluation

Appendix 2: Site Photographs

Appendix 3: Groundsure Enviro + Geo Insight

Appendix 4: Historical Map Selection

Appendix 5: Zetica UXO Mapping

Appendix 6: Development Plans

Appendix 7: Document Production Record

If you require clarification of the information contained herein, please do not hesitate to contact us via 01244 661170.

Yours Sincerely,

Charlotte Radiven BSc Hons

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Appendix 1: Risk Evaluation

PRINCIPLES OF RISK EVALUATION

The risk evaluation methodology presented below is qualitative in nature and is therefore a subjective method. It is based upon guidance presented in CIRIA publication referenced C552, 'Contaminated land risk assessment ~ A guide to good practice', 2001 and involves the classification of the following:

- The magnitude of the potential consequence (severity) of risk occurring
- The magnitude of the probability (likelihood) of the risk occurring
- These are then considered in conjunction to give a risk matrix

Consequence to Receptor Definition Matrix

	Human Health	Controlled Waters	Buildings/Services
Severe Consequence	Acute or chronic permanent impact on human health.	Sensitive controlled water pollution ongoing, or just about to occur.	Catastrophic collapse
Medium Consequence	Chronic permanent impact on human health	Gradual pollution of sensitive controlled water	Degradation of materials
Mild Consequence	Chronic temporary impact on human health	Gradual pollution of non-sensitive controlled water	Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
Minor Consequence	Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc).	Slight discoloration of water	Easily repairable effects of damage to buildings, structures and services, i.e. discoloration of concrete

Probability Definitions

Probability	Definition in Context
Higher	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution. Positive evidence of source, pathway and receptor.
Likely	There is a pollution linkage, and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term. Suspect source, pathway, and receptor
Low Likelihood	There is a pollution linkage, and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the shorter term.
Unlikely	There is a pollution linkage, but circumstances are such that it is improbable that an event would occur even in the very long term. No evidence of hazard, pathway, and receptor

Standard Risk Matrix

		Consequence/Magnitude of impact			
		Severe	Medium	Mild	Minor
Probability	High	Very High	High	Moderate	Moderate/Low
	Likely	High	Moderate	Moderate/low	Low
	Low Likelihood	Moderate	Moderate/low	Low	Very Low
	Unlikely	Moderate/low	Low	Very Low	Very Low

Classified risks and likely action

Significance Level	Definition/Comments
Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required. Demonstrable contaminated land situation, highest threat & liability level, urgent action recommended.
High Risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term. Likely contaminated land situation, risk assessment and action recommended.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, if 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. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term. Plausible contaminated land situation, risk assessment and possible action recommended.
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild. Unlikely contaminated land situation, possible risk assessment and possible action.
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe. Negligible risk, no action recommended except vigilance for changes in conditions.

Appendix 2: Site Photographs

Site Walkover Photos



Plate 1: General view across west



Plate 2: General view of south of site



Plate 3: Facing northwest



Plate 4: Facing south



Plate 5: Current construction involving septic tank



Plate 6: Current construction on site



Plate 7: General site view



Plate 8: Current construction underway

Appendix 3: Groundsure Enviro + Geo Insight

JULKES HOUSE, JULKES LANE, CARTERS HILL, ARBORFIELD, WOKINGHAM, RG2 9JJ

Order Details

Date: 27/06/2025
Your ref: Julkes House, RG2 9JJ
Our Ref: GS-17E-KXH-PTZ-BAT

Site Details

Location: 476352 168827
Area: 0.21 ha
Authority: [Wokingham Borough Council](#) ↗



[Summary of findings](#)

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

[p. 9 >](#)

[OS MasterMap site plan](#)

[p.14 >](#) [Insight User Guide](#) ↗

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	0	0	2	-
16	1.2	Historical tanks	0	0	0	0	-
16	1.3	Historical energy features	0	0	0	0	-
16	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	Historical garages	0	0	0	0	-
17	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
18 >	2.1 >	Historical industrial land uses >	0	0	0	2	-
19	2.2	Historical tanks	0	0	0	0	-
19	2.3	Historical energy features	0	0	0	0	-
19	2.4	Historical petrol stations	0	0	0	0	-
19	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
20	3.1	Active or recent landfill	0	0	0	0	-
20	3.2	Historical landfill (BGS records)	0	0	0	0	-
21	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
21 >	3.4 >	Historical landfill (EA/NRW records) >	0	1	0	0	-
21	3.5	Historical waste sites	0	0	0	0	-
21	3.6	Licensed waste sites	0	0	0	0	-
22 >	3.7 >	Waste exemptions >	1	0	0	0	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
23	4.1	Recent industrial land uses	0	0	0	-	-
23	4.2	Current or recent petrol stations	0	0	0	0	-
24	4.3	Electricity cables	0	0	0	0	-
24	4.4	Gas pipelines	0	0	0	0	-
24	4.5	Sites determined as Contaminated Land	0	0	0	0	-



24	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
24	4.7	Regulated explosive sites	0	0	0	0	-
25	4.8	Hazardous substance storage/usage	0	0	0	0	-
25	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
25	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
25	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
25	4.12	Radioactive Substance Authorisations	0	0	0	0	-
26 >	4.13 >	<u>Licensed Discharges to controlled waters ></u>	0	1	2	0	-
26	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
26	4.15	Pollutant release to public sewer	0	0	0	0	-
27	4.16	List 1 Dangerous Substances	0	0	0	0	-
27	4.17	List 2 Dangerous Substances	0	0	0	0	-
27 >	4.18 >	<u>Pollution Incidents (EA/NRW) ></u>	0	0	3	0	-
28	4.19	Pollution inventory substances	0	0	0	0	-
28	4.20	Pollution inventory waste transfers	0	0	0	0	-
28	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	<u>Hydrogeology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
29 >	5.1 >	<u>Superficial aquifer ></u>	Identified (within 500m)				
31 >	5.2 >	<u>Bedrock aquifer ></u>	Identified (within 500m)				
32 >	5.3 >	<u>Groundwater vulnerability ></u>	Identified (within 50m)				
33	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
33	5.5	Groundwater vulnerability- local information	None (within 0m)				
34 >	5.6 >	<u>Groundwater abstractions ></u>	0	0	0	0	18
39 >	5.7 >	<u>Surface water abstractions ></u>	0	0	0	0	10
42 >	5.8 >	<u>Potable abstractions ></u>	0	0	0	0	5
43	5.9	Source Protection Zones	0	0	0	0	-
43	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	<u>Hydrology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
44 >	6.1 >	<u>Water Network (OS MasterMap) ></u>	2	5	4	-	-



45 >	6.2 >	Surface water features >	1	3	2	-	-
46 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
46 >	6.4 >	WFD Surface water bodies >	0	1	0	-	-
46	6.5	WFD Groundwater bodies	0	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
48 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
49	7.2	Historical Flood Events	0	0	0	-	-
49	7.3	Flood Defences	0	0	0	-	-
49	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
49	7.5	Flood Storage Areas	0	0	0	-	-
50 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
51 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
52 >	8.1 >	Surface water flooding >	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
54 >	9.1 >	Groundwater flooding >	High (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
55	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
56	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
56	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
56	10.4	Special Protection Areas (SPA)	0	0	0	0	0
56	10.5	National Nature Reserves (NNR)	0	0	0	0	0
57	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
57 >	10.7 >	Designated Ancient Woodland >	0	0	0	1	11
58	10.8	Biosphere Reserves	0	0	0	0	0
58	10.9	Forest Parks	0	0	0	0	0
58	10.10	Marine Conservation Zones	0	0	0	0	0
58	10.11	Green Belt	0	0	0	0	0
59	10.12	Proposed Ramsar sites	0	0	0	0	0

59	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
59	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
59	10.15	Nitrate Sensitive Areas	0	0	0	0	0
60 >	10.16 >	Nitrate Vulnerable Zones >	1	0	0	0	0
61 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
62	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
63	11.1	World Heritage Sites	0	0	0	-	-
64	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
64	11.3	National Parks	0	0	0	-	-
64 >	11.4 >	Listed Buildings >	0	0	1	-	-
65	11.5	Conservation Areas	0	0	0	-	-
65	11.6	Scheduled Ancient Monuments	0	0	0	-	-
65	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
66 >	12.1 >	Agricultural Land Classification >	Grade 3 (within 250m)				
67	12.2	Open Access Land	0	0	0	-	-
67	12.3	Tree Felling Licences	0	0	0	-	-
67	12.4	Environmental Stewardship Schemes	0	0	0	-	-
68	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
69 >	13.1 >	Priority Habitat Inventory >	0	0	3	-	-
70	13.2	Habitat Networks	0	0	0	-	-
70	13.3	Open Mosaic Habitat	0	0	0	-	-
70	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
71 >	14.1 >	10k Availability >	Identified (within 500m)				
72 >	14.2 >	Artificial and made ground (10k) >	0	1	0	2	-
73 >	14.3 >	Superficial geology (10k) >	1	0	4	0	-

74	14.4	Landslip (10k)	0	0	0	0	-
75 >	14.5 >	Bedrock geology (10k) >	1	0	0	0	-
76	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
77 >	15.1 >	50k Availability >	Identified (within 500m)				
78 >	15.2 >	Artificial and made ground (50k) >	0	1	0	2	-
79	15.3	Artificial ground permeability (50k)	0	0	-	-	-
80 >	15.4 >	Superficial geology (50k) >	1	0	4	0	-
81 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
81	15.6	Landslip (50k)	0	0	0	0	-
81	15.7	Landslip permeability (50k)	None (within 50m)				
82 >	15.8 >	Bedrock geology (50k) >	1	0	0	0	-
83 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
83	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
84 >	16.1 >	BGS Boreholes >	0	0	1	-	-
Page	Section	Natural ground subsidence >					
85 >	17.1 >	Shrink swell clays >	Low (within 50m)				
86 >	17.2 >	Running sands >	Low (within 50m)				
88 >	17.3 >	Compressible deposits >	Moderate (within 50m)				
90 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
91 >	17.5 >	Landslides >	Low (within 50m)				
93 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings	On site	0-50m	50-250m	250-500m	500-2000m
95	18.1	BritPits	0	0	0	0	-
95	18.2	Surface ground workings	0	0	0	-	-
95	18.3	Underground workings	0	0	0	0	0
95	18.4	Underground mining extents	0	0	0	0	-
96	18.5	Historical Mineral Planning Areas	0	0	0	0	-

96	18.6	Non-coal mining	0	0	0	0	0
96	18.7	JPB mining areas	None (within 0m)				
96	18.8	The Coal Authority non-coal mining	0	0	0	0	-
97	18.9	Researched mining	0	0	0	0	-
97	18.10	Mining record office plans	0	0	0	0	-
97	18.11	BGS mine plans	0	0	0	0	-
97	18.12	Coal mining	None (within 0m)				
97	18.13	Brine areas	None (within 0m)				
98	18.14	Gypsum areas	None (within 0m)				
98	18.15	Tin mining	None (within 0m)				
98	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
99	19.1	Natural cavities	0	0	0	0	-
99	19.2	Mining cavities	0	0	0	0	0
99	19.3	Reported recent incidents	0	0	0	0	-
99	19.4	Historical incidents	0	0	0	0	-
Page	Section	Radon >					
101 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
103 >	21.1 >	BGS Estimated Background Soil Chemistry >	2	1	-	-	-
103	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
103	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
104	22.1	Underground railways (London)	0	0	0	-	-
104	22.2	Underground railways (Non-London)	0	0	0	-	-
104	22.3	Railway tunnels	0	0	0	-	-
104	22.4	Historical railway and tunnel features	0	0	0	-	-
104	22.5	Royal Mail tunnels	0	0	0	-	-
105	22.6	Historical railways	0	0	0	-	-

105	22.7	Railways	0	0	0	-	-
105	22.8	Crossrail 2	0	0	0	0	-
105	22.9	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 30/04/2022

Site Area: 0.21ha



Recent site history - 2019 aerial photograph



Capture Date: 29/06/2019

Site Area: 0.21ha



Recent site history - 2010 aerial photograph



Capture Date: 22/09/2010

Site Area: 0.21ha



Recent site history - 2005 aerial photograph



Capture Date: 21/06/2005

Site Area: 0.21ha



Recent site history - 1999 aerial photograph

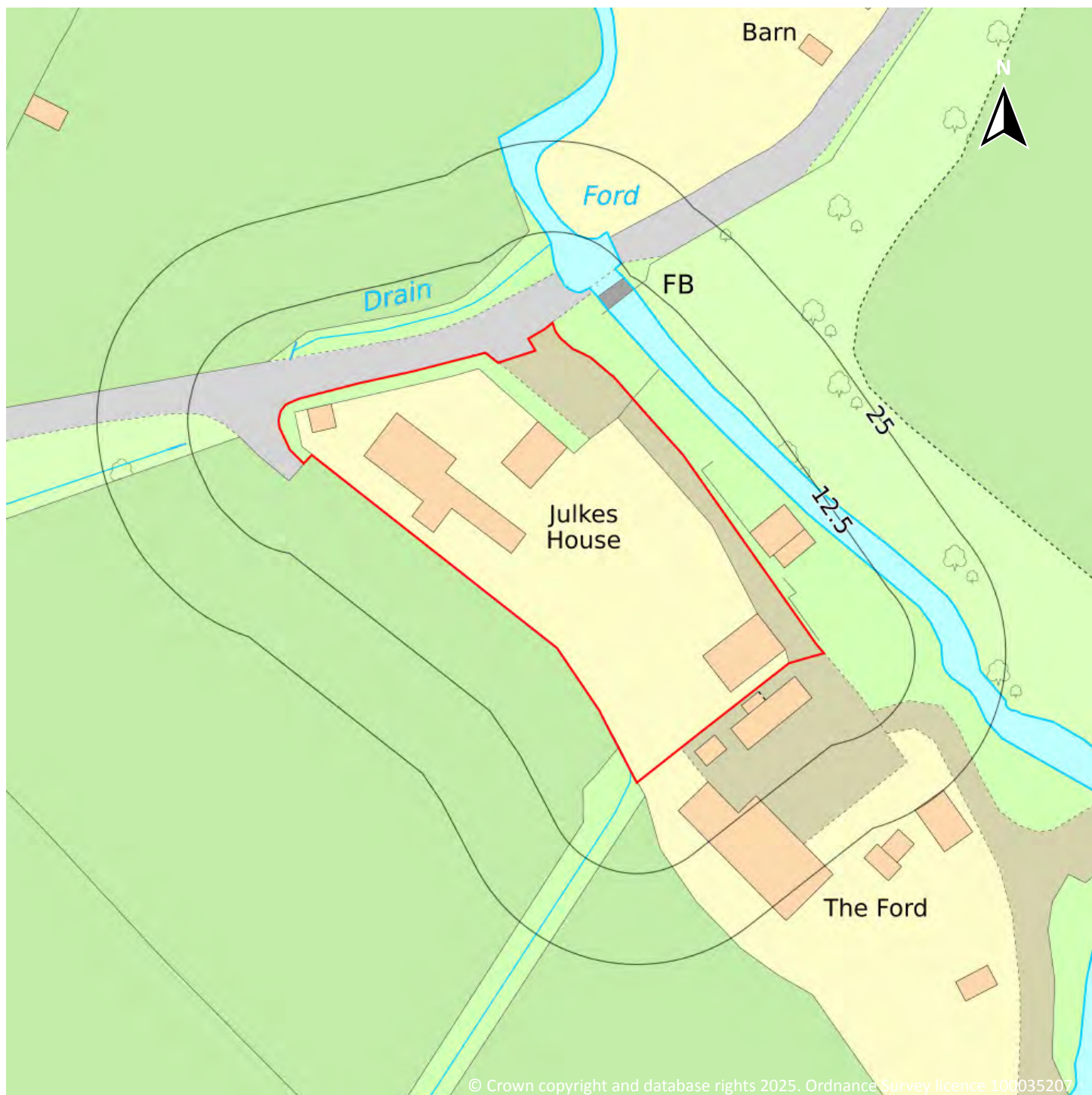


Capture Date: 04/09/1999

Site Area: 0.21ha



OS MasterMap site plan



Site Area: 0.21ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

2

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

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

ID	Location	Land use	Dates present	Group ID
1	485m E	Nursery	1979	1997568



ID	Location	Land use	Dates present	Group ID
2	492m E	Nursery	1969	1990924

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

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

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

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

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

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

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

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

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

0

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

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



2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

2

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 18](#) >

ID	Location	Land Use	Date	Group ID
1	485m E	Nursery	1979	1997568
2	492m E	Nursery	1969	1990924

This data is sourced from Ordnance Survey / Groundsure.



2.2 Historical tanks

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (EA/NRW)
- 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

1

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

Features are displayed on the Waste and landfill map on [page 20 >](#)

ID	Location	Details		
2	27m NE	Site Address: Park Farm, Carters Hill Licence Holder Address: -	Waste Licence: Yes Site Reference: WOK14, 54/12/4/251 Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 30/04/1990 Licence Surrender: 31/12/1993	Operator: - Licence Holder: D Harding First Recorded 31/12/1990 Last Recorded: 31/12/1993

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

1

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 20 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
1	On site	The Ford Carters Hill Berkshire Rg2 9jj	EPR/SE5484YL /A001	Using waste exemption	Non- agricultural waste only	Use of depolluted end-of- life vehicles for vehicle parts

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

0

Current potentially contaminative industrial sites.

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m

0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.



4.3 Electricity cables

Records within 500m**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m**0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.



