soils LIMITED

Minerals Safeguarding Report

at
Kings Copse Avenue, Hedge End, Southampton, Hampshire SO30 2SZ

for
Eastleigh Borough Council

Reference: 22023/MSR Rev1.0
July 2025

Control Document

Project
Kings Copse Avenue, Hedge End, Southampton, Hampshire SO30 2SZ

Document Type
Minerals Safeguarding Report

Document Reference
22023/MSR Rev 1.0

Document Status
Final

Date
July 2025

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Current regulations and good practice were used in the preparation of this report. The recommendations given in this report must be reviewed by an appropriately qualified person at the time of preparation of the scheme design to ensure that any recommendations given remain valid in light of changes in regulation and practice, or additional information obtained regarding the site.

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Commission

This document comprises the Minerals Safeguarding Report (MSR) and incorporates the results, discussion, and conclusions to this assessment. General site data is recorded below:

Commission Record	
Client	Eastleigh Borough Council
Site Name	Kings Copse Avenue, Hedge End, Southampton, Hampshire SO30 2SZ
Grid Reference	449863 112028
Soils Limited Quotation Ref	Q30115 dated 18th June 2025
Clients Purchase Order	PO-70576 dated 26th June 2025

The record of revision to this document is presented below:

Record Of Revisions		
Revision	**Date**	**Reason**
1.0	July 2025	Original to the Client

Note(s): The latest revised document supersedes all previous revisions of the MSR produced by Soils Limited.

Documents associated with this development that must be referred to are given below.

Record Of Associated Documents			
Reference	**Type**	**Date**	**Creator**
21876/MIR	Main Investigation Report	Jun 25	Soils Limited
21876/PIR	Desk Study	Jun 25	Soils Limited
AKSW-XX-XX-DR-C-9300_PO2	Proposed Development	Dec 24	AKS Ward Construction Consultants
22-148 0001 Rev P01	Site Location Plan	Feb 24	mh Architects

Limitations and Disclaimers

The report was prepared solely for the brief described in Section 1.1 of this report.

The contents, recommendations and advice given in the report are subject to the Terms and Conditions given in Soils Limited's Quotation

Soils Limited disclaims any responsibility to the Client and others in respect of any matters outside the scope of the above.

This report has been prepared by Soils Limited, with all reasonable skill, care and diligence within the terms of the Contract with the Client, incorporation of our General Conditions of Contract of Business and taking into account the resources devoted to us by agreement with the Client.

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The investigation, interpretations, and recommendations given in this report were prepared for the sole benefit of the Client in accordance with their brief. As such these do not necessarily address all aspects of ground behaviour at the site.

Current regulations and good practice were used in the preparation of this report. An appropriately qualified person must review the recommendations given in this report at the time of preparation of the scheme design to ensure that any recommendations given remain valid in light of changes in regulation and practice, or additional information obtained regarding the site.

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Ordinary watercourses (OWs) are defined as rivers (which are not designated as main rivers), streams, ditches, drains, culverts, cuts and sewers (other than public sewers). This includes all OWs that are not mapped. Ordinary watercourse consent (OWC) is required from the Lead Local Flood Authority (LLFA) when changing/adapting/adding to the cross sections of OWs. Installations of any structure or obstruction into an OW that

impedes the flow without consent is prohibited by the Land Drainage Act 1991 Section 23.

Failure to remove obstructions may result in legal action by the LLFA with powers under Section 25 of the Land Drainage Act 1991.

Soils Limited suggest surveying the site for OW usually seen in rural areas as boundary ditches in order to avoid potential impacts to residents downstream and prosecution. OWC can be applied for from your LLFA.

Ownership of land brings with it onerous legal liabilities in respect of harm to the environment. “Contaminated Land” is defined in Section 57 of the Environment Act 1995 (as updated 2021) as:

“Land which is in such a condition by reason of substances in, on or under the land that significant harm is being caused or that there is a significant possibility of such harm being caused or that pollution of controlled waters is being or is likely to be caused”.

It must be noted that a detailed survey of the possible presence or absence of invasive species, such as Japanese Knotweed, is outside of the scope of investigation.

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Section 1 Introduction

1.1 Objective of Investigation

Soils Limited was commissioned by Eastleigh Borough Council to prepare a Minerals Safeguarding Report to supply the Client and their designers with information regarding the potential impact of any identified extant mineral resources on the site that may affect or be affected by the proposed development of the site through a desk-based of relevant information sources.

The assessment aims to:

- Identify whether the proposed development would result in the sterilisation of viable mineral resources and therefore trigger safeguarding concerns;
- Determine whether sufficient desk-based information is available to support planning decisions, or if further investigation (e.g. intrusive site investigations or resource appraisals) is required;
- Identify potential opportunities to eliminate, reduce, or mitigate any identified safeguarding issues, should the site be progressed for development;
- Highlight any potential constraints associated with the prior extraction of minerals, which may affect the viability or timing of future development; and
- Provide an outline methodology for the potential recovery of minerals prior to development, where feasible.

The comments given in this report and the opinions expressed are based on the information obtained thus far, within the scope identified above. However, there may be conditions pertaining to the site that have not been disclosed from the desk-based sources of information reviewed and, therefore, could not have been taken into account.

1.2 Scope

The scope and structure of this assessment have been developed with reference to the following key policy and guidance documents:

- Minerals and Waste Safeguarding in Hampshire (Hampshire Authorities, 2015);
- Hampshire Minerals and Waste Plan (Hampshire Authorities, 2013);
- Mineral Resources Information in Support of National, Regional and Local Planning (British Geological Survey, 2003);
- Mineral Safeguarding in England: Good Practice Advice (British Geological Survey, 2001); and
- Mineral Assessment Reports (Institute of Geological Sciences).

These documents provide the policy framework and technical guidance underpinning mineral safeguarding considerations at both local and national levels.

1.2.1 Scope of Works

The specific scope of works undertaken as part of this assessment includes:

- Identification of potential mineral safeguarding issues, including an evaluation of whether the proposed development may result in the sterilisation of viable and economically important mineral resources;
- Review of the site setting, including consideration of environmental constraints such as nature conservation designations, landscape character, proximity to sensitive receptors (e.g. residential communities), existing highway infrastructure, and utility networks;
- Assessment of the planning status of the site, including existing allocations, land use designations, and relevant planning history;

1.3 Site Description

The site comprised 6.96ha of land on the eastern side of Kings Copse Avenue and Tanhouse Lane and falls within the River Hamble County Park. It was split into two parcels, with the larger open parcel to the south, currently used for agriculture and the smaller northern parcel consisting of mature woodland, which was part of the Tanhouse Meadow Site of Importance for Nature Conservation (SINC) and Manor Farm Local Nature Reserve (LNR).

Both parcels of the site comprised an irregularly shaped field with a gentle slope of <2° down to the north-east (Google Earth™ elevation data). The site boundaries were well defined by mature vegetation, apart from the northwestern boundary.

The study area was covered with grass and crops, with large mature trees located on its boundaries. The Hedge End Stream was located on the northern portion of the site. The Hamble River was located approximately 930m south-east of the site.

The site was bounded by ‘Kings Copse Avenue’ to the north-west, housing with gardens to the north-east, open fields with tree lines and thickly vegetated areas including large shrubs to the east and south, and ‘Tanhouse Lane’ with school playing fields across to the west. A plant nursery was located to the south-west of the site. The wider topography of the area comprised of shallow slopes to the north-east/east.

The main access was provided via ‘Tanhouse Lane’ to the west.

The site location plan is given in Figure 1.

An aerial photograph of the site and its close environs has been included Figure 2.

1.4 Proposed Development

The proposed development was for a new housing estate comprising 200No. residential dwellings including a mixture of two-storey houses and four-storey blocks of residential flats. The proposal was to include hard landscaping in the form of car park spaces,

access roads and pavements and soft landscaping in the form of residential gardens.

In compiling this report reliance was placed on drawing number AKSW-XX-XX-DR-C-9300_PO2, dated December 2024 and prepared by AKS Ward Construction Consultants. The recommendations provided within this report are made exclusively in relation to the scheme outlined above and must not be applied to any other scheme without further consultation with Soils Limited. Soils Limited must be notified about any change or deviation from the scheme outlined.

Development plans provided by the Client are presented in Appendix A.

Section 2 Geological Context

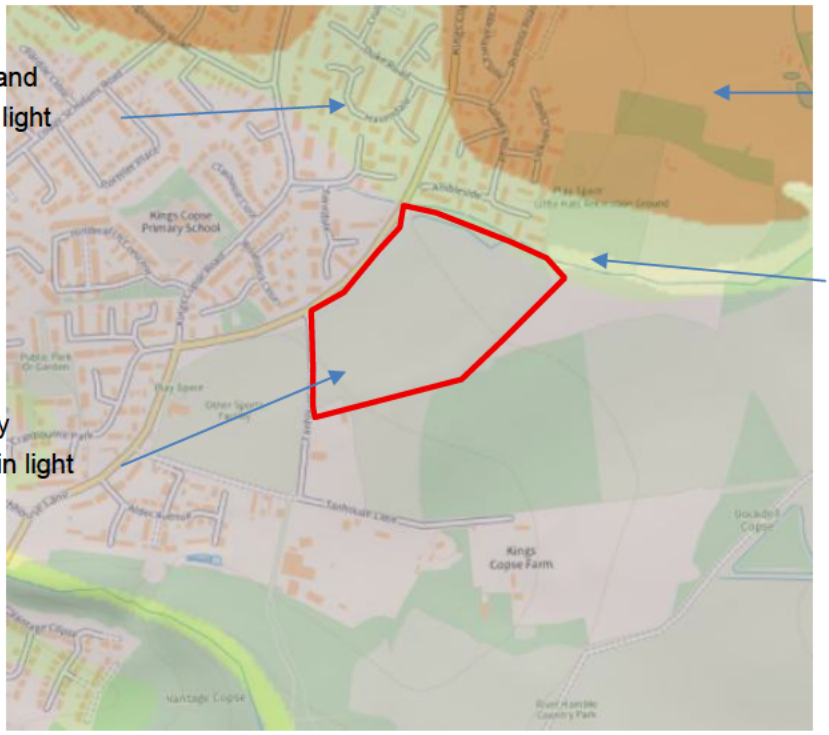
2.1 Anticipated Geology

The 1:50,000 BGS map showed the site to be located directly upon the bedrock London Clay Formation with no superficial deposits overlying.

The BGS maps suggested the presence of superficial deposits of Alluvium overlying the bedrock of the Whitecliff Sand Member to the adjacent north-east as well as the Wittering Formation bedrock at ~100m to the north-east and therefore these units might be present on site. The London Clay formation is anticipated to underlie the Whitecliff Sand Member and Wittering Formation.

Only the northern periphery of the site was marginally located within a Minerals and Waste Consultation Area for superficial soft sand and gravel, according to the Hampshire County Council online policies map (Accessed July 2025).

The map extract below shows the geology of the site.



2.1.1 Alluvium

Alluvium is the most recent river or estuarine deposit and generally comprises silty clays usually with an appreciable organic content. Lenses of sand and gravel are also commonly found, as are pockets of peat.

The BSI Code of Practice for Foundations, BS8004: 1986, Clause 2.2.2.3.4 Peat and organic soils, includes the caveat that 'all these soils are highly compressible, and even lightly loaded foundations will be subject to considerable settlements over a long period if

placed on them. For this reason, these soils are not suitable for carrying the loads for important structures'.

2.1.2 Whitecliff Sand Member

The Whitecliff Sand Member, is part of the London Clay Formation and is found only within the Hampshire basin. The member consists at outcrop mostly of clean, fine-to medium-grained sand, commonly cross-bedded and locally pebbly, that weathers to yellowish brown.

2.1.3 London Clay Formation

The London Clay Formation in the Hampshire region comprises silty and sandy clay, clayey and sandy silt, silty sand; sporadic claystones and thin beds of flint pebbles. The formation includes the Bognor Sand, Whitecliff Sand, Durley Sand, Portsmouth Sand and Nursling Sand Members. Crystals of gypsum (Selenite) are often found within the weathered part of the London Clay, and precautions against sulphate attack to concrete are sometimes required.

The lowest part of the London Clay Formation rests on the Reading Formation (Lambeth Group).

2.2 BGS historical borehole

No historical borehole logs were available within a 500m radius of the site, according to the British Geological Survey records accessed via GeoIndex (https://mapapps2.bgs.ac.uk/geoindex/home.html).

2.3 Ground Conditions Encountered in Exploration

A site investigation was undertaken at the site by Soils Limited comprising a series of boreholes and trial pits (report ref:21876/MIR dated June 2025, Appendix C). The exploratory hole location plan is shown in Figure 1:

The investigation established that the site is underlain by Topsoil, which was predominately underlain by the London Clay Formation with the Whitecliff Sand Member recorded in limited areas, as discussed in greater detail below.

2.3.1 Topsoil

Depth encountered: Ground Level to 0.50m bgl

The Topsoil typically comprised firm, dark brown, slightly sandy, slightly gravelly, silty CLAY to very clayey SILT to greyish brown, slightly silty, slightly clayey, fine to medium SAND. Gravel was subangular to subrounded, fine to coarse flint. Abundant rootlets were noted.

2.3.2 Whitecliff Sand Member

Depth encountered: 0.20m to 1.90m bgl

The Whitecliff Sand Member stratum typically comprised of a greyish brown slightly clayey slightly gravelly fine to medium SAND. Gravel is subangular to subrounded fine to medium flint with Occasional rootlets.

2.3.3 London Clay Formation

Depth encountered: 0.25m to >30m bgl

The London Clay Formation bedrock typically comprised stiff to very stiff, dark brownish grey mottled grey, slightly sandy, slightly silty CLAY with occasional shell fragments. Sand was fine. A band of greyish brown, slightly clayey, subangular to subrounded, fine to coarse GRAVEL of septarian nodules was encountered in WS5 from 3.20m to 3.45m bgl.

2.4 Soils Limited Intrusive Works

The location of the exploratory holes constructed during the Soils Limited site works and recorded in the Soils Limited report 21876/MIR is presented below.



Figure 1: Borehole locations from main investigation ref:21876/MIR dated June 2025 prepared by Soils Limited

The investigation generally confirmed the anticipated geology based on the BGS mapping, with the site mainly covered with Topsoil overlying the London Clay Formation extending to at least 30m in depth (base unproven).

The Whitecliff Sand Member was limited to two exploratory locations:

- **WS1**, situated on the western boundary adjacent to Tanhouse Lane

- **BH4**, positioned at the northernmost extent of the site, which was located in a lower ground.

Both boreholes encountered the Whitecliff Sand, with an average thickness of approximately 1.20 m below ground level. Their positions are indicated in Figure 1 in red arrows. These findings indicate that the Whitecliff Sand Member is only present locally and does not extend across the broader site area.

2.4.1 Geotechnical Characteristics

Particle Size Distribution (PSD) analysis described the Whitecliff Sand Member as brown, slightly silty to clayey, fine to coarse-grained sand, comprising approximately 94% sand by dry mass.

2.5 Groundwater Records

With reference to the site investigation report ref:21876/MIR dated June 2025, groundwater was encountered within five (5No.) out of the twenty (20No.) exploratory holes. However, this does not exclude the presence of groundwater from the remaining windowless sampler and cable percussive borehole locations as any potential groundwater strikes might have been masked by the rate of drilling.

Changes in groundwater level occur for reasons including seasonal effects and variations in drainage. The investigation was conducted in April (2025), when groundwater levels should typically be falling from their annual maximum (highest) elevation, which typically occurs around March.

The groundwater levels during site works are presented in Table 2.1.

Table 2.1 Groundwater Records

Exploratory Hole	Strike Depth (m bgl)	Standing (m bgl)	Exploratory Hole	Strike Depth (m bgl)
WS1	Not encountered		BH3	Not encountered
WS2	3.30	3.30 after 30mins	BH4	
WS3	Not encountered		TPSK1	
WS4			TPSK2	
WS5	4.00	3.50 after 30mins	TP3	
WS6	4.00	3.80 after 25mins	TP4	
WS7	4.00	3.20 after 25mins	TP5	
WS8	4.00	3.80 after 25mins	TP6	
BH1	Not encountered		TP7	
BH2			TP8	

Groundwater equilibrium conditions may only be conclusively established, if a series of observations are made via groundwater monitoring wells. Groundwater monitoring was not within the brief for the present investigation.

2.6 Mineral Safeguarding

The criteria presented below was adopted from the Institute of Geological Sciences Mineral Assessments Report, it is to be used in defining if a resource can be reasonably exploited:

- The deposit should average at least 1m in thickness
- The ratio of overburden to sand and gravel should be no more that 3:1
- The deposit should lie within 25m from the surface
- The proportion of fines should ideally be below 25% and should not exceed 40%

Based on the available information, with reference to 21876/MIR dated June 2025:

- The Whitecliff Sand Member at this site was limited in extent to two borehole locations, WS1 and BH4 and to an average thickness of 1.2m. These exploratory hole locations were located close to the SW and NE boundaries of the site. Generally, the Whitecliff Sand Member was found to be localised in the area of the two exploratory holes and not recorded within the bulk of the site area.
- Overburden (Topsoil) cover with an average thickness of 0.35m and the Whitecliff Sand Member only limited in two borehole locations, with an average of 1.20m in thickness, the ratio of overburden to sand is no more that 3:1
- The Whitecliff Sand Member lies within 25m of the surface.
- Particle Size Distribution (PSD) analysis described the Whitecliff Sand Member as slightly silty to clayey, fine to coarse-grained sand, comprising approximately 94% sand by dry mass.

2.7 Estimated Sand Extent

BGS Mapping indicated that the Wittering Formation bedrock was only noted at circa 100m to the north-east of the site. Based on data from 21876/MIR dated June 2025, the Whitecliff Sand Member was absent over the majority of the site area, only being noted in two boreholes, each close to the site boundaries, and BH4 was located in a lower ground.

The site comprised 6.96ha of land on the eastern side of Kings Copse Avenue and Tanhouse Lane and falls within the River Hamble County Park estate. Overburden as Topsoil was found to comprise approximately 0.35m on average, giving a figure for the site strip of 24,360m^3 over the whole site.

A limited extent of “sand”, circa 1.20m depth, was found in two boreholes, estimated with a radius of 20m between other exploratory holes, would therefore give rise to an estimated recoverable resource of 3,015m^3. However, this is unlikely to be recovered as pure sand and, within a limited extent, a recovery of potentially only 40-50% of viable material could be estimated, c.1,200m^3 to 1,500m^3.

2.8 Groundwater

Site investigation data indicated that groundwater was encountered within WS2 and WS5-WS8, which were located on the north, eastern and south-eastern portions of the site at depths of up to 3.20m bgl. No long-term monitoring data has been recorded.

The approximate elevation of the site was 25m Above Ordnance Datum (AOD). The site of the proposed development comprised an irregularly shaped field with a gentle slope of <2° down to the north-east (Google Earth™ elevation data). The Hedge End Stream was located on the northern portion of the site. The Hamble River is located approximately 930m south-east of the site.

The underlying London Clay Formation was classified as Unproductive Strata, consisting of soil deposits with low permeability and minimal significance for water supply or river baseflow.

The Whitecliff Sand Formation was encountered in WS1 and BH4, which is classified as a Secondary A Aquifer, although groundwater was not encountered in these locations during the investigation. However, this does not exclude the presence of groundwater from the remaining windowless sampler and cable percussive borehole locations as any potential groundwater strikes might have been masked by the rate of drilling.

2.9 Local Extraction Opportunities and Constraints

There are current residential properties adjacent to the north and northwest boundary of the site, which could be detrimentally affected by extraction, filling and landscaping processes in relation to noise nuisance, dust emissions and nuisance associated with increased pressure on the surrounding transport routes.

During development the site would offer the opportunity for incidental extraction to be undertaken. In accordance with the Hampshire SPD (2015) it would be recommended that during excavation of foundations, footings or landscaping, any natural sand and gravel deposits encountered are segregated and re-used onsite to increase the sustainability of the development.

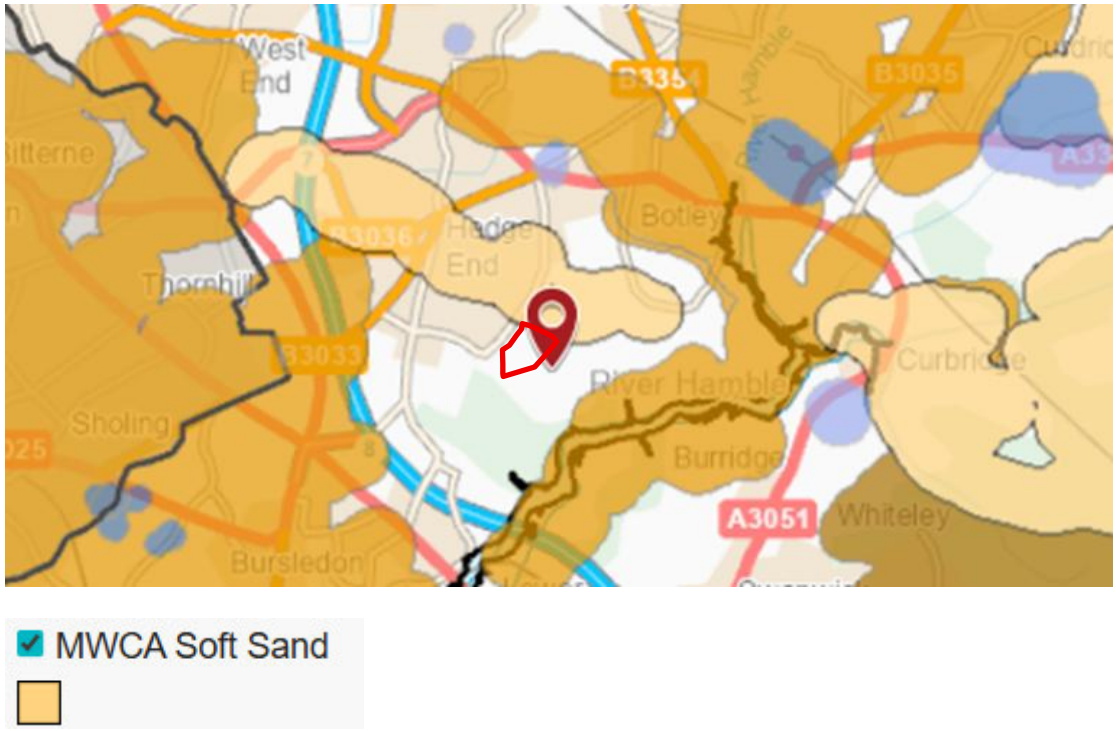
2.10 Additional On-line Data

On-line Mineral Consultation Data from Hantsweb accessed in July 2025 indicate that the site (https://maps.hants.gov.uk/mineralsconsultationareas/) may potentially contain soft sand to the northern margin where the Hedge End Stream was located.

The rest of the site does not contain any Minerals and Waste Consultation Areas (MWCA) for Brick Clay or Silica Sand.

A copy of the map is reproduced in Figure B, overleaf.

Figure B – Minerals and Waste Consultation Areas (MWCA)



Section 3 Conclusions

3.1 General

Following a review of all the available data for the site, it is considered that no economically viable mineral resources exist on the site for the following reasons:

- Only the northern periphery of the site is marginally located within a Minerals and Waste Consultation Area for superficial soft sand and gravel, according to the Hampshire County Council online policies map (Accessed July 2025).
- Limited presence of the Whitecliff Sand Member:
  The Soils Limited ground investigation report ref: 21876/MIR (dated June 2025), indicated that the Whitecliff Sand Member was present only in isolated and discontinuous patches across the site, close to its SW and NE boundaries The limited spatial extent of the sand deposits significantly reduces the volume of material available for extraction.
- Unfavourable Cost–Benefit Ratio
  The financial cost and energy consumption of establishing extraction operations, managing environmental impacts, and restoring the site post-extraction would likely exceed the economic returns from the limited quantity and quality of extractable material. This makes the mineral resource unviable from both an economic and strategic perspective.
- Urban Constraints and Proximity to Residential Areas:
  There are current residential properties adjacent to the north and northwest boundary of the site, which could be detrimentally affected by extraction, filling and landscaping processes in relation to noise nuisance, dust emissions and nuisance associated with increased pressure on the surrounding transport routes.
    - Noise nuisance from excavation machinery, screening, and haulage operations.
    - Dust emissions affecting air quality, with potential health and environmental implications for nearby residents.
    - Vibration and structural concerns, especially where properties are located close to the site boundary.
- Transport and Infrastructure Limitations:
  Mineral extraction would increase the volume of heavy goods vehicles (HGVs) using local roads, exacerbating existing traffic congestion and increasing wear and tear on infrastructure. The increased traffic movements may also pose safety risks for pedestrians and other road users, particularly in residential and school zones.