4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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

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

Records within 500m

0

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

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m

0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m

3

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

Features are displayed on the Current industrial land use map on [page 23](#) >

ID	Location	Address	Details	
A	16m SE	CARTERSHILLFARM,ARBORFIELD,BE RK,CARTERSHILLFARM,ARBORFIEL D,B,ERKS	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CTCU.1321 Permit Version: 1 Receiving Water: GRAVEL OVERLAYING CLAY STRATA	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 15/02/1983 Effective Date: 15/02/1983 Revocation Date: 01/10/1996
A	65m SE	PARKFARMSTABLES,COPSEBARNHI LLANE,CARTERSHILL,ARBORFIELD, READING,RG29JJ	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRRP3523GJ Permit Version: 1 Receiving Water: BARKHAM BROOK	Status: NEW ISSUED UNDER EPR 2010 Issue date: 15/03/2012 Effective Date: 15/03/2012 Revocation Date: -
2	113m E	PARKFARM,PARKCORNERLANE,CA RTERS,PARKFARM,PARKCORNERLA NE,CART,ERSHILL,ARBORFIELDCRO SS,BERK,S	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CTWC.0940 Permit Version: 1 Receiving Water: LONDON CLAY	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 10/06/1986 Effective Date: 10/06/1986 Revocation Date: 01/10/1996

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

3

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 23 >](#)

ID	Location	Details	
1	108m N	Incident Date: 07/03/2003 Incident Identification: 141793 Pollutant: Sewage Materials Pollutant Description: Sludge	Water Impact: Category 2 (Significant) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
B	181m NW	Incident Date: 29/09/2013 Incident Identification: 1163343 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 1 (Major) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
B	191m NW	Incident Date: 06/08/2001 Incident Identification: 22143 Pollutant: Contaminated Water Pollutant Description: Suspended Solids	Water Impact: Category 3 (Minor) 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

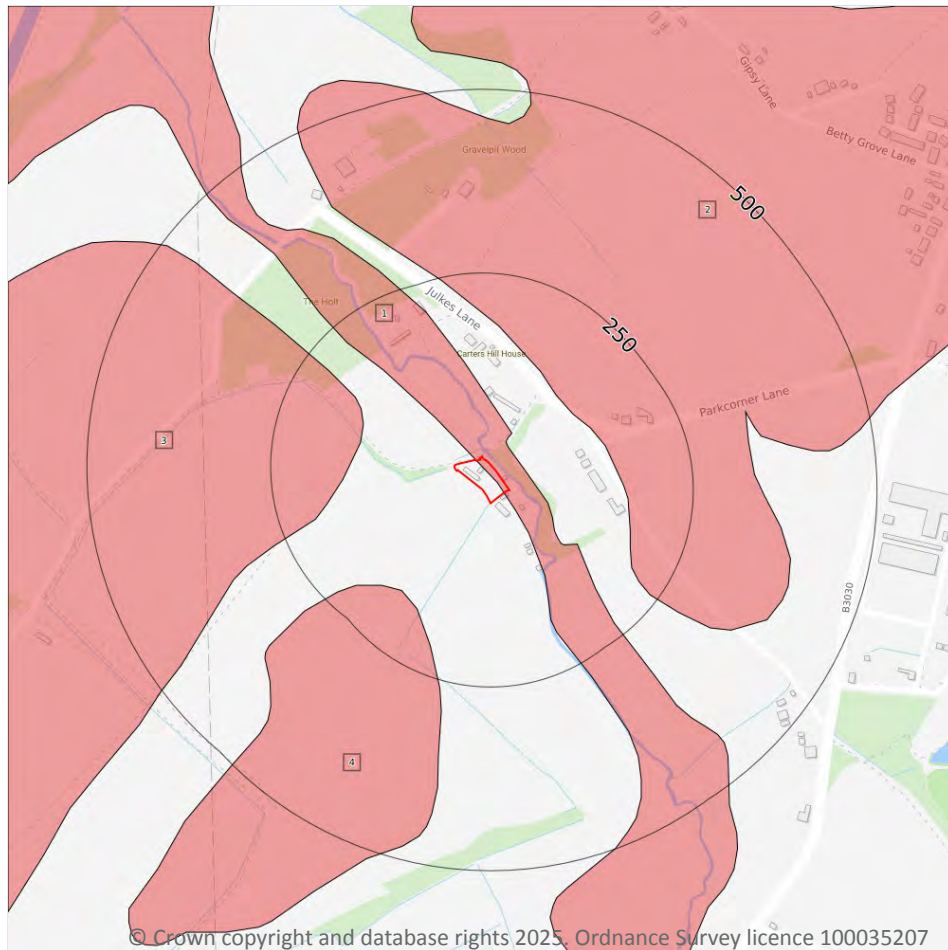
Records within 500m

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



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

5.1 Superficial aquifer

Records within 500m

4

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 29 >](#)

ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	130m 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

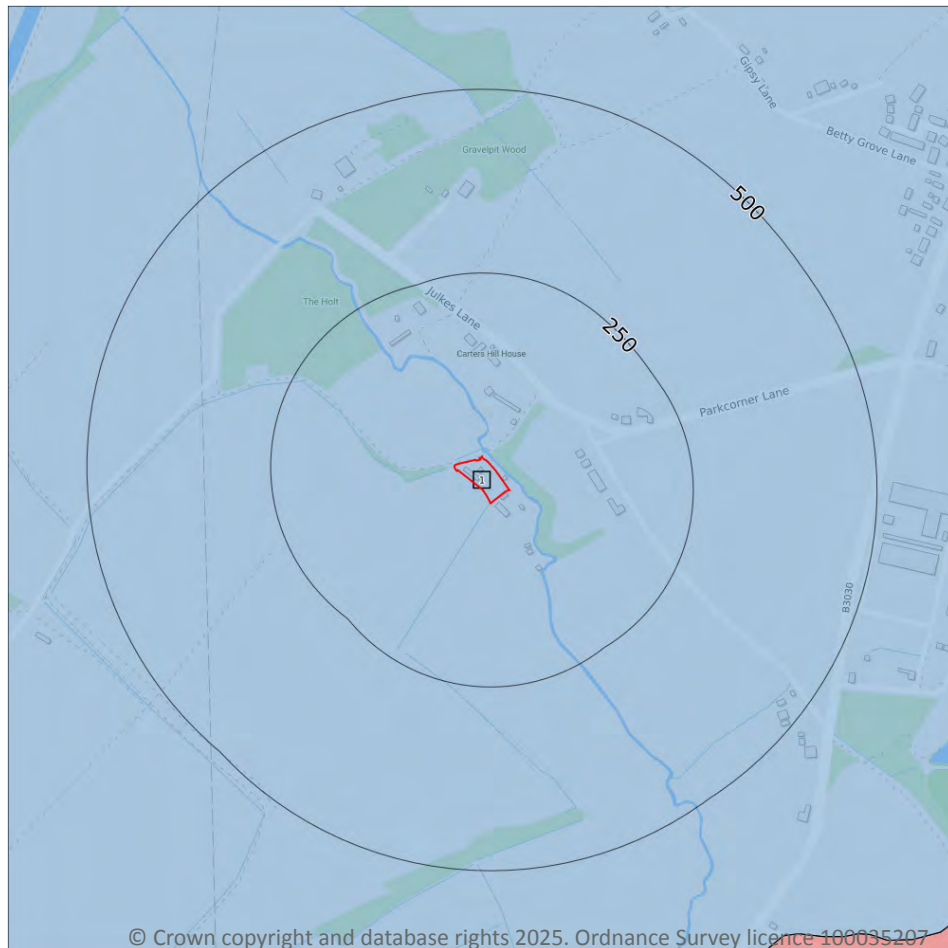


ID	Location	Designation	Description
3	132m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	170m SW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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



Bedrock aquifer



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

5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

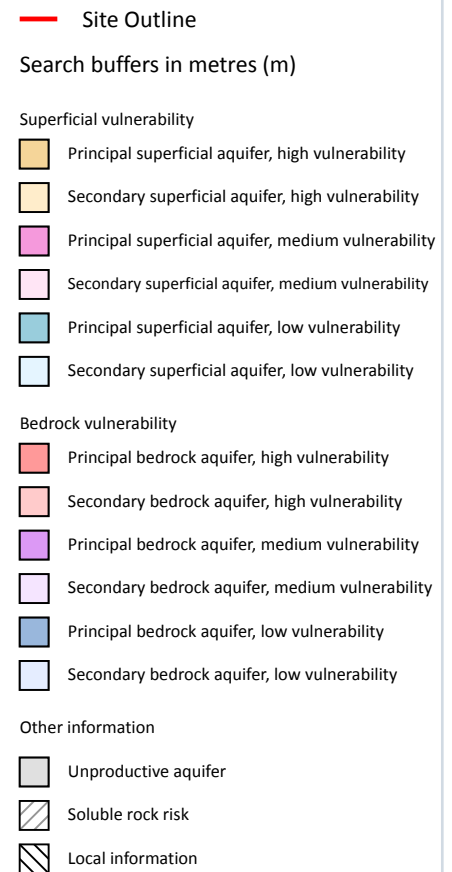
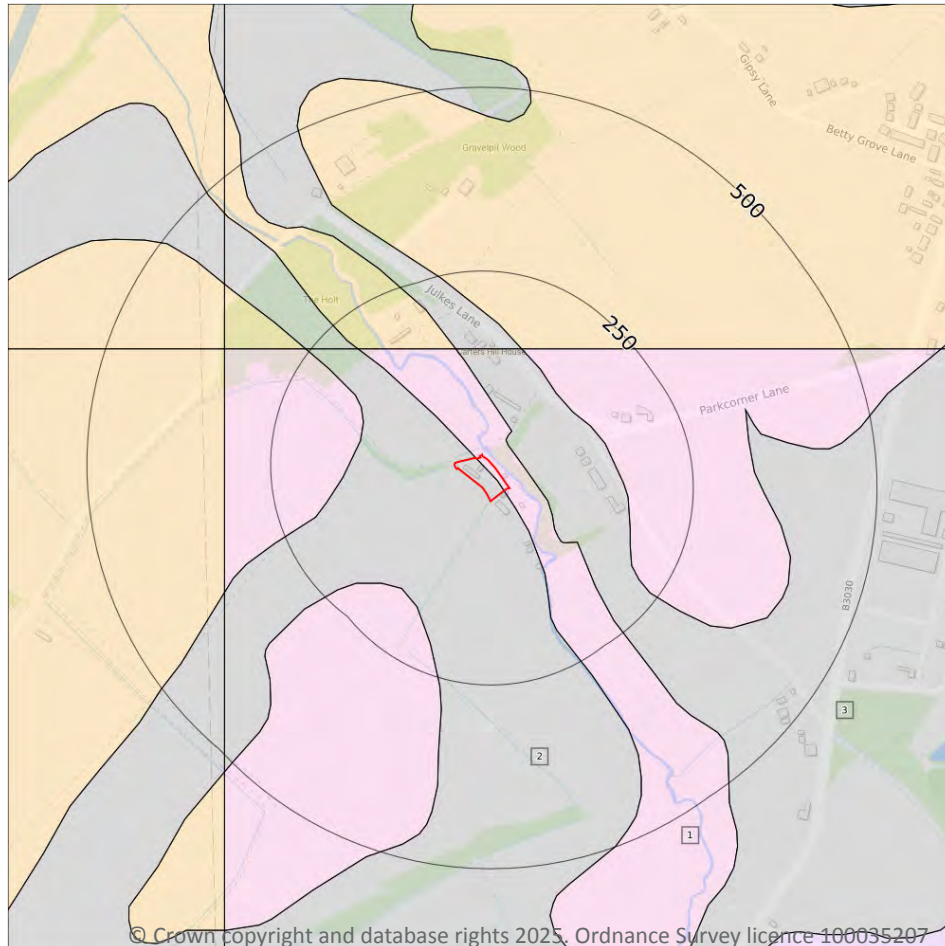
Features are displayed on the Bedrock aquifer map on [page 31](#) >

ID	Location	Designation	Description
1	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

3

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

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

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



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: High	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed
2	On site	Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: High	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed
3	33m NE	Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40- 70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: High	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

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

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

5.5 Groundwater vulnerability- local information

Records on site

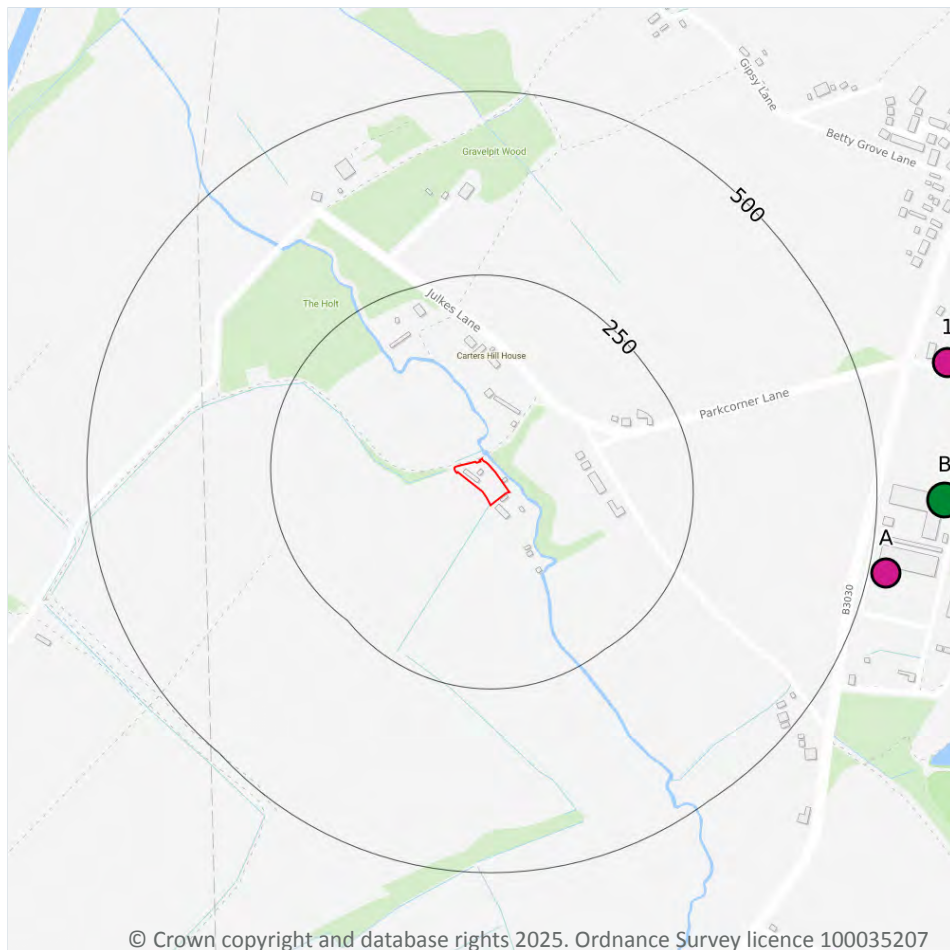
0

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

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



Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (m)**
- Source Protection Zone 1
Inner catchment
- Source Protection Zone 2
Outer catchment
- Source Protection Zone 3
Total catchment
- Source Protection Zone 4
Zone of Special Interest
- ▨ Source Protection Zone 1c
Inner catchment - confined aquifer
- ▨ Source Protection Zone 2c
Outer catchment - confined aquifer
- ▨ Source Protection Zone 3c
Total catchment - confined aquifer
- Drinking water abstraction licences
Polygon features
- ▨ Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- ▨ Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- ▨ Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

18

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 34](#) >

ID	Location	Details	
A	524m E	Status: Historical Licence No: 28/39/24/0152 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BEAR WOOD, SINDLESHAM - BOREHOLE 'B' Data Type: Point Name: ROYAL MERCHANT NAVY SCHOOL FOUNDATION Easting: 476900 Northing: 168700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 09/10/1972 Expiry Date: - Issue No: 100 Version Start Date: 05/03/1980 Version End Date: -
B	592m E	Status: Historical Licence No: 28/39/24/0152 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BEARWOOD COLLEGE, WINNERSH, WOKINGHAM - BOREHOLE Data Type: Point Name: ROYAL MERCHANT NAVY SCHOOL FOUNDATION Easting: 476980 Northing: 168800	Annual Volume (m ³): 36000 Max Daily Volume (m ³): 120 Original Application No: - Original Start Date: 09/10/1972 Expiry Date: - Issue No: 101 Version Start Date: 04/03/2005 Version End Date: -
B	592m E	Status: Historical Licence No: 28/39/24/0152 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BEARWOOD COLLEGE WINNERSH WOKINGHAM - BOREHOLE Data Type: Point Name: TRUSTEES FOR THE TIME BEING OF BEARWOOD COLLEGE Easting: 476980 Northing: 168800	Annual Volume (m ³): 36000 Max Daily Volume (m ³): 120 Original Application No: - Original Start Date: 09/10/1972 Expiry Date: - Issue No: 102 Version Start Date: 18/08/2006 Version End Date: -
1	622m E	Status: Active Licence No: TH/039/0024/036 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: ABSTRACTION POINT BEARWOOD PARK Data Type: Point Name: RFC Bearwood Limited Easting: 476984 Northing: 168987	Annual Volume (m ³): 35000 Max Daily Volume (m ³): 250 Original Application No: NPS/WR/027872 Original Start Date: 11/10/2019 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 11/10/2019 Version End Date: -



ID	Location	Details	
-	820m SE	Status: Historical Licence No: 28/39/24/0102 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: WELL AT NEWLANDS, ARBORFIELD Data Type: Point Name: HATCH FARM DAIRIES LTD Easting: 476800 Northing: 168100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 08/05/1967 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2001 Version End Date: -
-	882m SW	Status: Active Licence No: 28/39/24/0255/R01 Details: Non-Evaporative Cooling Direct Source: THAMES GROUNDWATER Point: HALL FARM, ARBORFIELD, READING - BOREHOLE Data Type: Point Name: University of Reading Easting: 475500 Northing: 168500	Annual Volume (m ³): 65700 Max Daily Volume (m ³): 180 Original Application No: NPS/WR/019295 Original Start Date: 01/04/2016 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 01/04/2016 Version End Date: -
-	882m SW	Status: Active Licence No: 28/39/24/0255/R01 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: HALL FARM, ARBORFIELD, READING - BOREHOLE Data Type: Point Name: University of Reading Easting: 475500 Northing: 168500	Annual Volume (m ³): 65700 Max Daily Volume (m ³): 180 Original Application No: NPS/WR/019295 Original Start Date: 01/04/2016 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 01/04/2016 Version End Date: -
-	882m SW	Status: Historical Licence No: 28/39/24/0255 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: HALL FARM, ARBORFIELD, READING - BOREHOLE Data Type: Point Name: UNIVERSITY OF READING Easting: 475500 Northing: 168500	Annual Volume (m ³): 73000 Max Daily Volume (m ³): 200 Original Application No: - Original Start Date: 17/11/2008 Expiry Date: 31/03/2016 Issue No: 1 Version Start Date: 17/11/2008 Version End Date: -



ID	Location	Details	
-	882m SW	Status: Historical Licence No: 28/39/24/0255 Details: General Washing/Process Washing Direct Source: THAMES GROUNDWATER Point: HALL FARM, ARBORFIELD, READING - BOREHOLE Data Type: Point Name: UNIVERSITY OF READING Easting: 475500 Northing: 168500	Annual Volume (m ³): 73000 Max Daily Volume (m ³): 200 Original Application No: - Original Start Date: 17/11/2008 Expiry Date: 31/03/2016 Issue No: 1 Version Start Date: 17/11/2008 Version End Date: -
-	882m SW	Status: Historical Licence No: 28/39/24/0255 Details: Non-Evaporative Cooling Direct Source: THAMES GROUNDWATER Point: HALL FARM, ARBORFIELD, READING - BOREHOLE Data Type: Point Name: UNIVERSITY OF READING Easting: 475500 Northing: 168500	Annual Volume (m ³): 73000 Max Daily Volume (m ³): 200 Original Application No: - Original Start Date: 17/11/2008 Expiry Date: 31/03/2016 Issue No: 1 Version Start Date: 17/11/2008 Version End Date: -
-	1254m NE	Status: Historical Licence No: 28/39/24/0236 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: THAMES GROUNDWATER Point: NIRVANA SPA, MOLE ROAD, SINDLESHAM - BOREHOLE B Data Type: Point Name: NIRVANA SPA AND LEISURE LTD Easting: 477250 Northing: 169730	Annual Volume (m ³): 91250 Max Daily Volume (m ³): 250 Original Application No: - Original Start Date: 14/06/2001 Expiry Date: 31/03/2016 Issue No: 2 Version Start Date: 05/02/2002 Version End Date: -
-	1276m NE	Status: Active Licence No: 28/39/24/0236/R01 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: THAMES GROUNDWATER Point: NIRVANA SPA, MOLE ROAD, SINDLESHAM - BOREHOLE A Data Type: Point Name: NIRVANA SPA AND LEISURE LTD Easting: 477295 Northing: 169715	Annual Volume (m ³): 91250 Max Daily Volume (m ³): 250 Original Application No: NPS/WR/019281 Original Start Date: 01/04/2016 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 01/04/2016 Version End Date: -



ID	Location	Details	
-	1276m NE	Status: Historical Licence No: 28/39/24/0236 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: THAMES GROUNDWATER Point: NIRVANA SPA, MOLE ROAD, SINDLESHAM - BOREHOLE A Data Type: Point Name: NIRVANA SPA AND LEISURE LTD Easting: 477295 Northing: 169715	Annual Volume (m ³): 91250 Max Daily Volume (m ³): 250 Original Application No: - Original Start Date: 14/06/2001 Expiry Date: 31/03/2016 Issue No: 2 Version Start Date: 05/02/2002 Version End Date: -
-	1277m NE	Status: Active Licence No: 28/39/24/0236/R01 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: THAMES GROUNDWATER Point: NIRVANA SPA, MOLE ROAD, SINDLESHAM - BOREHOLE B Data Type: Point Name: NIRVANA SPA AND LEISURE LTD Easting: 477300 Northing: 169712	Annual Volume (m ³): 91250 Max Daily Volume (m ³): 250 Original Application No: NPS/WR/019281 Original Start Date: 01/04/2016 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 01/04/2016 Version End Date: -
-	1277m NE	Status: Historical Licence No: 28/39/24/0236 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: THAMES GROUNDWATER Point: NIRVANA SPA, MOLE ROAD, SINDLESHAM - BOREHOLE B Data Type: Point Name: NIRVANA SPA AND LEISURE LTD Easting: 477300 Northing: 169712	Annual Volume (m ³): 91250 Max Daily Volume (m ³): 250 Original Application No: - Original Start Date: 14/06/2001 Expiry Date: 31/03/2016 Issue No: 2 Version Start Date: 05/02/2002 Version End Date: -
-	1290m NE	Status: Historical Licence No: 28/39/24/0236 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: THAMES GROUNDWATER Point: NIRVANA SPA, MOLE ROAD, SINDLESHAM - BOREHOLE A Data Type: Point Name: NIRVANA SPA AND LEISURE LTD Easting: 477300 Northing: 169730	Annual Volume (m ³): 91250 Max Daily Volume (m ³): 250 Original Application No: - Original Start Date: 14/06/2001 Expiry Date: 31/03/2016 Issue No: 2 Version Start Date: 05/02/2002 Version End Date: -



ID	Location	Details	
-	1442m E	Status: Historical Licence No: 28/39/24/0152 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BEAR WOOD, SINDLESHAM - BOREHOLE 'A' Data Type: Point Name: ROYAL MERCHANT NAVY SCHOOL FOUNDATION Easting: 477800 Northing: 169100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 09/10/1972 Expiry Date: - Issue No: 100 Version Start Date: 05/03/1980 Version End Date: -
-	1552m SW	Status: Active Licence No: 28/39/24/0014 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: ARBORFIELD PUMPING STATION POINT A Data Type: Point Name: Thames Water Utilities Ltd Easting: 474900 Northing: 168200	Annual Volume (m ³): 818298 Max Daily Volume (m ³): 2273.05 Original Application No: RG959 Original Start Date: 10/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 10/01/1966 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	10
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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 34 >](#)

ID	Location	Details	
-	686m E	Status: Historical Licence No: 28/39/24/0200 Details: Spray Irrigation - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: BEARWOOD LAKE AT BEARWOOD GOLF COURSE, SINDLESHAM Data Type: Point Name: ROYAL MERCHANT NAVY SCHOOL FOUNDATION Easting: 477070 Northing: 168740	Annual Volume (m ³): 2273 Max Daily Volume (m ³): 33 Original Application No: - Original Start Date: 01/08/1989 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -

ID	Location	Details	
-	687m E	Status: Historical Licence No: 28/39/24/0200 Details: Spray Irrigation - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: BEARWOOD LAKE AT BEARWOOD GOLF COURSE, SINDLESHAM Data Type: Point Name: RFC Bearwood Limited Easting: 477071 Northing: 168740	Annual Volume (m ³): 2273 Max Daily Volume (m ³): 33 Original Application No: NPS/WR/025060 Original Start Date: 01/08/1989 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2016 Version End Date: -
-	945m N	Status: Historical Licence No: 28/39/24/0099 Details: Spray Irrigation - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: RIVER LODDON AT HATCH FARM, SINDLESHAM Data Type: Line Name: HATCH FARM DAIRIES LTD Easting: 476400 Northing: 169800	Annual Volume (m ³): 6000 Max Daily Volume (m ³): 163.66 Original Application No: - Original Start Date: 10/04/1967 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2001 Version End Date: -
-	1014m W	Status: Historical Licence No: 28/39/24/0198 Details: Spray Irrigation - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: RIVER LODDON AT ARBORFIELD Data Type: Point Name: UNIVERSITY OF READING Easting: 475300 Northing: 168800	Annual Volume (m ³): 29094 Max Daily Volume (m ³): 430 Original Application No: - Original Start Date: 07/11/1988 Expiry Date: - Issue No: 100 Version Start Date: 20/08/1996 Version End Date: -
-	1242m E	Status: Historical Licence No: 28/39/24/0223 Details: Spray Irrigation - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: BEARWOOD LAKE AT BEARWOOD LAKES GOLF CLUB Data Type: Point Name: WARD WILSON INVESTMENTS LTD Easting: 477560 Northing: 168400	Annual Volume (m ³): 26940 Max Daily Volume (m ³): 427 Original Application No: - Original Start Date: 02/05/1996 Expiry Date: 31/12/2006 Issue No: 100 Version Start Date: 21/05/1998 Version End Date: -
-	1242m E	Status: Historical Licence No: 28/39/24/0251 Details: Spray Irrigation - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: BEARWOOD LAKE AT BEARWOOD LAKES GOLF CLUB Data Type: Point Name: WARD WILSON INVESTMENTS LTD Easting: 477560 Northing: 168400	Annual Volume (m ³): 26940 Max Daily Volume (m ³): 427 Original Application No: - Original Start Date: 01/01/2007 Expiry Date: 31/03/2016 Issue No: 1 Version Start Date: 01/04/2012 Version End Date: -



ID	Location	Details	
-	1242m E	Status: Historical Licence No: 28/39/24/0251/R01 Details: Spray Irrigation - Direct Direct Source: THAMES SURFACE WATER - NON TIDAL Point: BEARWOOD LAKE AT BEARWOOD LAKES GOLF CLUB Data Type: Point Name: WARD WILSON INVESTMENTS LTD Easting: 477560 Northing: 168400	Annual Volume (m ³): 26940 Max Daily Volume (m ³): 427 Original Application No: - Original Start Date: 01/04/2016 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 01/04/2016 Version End Date: -
-	1242m E	Status: Historical Licence No: 28/39/24/0251/R01 Details: Spray Irrigation - Storage Direct Source: THAMES SURFACE WATER - NON TIDAL Point: BEARWOOD LAKE AT BEARWOOD LAKES GOLF CLUB Data Type: Point Name: WARD WILSON INVESTMENTS LTD Easting: 477560 Northing: 168400	Annual Volume (m ³): 36000 Max Daily Volume (m ³): 854 Original Application No: NPS/WR/029765 Original Start Date: 01/04/2016 Expiry Date: 31/03/2028 Issue No: 3 Version Start Date: 01/04/2019 Version End Date: -
-	1588m SW	Status: Historical Licence No: TH/039/0024/026 Details: Dust Suppression Direct Source: THAMES SURFACE WATER - NON TIDAL Point: RIVER LODDEN TRIBUTARY ADJACENT TO HALL FARM (POINT B) Data Type: Point Name: Hochtief (UK) Construction Limited Easting: 474872 Northing: 168175	Annual Volume (m ³): 12000 Max Daily Volume (m ³): 60 Original Application No: - Original Start Date: 17/08/2015 Expiry Date: 17/04/2016 Issue No: 1 Version Start Date: 17/08/2015 Version End Date: -
-	1835m SW	Status: Historical Licence No: TH/039/0024/008 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: THAMES SURFACE WATER - NON TIDAL Point: ARBORFIELD OFF-TAKE STRUCTURE Data Type: Point Name: THE ENVIRONMENT AGENCY Easting: 474687 Northing: 167991	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: NPS/WR/002619 Original Start Date: 28/05/2010 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 01/01/2012 Version End Date: -

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



5.8 Potable abstractions

Records within 2000m

5

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 34 >](#)

ID	Location	Details	
A	524m E	Status: Historical Licence No: 28/39/24/0152 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BEAR WOOD, SINDLESHAM - BOREHOLE 'B' Data Type: Point Name: ROYAL MERCHANT NAVY SCHOOL FOUNDATION Easting: 476900 Northing: 168700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 09/10/1972 Expiry Date: - Issue No: 100 Version Start Date: 05/03/1980 Version End Date: -
B	592m E	Status: Historical Licence No: 28/39/24/0152 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BEARWOOD COLLEGE, WINNERSH, WOKINGHAM - BOREHOLE Data Type: Point Name: ROYAL MERCHANT NAVY SCHOOL FOUNDATION Easting: 476980 Northing: 168800	Annual Volume (m ³): 36000 Max Daily Volume (m ³): 120 Original Application No: - Original Start Date: 09/10/1972 Expiry Date: - Issue No: 101 Version Start Date: 04/03/2005 Version End Date: -
B	592m E	Status: Historical Licence No: 28/39/24/0152 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BEARWOOD COLLEGE WINNERSH WOKINGHAM - BOREHOLE Data Type: Point Name: TRUSTEES FOR THE TIME BEING OF BEARWOOD COLLEGE Easting: 476980 Northing: 168800	Annual Volume (m ³): 36000 Max Daily Volume (m ³): 120 Original Application No: - Original Start Date: 09/10/1972 Expiry Date: - Issue No: 102 Version Start Date: 18/08/2006 Version End Date: -



ID	Location	Details	
-	1442m E	Status: Historical Licence No: 28/39/24/0152 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: THAMES GROUNDWATER Point: BEAR WOOD, SINDLESHAM - BOREHOLE 'A' Data Type: Point Name: ROYAL MERCHANT NAVY SCHOOL FOUNDATION Easting: 477800 Northing: 169100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 09/10/1972 Expiry Date: - Issue No: 100 Version Start Date: 05/03/1980 Version End Date: -
-	1552m SW	Status: Active Licence No: 28/39/24/0014 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: ARBORFIELD PUMPING STATION POINT A Data Type: Point Name: Thames Water Utilities Ltd Easting: 474900 Northing: 168200	Annual Volume (m ³): 818298 Max Daily Volume (m ³): 2273.05 Original Application No: RG959 Original Start Date: 10/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 10/01/1966 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m	0
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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
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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.

ID	Location	Type of water feature	Ground level	Permanence	Name
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	5m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	6m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
3	7m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	12m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	14m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	70m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
C	71m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	235m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	235m SW	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

6

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

Features are displayed on the Hydrology map on [page 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
1	On site	River	Barkham Brook	GB106039017400	Loddon	Loddon and Trib

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
5	14m NE	River	Barkham Brook	GB106039017400 ↗	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

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

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.

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



7 River and coastal flooding



- Site Outline
- Search buffers in metres (m)
- River and coastal flooding:
- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

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7.1 Risk of flooding from rivers and the sea

Records within 50m

5

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

Features are displayed on the River and coastal flooding map on [page 48 >](#)



Distance	Flood risk category
On site	High
0 - 50m	High

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

7.2 Historical Flood Events

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

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

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

7.3 Flood Defences

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

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

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

7.4 Areas Benefiting from Flood Defences

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

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

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

7.5 Flood Storage Areas

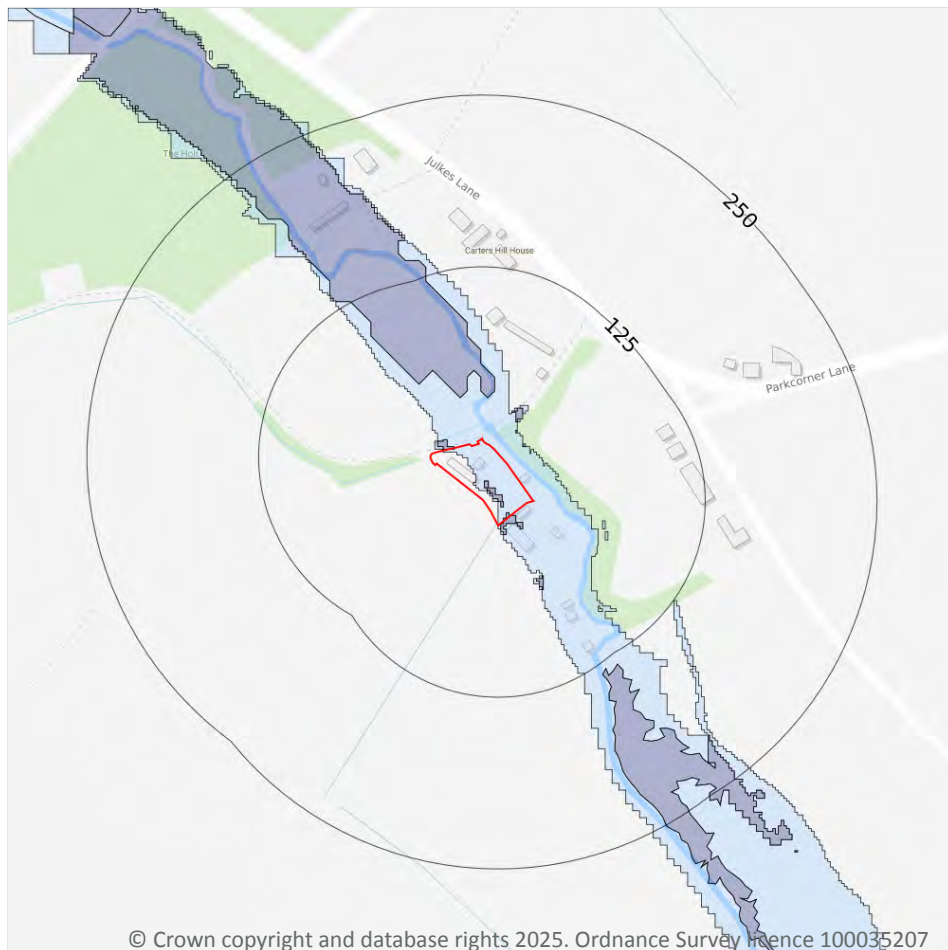
Records within 250m	0
----------------------------	----------

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

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



River and coastal flooding - Flood Zones



- Site Outline
- Search buffers in metres (m)
- Flood zone 2
- Flood zone 3

7.6 Flood Zone 2

Records within 50m

1

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

Features are displayed on the River and coastal flooding map on [page 48](#) >

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

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

7.7 Flood Zone 3

Records within 50m

1

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

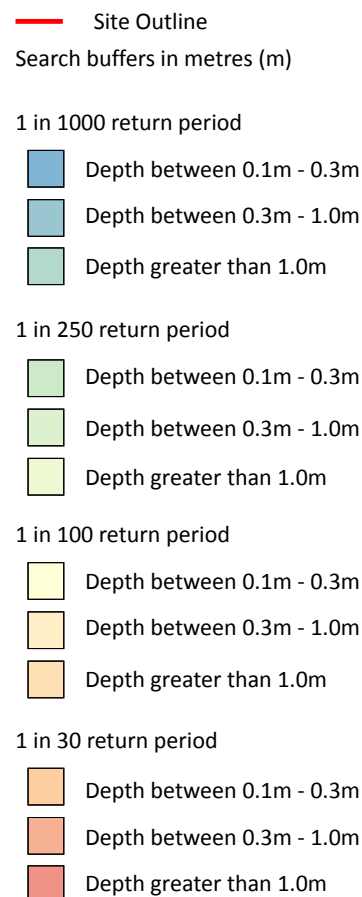
Features are displayed on the River and coastal flooding map on [page 48](#) >

Location	Type
On site	Zone 3 - (Fluvial /Tidal Models)

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.3m - 1.0m

Highest risk within 50m

1 in 30 year, Greater than 1.0m

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

Features are displayed on the Surface water flooding map on [page 52 >](#)

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

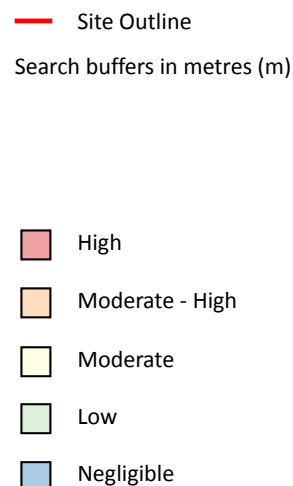
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Between 0.3m and 1.0m
1 in 30 year	Between 0.3m and 1.0m

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

High

Highest risk within 50m

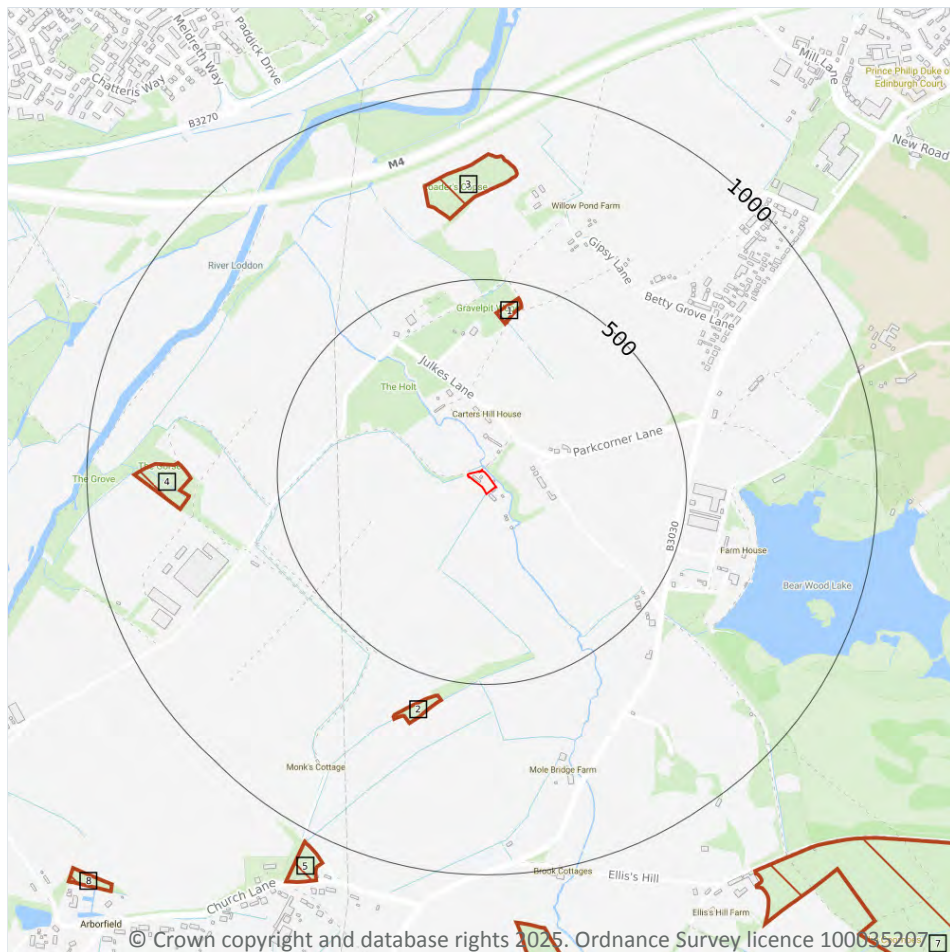
High

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

Features are displayed on the Groundwater flooding map on [page 54](#) >

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m**0**

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

10.7 Designated Ancient Woodland

Records within 2000m

12

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

Features are displayed on the Environmental designations map on [page 55 >](#)