3.2 Recommendations

In conclusion, the Whitecliff Sand Member was present to a limited extent and is not economically viable for extraction. It is recommended that no further mineral extraction activities be pursued on site.

The following actions are recommended:

- Mineral Recovery Statement – Incidental Extraction

Site preparation activities associated with the development, such as excavation for foundations, footings, or landscaping, may result in the incidental extraction of suitable mineral materials. Where feasible, site-won materials should be retained and reused within the project. This practice can lead to significant cost savings, improve the overall sustainability of the development, and minimise the environmental impact associated with the disposal of surplus materials and the importation of new resources.

This approach must be carefully planned and managed to ensure it does not result in adverse impacts on site conditions or nearby receptors.

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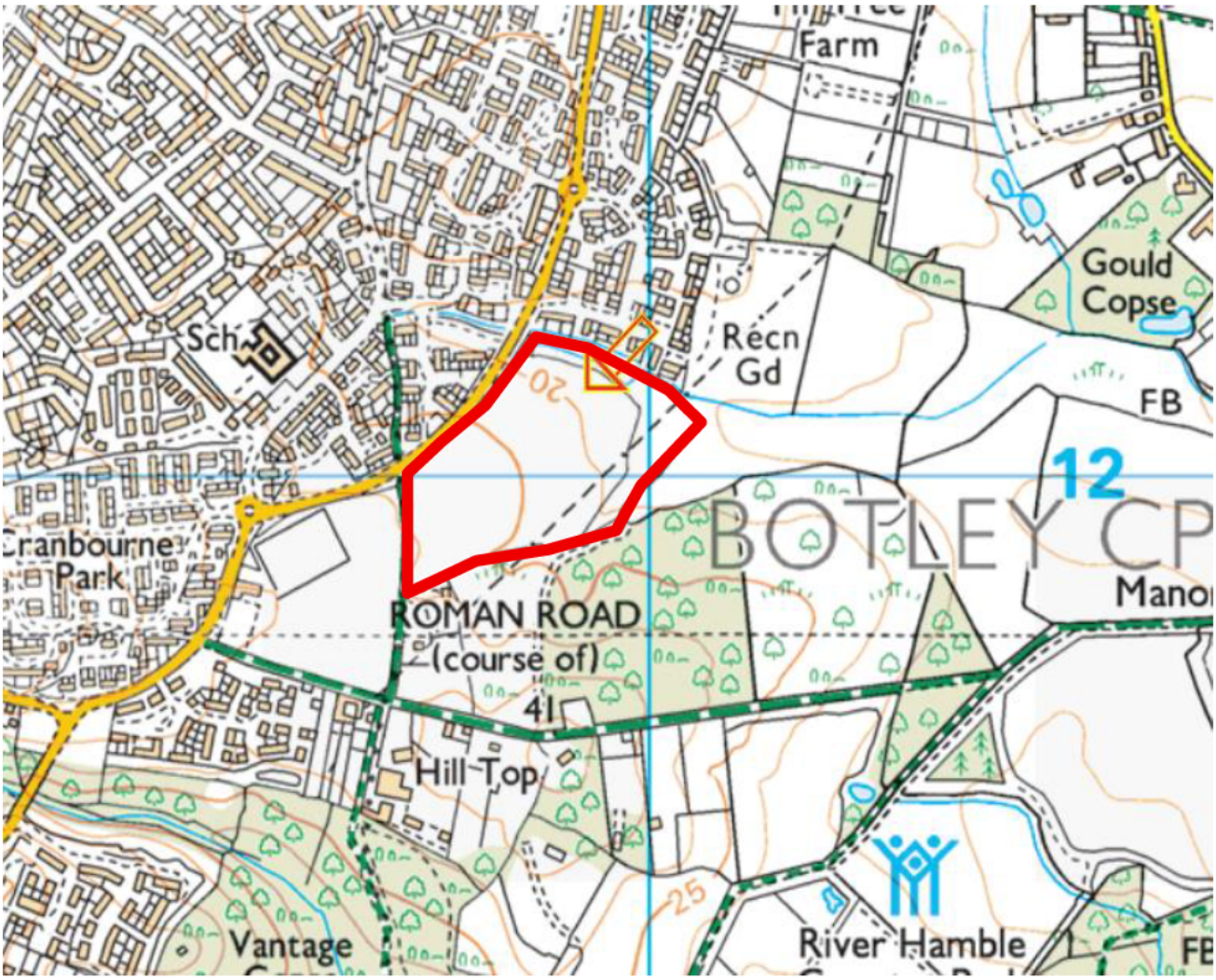


Figure 1 – Site Location Map

Job Number 22023	**Project** Kings Copse Avenue, Hedge End, Southampton, Hampshire, SO30 2SZ
Client Eastleigh Borough Council	**Date** July 2025



Figure 2 – Aerial Photograph

Job Number 22023	**Project** Kings Copse Avenue, Hedge End, Southampton, Hampshire, SO30 2SZ
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Appendix A Information Provided by the Client

Notes
1. This drawing is the copyright of MH Architects Ltd
2. Do not scale this drawing except for Local Authority planning purposes
3. All dimensions must be checked on site by the contractor prior to commencement of the works.

Client Approval	
X	A - Approved
X	B - Approved with comments
X	C - Do not use

Rev.	Revision Note/Purpose of Issue	Drw By	Date	Chk By	Date
A	Issued for Information [First Issue]	MW	16.11.23	HJG	16.11.23



N

Licence number LIG0975
Location Plan 1:1250 @ A1
10 0 10 20 30 40 50 100m
1:1250

Client
Eastleigh Borough Council

Job title
Kings Copse Avenue

Drawing title
Site Location Plan

Drawn	Date	Checked	Date	Scale at A1
JDM	FEB 24	HJG	FEB 24	1:1250

Job No.	Pro.	Org.	Zone	Level	Type	Role	No.	Rev.
22-148	KCA	MHA	ZZ	XX	DR	A	0001	P01

Purpose of Issue
PRE APPLICATION

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Appendix B Preliminary Investigation Report

soils LIMITED

Preliminary Investigation Report

at
Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ

for
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Second check by
Eur Ing R B Higginson BSc, PGDip, CEng, MICE, FGS.

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Commission Record	
Client	Eastleigh Borough Council
Site Name	Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ
Grid Reference	SU 49828 12021
Soils Limited Quotation Ref	Q29697rev1, dated 13th March 2025
Clients Purchase Order	000070556, dated 20th March 2025

The record of revision is presented below:

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Record Of Associated Documents			
Reference	**Type**	**Date**	**Creator**
22-148 KCA MHA ZZ XX DR A 0003 P13	Proposed Site Plan	Feb 2024	MH Architects

Caveats

Whilst reasonable skill and care has been taken to determine the site history and the environmental setting within the time constraints applied by the project, it should be appreciated that uncertainties may occur owing to the natural variability of soil material within a defined area or as a result of unknowns that are associated with contaminated land assessment in general. The site conditions may be different from that indicated by this Preliminary Investigation, particularly on a site with a history of past development. No responsibility can be accepted should such conditions alter the recommendations made in this report.

Without a drainage survey it is not possible to establish if the surface water drainage is to the main drainage system or soakaways. If there are soakaways on-site, they could act as a potential source. The geology on-site to an extent may determine if soakaways were likely to have been adopted.

Ordinary watercourses (OWs) are defined as rivers (which are not designated as main rivers), streams, ditches, drains, culverts, cuts and sewers (other than public sewers). This includes all OWs that are not mapped. Ordinary watercourse consent (OWC) is required from the Lead Local Flood Authority (LLFA) when changing/adapting/adding to the cross sections of OWs. Installations of any structure or obstruction into an OW that impedes the flow without consent is prohibited by the Land Drainage Act 1991 Section 23.

Failure to remove obstructions may result in legal action by the LLFA with powers under Section 25 of the Land Drainage Act 1991.

Soils Limited suggest surveying the site for OW usually seen in rural areas as boundary ditches in order to avoid potential impacts to residents downstream and prosecution. OWC can be applied for from your LLFA.

This Preliminary Investigation does not include a detailed UXO risk assessment, it does however contain a basic assessment in accordance with CIRIA C681 and C785. In preparing a Preliminary Investigation reference is made to historical maps and web based sources to assess the risk of the site potentially having been impacted by bombing during the World Wars. The data readily available is not necessarily definitive. Certain areas were bombed heavily such as centres of industrial manufacture, airfields, shipyards, docklands, railways sidings and junctions. The assessment is based on the likely area risk, bomb patterns (i.e. lines of recorded bomb impacts with gaps where an impact would be anticipated) and the age of structures on and in close proximity to the site.

Explanations

The Preliminary Investigation Report was undertaken to advise the client on the risk pertaining to the site, with special reference to historic and current potential contaminative activities and processes. This also included the assessment of their impact on current and future sensitive receptors such as human health, controlled waters, ecological features, building structures and services.

During the site walkover observations were made in relation to current activities, evidence of historical activities, sources of potential contamination such as fuel storage tanks, oil drums and chemical storage and evidence of contamination. The walkover also looked for evidence of soil contamination in the form of staining odours and stressed or discoloured vegetation.

To assess the vulnerability of groundwater to contamination, consideration must be given to the leaching characteristics of the overlying soils and the characteristics of the strata in the unsaturated zone. Information on the geological strata such as lithological type and permeability characteristics has been combined with the physical properties of the soil to produce varying degrees of vulnerability.

The object of the historic map study was to report on the evidence of site history and redevelopment of the site and its environs from available County Series and Ordnance Survey Maps dating from the mid to late 19th Century to the present day as downloaded from Landmark Environmental.

The published maps only represent a “snap shot” of the site and its environs at the date of the survey. The detail of the information recorded can vary between epochs, map scale and county areas. It should be noted that changes in land uses, processes or activities may have occurred outside of published epochs and these may not have been recorded on subsequent epochs. Also note that as methods of projection, production and recording have changed over time, this can result in geo-reference errors that may

indicate the established site boundary is off-centre from its true location on older historical maps. Where this is potentially significant it will be noted.

Any distances quoted for features remote from the site have been scaled from the maps and are only approximate. Where dates have been noted in brackets, these are the actual dates applicable to the map editions and may not reflect the date of the original survey it is based on. The information reported might not represent all pertinent information that could be obtained. The interpretation of the maps and/or other data commented on in this report is subjective.

As part of the review of the historical plans, only features considered to have or to have had a potential contaminative impact on the site and usually within a notional 250m radius are discussed. The north point and approximate extent of the site are indicated on each figure.

Dataset survey is undertaken, and the extent of the search has initially been limited to a radius of 250m as it is considered that sources of contamination beyond 250m are unlikely to impact on the site.

The BGS soil chemistry for environmental assessments dataset coverage, was developed from BGS G-BASE and Imperial College Wolfson Atlas data. It contains estimated ambient As, Cd, Cr, Ni and Pb background concentrations for rural topsoils across Great Britain. It also contains the locations and measured concentrations (mg kg-1) of As, Cd, Cr, Cu, Ni, Pb, Sn and Zn in urban topsoil samples, collected from geochemical surveys in 23 major urban centres.

In accordance with CIRIA C681 and C785 a review has been undertaken of the historic maps and the Zetica UXO risk website.

Legislation and Liability

The primary legislative mechanism for contaminated land management in the UK is Part 2A of the Environmental Protection Act, 2021 (EPA). Part 2A was introduced into the EPA under Section 57 of the Environment Act 1995 to help deal with the substantial legacy of land contamination. The legislation provides powers in relation to the identification, remediation and apportionment of liability for contaminated land. Part 2A applies where there is unacceptable risk, assessed on the basis of the current use and the relevant circumstances of the land. It is not directed to assessing risks in relation to a future use of the land that would require a specific grant of planning permission.

Under Part IIA of the Environment Act 2021, Local Authorities are required to identify contaminated land and serve on every person who is an appropriate person a remediation notice setting out what is to be done by way of remediation and the period within which it must be done.

If the person who caused, or knowingly permitted, the contaminating substance cannot be found, the owner and/or, occupier for the time being, of the property can be the appropriate person.

Under the legislation, Contaminated Land is defined as: -

"Land which is in such a condition by reason of substances in, on or under the land that significant harm is being caused or that there is a significant possibility of such harm being caused or that pollution of controlled waters is being, or is likely to be caused."

Where the Act defines harm as:

"harm to the health of living organisms or other interference with the ecological systems of which they form a part and, in the case of man, includes harm to his property."

and pollution of controlled waters is defined as: -

"the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter."

In addition, The Radioactive Contaminated Land (Modification of Enactments) (England) Regulations 2006 introduced the supplementary definition of harm to include: lasting exposure to any person resulting from the after-effects of a radiological emergency, past practice or past work activity.

With regard to contaminated waters, the Environment Act 1995 amends the Water Resources Act 1991 and provides the Environment Agency with the power to force clean-up of historical contamination by issuing a Works Notice, with remediation paid for by the responsible parties.

The Groundwater Regulations (1998) stated that entry of List 1 substances into groundwater must be prevented, and List II substances must be controlled.

This PIR was made to comply with planning requirements and only covers contaminative land issues unless otherwise specifically noted.

Limitations and Disclaimers

This Preliminary Investigation Report relates to the site located at Project_name and was prepared for the sole benefit of the Client for the brief described in the Commission of this report.

The contents, recommendations and advice given in the report are subject to the Terms and Conditions given in the Soils Limited Quotation and the subsequent Clients Purchase Order.

Soils Limited disclaims any responsibility to the Client and others in respect of any matters outside the scope of the above.

This report has been prepared by Soils Limited, with all reasonable skill, care and diligence within the terms of the contract with the Client, incorporation of our General Conditions of Contract of Business and taking into account the resources devoted to us

by agreement with the Client.

The report is personal and confidential to the Client and Soils Limited accept no responsibility of whatever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report wholly at its own risk.

The Client may not assign the benefit of the report or any part to any third party without the written consent of Soils Limited.

The ground is a product of continuing natural and artificial processes. As a result, the ground will exhibit a variety of characteristics that vary from place to place across a site, and also with time. Whilst a ground investigation will mitigate to a greater or lesser degree against the resulting risk from variation, the risks cannot be eliminated.

The investigation, interpretations, and recommendations given in this report were prepared for the sole benefit of the client in accordance with their brief. As such these do not necessarily address all aspects of ground behaviour at the site.

Current regulations and good practice were used in the preparation of this report. An appropriately qualified person must review the recommendations given in this report at the time of preparation of the scheme design to ensure that any recommendations given remain valid in light of changes in regulation and practice, or additional information obtained regarding the site.

There may be other sources of information not included in those listed that hold data relevant to the Preliminary Investigation Report undertaken at the site that could materially affect the conclusions made in this report.

It should be noted that a detailed survey of the possible presence or absence of invasive species, such as Japanese Knotweed, is outside of the scope of investigation.

Ownership of land brings with it onerous legal liabilities in respect of harm to the environment. “Contaminated Land” is defined in Section 57 of the Environment Act 2021.

Where a contaminative use is identified in the Preliminary Investigation Report this does not determine whether contamination has actually occurred, or if it has the degree to which it may have taken place. An intrusive investigation(s) and analysis is required to establish the nature and degree of any contamination present.

All works are undertaken in the context of, and in compliance with, BS10175+A2 2017 and LCRM (EA 2021) and all other pertinent planning, standards, documentation and guidance appropriate to the site at the time of production which may include, but are not necessarily limited to, documents provided by BS/CEN/ISO, NHBC, AGS, CIEH, CIRIA, SoBRA and CLAIRE.

Ownership of copyright of all printed material including reports, survey data, drawings, laboratory test results, trial pit and borehole log sheets, including drillers log sheets remains with Soils Limited. License is for the sole use of the client and may not be

assigned, transferred or given to a third party. This license is only valid once we have been paid in full for this engagement. In the event of non-payment for our services, we reserve the right to retract the license for all project data, preventing their use and any reliance upon such data by the client or any other third party. We may also contact parties other than the client to notify them of this retraction.

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Section 1 Site Conditions and Proposed Development

1.1 Site Walkover

A site walkover was undertaken in April 2025, by Soils Limited. The notes of the site walkover are presented in Table 1.1 and Table 1.2.

Table 1.1 Site Walkover Record (On-site)

Use of Site	Undeveloped field
Structures	None noted
Site Topography	Sloping downward towards the north/northeast <2°
Site Covering	Tallgrass Issue stream located on the northern boundary of the site
Vegetation	Mature trees and shrubs along all sides of the site boundary
Potential Contamination Sources	Farming/agricultural
Odour	None noted
Drainage	Anticipated to be free draining to underlying soils

Table 1.2 Site Walkover Record (Off-site)

Use of Land	North: residential East: Agricultural fields and woodland South: Woodland West: Agricultural field and residential beyond
Area Topography	Sloping downwards towards the east <2°
Vegetation	Fields and woodland
Potential Contamination Sources	Farming/agriculture

1.2 Site Drainage

Anticipated to be free draining to underlying soils.

1.3 Site Photographs

The site photographs have been included within Appendix DD.

1.4 Proposed Development

The proposed development was for a new housing estate comprising 200No. residential dwellings including a mixture of two-storey houses and four-storey residential flats. The proposed was to include hard landscaping in the form of car park spaces, access roads and pavements and soft landscaping in the form of residential gardens.

In compiling this report reliance was placed on drawing number AKSW-XX-XX-DR-C-9300_PO2, dated December 2024 and prepared by AKS Ward Construction Consultants. The recommendations provided within this report are made exclusively in relation to the scheme outlined above and must not be applied to any other scheme

without further consultation with Soils Limited. Soils Limited must be notified about any change or deviation from the scheme outlined.

The proposed development plans have been provided in Appendix A.

Section 2 Geology, Hydrogeology, Hydrology and Radon

2.1 Anticipated Geology

The 1:50,000 BGS Geology map showed the site to be situated on the London Clay Formation bedrock, with the Whitelcliff Sand Formation recorded on the far northern portion of the site, and superficial deposits of Alluvium in the far northeast corner.

2.1.1 Alluvium

Alluvium is the most recent river or estuarine deposit and generally comprises silty clays usually with an appreciable organic content. Lenses of sand and gravel are also commonly found, as are pockets of peat.

The BSI Code of Practice for Foundations, BS8004: 1986, Clause 2.2.2.3.4 Peat and organic soils, includes the caveat that 'all these soils are highly compressible, and even lightly loaded foundations will be subject to considerable settlements over a long period if placed on them. For this reason, these soils are not suitable for carrying the loads for important structures'.

2.1.2 London Clay Formation

The London Clay Formation in the Hampshire region comprises silty and sandy clay, clayey and sandy silt, silty sand; sporadic claystones and thin beds of flint pebbles. The formation includes the Bognor Sand, Whitecliff Sand, Durley Sand, Portsmouth Sand and Nursling Sand Members. Crystals of gypsum (Selenite) are often found within the weathered part of the London Clay, and precautions against sulphate attack to concrete are sometimes required.

The lowest part of the London Clay Formation rests on the Reading Formation (Lambeth Group).

2.1.3 Whitecliff Sand Member

The Whitecliff Sand Member of the parent Unit London Clay Formation is variable in composition typically comprising fine to medium grained, well sorted sand, with some thin partings of grey clay and ferruginous concretions.

2.2 Hydrogeology

Table 2.1 presents the hydrological data that is relevant to the site.

Table 2.1 Hydrogeological Assessment

Hydrogeological Data		Comment
On-site Aquifers	Superficial	None noted- Secondary A Aquifer associated with Alluvium 11m north-east.
	Bedrock	Secondary A[1]- Whitecliff Sand Formation (far northern portion) Unproductive Strata[2]- London Clay Formation
Groundwater Vulnerability		Medium Vulnerability[3] Unproductive Strata[4]

Hydrogeological Data		Comment
Source Protection Zones (SPZ)		None noted
Abstraction	Potable	None noted
	Non-potable	1185m East
Sensitive Land Uses		SSSI 278m South
Surface Water Features		Inland river onsite
Flooding		Northern portion of the site is within a flood zone 2/3.
Flood Risk from Rivers or Seas		None noted
Flood Risk from Surface Water		1 in 30 year, 0.30-1.00m
Flood Risk from Groundwater		Moderate to High

Note(s): [1]Secondary A are 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. [2] Unproductive strata are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow. [3] Relating to Whitecliff Sand Formation. [4] Relating to London Clay Formation.

Any works or development which has the potential to have an impact on surface water, aquifer or groundwater quality must be approved by the Environment Agency prior to implementation.

2.3 Hydrology

The approximate elevation of the site was 25m Above Ordnance Datum (AOD). The anticipated surface and groundwater flow direction is given in Table 2.2.

Table 2.2 Hydrological Assessment

Type	Direction	Notes
Surface water	E	Anticipated to be at surface or through granular soils of Whitecliff Sand Member if present. Runoff potential due to the cohesive nature of the London Clay Formation anticipated to be in line with general topography.
Groundwater	E	Anticipated to be in line with general topography.[1]

Note(s): [1]Due to the London Clay Formation being classified as Unproductive Strata, the flow rate will be very slow to negligible.

2.4 Radon Gas

According to the British Geological Survey, in conjunction with the Radiation Protection Division of the Health Protection Agency, the site is in an area where less than 1% of homes are estimated to be at or above the action level.

As such, no radon protective measures are necessary in the construction of new dwellings or extensions.

Section 3 Site History

3.1 Historic Map Study

The historic maps referred to are appended to this report (Appendix B).

Table 3.1 Historic Development of the Site

Site History	Date Range	
	From	To
The site was an undeveloped/agricultural field, no significant changes noted.	1867	Present

Table 3.2 Historic Off-site Development

Off-site Development	Date Range	
	From	To
The site was bounded in all directions by undeveloped/agricultural fields. A Tanhouse was present west adjacent to the site boundary.	1867	1965
An orchard appeared north adjacent to the site boundary and extended to 100m. Clochacre Farm noted approx. 220m NW.	1965	1978
Residential development noted NW of the site from 15-250m.	1978	Present
Residential development extended to the north and west of the site to 100m. No further significant changes noted.	1979	Present

Table 3.3 Potential Sources of Pollution Indicated from Historic Maps

Source	Direction	Distance (m)	Date Range	
			From	To
Tanhouse	W	5	1867	1965
Orchard	N	5-100	1965	1974

3.2 Bomb damage and the potential for Unexploded Ordnance

Based on the historical maps and Zetica UXO Risk Maps, the site is located in a low risk area having 15 bombs per 1000acre or less, so a specialist UXO risk assessment is not required to determine the risk to the proposed development.

Section 4 Environmental Records and Consultation

4.1 Dataset Information

A copy of the report is appended to this report in Appendix C and summarised in Table 4.1, Table 4.2 and Table 4.4.

Table 4.1 Environmental Significance of Data

Source	Direction	Distance (m)
Sites determined as Contaminated Land	None	None
Licensed Discharges to Controlled Waters	-	Onsite[1]
Integrated Pollution Control	None	None
Nearest Surface Water Feature	-	Onsite[2]
Pollution release to surface waters (Red List only)	None	None
Radioactive Substance Authorisations	None	None
Substantiated Pollution Incident Register	-	Onsite[3]
Surface water Abstractions	E	1185[4]
Groundwater Abstractions – Nearest Non-Potable Abstraction Point	S	1232[5]
Source Protection Zones	None	None
High Risk Flooding from Rivers or Sea Without Defences	None	None
Risk of Flooding from Rivers or Sea Without Defences	None	None
Areas Benefiting from Flood Defences	None	None
Flood Water Storage Areas	None	None
Flood Defences	None	None
Historical landfill (BGS Records)	None	None
Historical landfill (EA/NRW Records)	None	None
Historical Waste Sites	None	None
Licensed Waste Sites	None	None
Historical landfill (LA/mapping Records)	None	None
Artificial and made ground	None	None
Pollution inventory waste transfers	None	None
Pollution inventory substances	None	None
Control of Major Accident Hazards Sites (COMAH) and Notification of Installations Handling Hazardous Substances (NIHHS)	None	None
Hazardous substance storage/use	None	None

Note(s): [1]Sewage, final treated effluent [2]Inland river not influenced by normal tidal action [3]Crude sewage, 2008 [4]Spray Irrigation [5]General Farming & Domestic

The historical industrial land uses and energy features listed in Table 4.2 are only those considered to be viable potential sources of contamination that could impact the site.