ID	Location	Name	Woodland Type
1	389m N	(Epo3=gravelpit Wood)	Ancient & Semi-Natural Woodland
2	544m S	(Tithe:dog Kennel Copse)	Ancient & Semi-Natural Woodland
3	665m N	Loader's Copse(tithe:loaders Copse)	Ancient & Semi-Natural Woodland
4	727m W	(Epoch2: The Gorse; Tithe:newburys Copse)	Ancient & Semi-Natural Woodland
5	1029m SW	(Tithe Map: Brick Kiln Coppice)(tithe:brickkiln Coppice)	Ancient & Semi-Natural Woodland
6	1128m S	(Epo2: Hazeltons Copse; Tithe:hazletons Copse)	Ancient & Semi-Natural Woodland
7	1215m SE	The Coombes	Ancient & Semi-Natural Woodland
8	1420m SW	(Tithe Map: Furzen Coppice Parson's Coppice)(tithe:furzen Or Parsons Coppice)	Ancient & Semi-Natural Woodland
-	1446m NE	Unknown	Ancient & Semi-Natural Woodland
-	1629m W	St. John's Copse (Tithe Map: St Johns Coppice)(tithe:saint Johns Coppice)	Ancient & Semi-Natural Woodland

ID	Location	Name	Woodland Type
-	1888m SW	Pound Copse (Tithe Map: Pound Coppice Wellan's Coppice)(tithe:pond Or Willans Coppice)	Ancient & Semi-Natural Woodland
-	1965m SE	The Coombes	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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

10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

0

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

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



10.12 Proposed Ramsar sites

Records within 2000m**0**

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m**0**

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m**0**

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m**0**

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

1

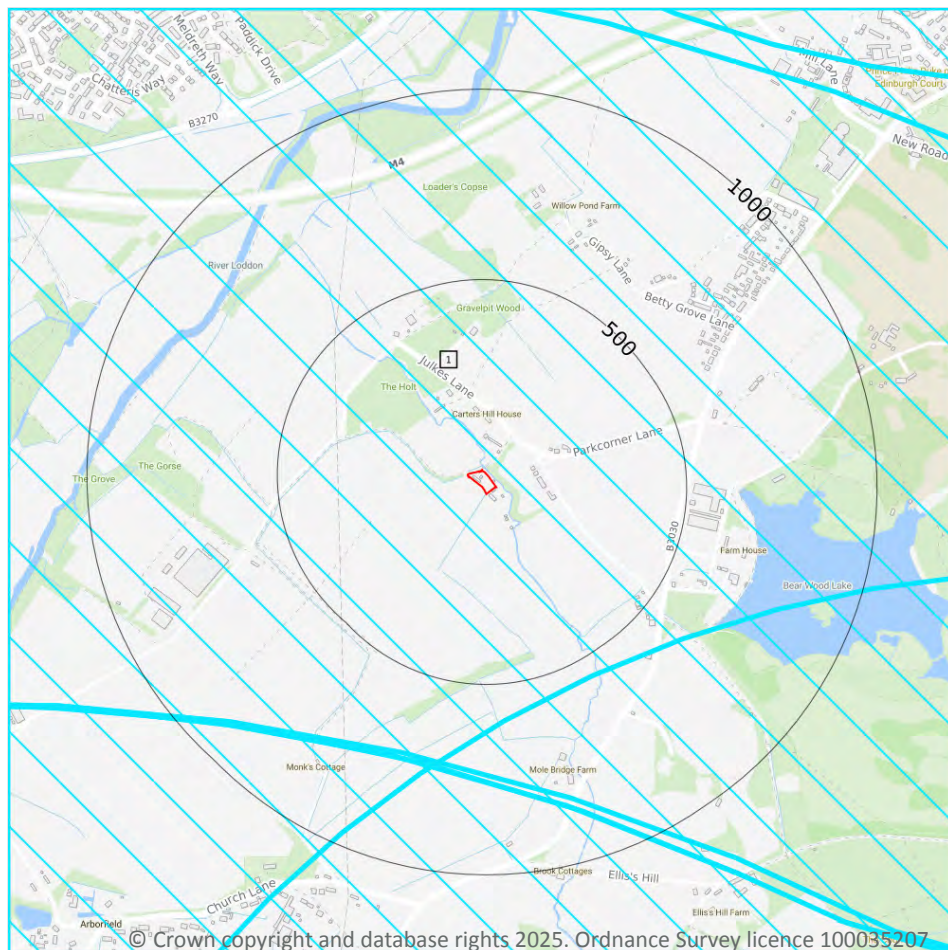
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
On site	Barkham Brook NVZ	Surface Water	449	Existing

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



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

1

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

Features are displayed on the SSSI Impact Zones and Units map on [page 61](#) >

ID	Location	Type of developments requiring consultation
1	On site	https://irz.geodata.org.uk/IRZ/step2.html?irzcode=0300000530000&notes=11404&location=475984,168857%20(IRZ%20polygon%20centre)

This data is sourced from Natural England.



10.18 SSSI Units

Records within 2000m

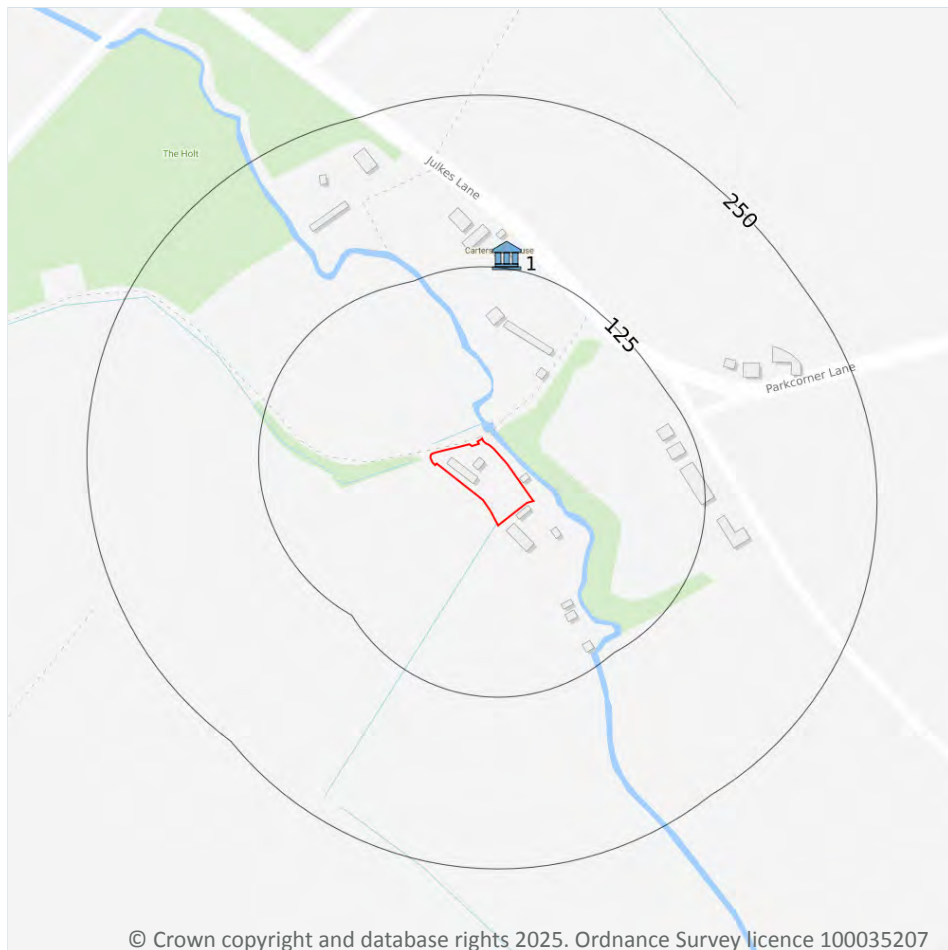
0

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

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



11 Visual and cultural designations



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

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m**0**

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

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

11.3 National Parks

Records within 250m**0**

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

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

11.4 Listed Buildings

Records within 250m**1**

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

Features are displayed on the Visual and cultural designations map on [page 63 >](#)

ID	Location	Name	Grade	Reference Number	Listed date
1	134m N	Carter's Hill House	II	1319098	26/12/1967

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



11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

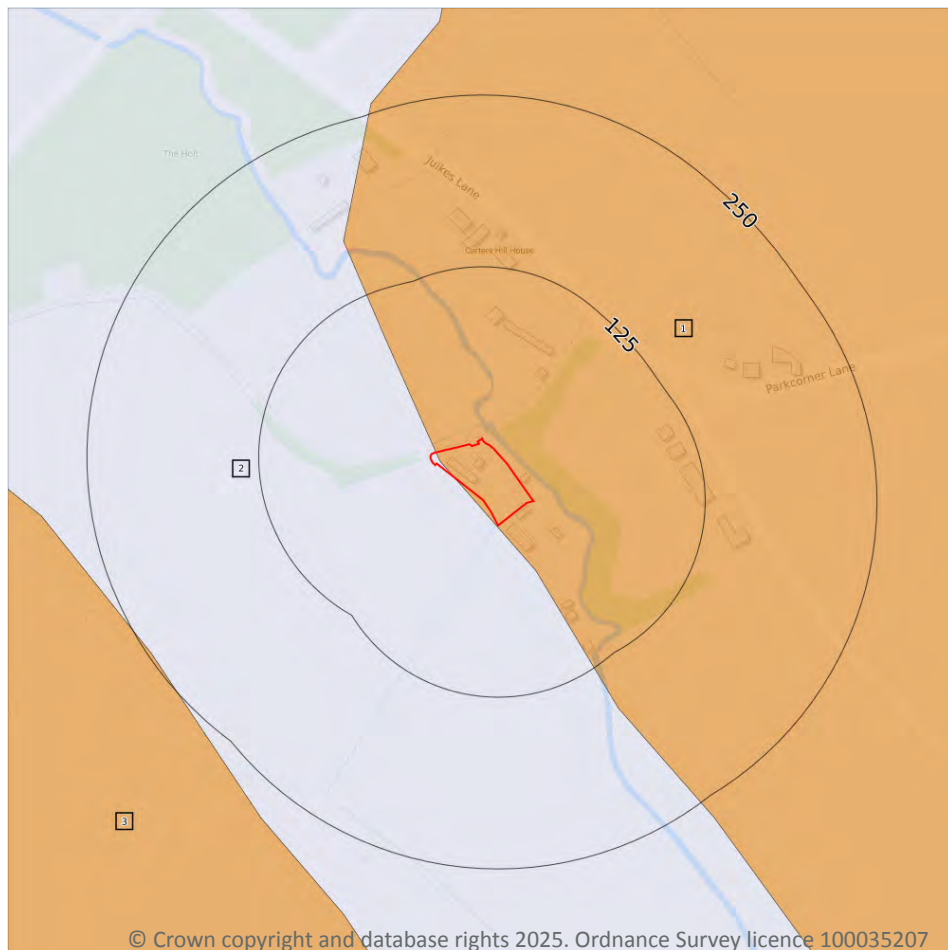
Records within 250m

0

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

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

12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

3

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 66](#) >

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

ID	Location	Classification	Description
2	On site	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.
3	247m SW	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

0

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

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

12.3 Tree Felling Licences

Records within 250m

0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.



12.5 Countryside Stewardship Schemes

Records within 250m

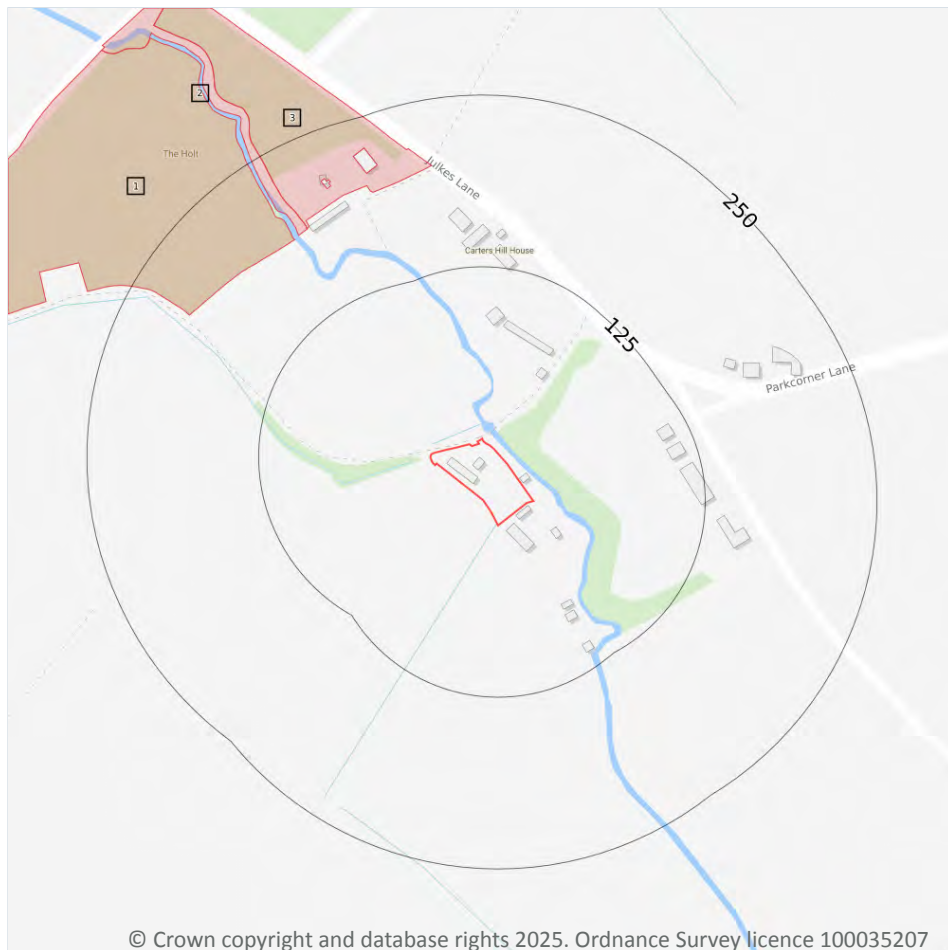
0

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



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

13.1 Priority Habitat Inventory

Records within 250m

3

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

Features are displayed on the Habitat designations map on [page 69](#) >

ID	Location	Main Habitat	Other habitats
1	185m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	186m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	187m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.



13.2 Habitat Networks

Records within 250m

0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

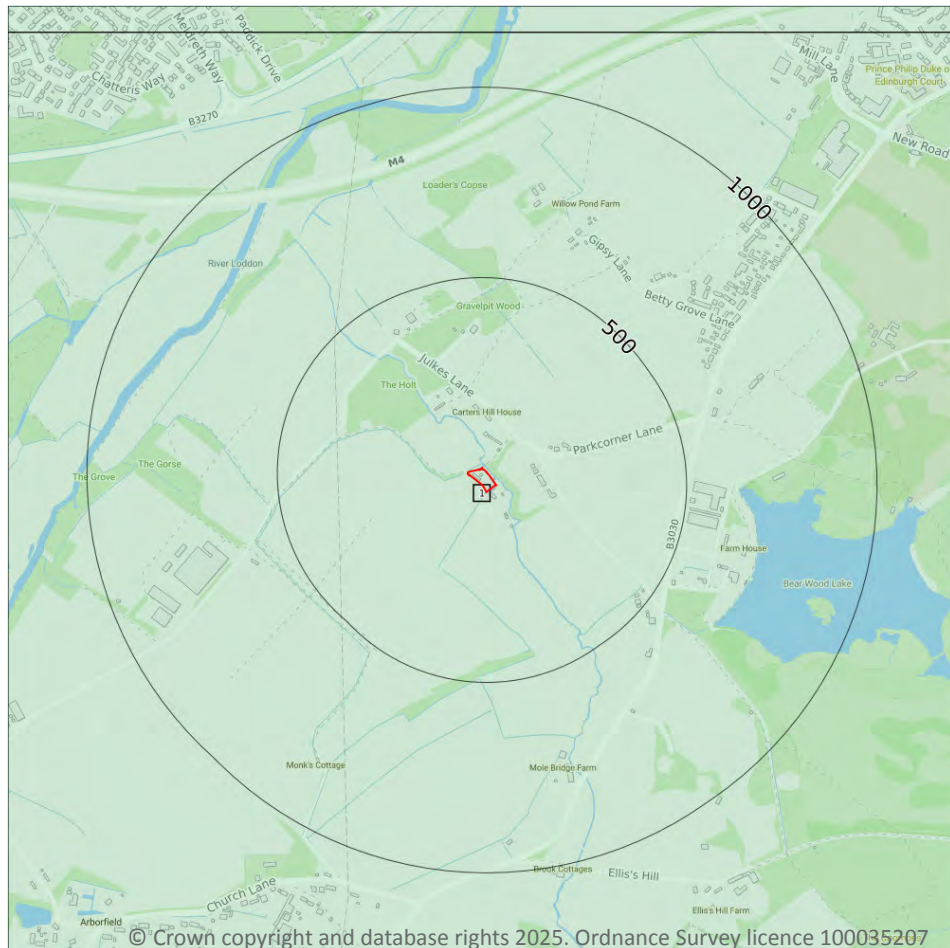
0

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

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



- Site Outline**
- Search buffers in metres (m)
- Full coverage
 - Partial coverage
 - No coverage

14.1 10k Availability

Records within 500m

1

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

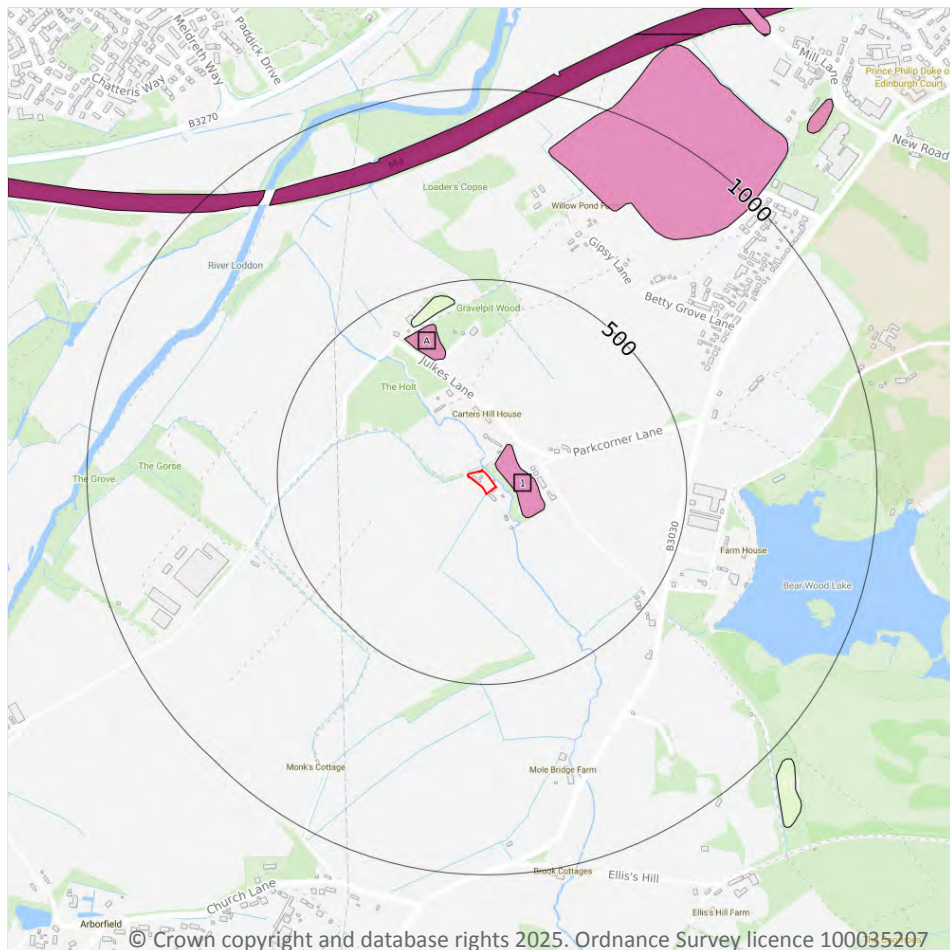
Features are displayed on the Geology 1:10,000 scale - Availability map on [page 71](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	SU76NE

This data is sourced from the British Geological Survey.



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



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

14.2 Artificial and made ground (10k)

Records within 500m

3

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

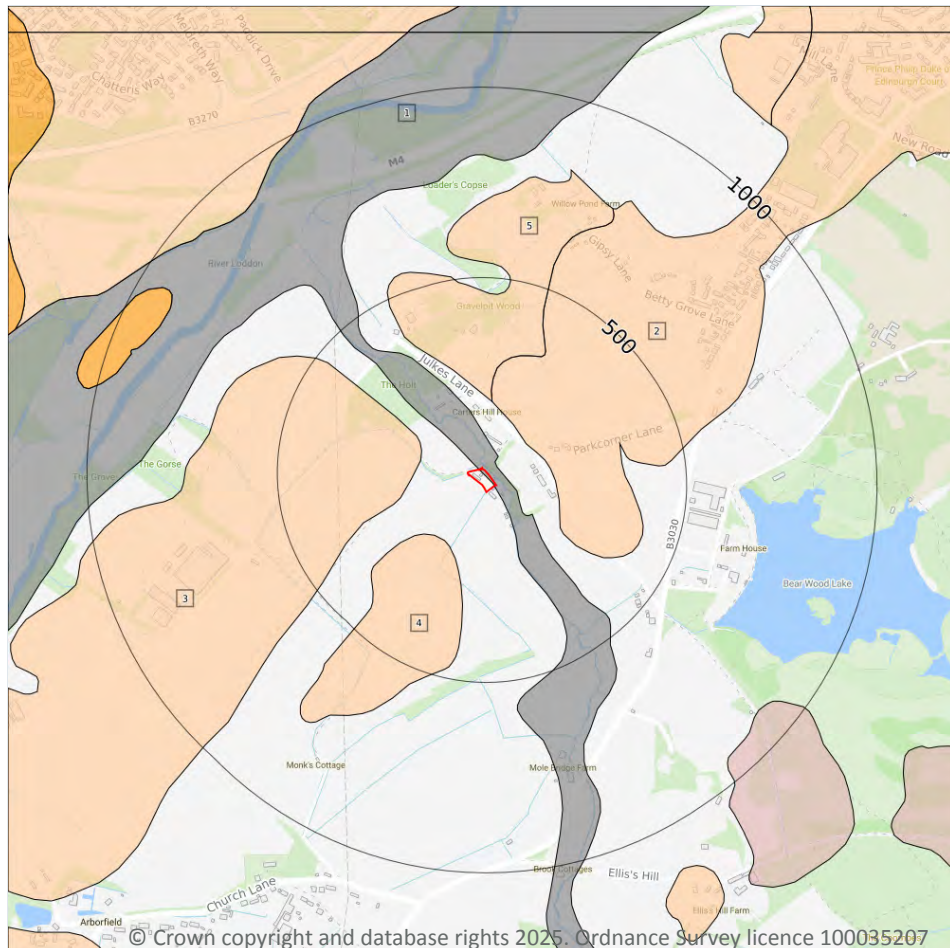
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on [page 72 >](#)

ID	Location	LEX Code	Description	Rock description
1	30m NE	WGR-VOID	Worked Ground (Undivided)	Void
A	309m N	WGR-VOID	Worked Ground (Undivided)	Void
A	411m N	WMGR-ARTDP	Infilled Ground	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m

5

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 73](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	ALV-Z	Alluvium - Silt (unlithified Deposits Coding Scheme)	Silt
2	128m NE	RTD4-XSV	River Terrace Deposits, 4 - Sand And Gravel	Sand And Gravel
3	128m W	RTD3-XSV	River Terrace Deposits, 3 - Sand And Gravel	Sand And Gravel
4	168m SW	RTD4-XSV	River Terrace Deposits, 4 - Sand And Gravel	Sand And Gravel



ID	Location	LEX Code	Description	Rock description
5	176m N	RTD3-XSV	River Terrace Deposits, 3 - Sand And Gravel	Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

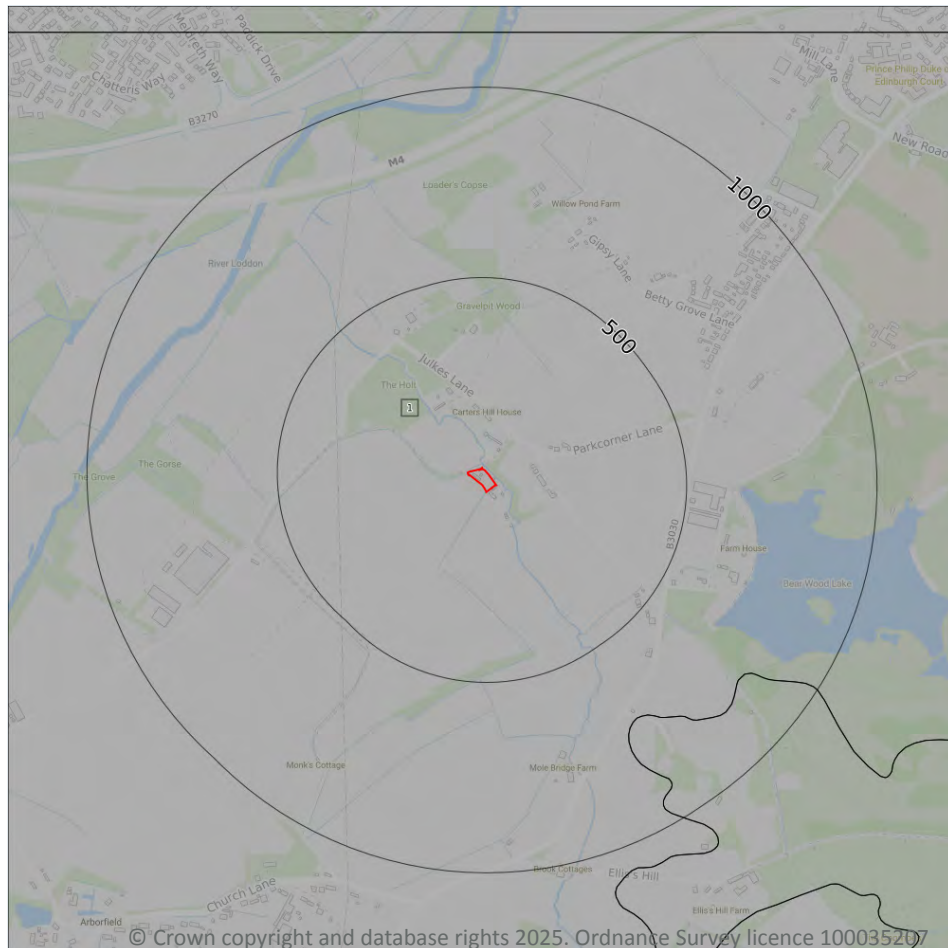
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

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

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

14.5 Bedrock geology (10k)

Records within 500m

1

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 75 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	LC-CLSISA	London Clay Formation - Clay, Silt And Sand	Eocene Epoch

This data is sourced from the British Geological Survey.



14.6 Bedrock faults and other linear features (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline

Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

1

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

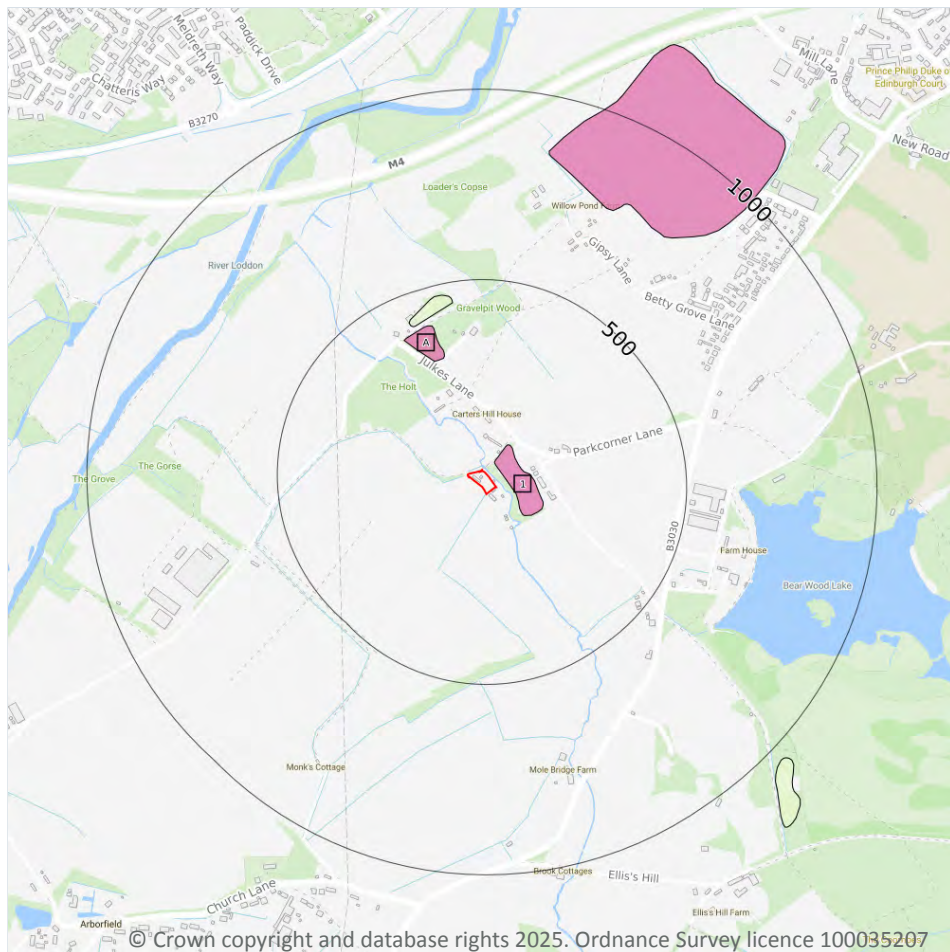
Features are displayed on the Geology 1:50,000 scale - Availability map on [page 77](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	EW268_reading_v4

This data is sourced from the British Geological Survey.



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



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

15.2 Artificial and made ground (50k)

Records within 500m

3

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

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on [page 78](#) >

ID	Location	LEX Code	Description	Rock description
1	33m NE	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
A	309m N	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
A	413m N	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.



15.3 Artificial ground permeability (50k)

Records within 50m

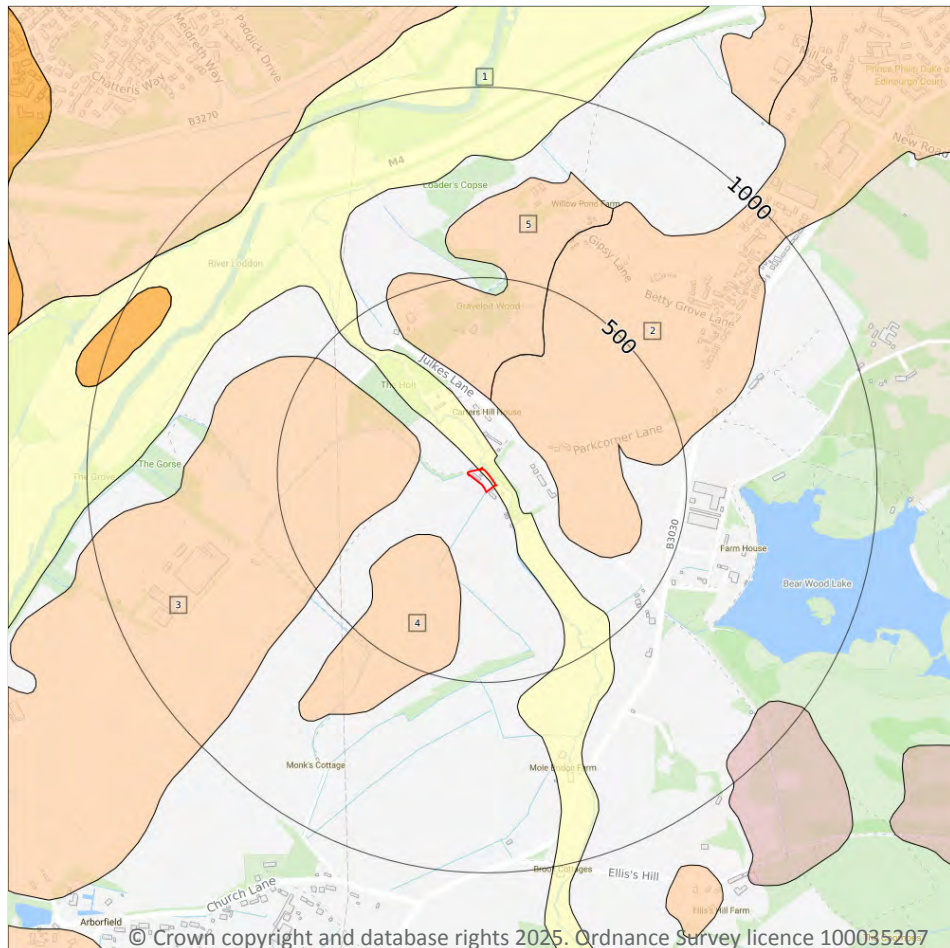
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m

5

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 80](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
2	130m NE	RTD4-XSV	RIVER TERRACE DEPOSITS, 4	SAND AND GRAVEL
3	132m W	RTD3-XSV	RIVER TERRACE DEPOSITS, 3	SAND AND GRAVEL
4	170m SW	RTD4-XSV	RIVER TERRACE DEPOSITS, 4	SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
5	180m N	RTD3-XSV	RIVER TERRACE DEPOSITS, 3	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1
---------------------------	----------

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

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

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

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

This data is sourced from the British Geological Survey.

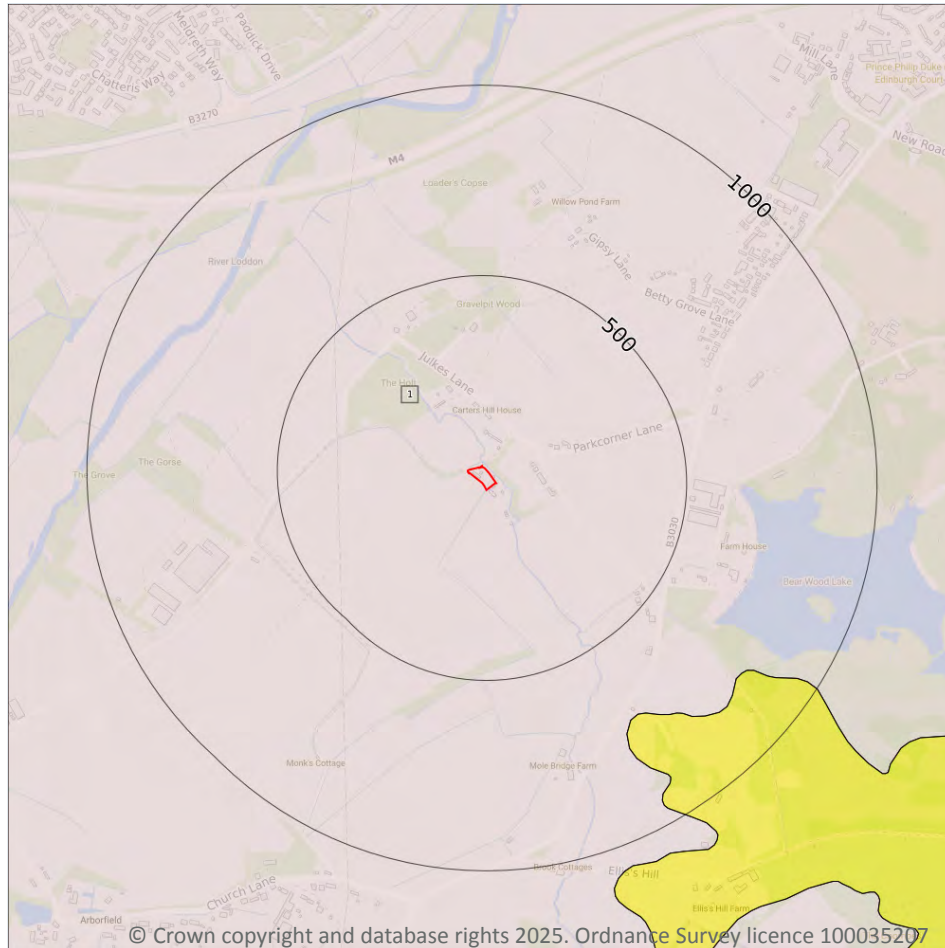
15.7 Landslip permeability (50k)

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

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 82 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	LC-XCZS	LONDON CLAY FORMATION - CLAY, SILT AND SAND	YPRESIAN

This data is sourced from the British Geological Survey.