Table 4.2 Industrial Land Uses

Industrial land uses within 250m	Direction	Distance (m)	Date
None noted			

Table 4.3 Energy Features

Energy features within 250m	Direction	Distance (m)	Date
Electricity Substation	NW	38	1982

Energy features within 250m	Direction	Distance (m)	Date
Electricity Substation	NW	39	1979
	NW	39	1989
	NW	39	1992
	N	116	1989
	N	116	1982
	NW	171	1979
	NW	171	1989
	NW	171	1992

Table 4.4 Geological Hazards

Source	Nearest Distance from Site/Type
Coal Mining Affected Areas	None noted
Mining Instability	None noted
Natural and Mining Cavities	None noted
Potential for Collapsible Ground Stability Hazards	Very low onsite[1]
Potential for Compressible Ground Stability Hazards	Negligible onsite
Potential for Ground Dissolution Stability Hazards	Negligible onsite
Potential for Landslide Ground Stability Hazards	Very low onsite
Potential for Running Sand Ground Stability Hazards	Low onsite[2]
Potential for Shrinking or Swelling Ground Stability Hazards	Low onsite[1]

Note(s): [1]Likely related to the London Clay Formation [2]Likely related to the Whitecliff Sand Member

4.2 Site Sensitivity Maps

No other significant potential sources of contamination were shown on the Groundsure Site Sensitivity Maps, which have not been listed in Table 4.1, Table 4.2 and Table 4.4, and copies of which are appended to this report (Appendix C).

4.3 Regulatory Enquires

As part of the Preliminary Investigation Report the local authority was contacted and asked to provide any information on potential risks pertaining the site. No information has been received by Soils Limited at the time of reporting. Upon receipt, the report will be updated and information received by the local authority will be presented in **Error! Reference source not found.**.

4.4 Soil Geochemistry

The results of this survey are contoured on the Groundsure report (**Error! Reference source not found.**). The results of the local soil chemistry are presented in Table 4.5.

Table 4.5 Soil Geochemistry

Determinant	Indicated Soil Geochemistry (mg kg^{-1})
Arsenic	15
Cadmium	1.8
Chromium	60-90
Lead	100
Nickel	15-30

Determinant	Indicated Soil Geochemistry (mg kg^{-1})

Note(s): No exceedances noted for 'Residential with homegrown produce' end-use

Section 5 Data Collection Summary

5.1 General

Table 5.1 summarises the site Environs, which include geology, hydrogeology, the risk from radon and potential risk from flooding.

Table 5.1 Site Environs

Environs	Summary
Geology	Superficial deposits of Alluvium overlying the London Clay Formation and Whitecliff Sand Formation (far northern portion of site) bedrock.
Hydrogeology	Whitecliff Sand Formation classed as a Secondary A aquifer and could support shallow groundwater. The London Clay Formation bedrock was unproductive strata and would act as an aquiclude to the deep groundwater regime. Secondary A Aquifer associated with Alluvium 11m north-east.
Source Protection Zone (SPZ)	None noted
Surface Water Flow	Anticipated to be at surface or through granular soils of Whitecliff Sand Member if present. Limited runoff anticipated to be in line with topography
Groundwater Flow	E in line with general topography; however, due to the London Clay Formation being classified as Unproductive Strata, the flow rate will be very slow to negligible.
Radon	No radon risk noted
Flooding	Flood Zone 2/3 along eastern boundary of site and Flood Zone 2/3 along northern boundary of site
Geological Hazard	Very low to low onsite
Local Authority Response	No response received by Soils Limited at the time of reporting
Soil Chemistry	No exceedances noted
Ecological	None noted

Table 5.2 provides a summary of potential on-site and off-site contamination sources identified during the study of the historic maps, the Groundsure Dataset Report and the Site Walkover.

Table 5.2 Summary of Potential Contamination Sources

Contaminative Source	Direction	Distance (m)	Date Range From	Date Range To	Data Source
On-Site					
Farming/agricultural					HM, DS, SW
Off-Site					
Electrical substation	NW	38	1982	Unknown	DS
	NW	39	1979-	1992	
	N	117	1989-	1992	
	NW	171	1979-	1992	
Tanhouse	W	5	1867	1965	HM
Orchard	N	5-100	1965	1974	HM

Note(s): SW – Site walkover, HM – Historic Maps, DS – Datasheet, GE Google Earth

Section 6 Preliminary Conceptual Site Model

6.1 Sources and Pathways of Contamination

The Site Specific Groundsure Report and Site Walkover have been used to identify potential contaminative sources. These sources have been presented in Table 5.2. An assessment of the likely pathways and the likelihood of each contaminative source that was considered a risk has been presented in Sections 6.2 to 6.4.

6.2 Potential Pathways

A review of the potential pathways on and off the site has been undertaken based on the site, ground conditions, hydrology and scientific knowledge of the behaviour of the contaminants in the ground. The pathways applicable to the site and the proposed development have been marked in Table 6.1.

Table 6.1 Applicable Pathways

Pathway	Present	Comment
Inhalation of dust	✓	Site workers, maintenance, end users
Inhalation of vapour/gases	✓	Site workers, maintenance, end users
Ingestion and absorption via direct contact	✓	Site workers, maintenance, end users
Migration via surface runoff	✓	Inland river noted onsite. Migration via surface water is possible given proximity
Migration in solution via groundwater	✓	Whitecliff Sand Member classed as Secondary A aquifer, London Clay Formation would act as aquiclude to deep groundwater regime.
Migration of gases via permeable soils	✓	
Direct contact with construction material	✓	Buried structures and material
Services and utilities	✓	Buried services

6.3 Potential Sources of On-site Contamination.

The sources are presented in Table 6.2.

Table 6.2 On-site Potential Contamination Sources

Source	Likely	Reasoning
Electrical substation		Immobile contaminants
Tanhouse	✓	On hydraulic gradient
Orchard		Low level source and off hydraulic gradient

6.4 Potential Off-site Sources of Contamination

These sources have been presented in given in Table 6.3.

Table 6.3 Off-site Potential Contamination Sources

Source	Direction	Distance (m)	Likely	Reasoning
Electrical substation	NW	38		Immobile contaminant

Source	Direction	Distance (m)	Likely	Reasoning
	NW	39		
	NW	39		
	NW	39		
	N	116		
	N	117		
	NW	171		
	NW	171		
	NW	171		
Tanhouse	W	5	✓	Proximity to site and on hydraulic gradient
Orchard	N	5-100		Low level source and off hydraulic gradient

6.5 Potential Contaminants

Table 6.4 presents the range of possible contaminants associated with the onsite and off-site activities and sources identified following a review of historical maps and datasets.

Table 6.4 Potential Contaminants

Potential Contaminative Sources	Contaminants / Chemical Properties
Tanhouse	Metals, Semi-metals and non-metals, PAHs, TPHs, pH

6.6 Potential Exposure Receptors

The assessment for potential receptors is presented in Table 6.5.

Table 6.5 Potential Receptors

Potential Receptor		Present
Human Health	Future users of the site (End Users)	✓
	Construction workers on-site (Site Workers)	✓
	Service and maintenance workers (Site Maintenance)	✓
	Site neighbours and wider public (Off-site Users)	✓
Groundwater / Controlled Waters	Surface Water	✓
	Shallow Aquifer	✓
	Deep Aquifer	
Buildings & Materials	Buildings and Confined Spaces	✓
	Buried Structures	✓
	Buried Services	✓
Ecosystems	Flora and fauna	✓

6.7 Preliminary Conceptual Site Model and Risk Assessment

A preliminary risk assessment has been undertaken based on the proposed development. The assessment has been based on the likelihood of the presence of a pollutant linkage.

A pollutant linkage is the relationship between a contaminant source, a pathway and a receptor. Unless all three elements of a pollutant linkage are present, a risk is not considered to exist. Each of the three elements has been considered within Table 6.1 to Table 6.5. The preliminary conceptual site model and risk assessment is presented in Table 6.6. The classification tables on which the level of risk has been determined have been modified from 'Contaminated land risk assessment: A guide to good practice, 2001, CIRIA C552' and are presented in Appendix E.

Table 6.6 Preliminary Conceptual Site Model and Risk Assessment Methodology

Source (Table 6.2 & Table 6.3)	Potential Contaminant (Table 6.4)	Exposure Pathway (Table 6.1)	Receptor (Table 6.5)	Initial Assessment from Preliminary Investigation Report Information			Comments	Proposed Investigation
				Severity	Probability	Risk		
Tanhouse Off-site sources from which potential contamination would have migrated onto the site.	Metals, Semi-metals and non-metals, PAHs	Inhalation of dust	Site Workers/Site Maintenance	Medium	Low	Low	Site located on bedrock of the Whitecliff Sand Member and London Clay Formation. Whitecliff Sand Member classified as a Secondary A aquifer which could support groundwater at a local scale. London Clay Formation classed as Unproductive Strata which and would act as an aquiclude to the deep groundwater receptors.	Phase II ground investigation to confirm the ground conditions present and chemical testing prior to undertaking a generic quantitative risk assessment. However the risk is considered to be Low, precautionary Site Investigation works and testing should be undertaken.
			End Users	Medium	Unlikely	Low		
	PAHs, TPHs	Inhalation of vapour/gases	Site Workers/Site Maintenance	Mild	Low			
			End Users					
	Metals, Semi-metals and non-metals, PAHs, TPHs, pH	Ingestion and absorption via direct contact	Site Workers/Site Maintenance	Medium	Unlikely			
			End Users					
	Metals, Semi-metals and non-metals, PAHs, TPHs, pH	Migration via surface runoff	Surface Water	Medium	Low	Low		
		Migration in solution via groundwater	Surface Water	-				
			Shallow Aquifer					
			Deep Aquifer					
		Direct contact with construction material	Buried Structures	Mild	Low	Low		
			Buried Services					
	PAHs, TPHs	Migration of gases via permeable soils	Site Workers/Site Maintenance	Medium	Unlikely			
			End Users					
			Building and Confined Spaces					

Section 7 Recommendations

7.1 General

Based on the information obtained during the compilation of this Preliminary Investigation and the preliminary conceptual site model, a potential for a **low** risk of contamination has been identified.

7.2 UXO

Based on the information reviewed during compilation of this Preliminary Investigation, further UXO assessment is not considered necessary.

7.3 Radon

Based on the information obtained during compilation of this Preliminary Investigation, radon protective measures are not required for the proposed development.

7.4 Proposed Further Site Works

The general requirements for further environmental investigation are presented in Table 7.1.

Table 7.1 Proposed Further Environmental Investigation

Proposed Works	General Purpose	Required
Investigatory Holes	To collect sufficient samples for a robust assessment	✓
Laboratory Testing	To quantify the risks identified in the Conceptual Site Model	✓
Risk Assessment	Assess pollutant linkages based on current contaminated land guidance and screening criteria's	✓
Borehole well installation	To allow for continued groundwater and/or gas monitoring	TBC[1]
Remediation	If the site-specific risk assessment reveals that the site was contaminated	TBC
Validation & Verification	To validate and verify the remedial objectives based on the site-specific risk assessment	TBC

Note(s): TBC – To be confirmed. [1] Only if source(s) of ground gas are identified during further investigation.

7.5 Discovery Strategy

There may be areas of contamination not identified during the investigation. Such occurrences may also be discovered during the demolition and construction phases for the redevelopment of the site.

List of Figures

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Appendix A Proposed Development Plans

Appendix B Country Series and Ordnance Survey Maps

Appendix C Landmark Envirocheck Report

Appendix D Site Photographs

Appendix E Risk Assessment Criteria



Figure 1 – Site Location Map

Job Number 21876	**Project** Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ
Client Eastleigh Borough Council	**Date** June 2025

Appendix A Proposed Development Plans

Notes

1. This drawing is the copyright of MH Architects Ltd
2. Do not scale this drawing except for Local Authority planning purposes
3. All dimensions must be checked on site by the contractor prior to commencement of the works.

Client Approval

X	A - Approved
X	B - Approved with comments
X	C - Do not use

Rev.	Revision Note/Purpose of Issue	Drw By	Date	Chk By	Date
A	Issued for Information [First Issue]	MW	16.11.23	HJG	16.11.23

N

Site Plan 1:500 @ A1

10 0 10 20 30 40 50m

1:500

Client

Eastleigh Borough Council

Job title

Kings Copse Avenue

Drawing title

Proposed Site Plan

Drawn	Date	Checked	Date	Scale at A1
JDM	FEB 24	HJG	FEB 24	1:500

Job No.	Pro.	Org.	Zone	Level	Type	Role	No.	Rev.
22-148	KCA	MHA	ZZ	XX	DR	A	0003	P13

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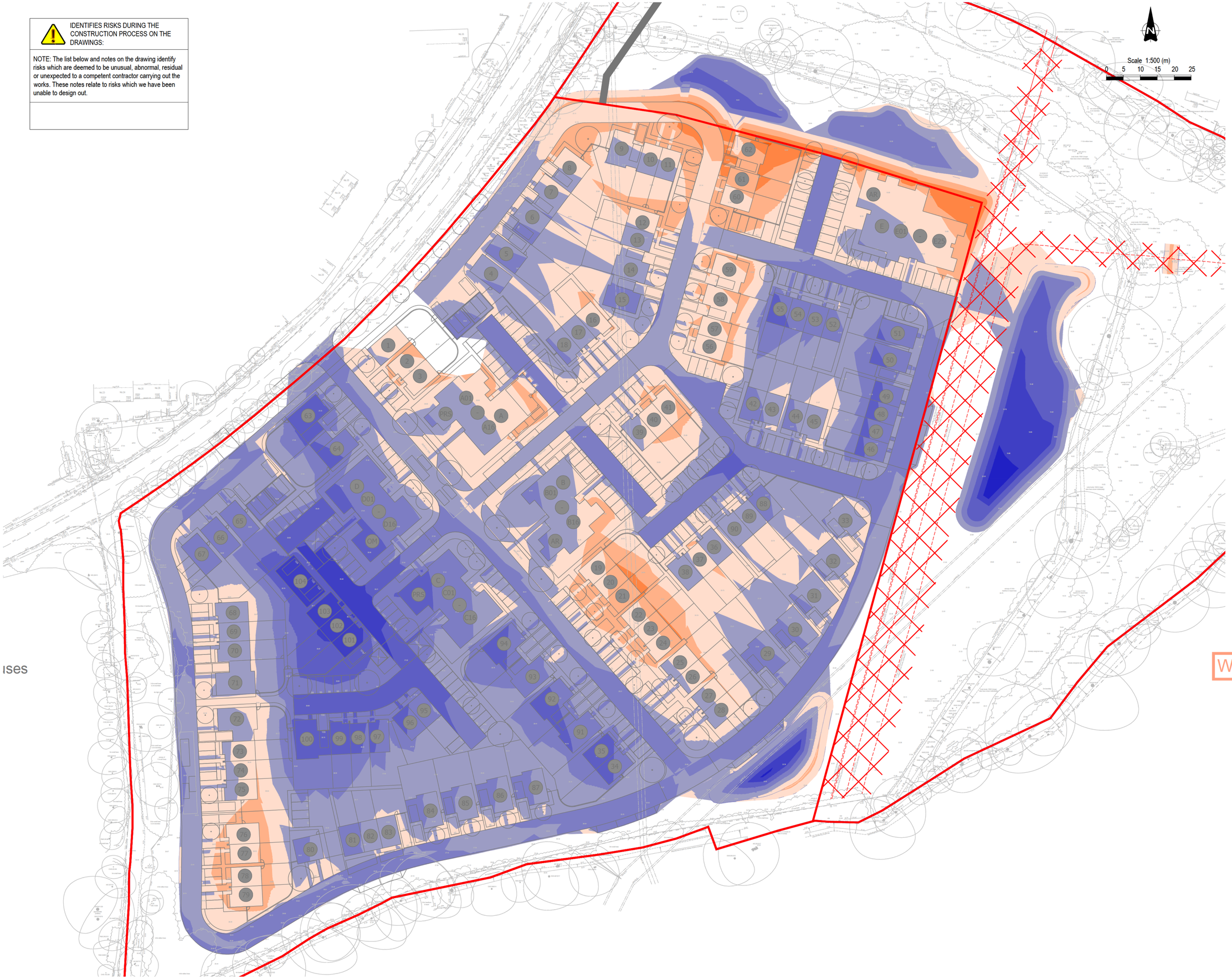
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ARCHITECTS

IDENTIFIES RISKS DURING THE CONSTRUCTION PROCESS ON THE DRAWINGS:

NOTE: The list below and notes on the drawing identify risks which are deemed to be unusual, abnormal, residual or unexpected to a competent contractor carrying out the works. These notes relate to risks which we have been unable to design out.

ises



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GENERAL NOTES

1. All setting out to be in accordance with the Architects drawings. Any discrepancies between the Engineers and the Architects drawings to be referred to the Architect before proceeding. Dimensions must not be scaled.
2. The existing suface has been created from 23295_F by Maptec Surveys. The proposed surface has been created from 22-148 0003 P04 by MH Architects
3. Construction depths used: Buildings 525mm under FFl 650mm under roads, 450mm under footpaths.
4. No bulking factor has been included in these calculations.
5. It is assumed that all material is suitable for re-use. The figures below identify a total cut or fill value and do not allow for any volume(s) of possible contamination that would need to be removed from site.
6. No allowance has been given for foundations, services or drainage.

WORK IN PROGRESS

Rev.	Amendment	Drn	Chkd	Date
P01	Initial issue	CJ	AS	23.07.24

Drg. Status: **PRELIMINARY** Suitability: **S2**

AKSWard
CONSTRUCTION CONSULTANTS

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e-mail: oxford@aksward.com
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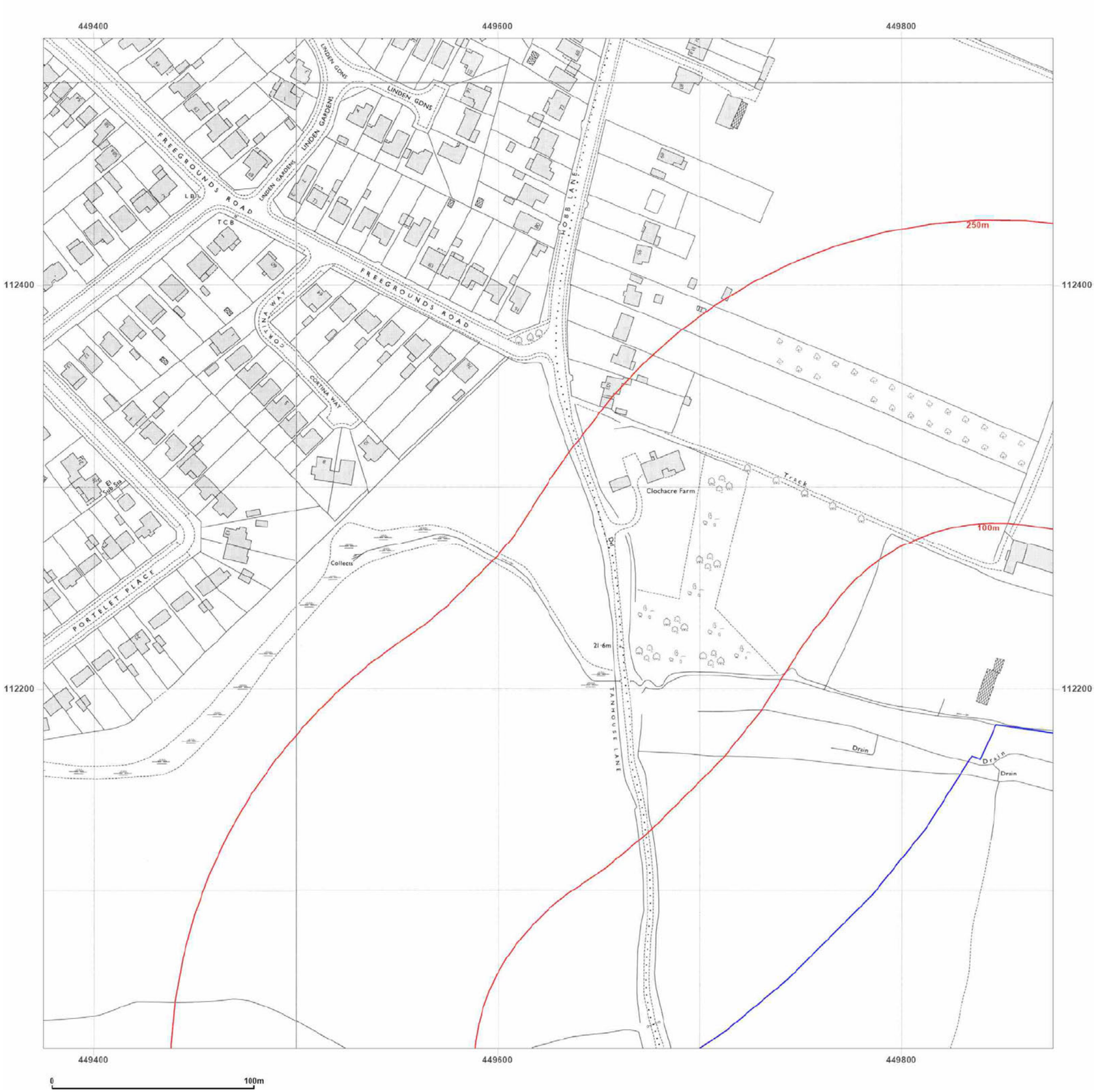
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Title: **Cut and Fill to Formation Level**

Reviewed Scheme	09.07.24	Date	AS
Reviewed Final		Date	
Scales at A1	1:500	Project No.	L241014

Project Ref. · Originator · Zone · Level · Type · Role · Drg No. · Rev.
AKSW · XX · XX · DR · C · 9110 _ WIP

Appendix B Country Series and Ordnance Survey Maps



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Site Details:

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Client Ref: 21876/AS
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Map Name: National Grid
Map date: **1973**
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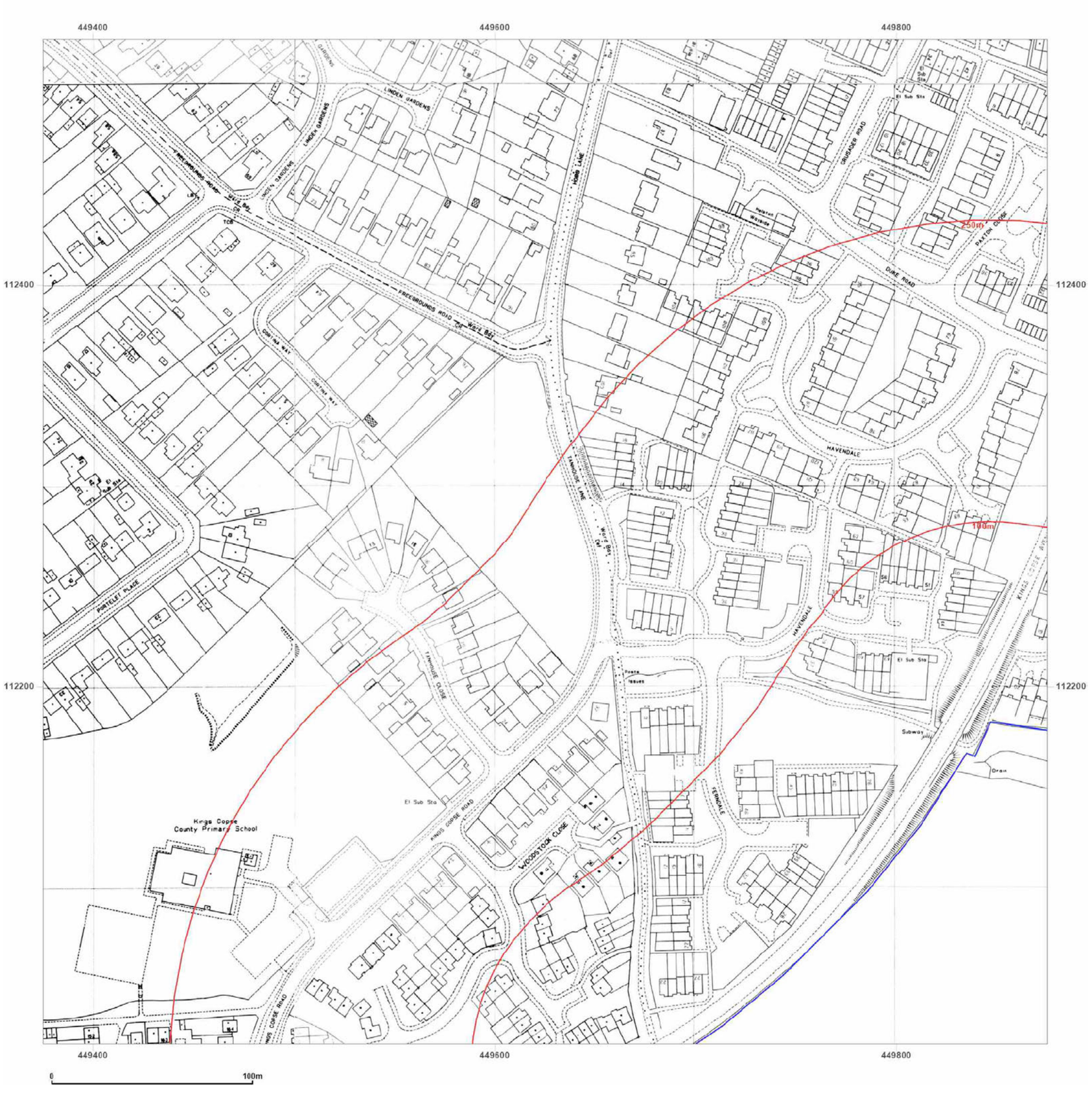
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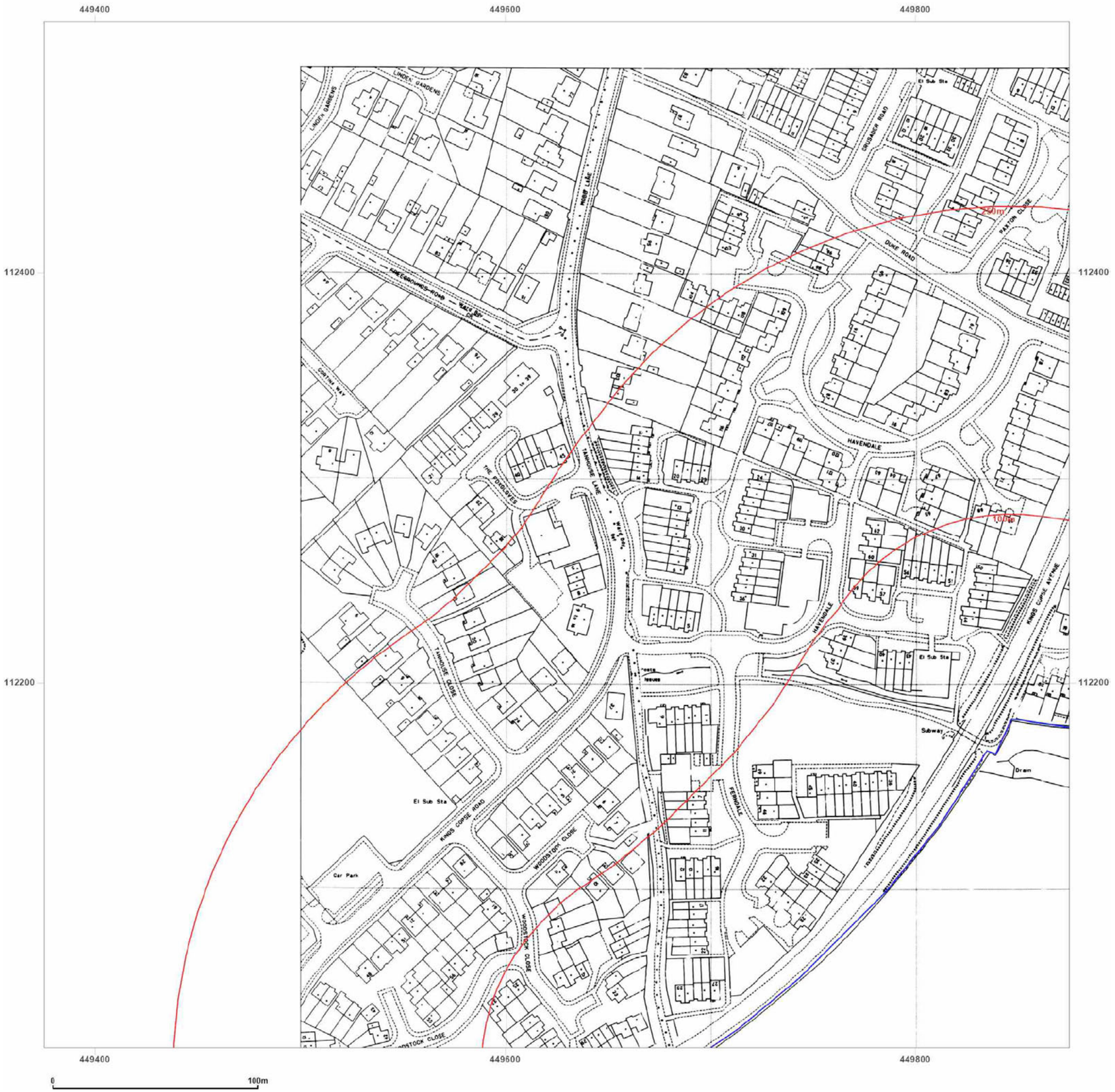
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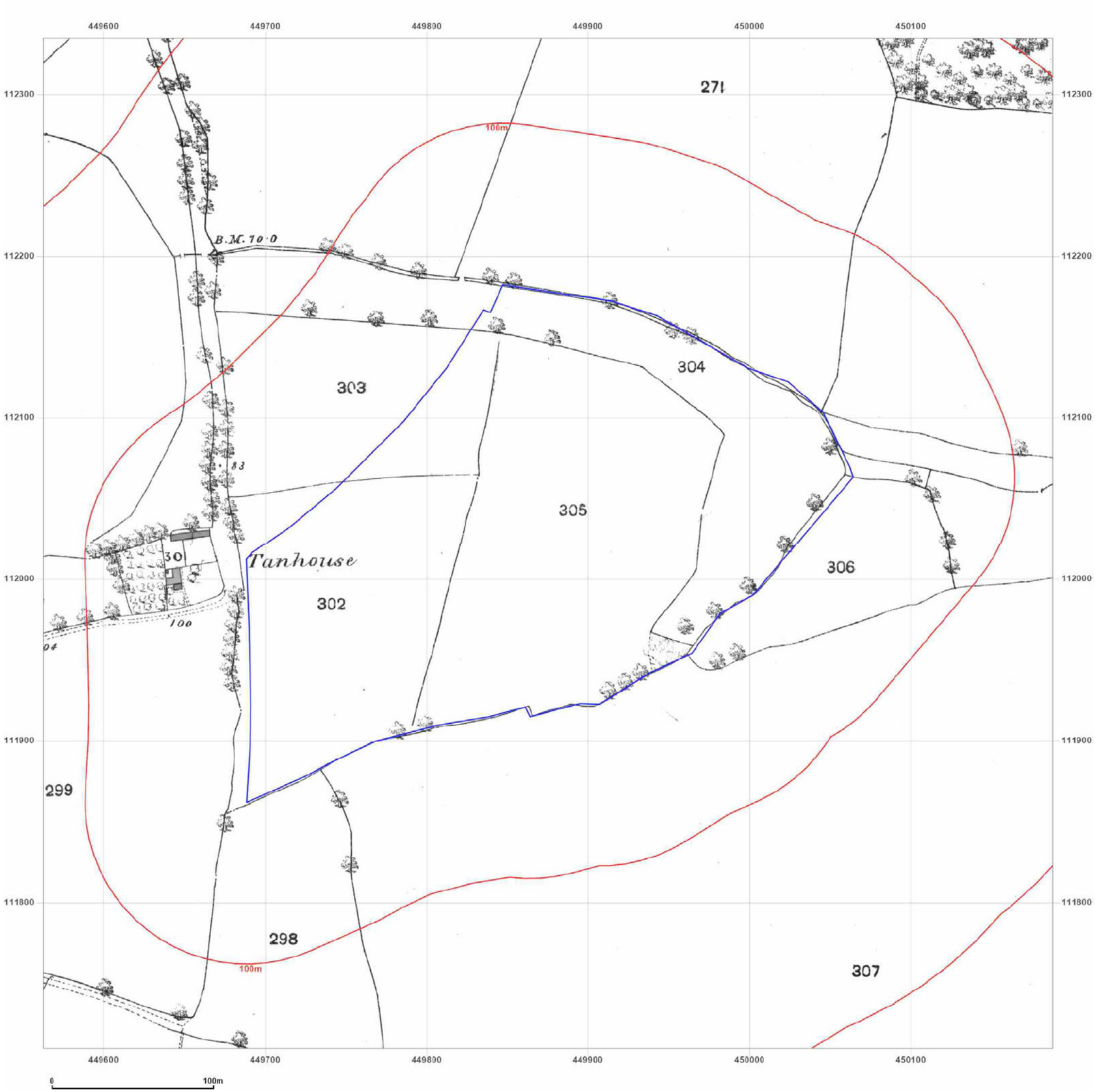
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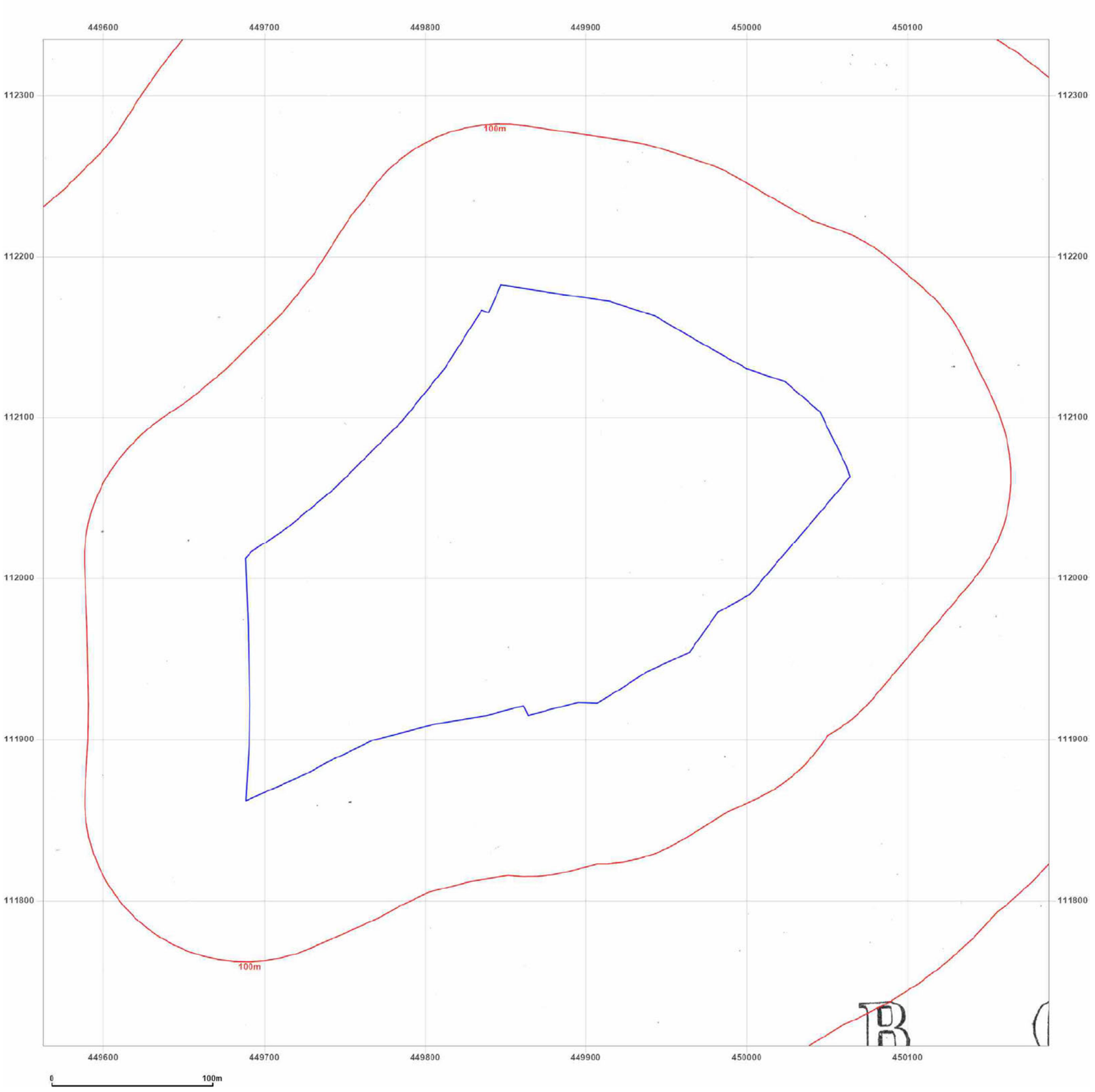
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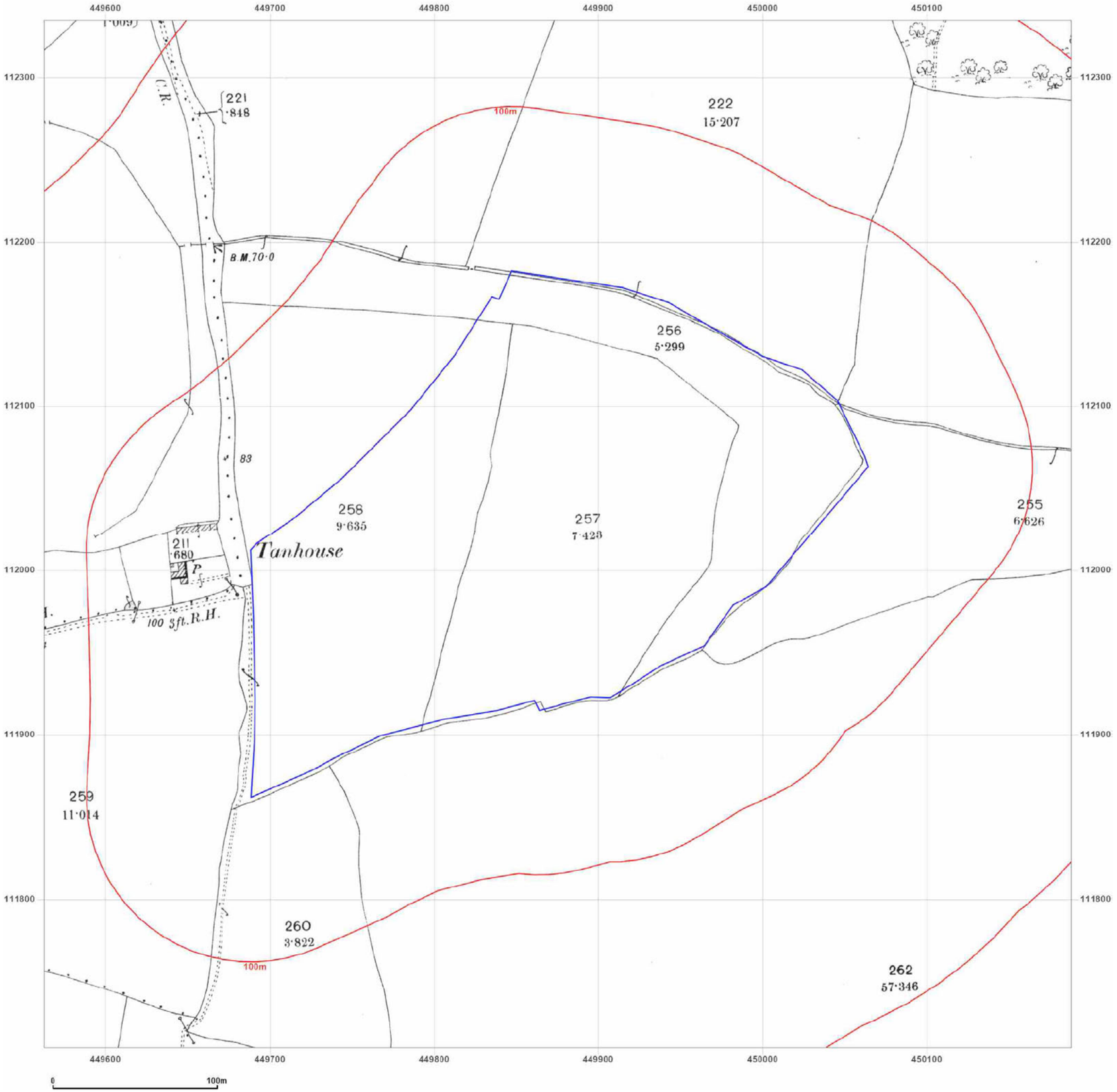
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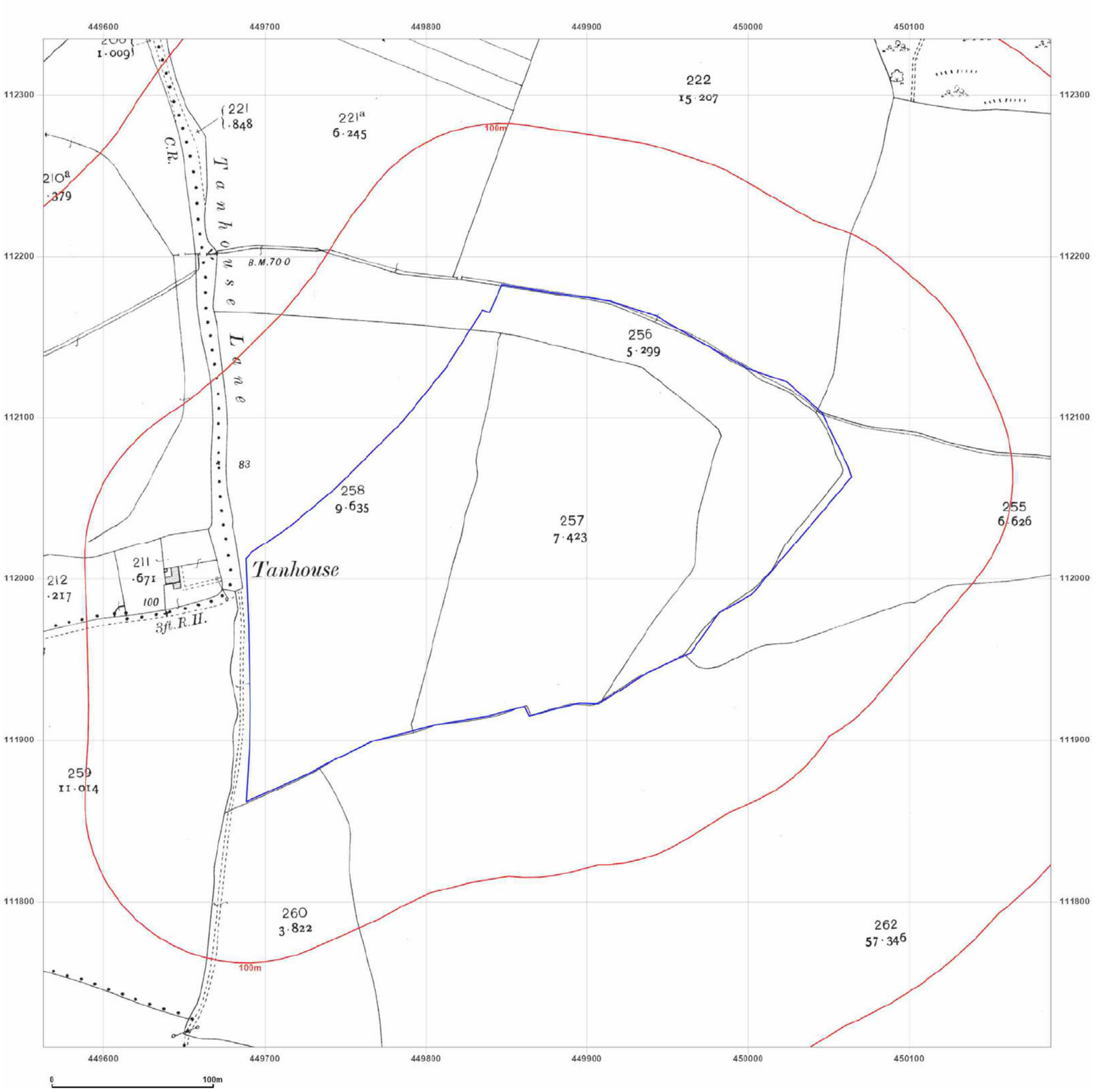
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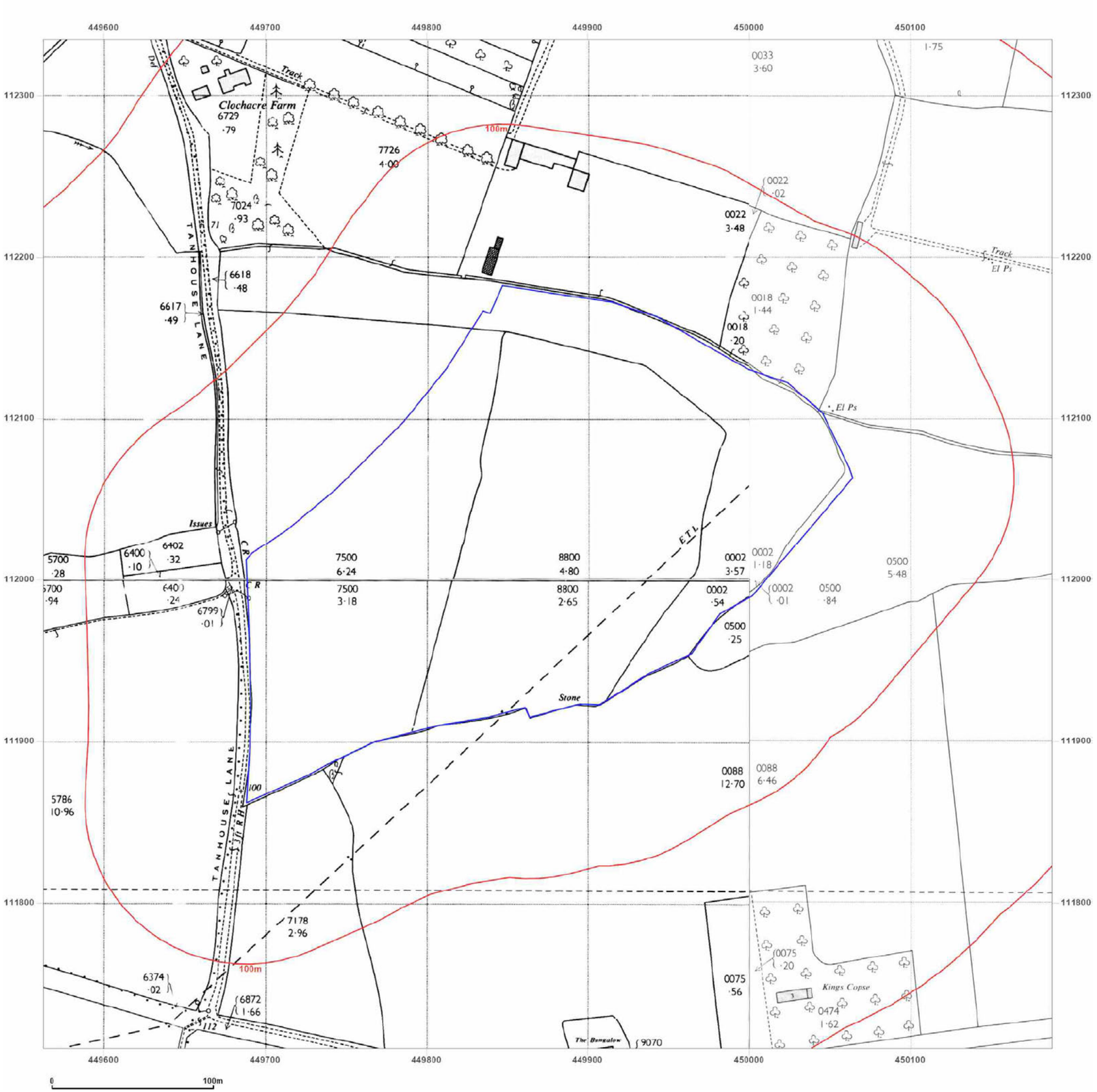
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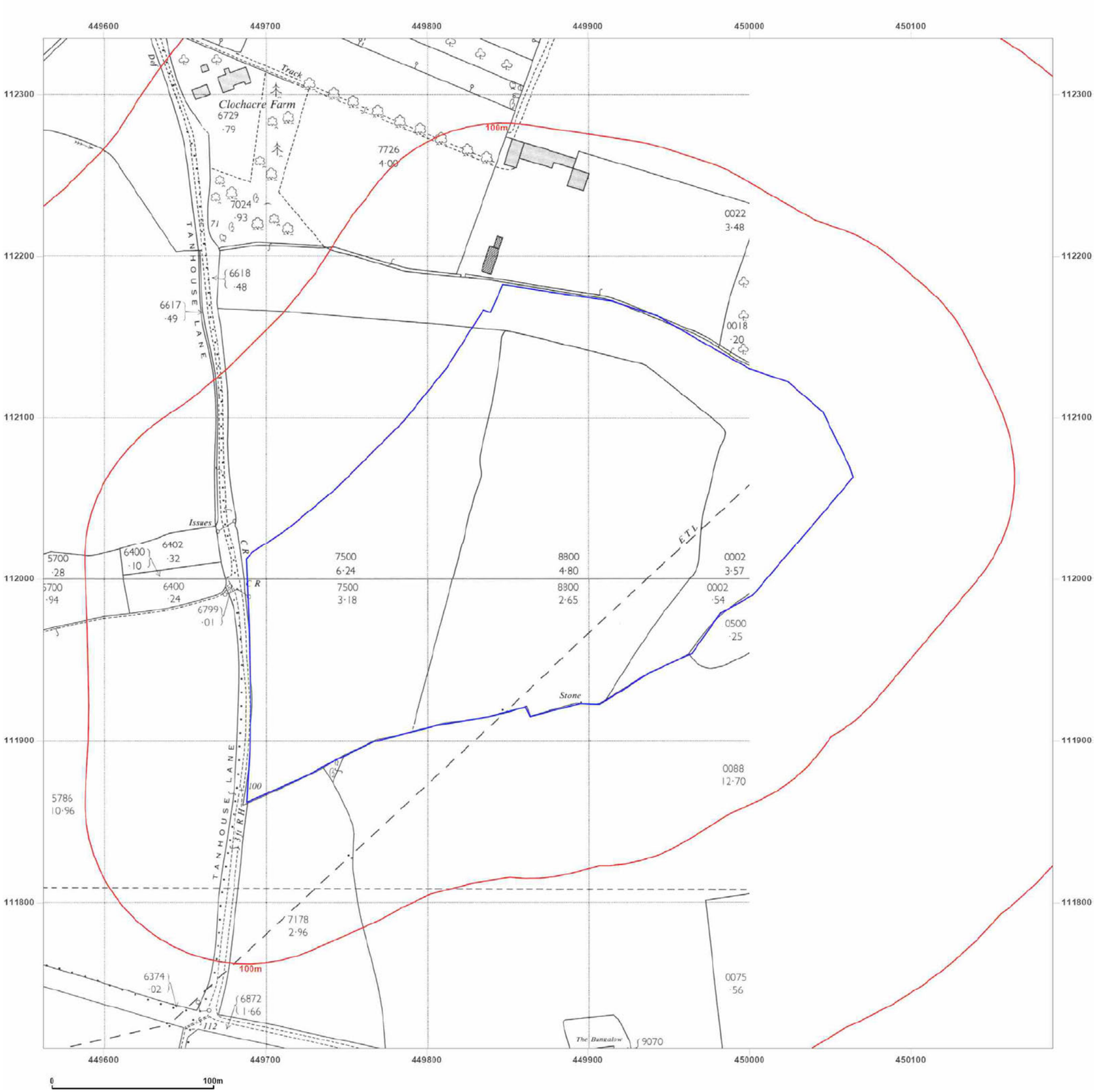
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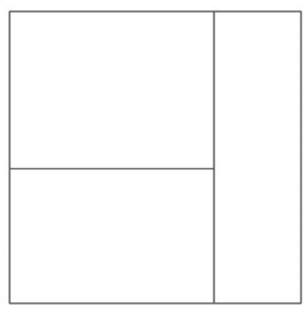
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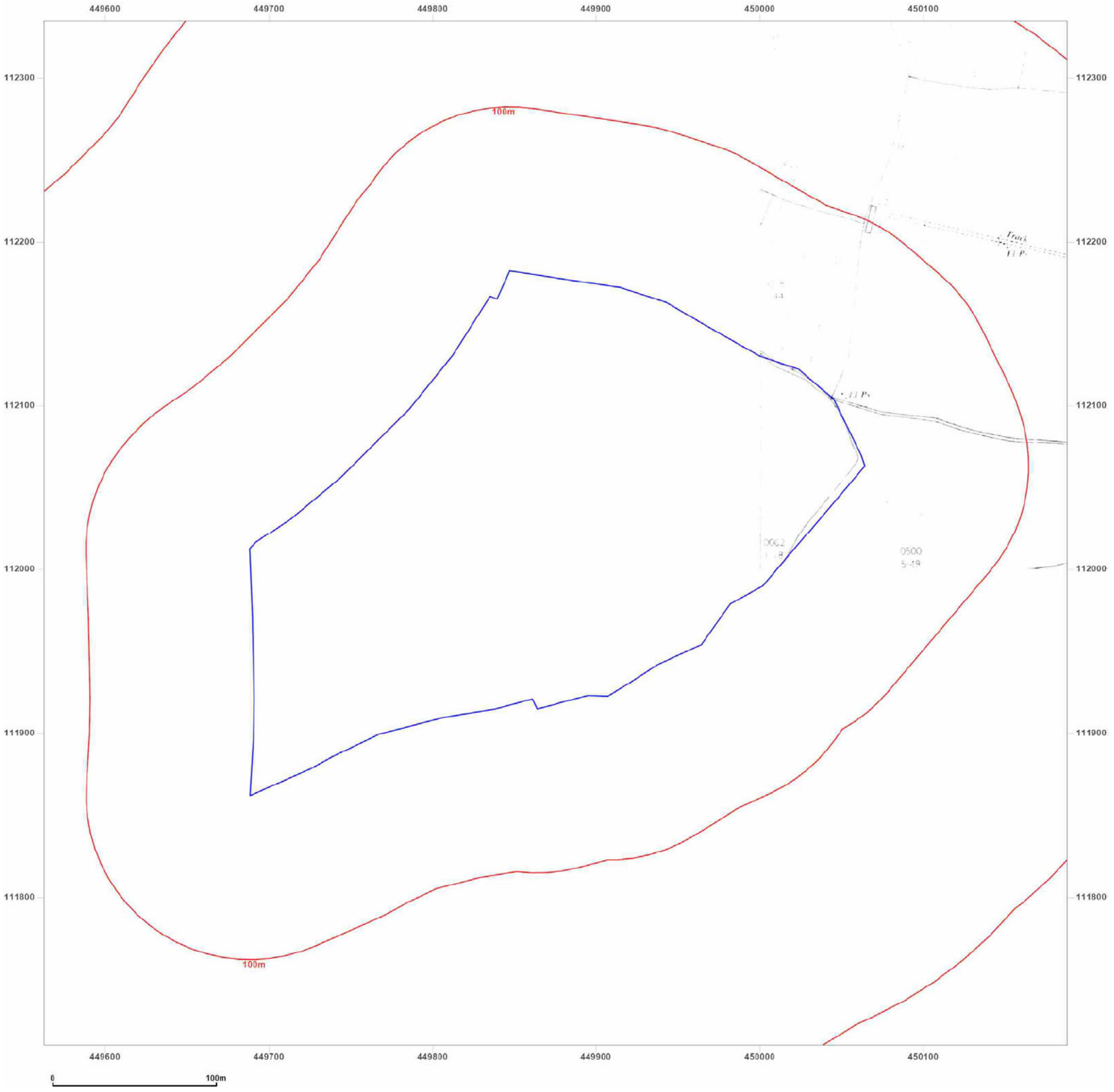
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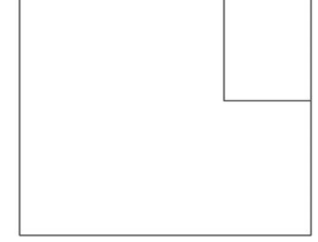
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Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG_2500
Grid Ref: 449875, 112022