15.9 Bedrock permeability (50k)

Records within 50m

1

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



16 Boreholes



— Site Outline
Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m

1

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

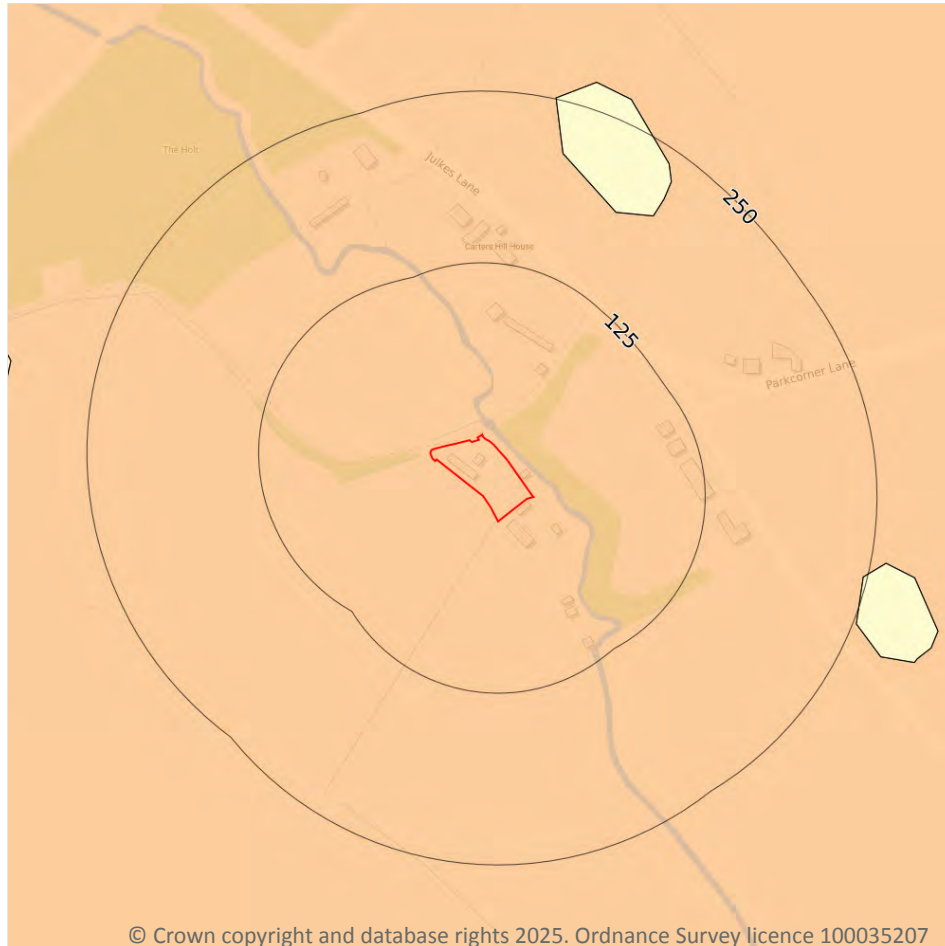
Features are displayed on the Boreholes map on [page 84](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	57m N	476300 168900	CARTERS HILL FARM NEWLAND BERKS	9.14	N	426956 ↗

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



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

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17.1 Shrink swell clays

Records within 50m

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).

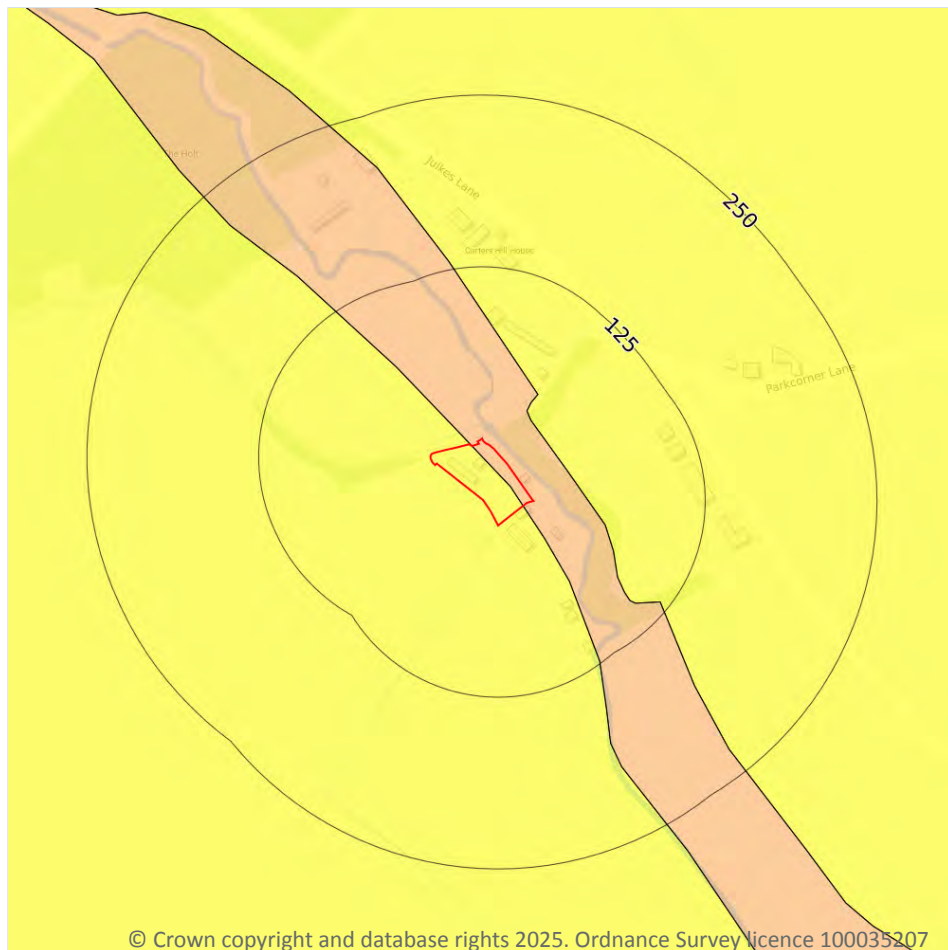
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 85 >](#)

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

2

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 86](#) >

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

Location	Hazard rating	Details
On site	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

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

2

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 88](#) >

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
On site	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.



This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



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

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17.4 Collapsible deposits

Records within 50m

2

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 90](#) >

Location	Hazard rating	Details
On site	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



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

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17.5 Landslides

Records within 50m

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 91](#) >

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
42m E	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



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

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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 93](#)

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



This data is sourced from the British Geological Survey.



18 Mining and ground workings

18.1 BritPits

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m

0

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

This data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

0

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

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

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

This data is sourced from Groundsure.



18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

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

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

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

This data is sourced from The Coal Authority.



18.9 Researched mining

Records within 500m**0**

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

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m**0**

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m**0**

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

This data is sourced from Groundsure.

18.12 Coal mining

Records on site**0**

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

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site**0**

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

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



18.14 Gypsum areas

Records on site

0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site

0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site

0

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

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

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

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

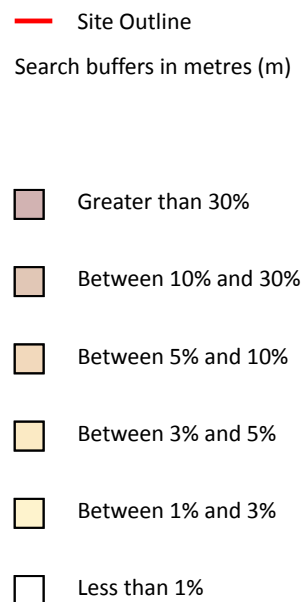
Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.



This data is sourced from Groundsure.



20 Radon



20.1 Radon

Records on site

1

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

Features are displayed on the Radon map on [page 101](#) >

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



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



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

3

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
33m NE	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

22.1 Underground railways (London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m

0

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

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m

0

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



This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.9 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.

Data providers

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

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Appendix 4: Historical Map Selection

Site Details:

JULKES HOUSE, JULKES LANE,
CARTERS HILL, ARBORFIELD,
WOKINGHAM, RG2 9JJ

Client Ref: Julkes House, RG2 9JJ
Report Ref: GS-805-RW9-AB6-GUL
Grid Ref: 476350, 168824

Map Name: County Series

Map date: 1872

Scale: 1:2,500

Printed at: 1:2,500



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

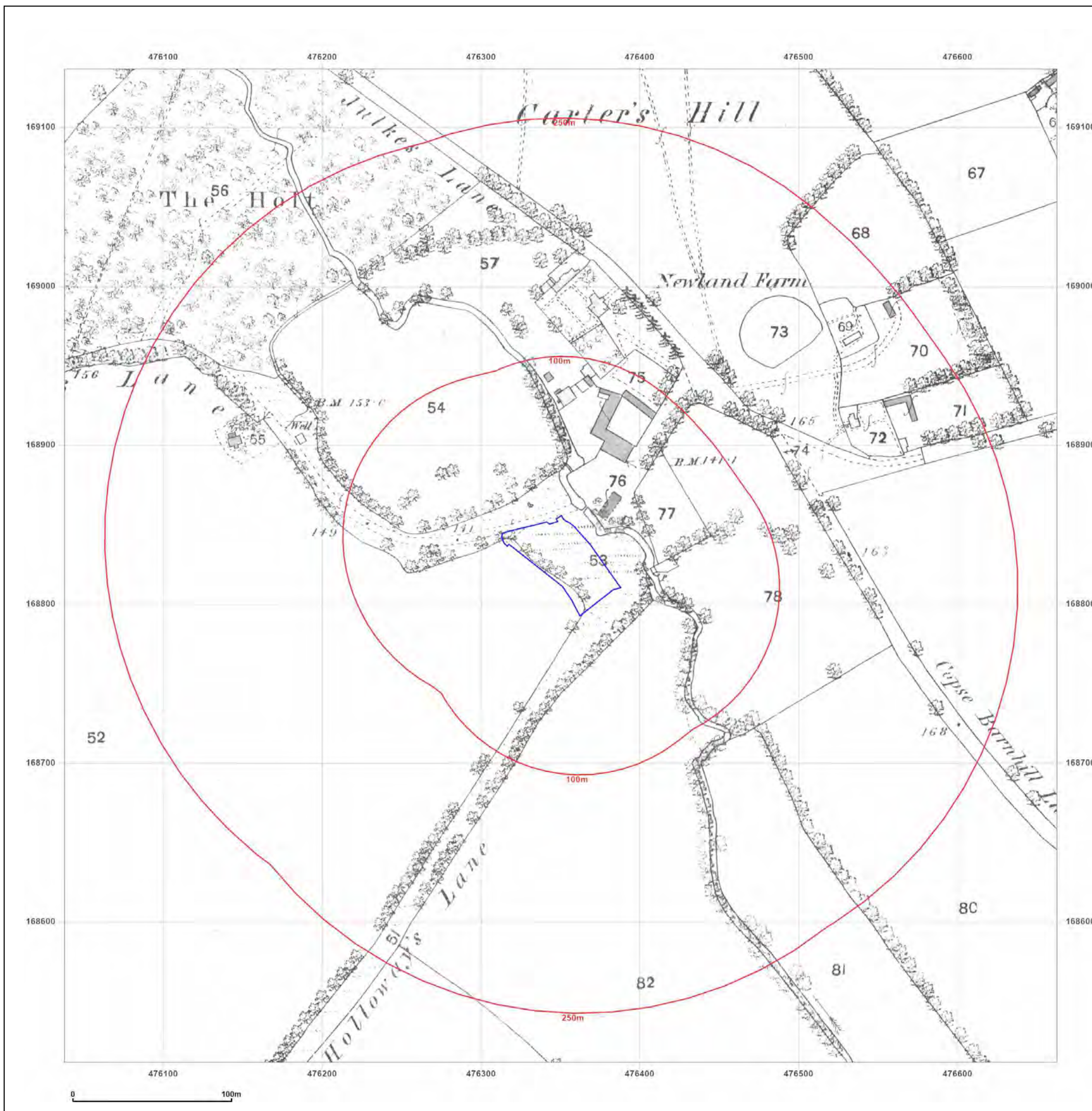


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Production date: 27 June 2025

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



Site Details:

JULKES HOUSE, JULKES LANE,
CARTERS HILL, ARBORFIELD,
WOKINGHAM, RG2 9JJ

Client Ref: Julkes House, RG2 9JJ
Report Ref: GS-805-RW9-AB6-GUL
Grid Ref: 476350, 168824

Map Name: County Series

Map date: 1899

Scale: 1:2,500

Printed at: 1:2,500



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

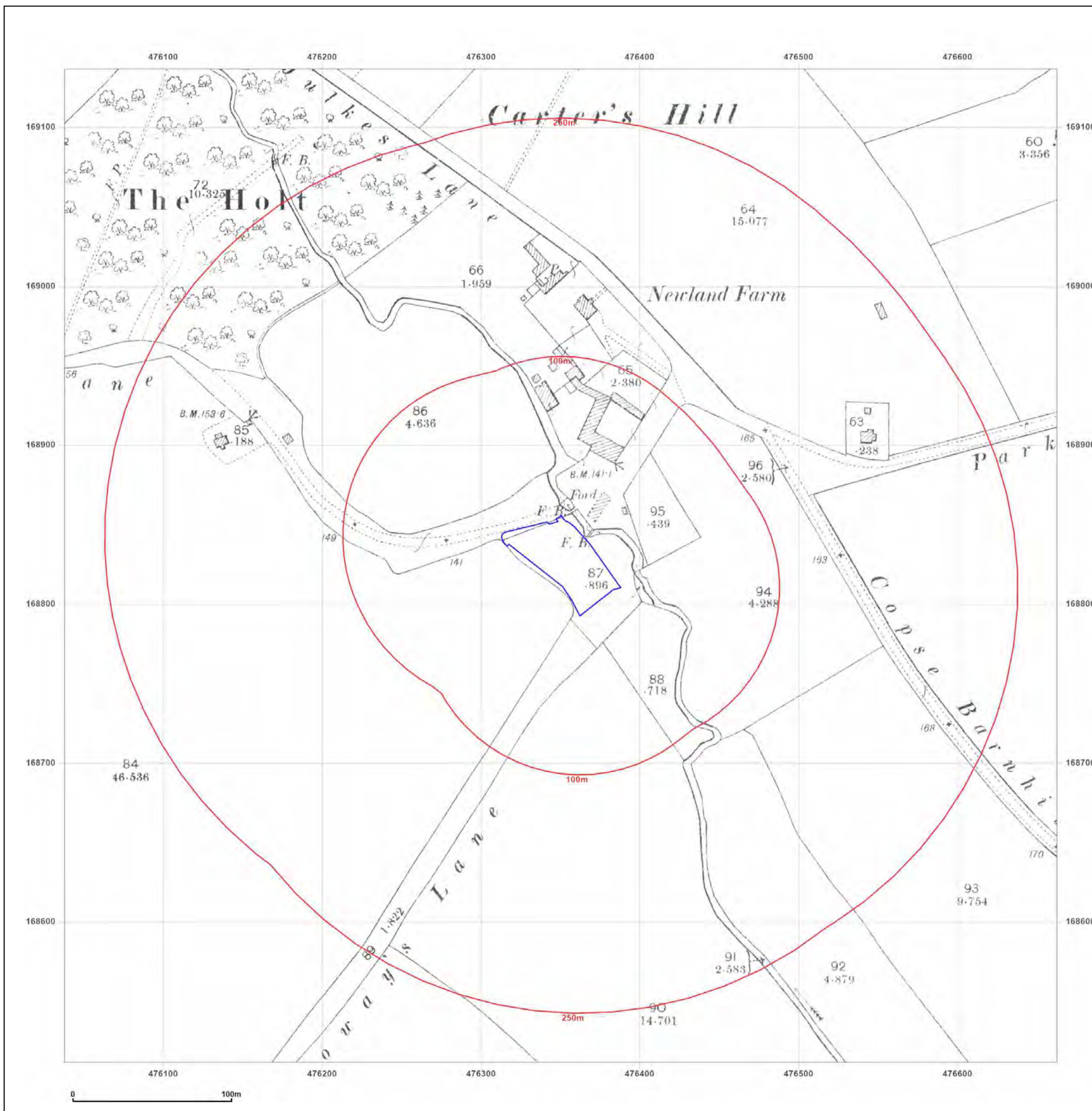


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Production date: 27 June 2025

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Site Details:

JULKES HOUSE, JULKES LANE,
CARTERS HILL, ARBORFIELD,
WOKINGHAM, RG2 9JJ

Client Ref: Julkes House, RG2 9JJ
Report Ref: GS-805-RW9-AB6-GUL
Grid Ref: 476350, 168824

Map Name: County Series

Map date: 1911

Scale: 1:2,500

Printed at: 1:2,500



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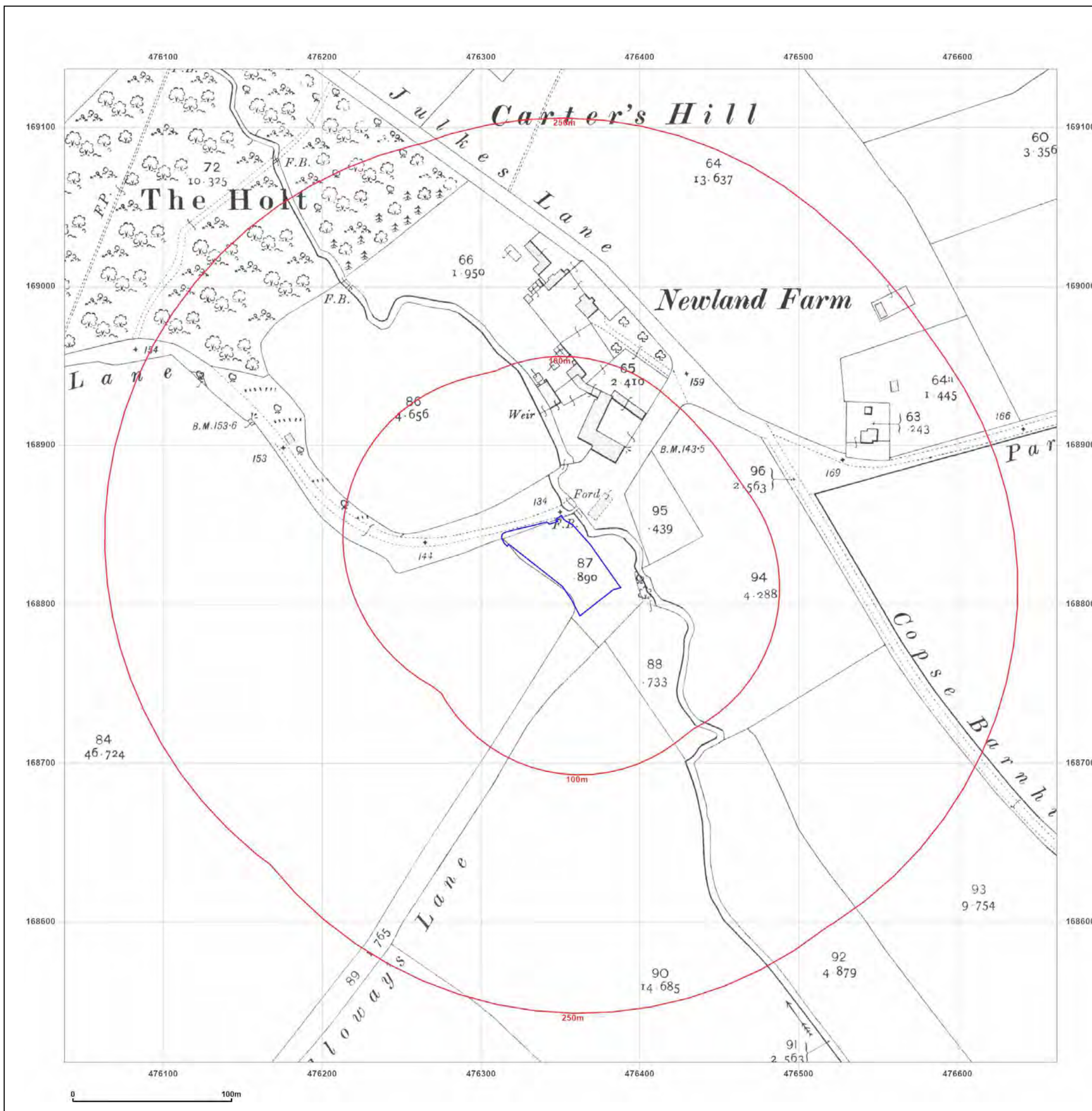


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Site Details:

JULKES HOUSE, JULKES LANE,
CARTERS HILL, ARBORFIELD,
WOKINGHAM, RG2 9JJ

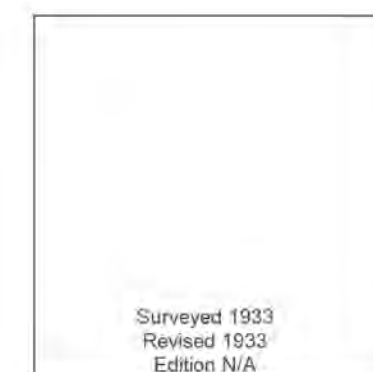
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Report Ref: GS-805-RW9-AB6-GUL
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Map Name: County Series

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Printed at: 1:2,500



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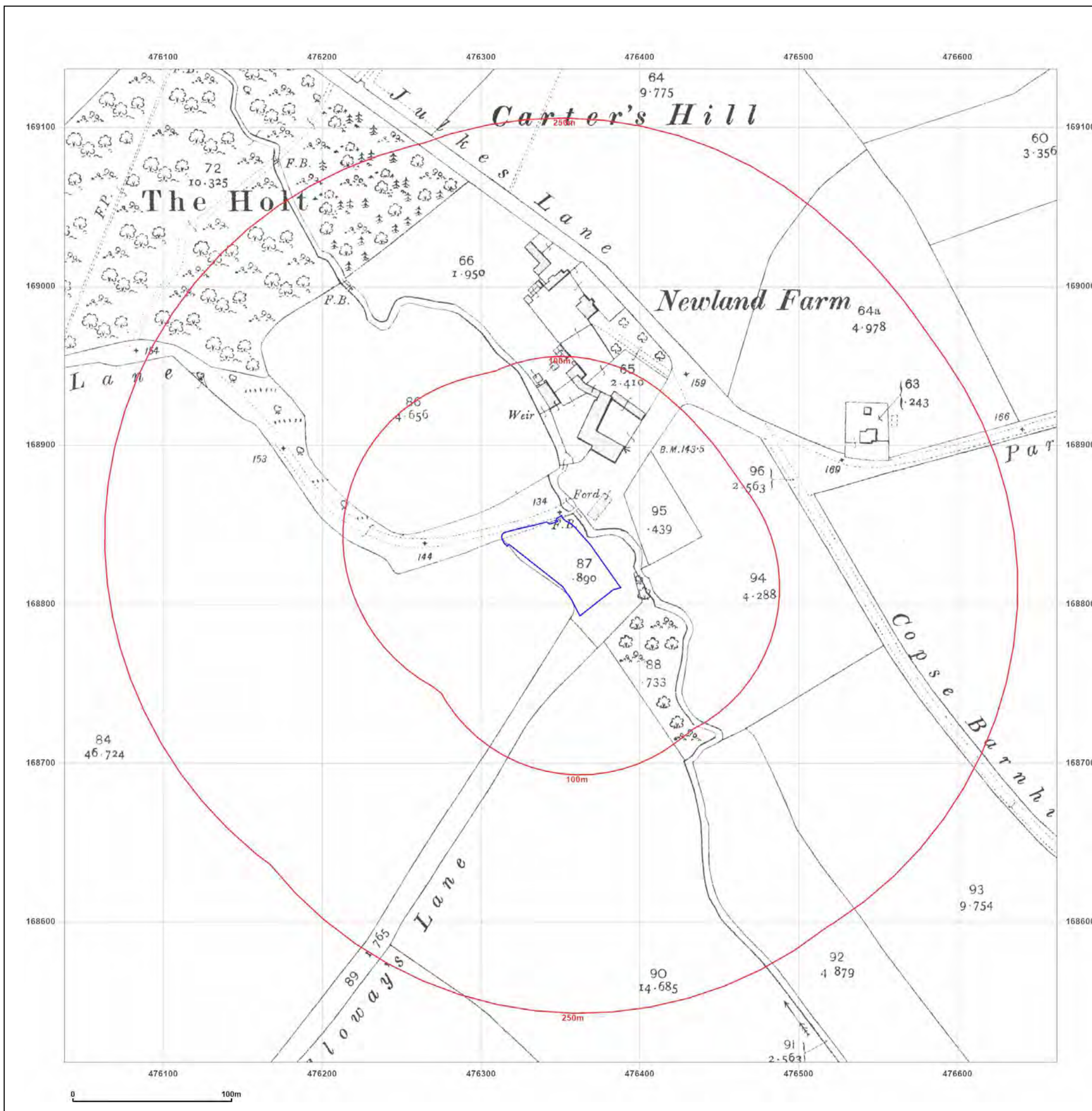


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Site Details:

JULKES HOUSE, JULKES LANE,
CARTERS HILL, ARBORFIELD,
WOKINGHAM, RG2 9JJ

Client Ref: Julkes House, RG2 9JJ
Report Ref: GS-805-RW9-AB6-GUL
Grid Ref: 476350, 168824

Map Name: National Grid

Map date: 1967

Scale: 1:2,500

Printed at: 1:2,500



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

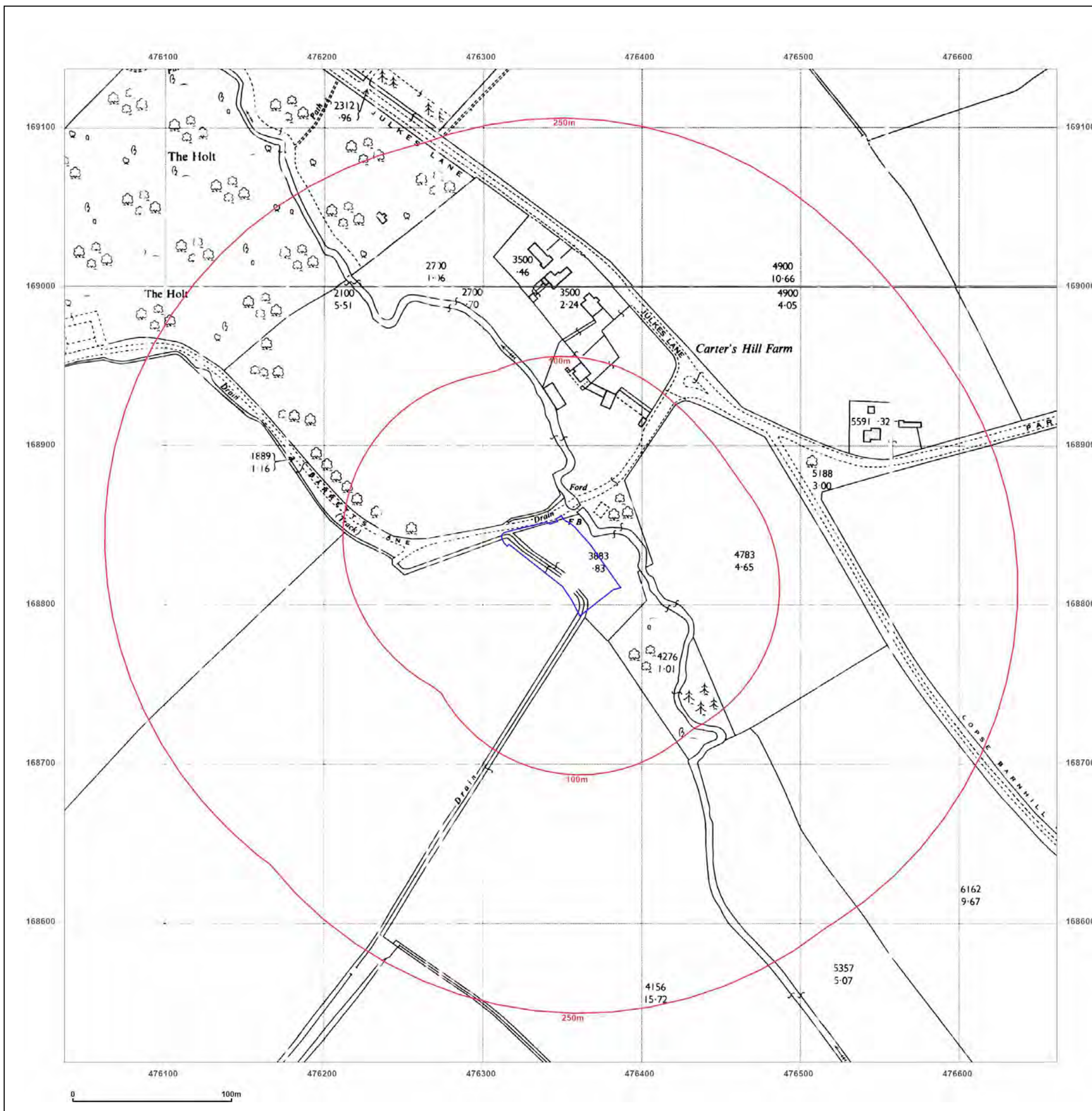


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Site Details:

JULKES HOUSE, JULKES LANE,
CARTERS HILL, ARBORFIELD,
WOKINGHAM, RG2 9JJ

Client Ref: Julkes House, RG2 9JJ
Report Ref: GS-805-RW9-AB6-GUL
Grid Ref: 476350, 168824

Map Name: National Grid

Map date: 1967

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1967
Revised 1967
Edition N/A
Copyright 1967
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Surveyed 1967
Revised 1967
Edition N/A
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Levelled 1951

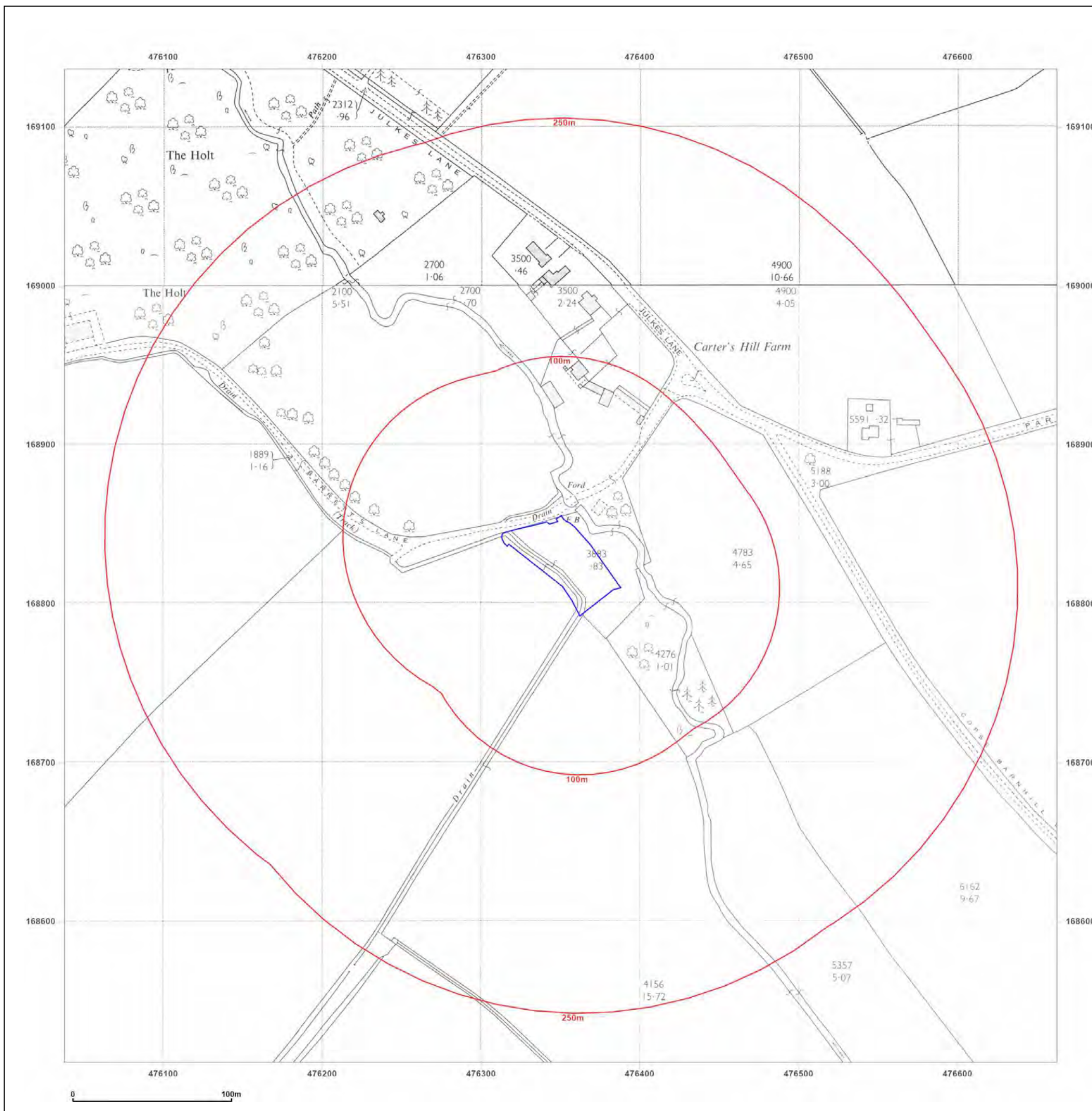


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Site Details:

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CARTERS HILL, ARBORFIELD,
WOKINGHAM, RG2 9JJ

Client Ref: Julkes House, RG2 9JJ
Report Ref: GS-805-RW9-AB6-GUL
Grid Ref: 476350, 168824

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



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

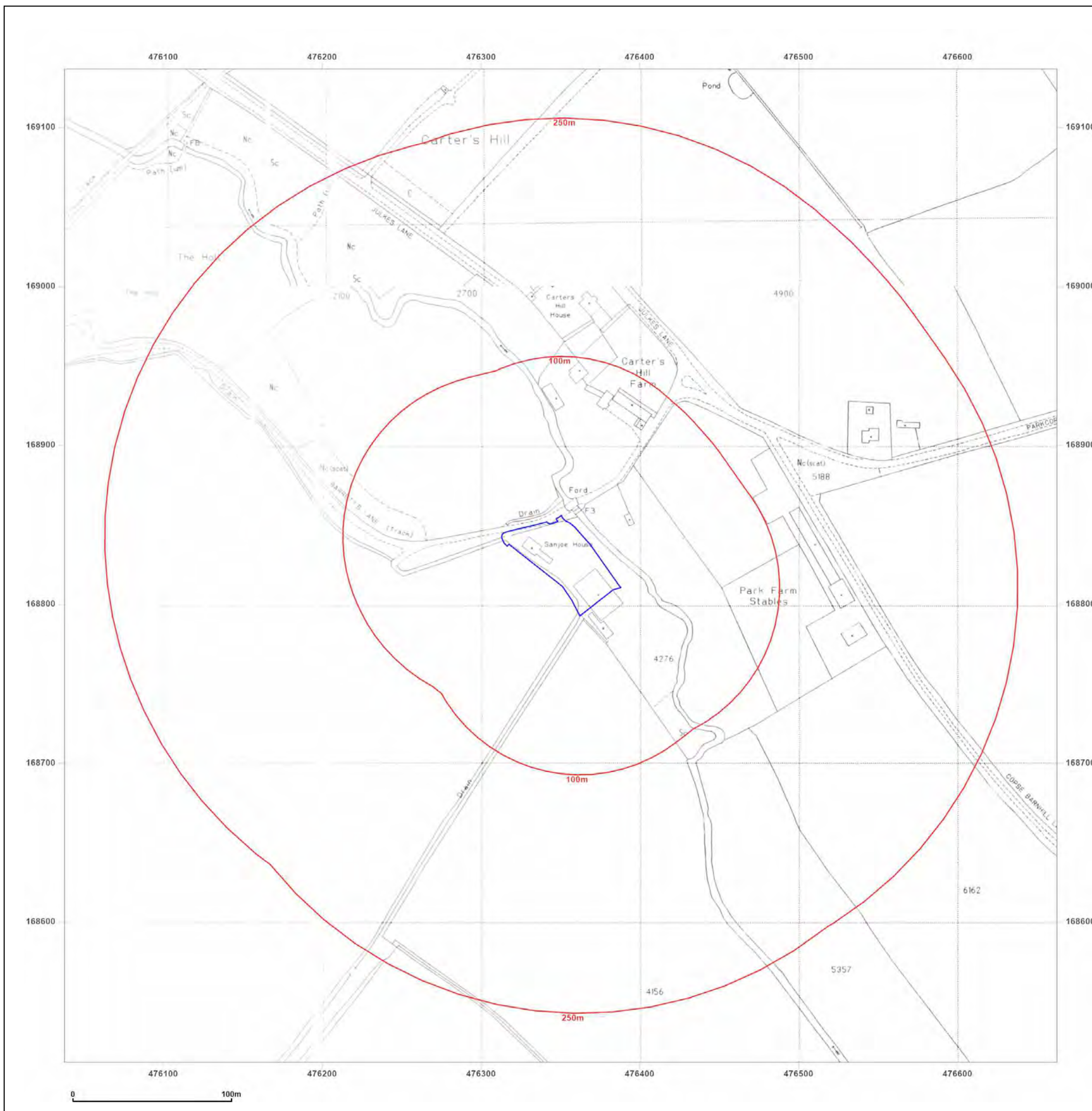


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Site Details:

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CARTERS HILL, ARBORFIELD,
WOKINGHAM, RG2 9JJ

Client Ref: Julkes House, RG2 9JJ
Report Ref: GS-805-RW9-AB6-GUL
Grid Ref: 476350, 168824

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000

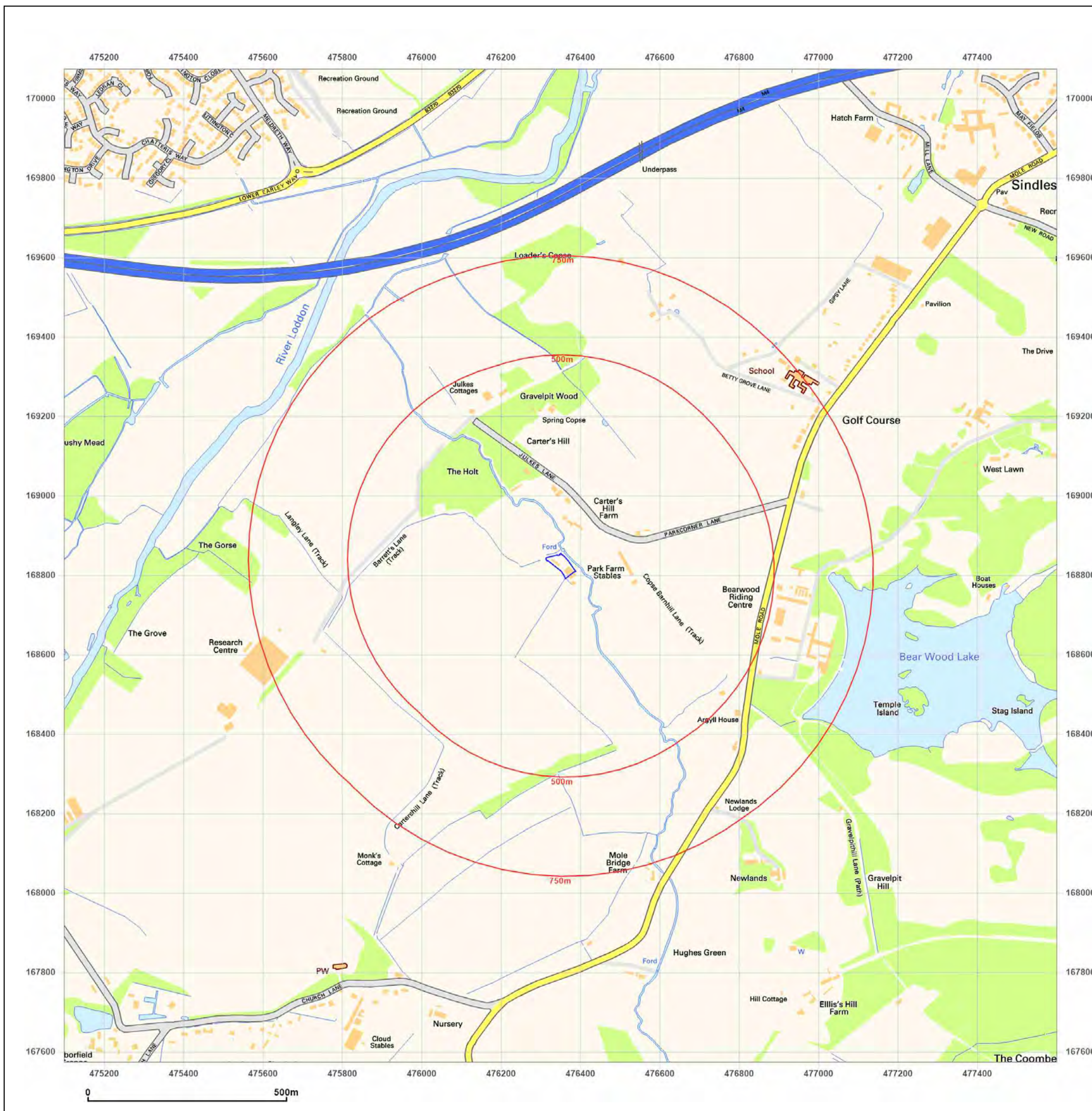


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Site Details:

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CARTERS HILL, ARBORFIELD,
WOKINGHAM, RG2 9JJ

Client Ref: Julkes House, RG2 9JJ
Report Ref: GS-805-RW9-AB6-GUL
Grid Ref: 476350, 168824

Map Name: National Grid

Map date: 2025

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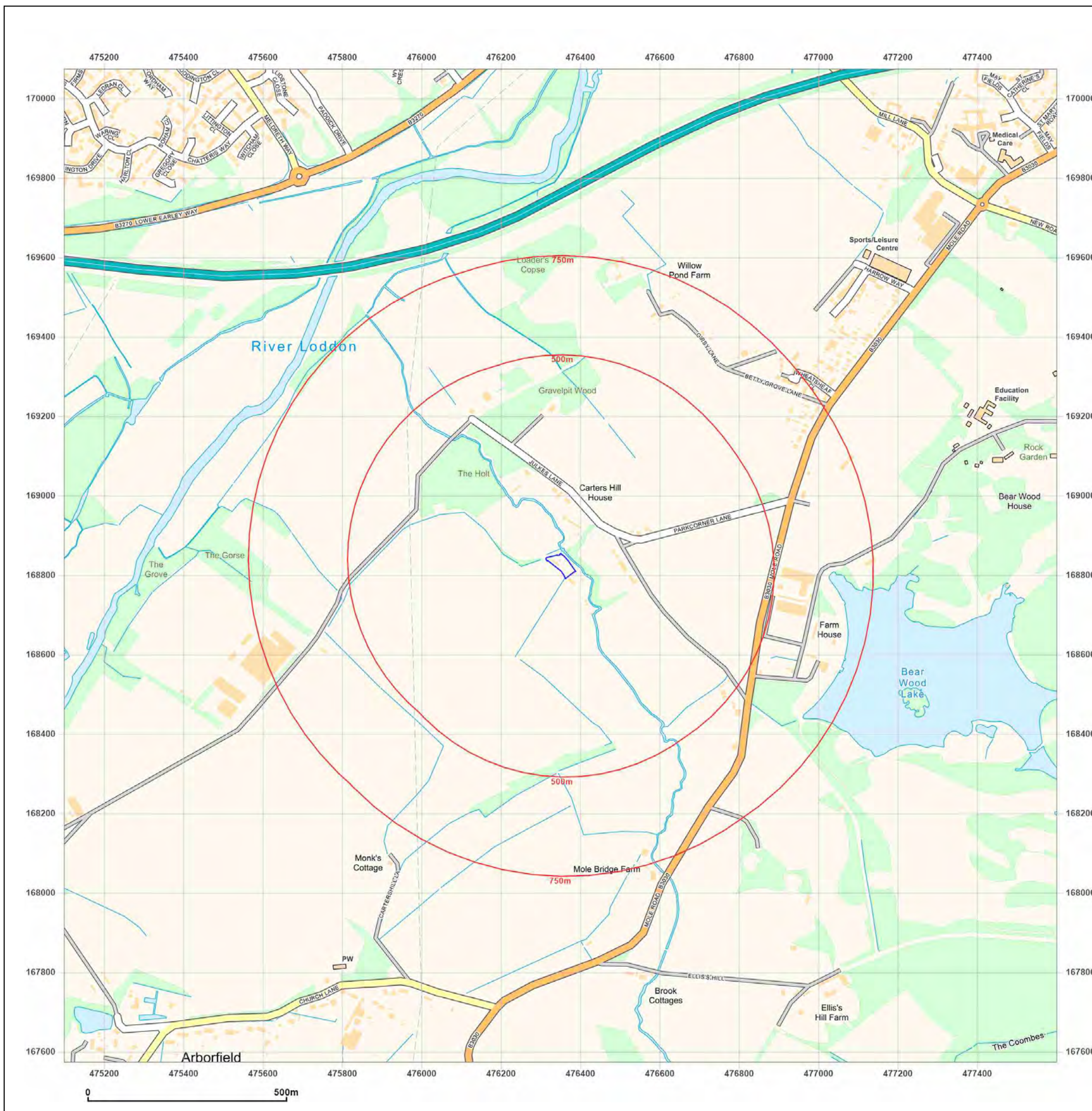


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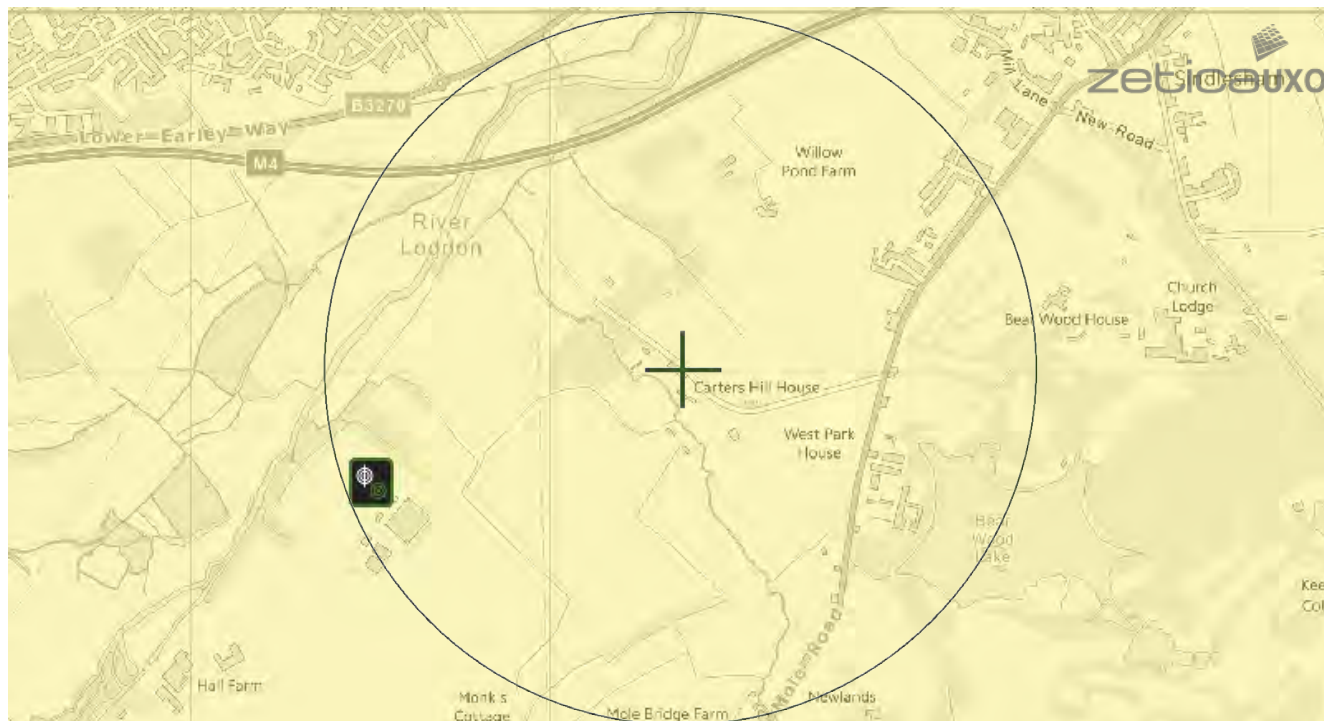
Appendix 5: Zetica UXO Mapping

UNEXPLODED BOMB RISK MAP



SITE LOCATION

Location: RG2 9JJ,
Map Centre: 476332,169016



This map principally indicates a hazard from Unexploded Bombs (UXB) due to WWII bombardment. Other sources of Unexploded Ordnance (UXO) may be present. It should be noted that this map does not represent UXO risk and should not be reported as such when reproduced.

LEGEND

- High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- Low:** Areas indicated as having 15 bombs per 1000acre or less.

- Military**
- Industry**
- UXO find**
- Other**
- Transport**
- Docks**
- Luftwaffe targets**
- Utilities**
- Bombing decoy**
- Airfields**

How to use your Unexploded Bomb (UXB) risk map?

This map indicates the potential for UXBs to be present because of World War Two (WWII) bombing. It can be incorporated into a technical report, such as a Phase 1 Desk Study, or similar document as an indication of the potential for UXO encounter on a Site. Other sources of UXO may also be indicated, although note that these are not comprehensive and more detailed research is required to confirm their presence.

What if my Site is in a moderate or high density area?

We typically recommend that a detailed UXO desk study and risk assessment is undertaken for sites in an area with a moderate or high bombing density. Additionally, if your site is in close proximity to a strategic target, military establishment, airfield or bombing decoy, then [additional detailed research](#) is recommended.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirm that there is a low potential for UXO to be present on your site, then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

If you are unsure whether other sources of UXO may be present, you can request one of our [pre-desk study assessments \(PDSA\)](#) by emailing a site boundary and location to pdsa@zetica.com.

You should never plan site work or undertake a risk assessment using these maps alone. More detail is required, to include an assessment of the likelihood of a source of UXO hazard from other military activity not reflected on these maps.

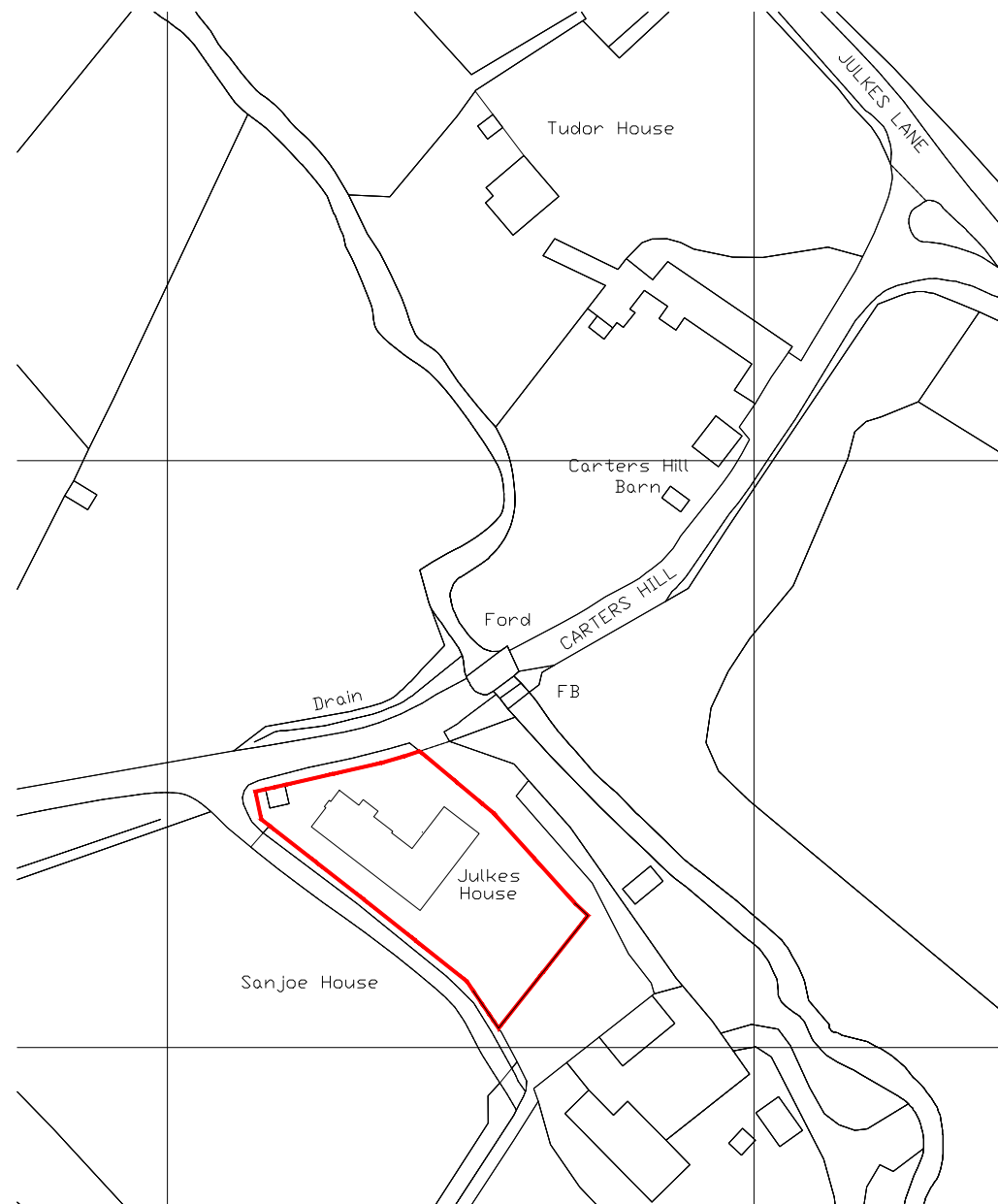
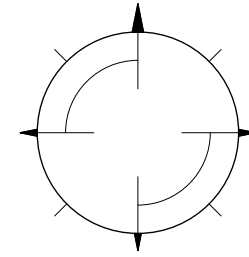
If I have any questions, who do I contact?

tel: [+44 \(0\) 1993 886682](tel:+44(0)1993886682) email: uxo@zetica.com web: www.zeticauxo.com

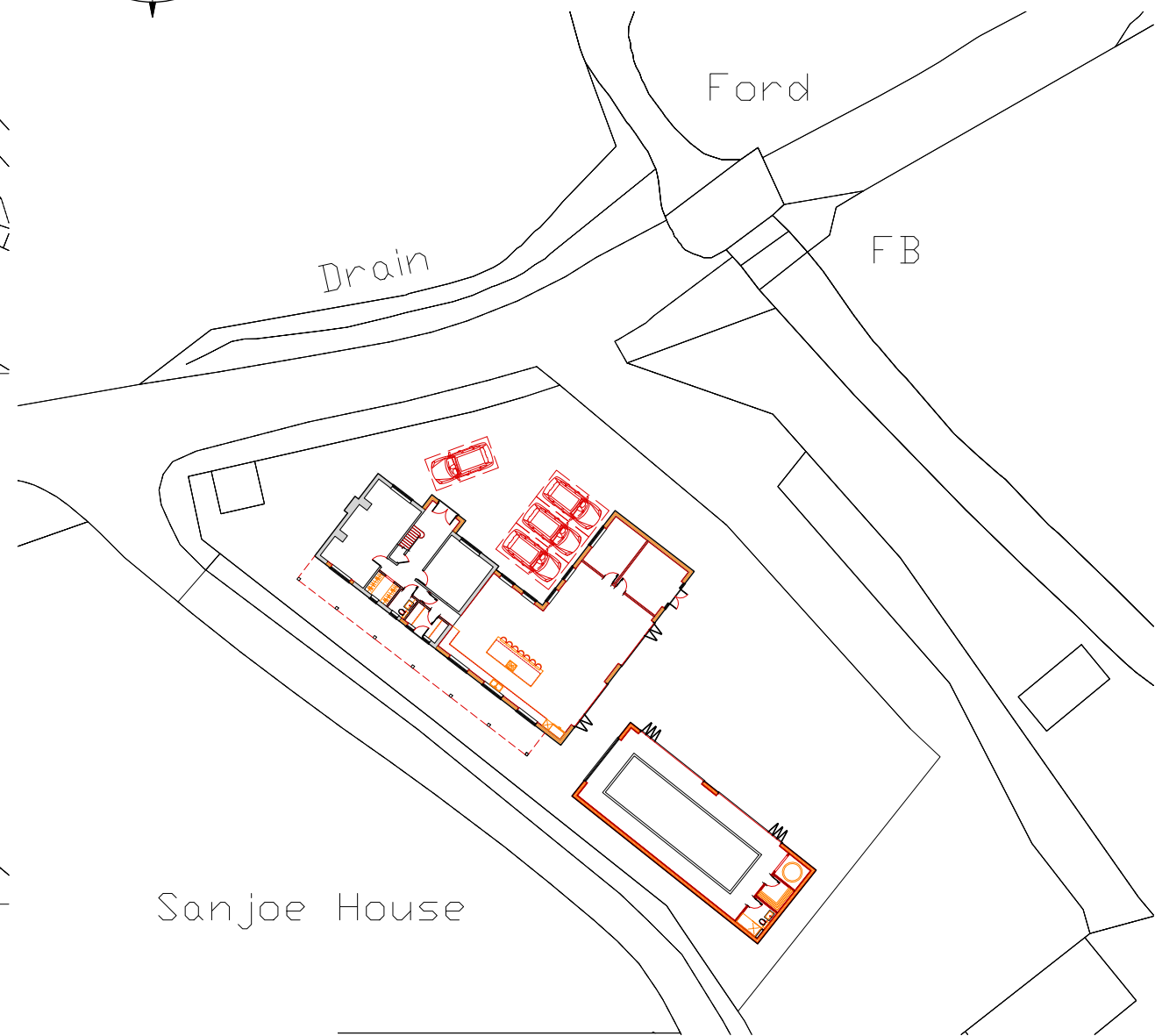
The information in this UXB risk map is derived from a range of sources and should be used with the [accompanying notes on our website](#).

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Appendix 6: Development Plans



Location Plan (1:1250)



Site Plan (1:500)

[illegible]

Appendix 7: Document Production Record

Document number	Editor	Position	Issue number	Date
Arbtech LQ- PRARG29JJV1R0	C.A.Radiven Bsc Hons MiEnvSci, MIMMM	Geo-Environmental Manager	01	04/07/25

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