Map Name: National Grid
Map date: **1974**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S

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



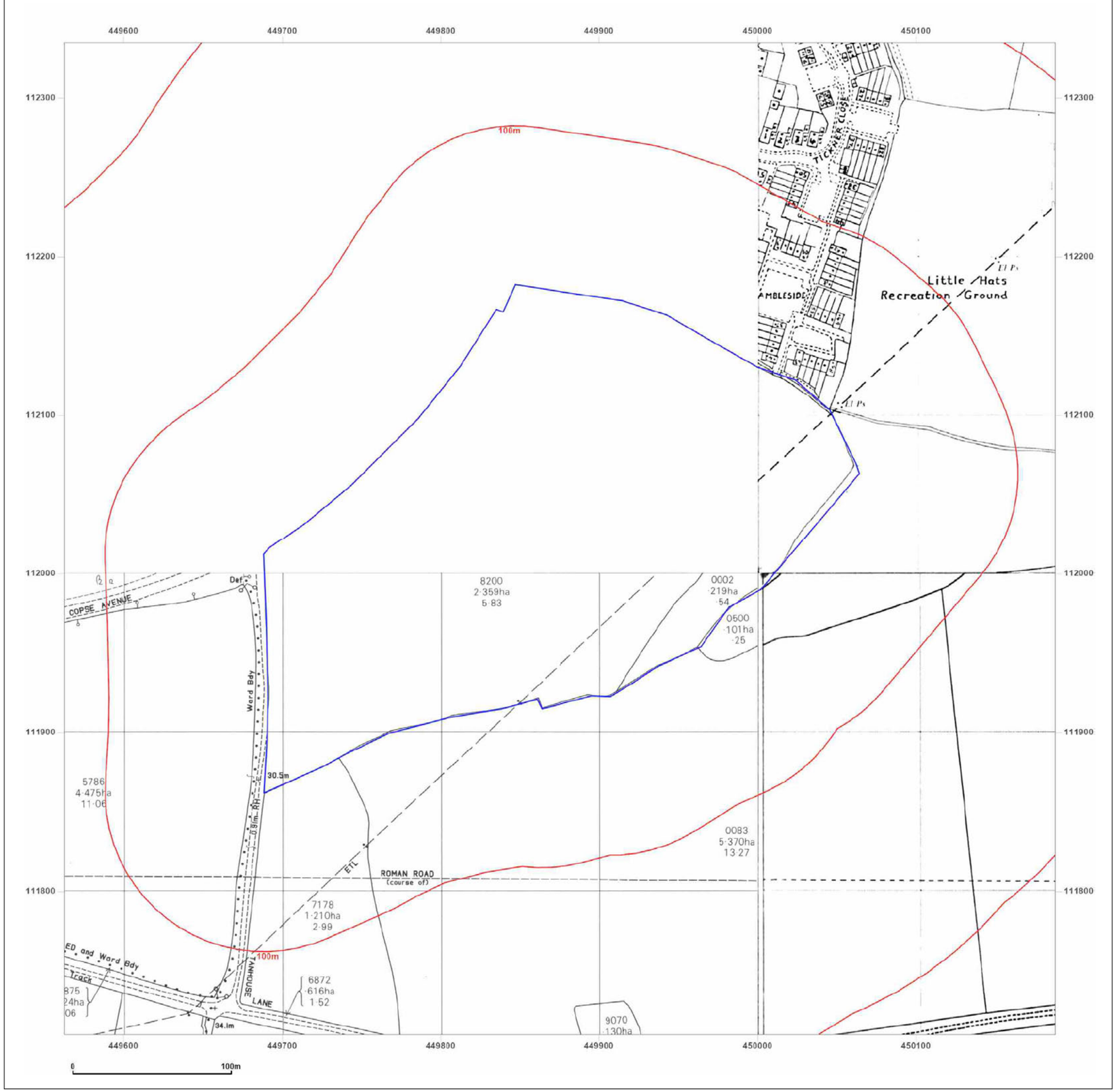
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Site Details:

KINGS COPSE AVENUE, HEDGE END, HAMPSHIRE, SO30 2SZ

Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG_2500
Grid Ref: 449875, 112022

Map Name: National Grid
Map date: **1984-1987**
Scale: 1:2,500
Printed at: 1:2,500

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

Surveyed 1981
Revised 1983
Edition N/A
Copyright 1984
Levelled 1959

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

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Site Details:

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Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG_2500
Grid Ref: 449875, 112022

Map Name: National Grid
Map date: **1984-1989**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S

Surveyed 1988
Revised 1988
Edition N/A
Copyright 1989
Levelled 1959

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

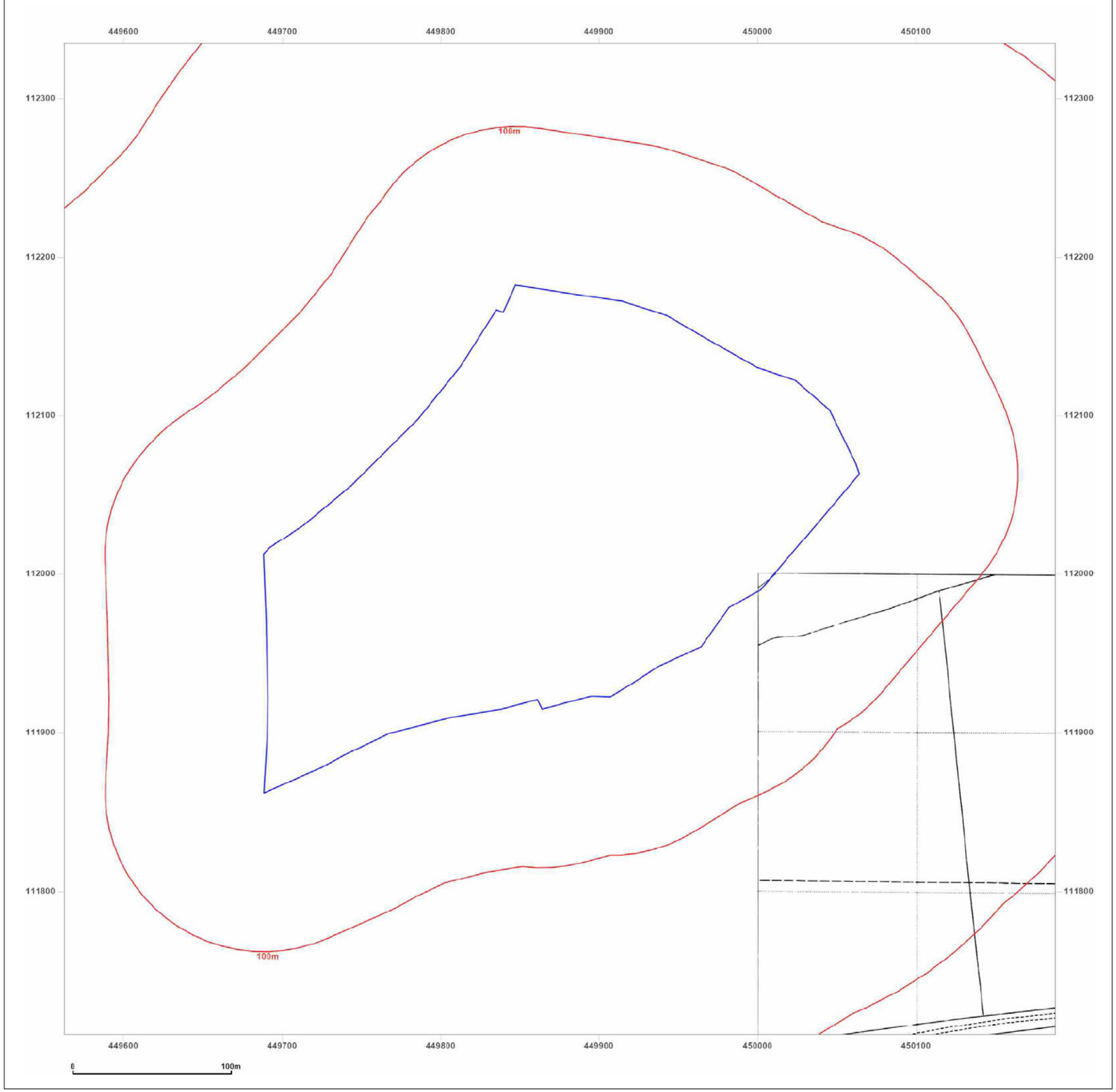
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Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG_2500
Grid Ref: 449875, 112022

Map Name: National Grid
Map date: **1993**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S

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

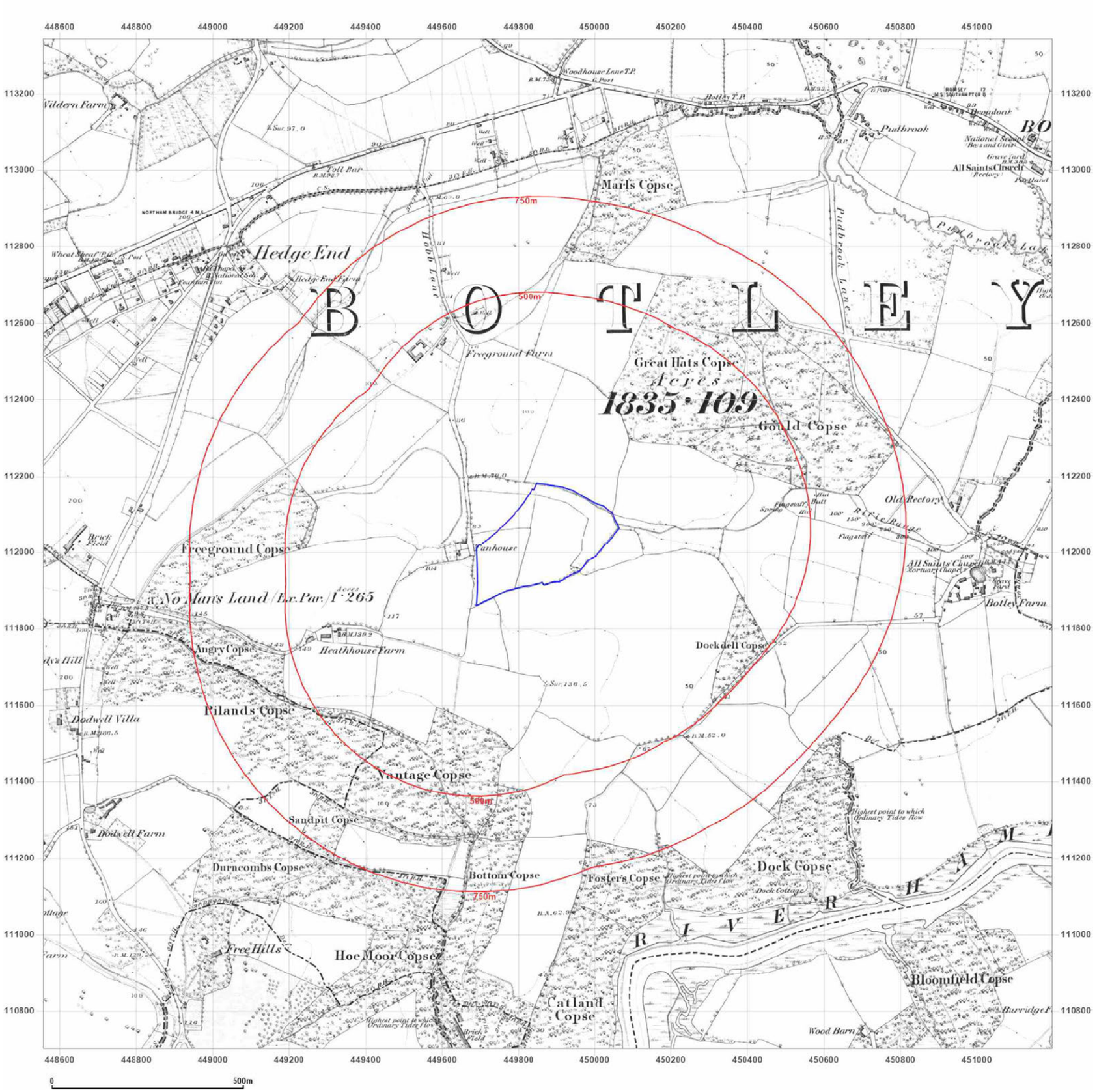
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Site Details:

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Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG
Grid Ref: 449876, 112022

Map Name: County Series
Map date: **1868**
Scale: 1:10,560
Printed at: 1:10,560

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

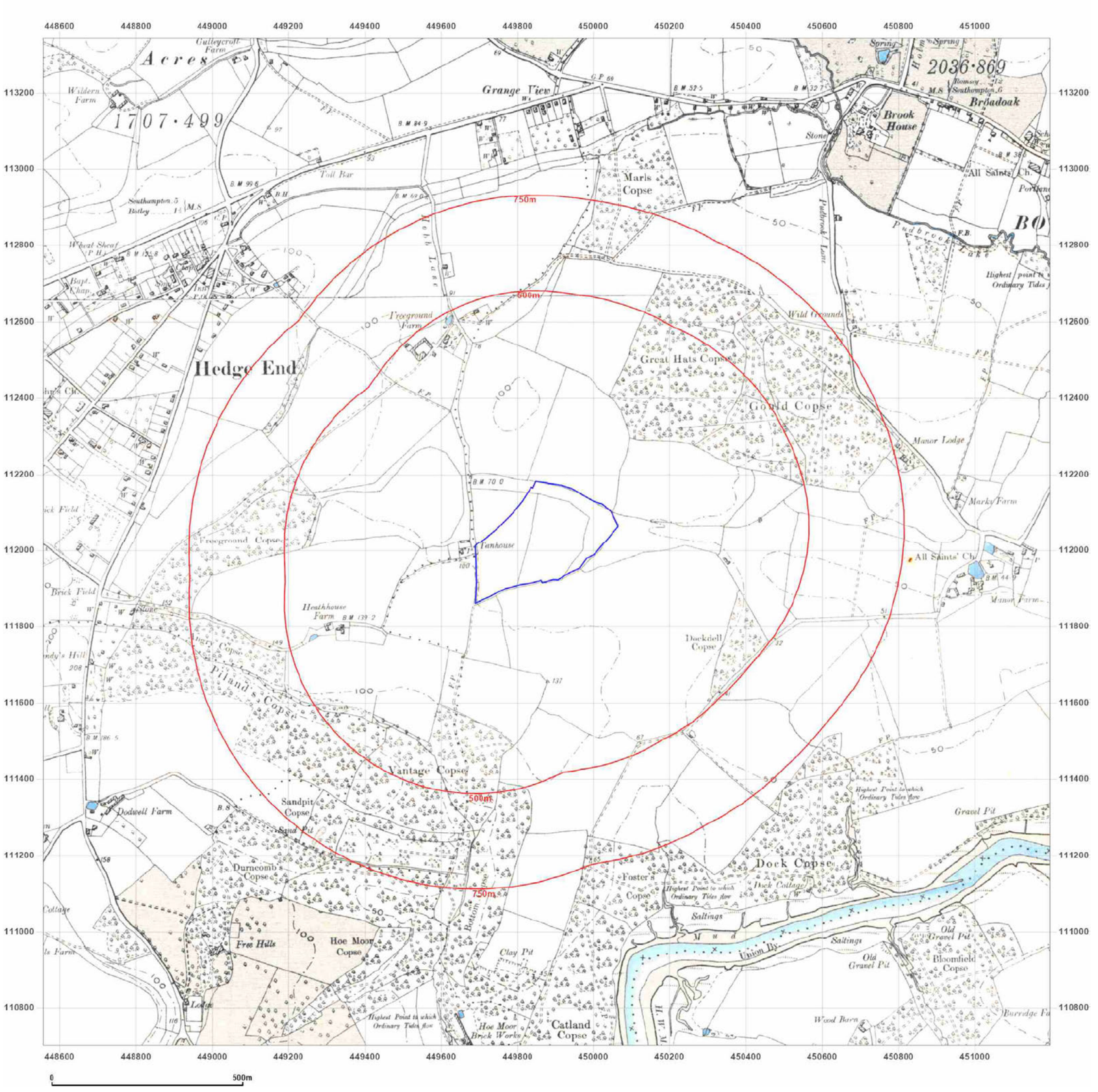
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Groundsure INSIGHTS

Site Details:

KINGS COPSE AVENUE, HEDGE END, HAMPSHIRE, SO30 2SZ

Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG
Grid Ref: 449876, 112022

Map Name: County Series

Map date: **1867-1868**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

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

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

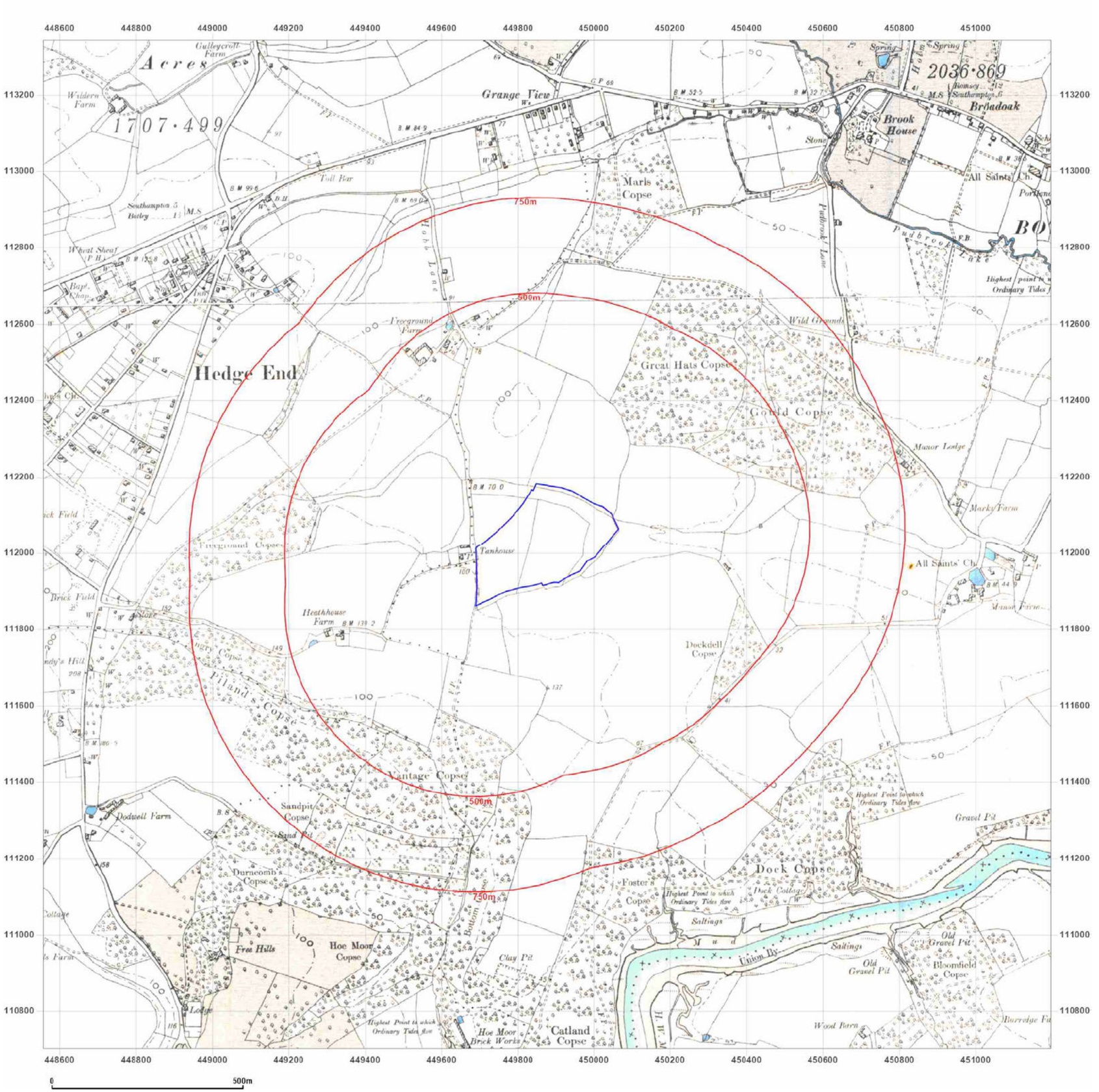
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Site Details:

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Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG
Grid Ref: 449876, 112022

Map Name: County Series

Map date: **1895**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1868
Revised 1895
Edition N/A
Copyright N/A
Levelled N/A

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

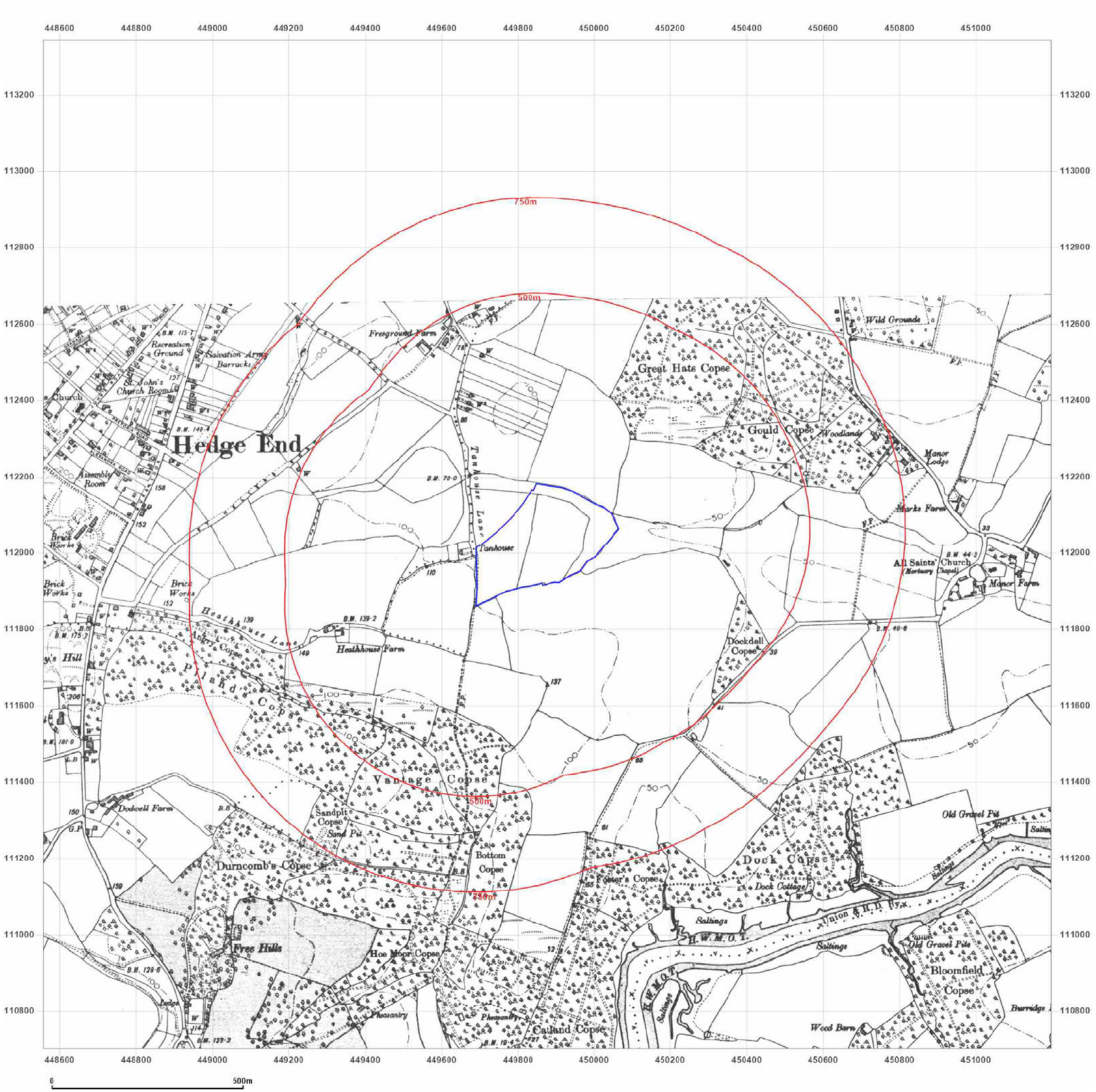
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Site Details:

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Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG
Grid Ref: 449876, 112022

Map Name: County Series

Map date: **1908**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

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

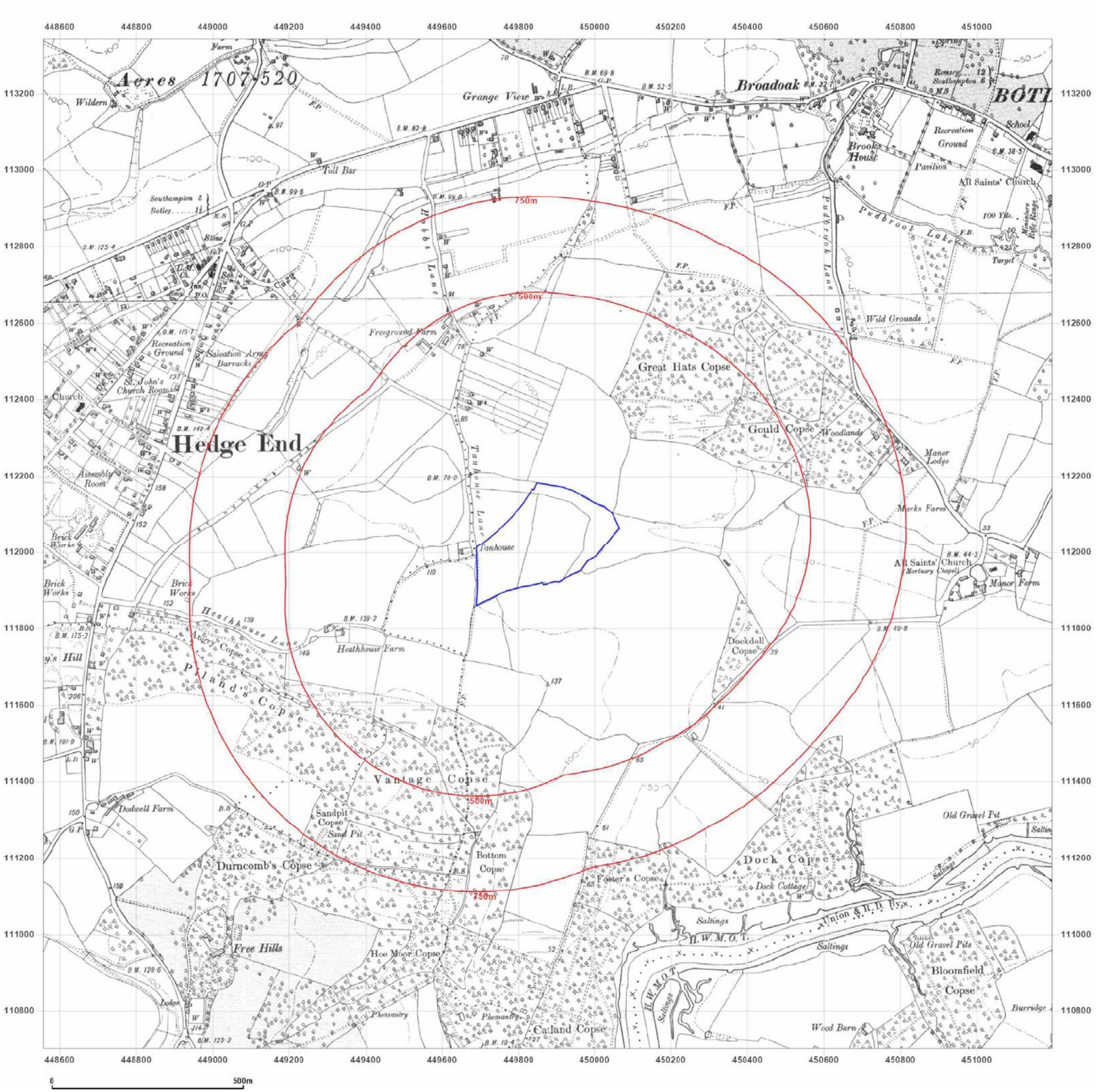
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Site Details:

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Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG
Grid Ref: 449876, 112022

Map Name: County Series

Map date: **1908-1910**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1867
Revised 1910
Edition N/A
Copyright N/A
Levelled N/A

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

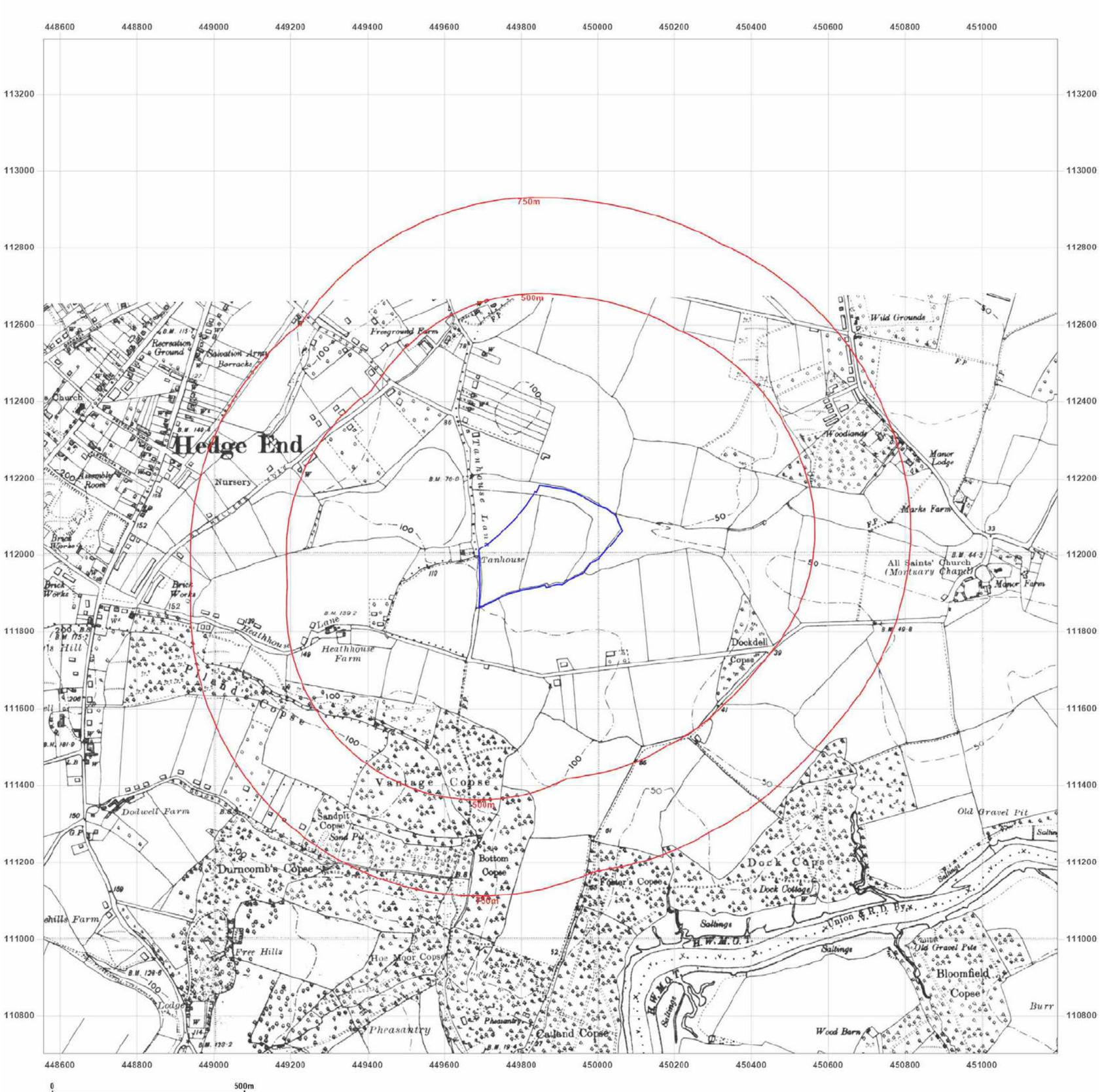
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Site Details:

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Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG
Grid Ref: 449876, 112022

Map Name: County Series

Map date: **1942**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

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

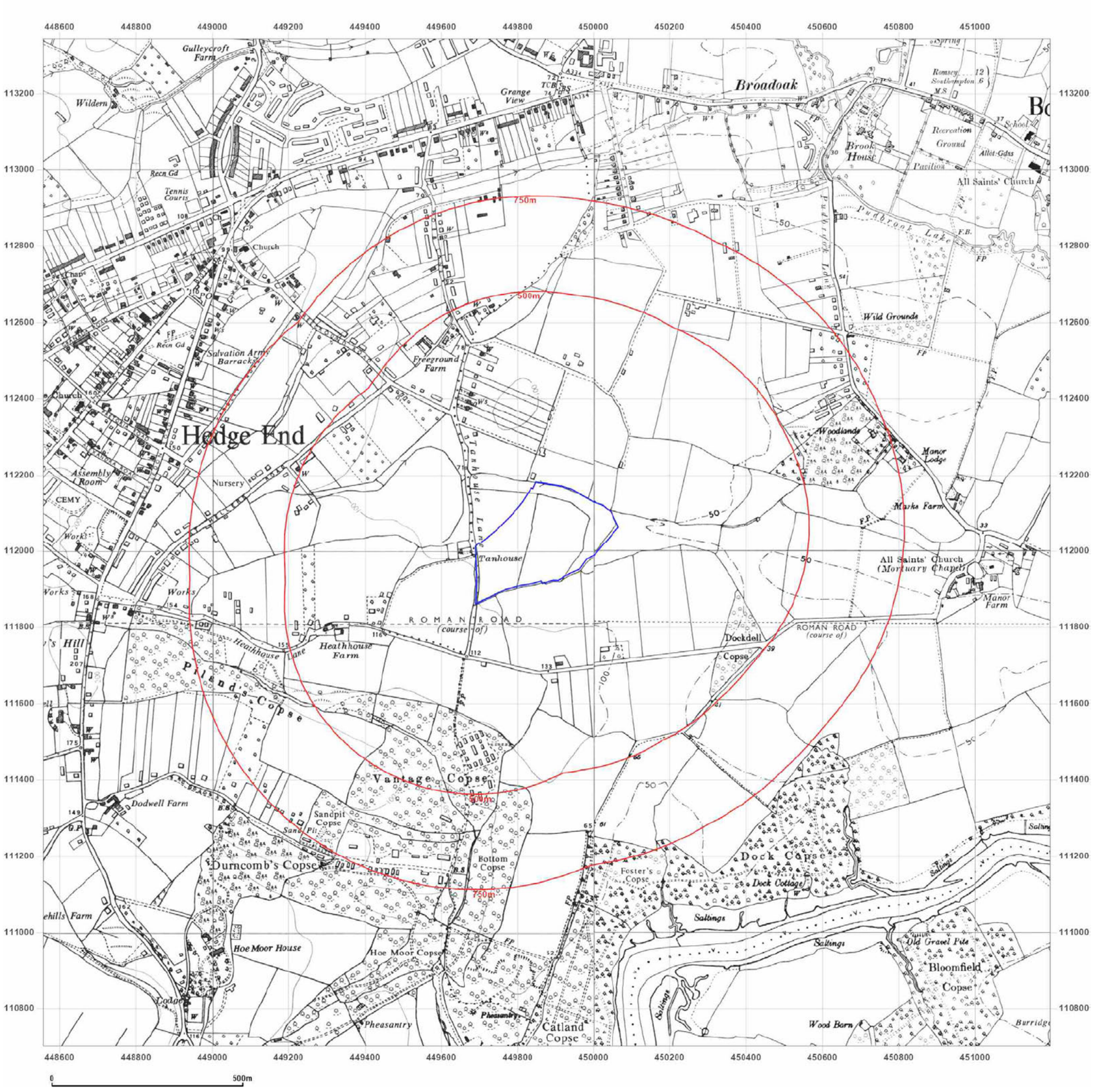
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Site Details:

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Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG
Grid Ref: 449876, 112022

Map Name: Provisional
Map date: **1957**
Scale: 1:10,560
Printed at: 1:10,560

N
W E
S

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

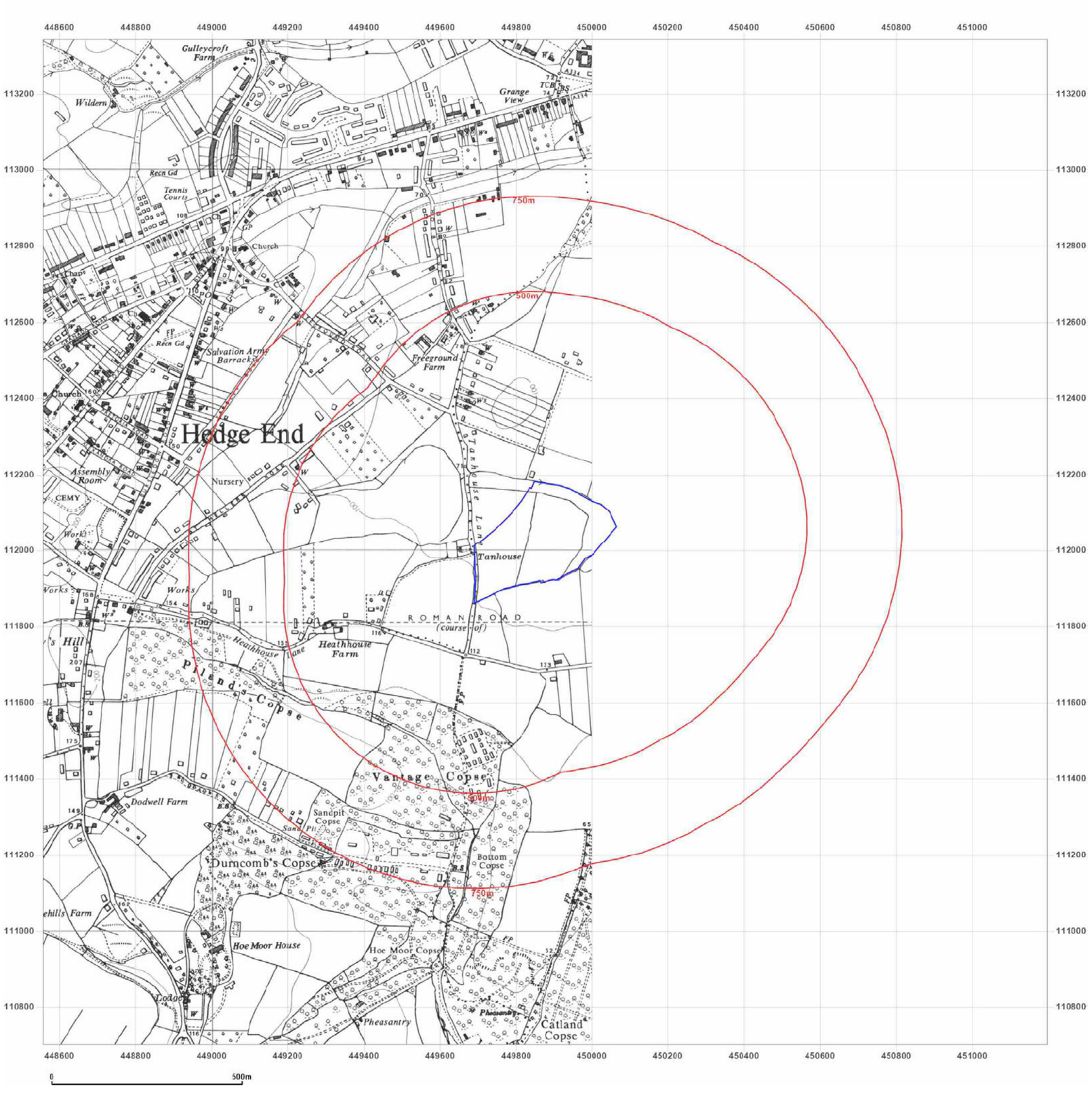
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Groundsure INSIGHTS

Site Details:

KINGS COPSE AVENUE, HEDGE END, HAMPSHIRE, SO30 2SZ

Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG
Grid Ref: 449876, 112022

Map Name: Provisional
Map date: **1957**
Scale: 1:10,560
Printed at: 1:10,560

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

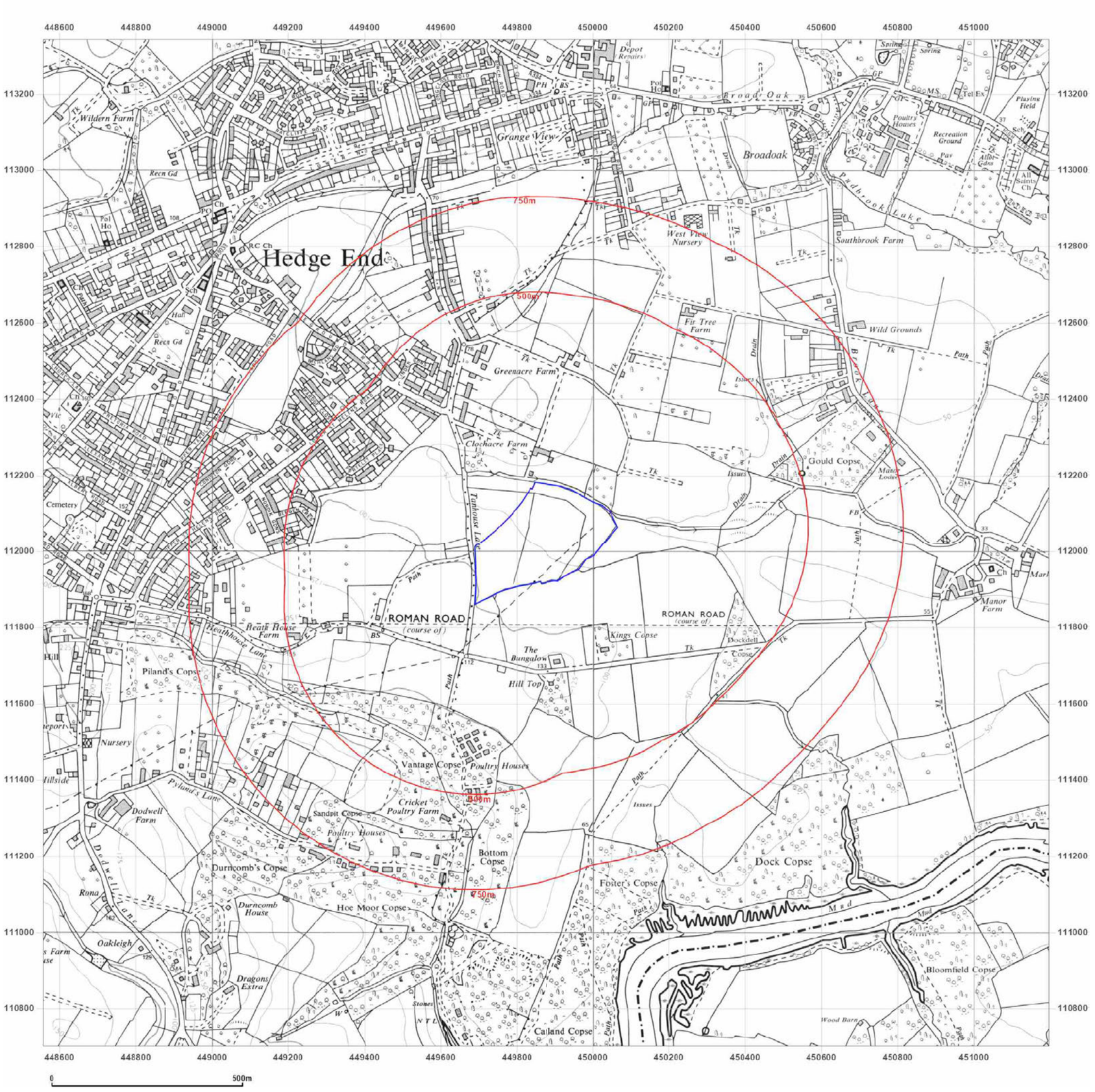
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Groundsure INSIGHTS

Site Details:

KINGS COPSE AVENUE, HEDGE END, HAMPSHIRE, SO30 2SZ

Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG
Grid Ref: 449876, 112022

Map Name: Provisional
Map date: **1967-1968**
Scale: 1:10,560
Printed at: 1:10,560

N
W E
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Surveyed 1967	Surveyed 1968
Revised 1967	Revised 1968
Edition N/A	Edition N/A
Copyright N/A	Copyright N/A
Levelled N/A	Levelled N/A

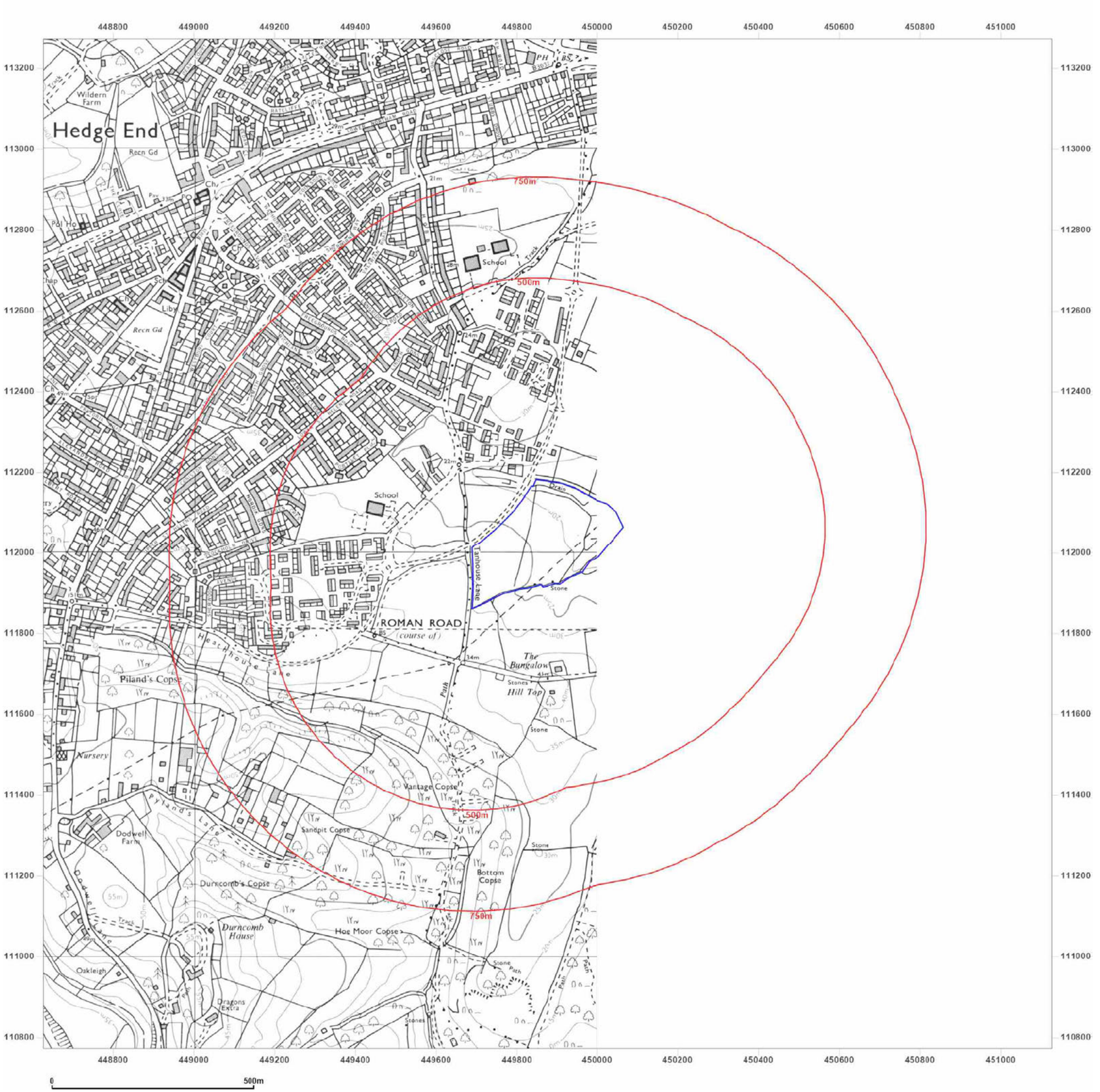
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Site Details:

KINGS COPSE AVENUE, HEDGE END, HAMPSHIRE, SO30 2SZ

Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG
Grid Ref: 449876, 112022

Map Name: National Grid

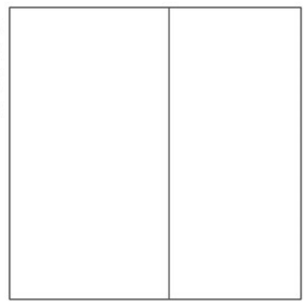
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Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

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



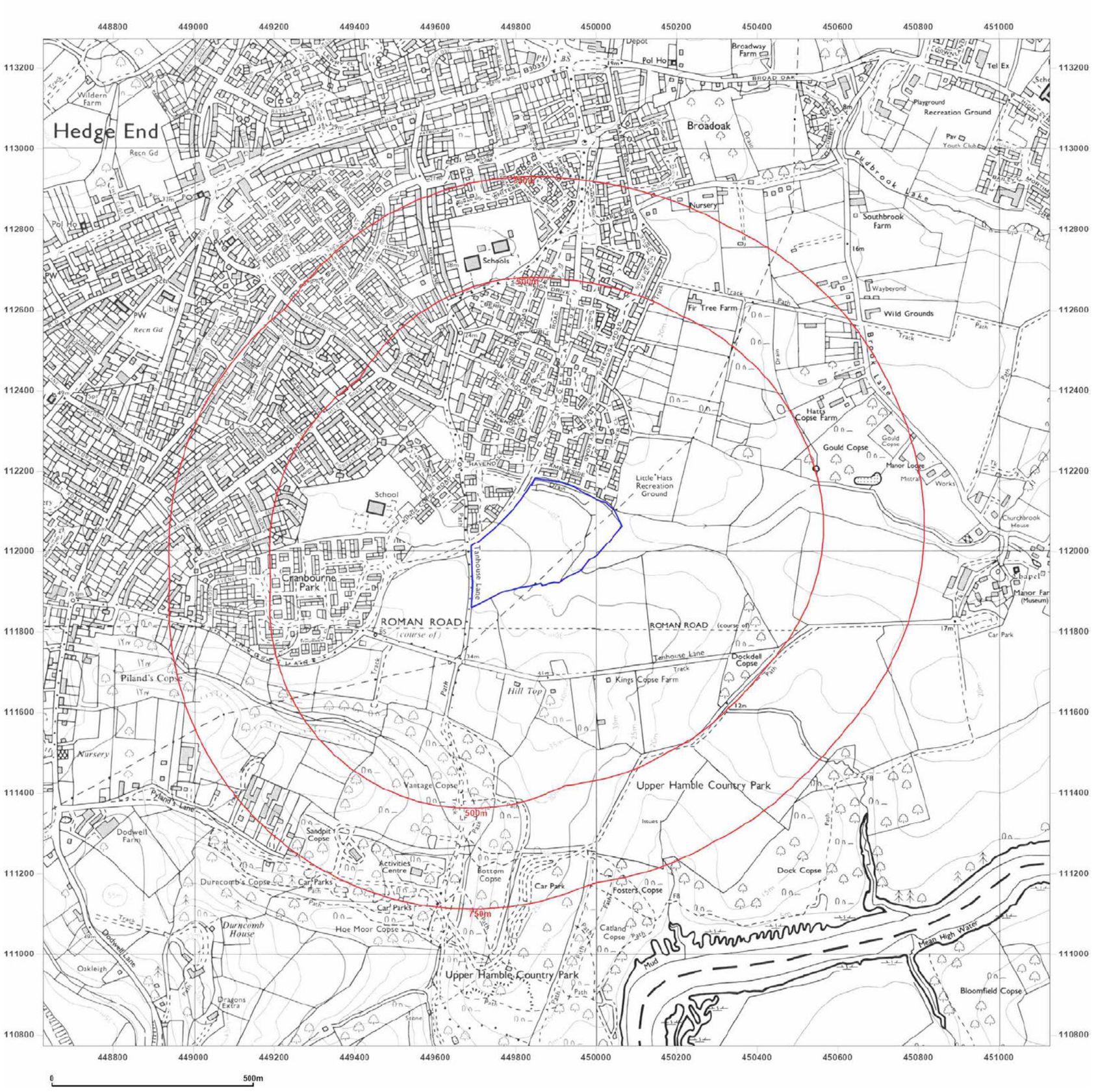
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Site Details:

KINGS COPSE AVENUE, HEDGE END, HAMPSHIRE, SO30 2SZ

Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG
Grid Ref: 449876, 112022

Map Name: National Grid
Map date: **1987**
Scale: 1:10,000
Printed at: 1:10,000

N
W E
S

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

Surveyed 1983
Revised 1987
Edition N/A
Copyright N/A
Levelled N/A

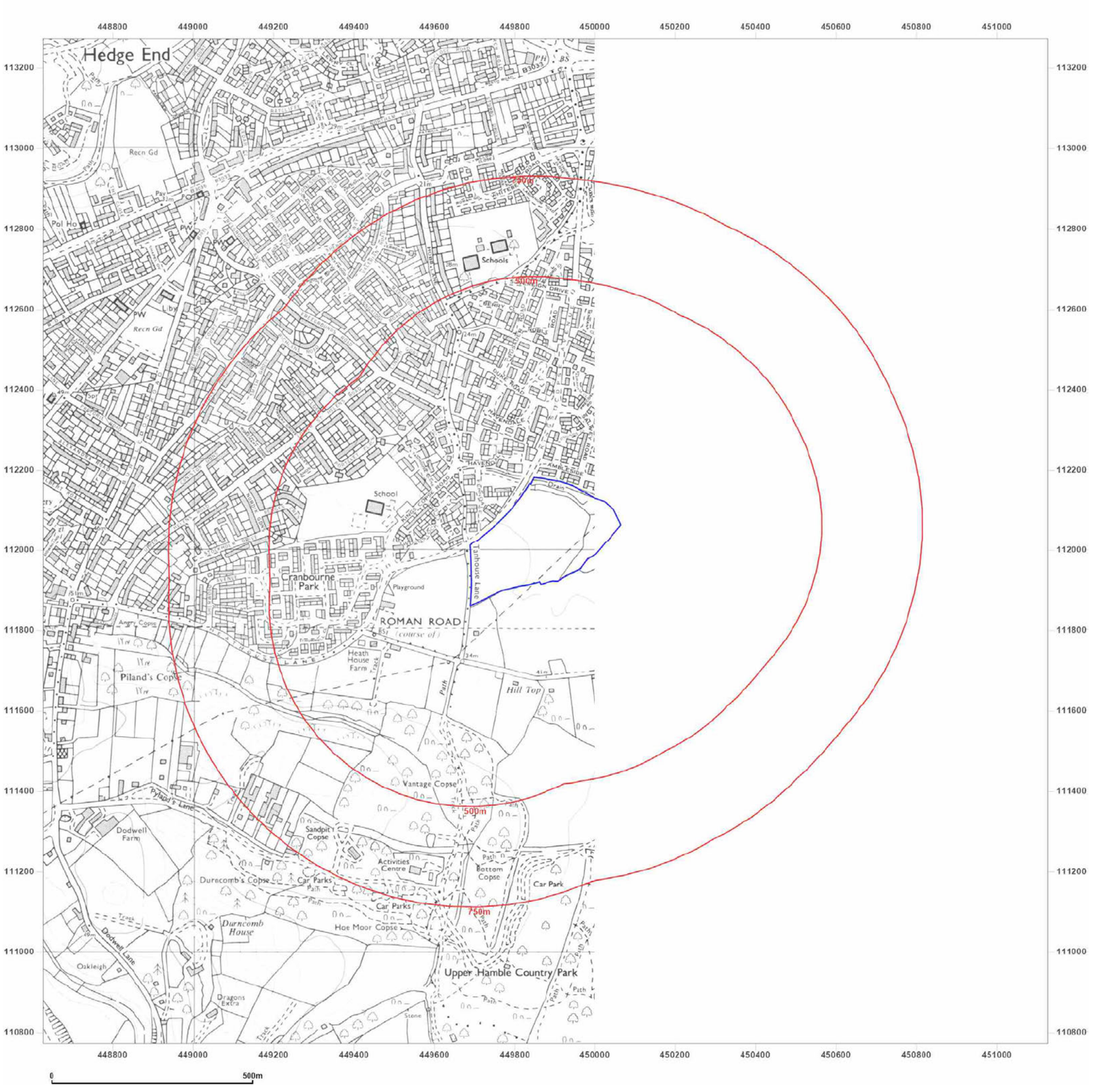
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Site Details:

KINGS COPSE AVENUE, HEDGE END, HAMPSHIRE, SO30 2SZ

Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG
Grid Ref: 449876, 112022

Map Name: National Grid
Map date: **1993**
Scale: 1:10,000
Printed at: 1:10,000

N
W E
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Surveyed 1991
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

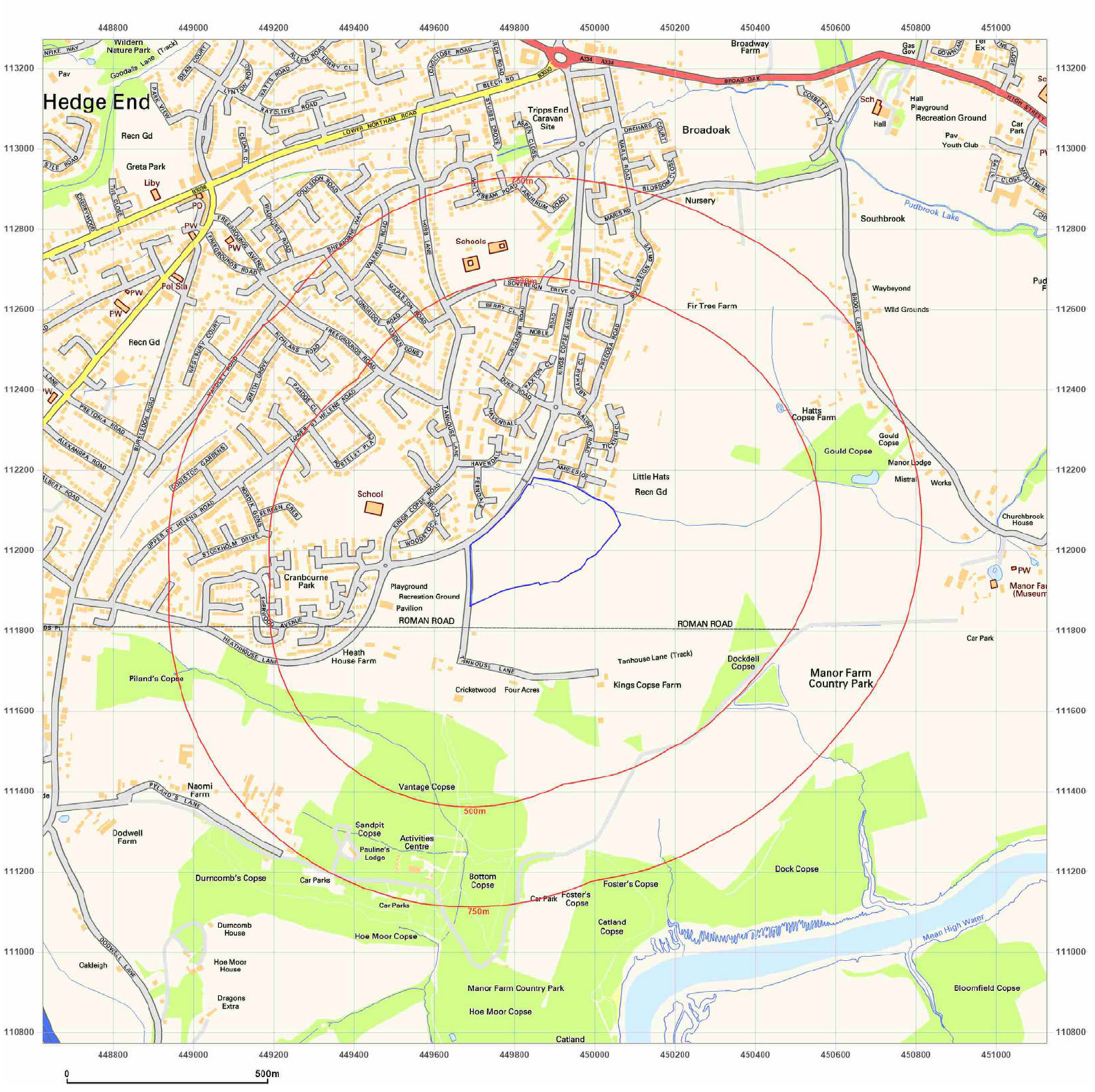
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Site Details:

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Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG
Grid Ref: 449876, 112022

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

N
W E
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2001

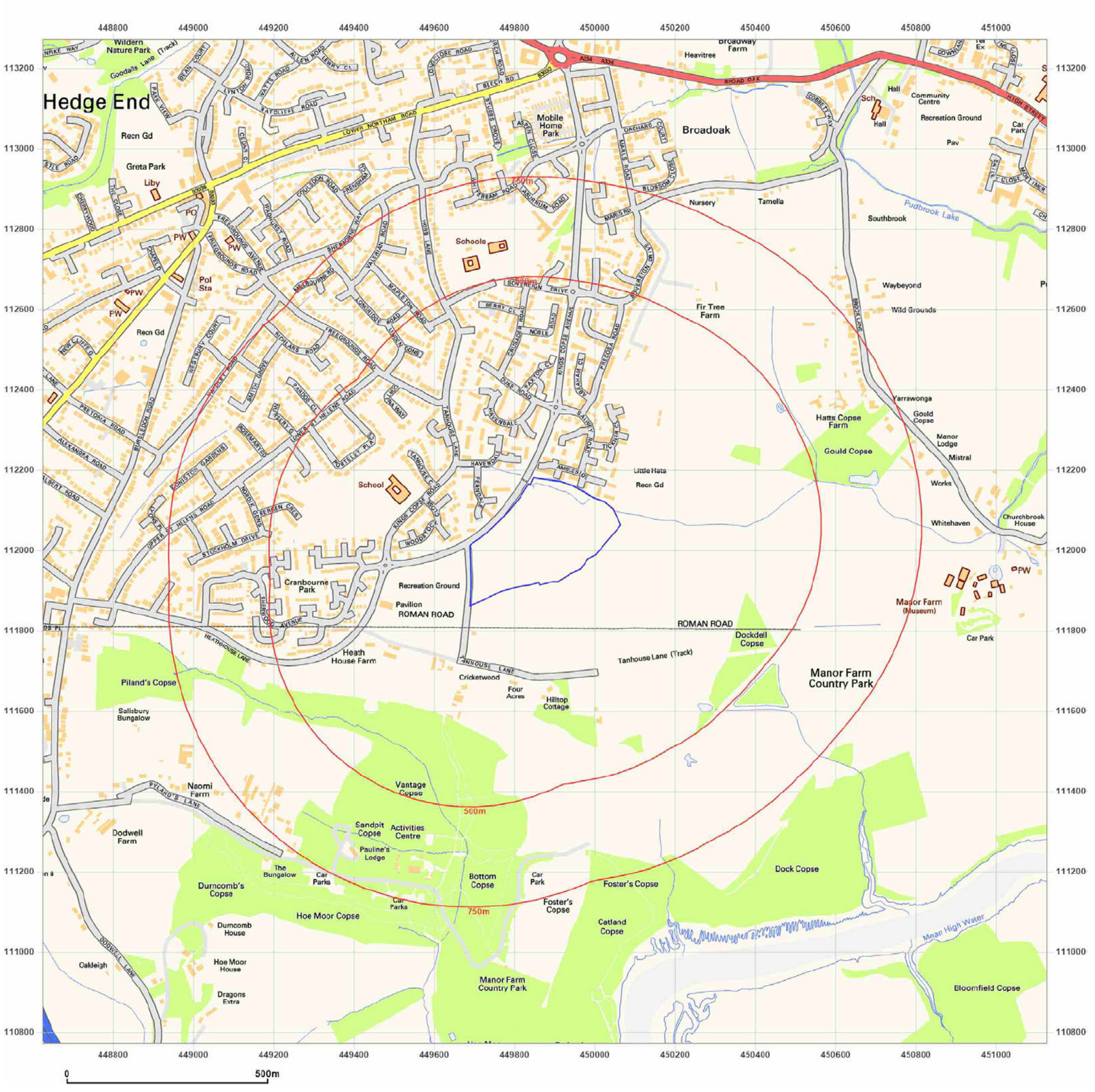
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Groundsure INSIGHTS

Site Details:

KINGS COPSE AVENUE, HEDGE END, HAMPSHIRE, SO30 2SZ

Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG
Grid Ref: 449876, 112022

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

N
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2010

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Site Details:

KINGS COPSE AVENUE, HEDGE END, HAMPSHIRE, SO30 2SZ

Client Ref: 21876/AS
Report Ref: GS-AQ4-AQX-QJN-5NG
Grid Ref: 449876, 112022

Map Name: National Grid
Map date: **2025**
Scale: 1:10,000
Printed at: 1:10,000

N
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2025

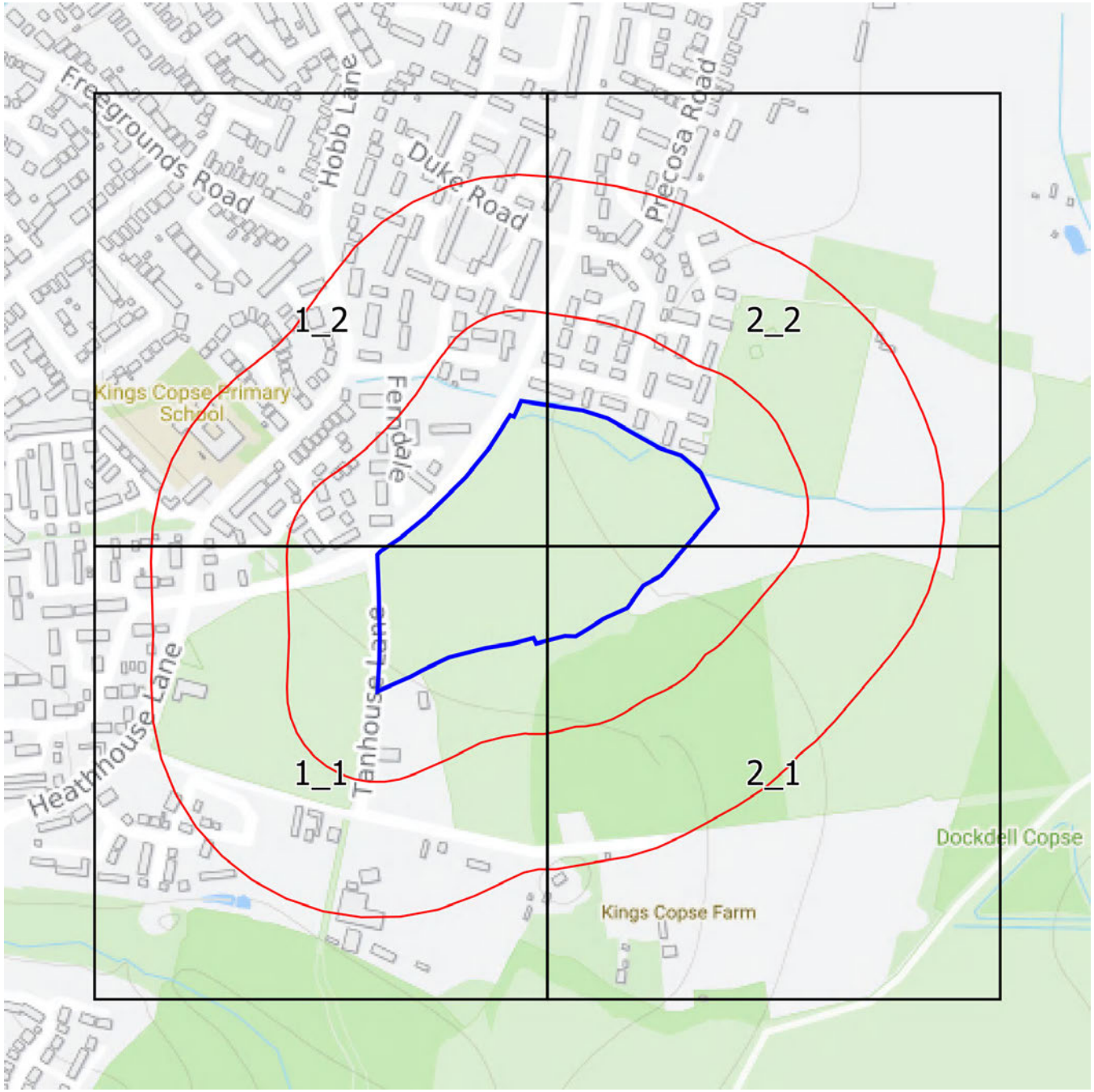
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Groundsure INSIGHTS

1:1,250 Scale Grid Index



Appendix C Landmark Envirocheck Report

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

KINGS COPSE AVENUE, HEDGE END, HAMPSHIRE, SO30 2SZ

Order Details

Date: 30/05/2025

Your ref: 21876/AS

Our Ref: GS-T96-DTJ-P5I-YXU

Site Details

Location: 449863 112028

Area: 6.98 ha

Authority: Eastleigh Borough Council ↗



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Summary of findings p. 2 >

OS MasterMap site plan p.14 >

Aerial image p. 9 >

Insight User Guide ↗

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

Certified B Corporation

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	1	-
16	1.2	Historical tanks	0	0	0	0	-
16 >	1.3 >	Historical energy features >	0	1	2	15	-
17	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	1	-
19	2.2	Historical tanks	0	0	0	0	-
19 >	2.3 >	Historical energy features >	0	4	7	22	-
20	2.4	Historical petrol stations	0	0	0	0	-
21	2.5	Historical garages	0	0	0	0	-
Page	**Section**	**Waste and landfill >**	**On site**	**0-50m**	**50-250m**	**250-500m**	**500-2000m**
22	3.1	Active or recent landfill	0	0	0	0	-
22	3.2	Historical landfill (BGS records)	0	0	0	0	-
23	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
23 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	0	1	-
23	3.5	Historical waste sites	0	0	0	0	-
23	3.6	Licensed waste sites	0	0	0	0	-
24 >	3.7 >	Waste exemptions >	0	0	13	6	-
Page	**Section**	**Current industrial land use >**	**On site**	**0-50m**	**50-250m**	**250-500m**	**500-2000m**
26 >	4.1 >	Recent industrial land uses >	0	0	9	-	-
27	4.2	Current or recent petrol stations	0	0	0	0	-
27	4.3	Electricity cables	0	0	0	0	-
27	4.4	Gas pipelines	0	0	0	0	-
28	4.5	Sites determined as Contaminated Land	0	0	0	0	-

28	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
28	4.7	Regulated explosive sites	0	0	0	0	-
28	4.8	Hazardous substance storage/usage	0	0	0	0	-
28	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
29	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
29	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
29	4.12	Radioactive Substance Authorisations	0	0	0	0	-
29 >	4.13 >	Licensed Discharges to controlled waters >	1	0	0	0	-
30	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
30	4.15	Pollutant release to public sewer	0	0	0	0	-
30	4.16	List 1 Dangerous Substances	0	0	0	0	-
30	4.17	List 2 Dangerous Substances	0	0	0	0	-
30 >	4.18 >	Pollution Incidents (EA/NRW) >	1	1	0	1	-
31	4.19	Pollution inventory substances	0	0	0	0	-
31	4.20	Pollution inventory waste transfers	0	0	0	0	-
31	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
33 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
34 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
36 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
38	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
38	5.5	Groundwater vulnerability- local information	None (within 0m)				
39 >	5.6 >	Groundwater abstractions >	0	0	0	0	1
40 >	5.7 >	Surface water abstractions >	0	0	0	0	1
40	5.8	Potable abstractions	0	0	0	0	0
41	5.9	Source Protection Zones	0	0	0	0	-
41	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
42 >	6.1 >	Water Network (OS MasterMap) >	4	7	3	-	-

44 >	6.2 >	Surface water features >	1	2	1	-	-
44 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
44	6.4	WFD Surface water bodies	0	0	0	-	-
45 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
46	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
46	7.2	Historical Flood Events	0	0	0	-	-
46	7.3	Flood Defences	0	0	0	-	-
47	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
47	7.5	Flood Storage Areas	0	0	0	-	-
48 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
49 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
50 >	8.1 >	Surface water flooding >	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
52 >	9.1 >	Groundwater flooding >	High (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
53 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	1	3
54 >	10.2 >	Conserved wetland sites (Ramsar sites) >	0	0	0	0	1
55 >	10.3 >	Special Areas of Conservation (SAC) >	0	0	0	0	1
55 >	10.4 >	Special Protection Areas (SPA) >	0	0	0	0	5
56	10.5	National Nature Reserves (NNR)	0	0	0	0	0
57 >	10.6 >	Local Nature Reserves (LNR) >	1	0	0	0	5
57 >	10.7 >	Designated Ancient Woodland >	0	0	0	4	15
58	10.8	Biosphere Reserves	0	0	0	0	0
58	10.9	Forest Parks	0	0	0	0	0
59	10.10	Marine Conservation Zones	0	0	0	0	0
59	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
60	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 >	2	-	-	-	-
63 >	10.18 >	SSSI Units >	0	0	0	1	14
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
71	11.1	World Heritage Sites	0	0	0	-	-
71	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
71	11.3	National Parks	0	0	0	-	-
71	11.4	Listed Buildings	0	0	0	-	-
72	11.5	Conservation Areas	0	0	0	-	-
72	11.6	Scheduled Ancient Monuments	0	0	0	-	-
72	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
73 >	12.1 >	Agricultural Land Classification >	Grade 3b (within 250m)				
74	12.2	Open Access Land	0	0	0	-	-
74	12.3	Tree Felling Licences	0	0	0	-	-
74 >	12.4 >	Environmental Stewardship Schemes >	0	0	1	-	-
75	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
76 >	13.1 >	Priority Habitat Inventory >	7	0	5	-	-
77 >	13.2 >	Habitat Networks >	7	2	0	-	-
78	13.3	Open Mosaic Habitat	0	0	0	-	-
78	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
79 >	14.1 >	10k Availability >	Identified (within 500m)				
80	14.2	Artificial and made ground (10k)	0	0	0	0	-
81 >	14.3 >	Superficial geology (10k) >	1	0	0	1	-

82	14.4	Landslip (10k)	0	0	0	0	-
83 >	14.5 >	Bedrock geology (10k) >	4	0	2	1	-
84	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
85 >	15.1 >	50k Availability >	Identified (within 500m)				
86	15.2	Artificial and made ground (50k)	0	0	0	0	-
86	15.3	Artificial ground permeability (50k)	0	0	-	-	-
87 >	15.4 >	Superficial geology (50k) >	0	1	0	1	-
88 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
88	15.6	Landslip (50k)	0	0	0	0	-
88	15.7	Landslip permeability (50k)	None (within 50m)				
89 >	15.8 >	Bedrock geology (50k) >	2	0	1	1	-
90 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
90	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
91	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence >					
92 >	17.1 >	Shrink swell clays >	Low (within 50m)				
94 >	17.2 >	Running sands >	Low (within 50m)				
96 >	17.3 >	Compressible deposits >	Moderate (within 50m)				
98 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
99 >	17.5 >	Landslides >	Very low (within 50m)				
100 >	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
102	18.1	BritPits	0	0	0	0	-
103	18.2	Surface ground workings	0	0	0	-	-
103	18.3	Underground workings	0	0	0	0	0
103	18.4	Underground mining extents	0	0	0	0	-
103 >	18.5 >	Historical Mineral Planning Areas >	0	0	0	1	-

104	18.6	Non-coal mining	0	0	0	0	0
104	18.7	JPB mining areas	None (within 0m)				
104	18.8	The Coal Authority non-coal mining	0	0	0	0	-
104	18.9	Researched mining	0	0	0	0	-
105	18.10	Mining record office plans	0	0	0	0	-
105	18.11	BGS mine plans	0	0	0	0	-
105	18.12	Coal mining	None (within 0m)				
105	18.13	Brine areas	None (within 0m)				
105	18.14	Gypsum areas	None (within 0m)				
106	18.15	Tin mining	None (within 0m)				
106	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
107	19.1	Natural cavities	0	0	0	0	-
107	19.2	Mining cavities	0	0	0	0	0
107	19.3	Reported recent incidents	0	0	0	0	-
107	19.4	Historical incidents	0	0	0	0	-
Page	Section	Radon >					
109 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
111 >	21.1 >	BGS Estimated Background Soil Chemistry >	8	1	-	-	-
111	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
112	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
113	22.1	Underground railways (London)	0	0	0	-	-
113	22.2	Underground railways (Non-London)	0	0	0	-	-
113	22.3	Railway tunnels	0	0	0	-	-
113	22.4	Historical railway and tunnel features	0	0	0	-	-
113	22.5	Royal Mail tunnels	0	0	0	-	-
114	22.6	Historical railways	0	0	0	-	-

114	22.7	Railways	0	0	0	-	-
114	22.8	Crossrail 2	0	0	0	0	-
114	22.9	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 03/05/2023

Site Area: 6.98ha

Recent site history - 2020 aerial photograph



Capture Date: 05/04/2020

Site Area: 6.98ha

Recent site history - 2013 aerial photograph



Capture Date: 04/06/2013

Site Area: 6.98ha

Recent site history - 2005 aerial photograph



Capture Date: 26/05/2005

Site Area: 6.98ha

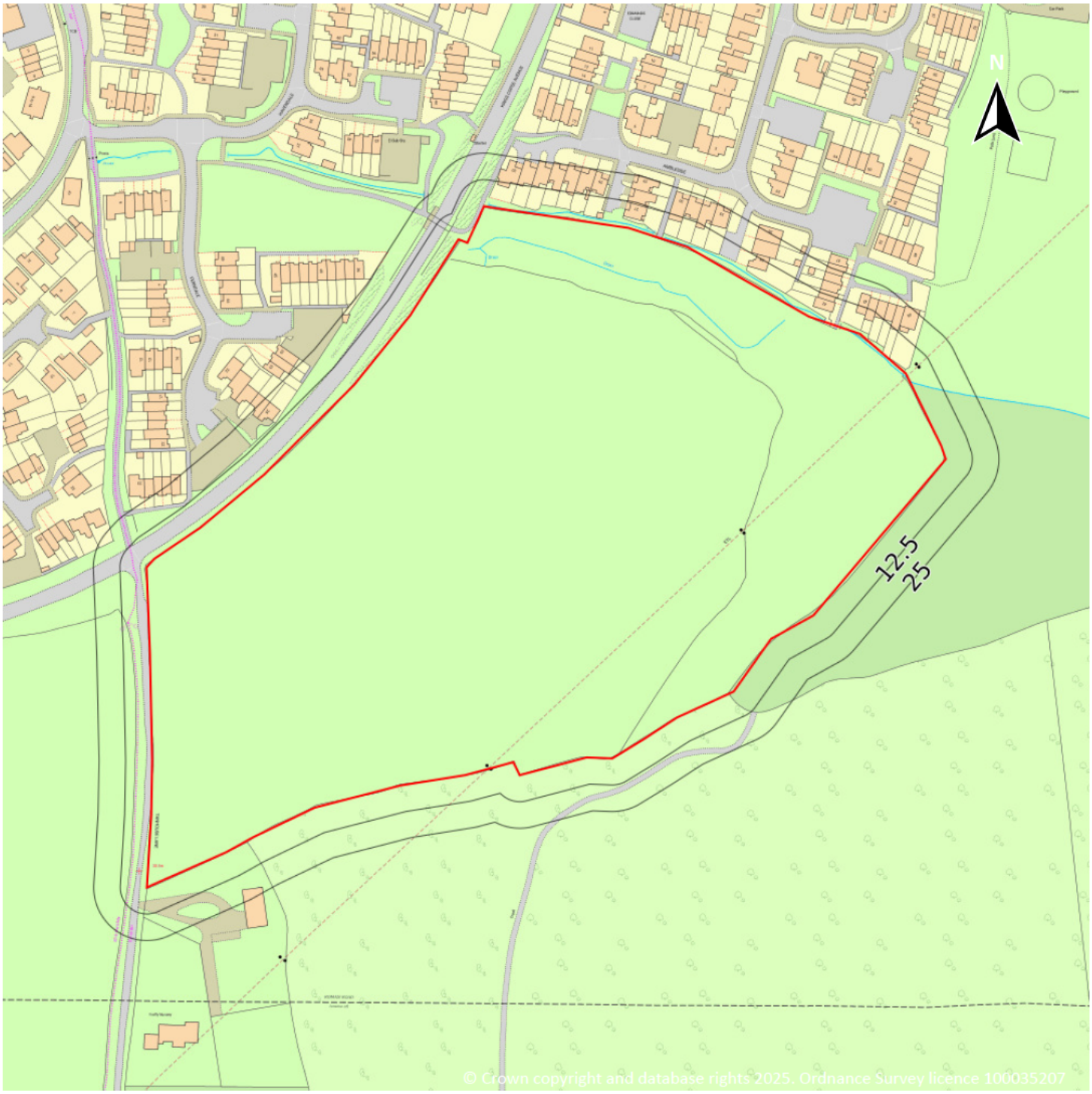
Recent site history - 1999 aerial photograph



Capture Date: 27/07/1999

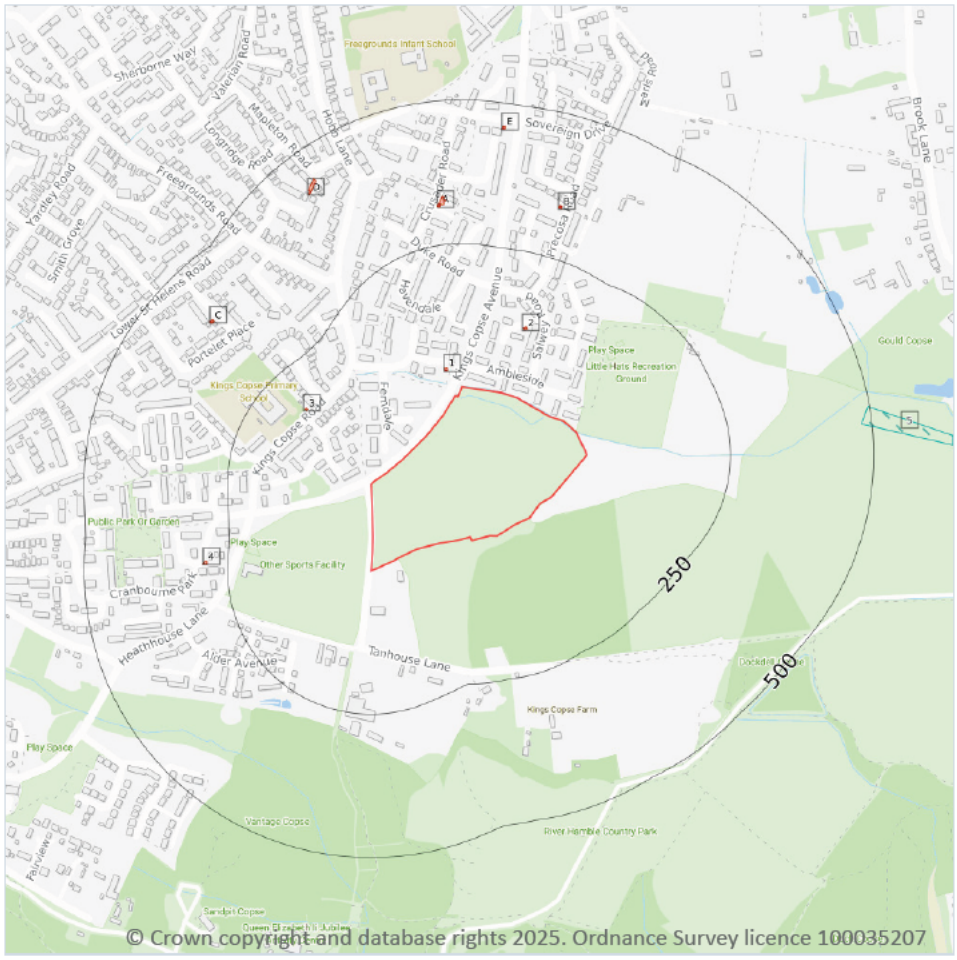
Site Area: 6.98ha

OS MasterMap site plan



Site Area: 6.98ha

1 Past land use



1.1 Historical industrial land uses

Records within 500m	1

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
5	482m E	Rifle Range	1868	1901537

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 un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	18

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

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

ID	Location	Land use	Dates present	Group ID
1	38m NW	Electricity Substation	1979 - 1992	232055
2	116m N	Electricity Substation	1982 - 1992	218730
3	171m NW	Electricity Substation	1979 - 1992	228678
4	286m W	Electricity Substation	1981 - 1993	228602
A	316m N	Electricity Substation	1981 - 1982	216459
A	316m N	Electricity Substation	1992	213236
A	316m N	Electricity Substation	1989	228097
A	319m N	Electricity Substation	1993	207133
A	320m N	Electricity Substation	1984	231343
B	337m N	Electricity Substation	1989	222227
B	337m N	Electricity Substation	1984	217184
B	337m N	Electricity Substation	1993	225700

ID	Location	Land use	Dates present	Group ID
C	394m NW	Electricity Substation	1973 - 1981	213102
C	394m NW	Electricity Substation	1993	220916
D	427m NW	Electricity Substation	1993	209840
D	431m NW	Electricity Substation	1973 - 1984	214180
E	455m N	Electricity Substation	1981 - 1984	224755
E	456m N	Electricity Substation	1993	231027

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	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 un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

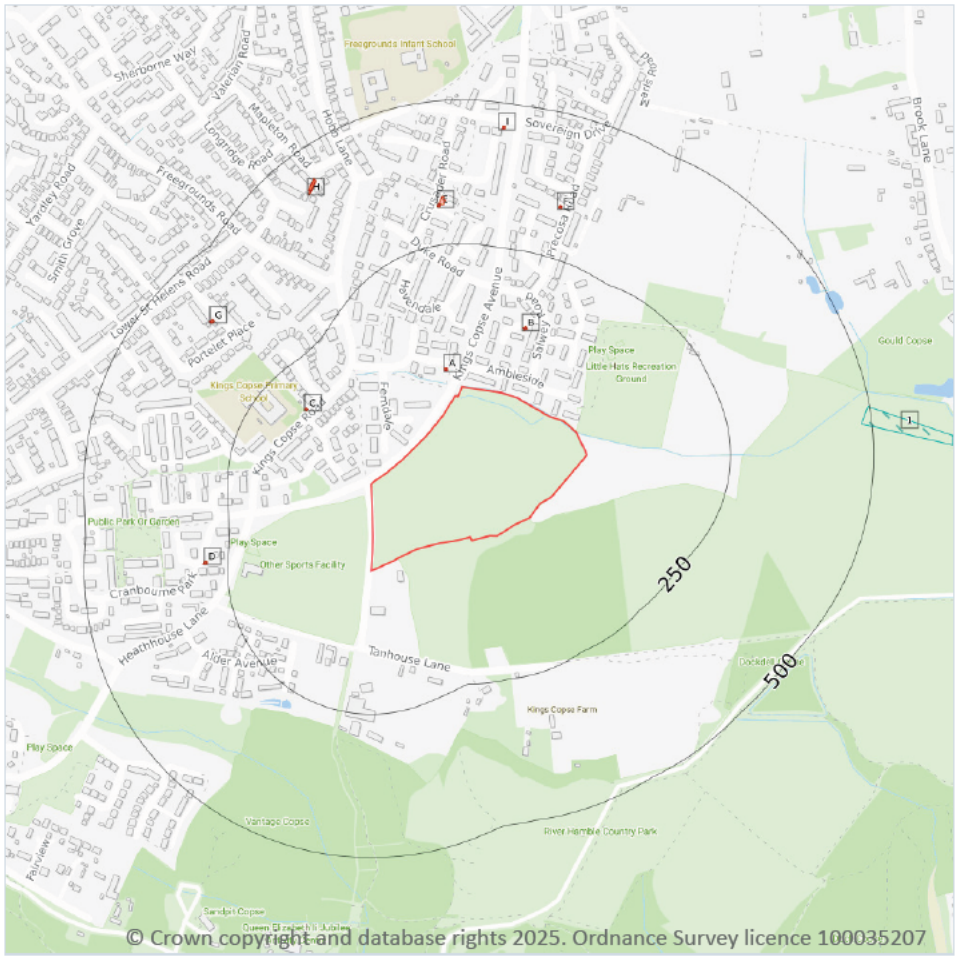
1.6 Historical military land

Records within 500m	0

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

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

2 Past land use - un-grouped



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical energy features

2.1 Historical industrial land uses

Records within 500m	1

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	482m E	Rifle Range	1868	1901537

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	33

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

Features are displayed on the Past land use - un-grouped map on **page 18 >**

ID	Location	Land Use	Date	Group ID
A	38m NW	Electricity Substation	1982	232055
A	39m NW	Electricity Substation	1979	232055
A	39m NW	Electricity Substation	1989	232055
A	39m NW	Electricity Substation	1992	232055
B	116m N	Electricity Substation	1989	218730
B	116m N	Electricity Substation	1992	218730
B	117m N	Electricity Substation	1982	218730
C	171m NW	Electricity Substation	1982	228678
C	171m NW	Electricity Substation	1979	228678
C	171m NW	Electricity Substation	1989	228678
C	171m NW	Electricity Substation	1992	228678
D	286m W	Electricity Substation	1984	228602
D	286m W	Electricity Substation	1981	228602
D	287m W	Electricity Substation	1993	228602
E	316m N	Electricity Substation	1982	216459
E	316m N	Electricity Substation	1989	228097

ID	Location	Land Use	Date	Group ID
E	316m N	Electricity Substation	1992	213236
E	319m N	Electricity Substation	1993	207133
E	319m N	Electricity Substation	1981	216459
E	320m N	Electricity Substation	1984	231343
F	337m N	Electricity Substation	1989	222227
F	337m N	Electricity Substation	1984	217184
F	337m N	Electricity Substation	1993	225700
G	394m NW	Electricity Substation	1981	213102
G	394m NW	Electricity Substation	1973	213102
G	394m NW	Electricity Substation	1993	220916
H	427m NW	Electricity Substation	1993	209840
H	431m NW	Electricity Substation	1981	214180
H	431m NW	Electricity Substation	1973	214180
H	432m NW	Electricity Substation	1984	214180
I	455m N	Electricity Substation	1984	224755
I	456m N	Electricity Substation	1981	224755
I	456m N	Electricity Substation	1993	231027

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.

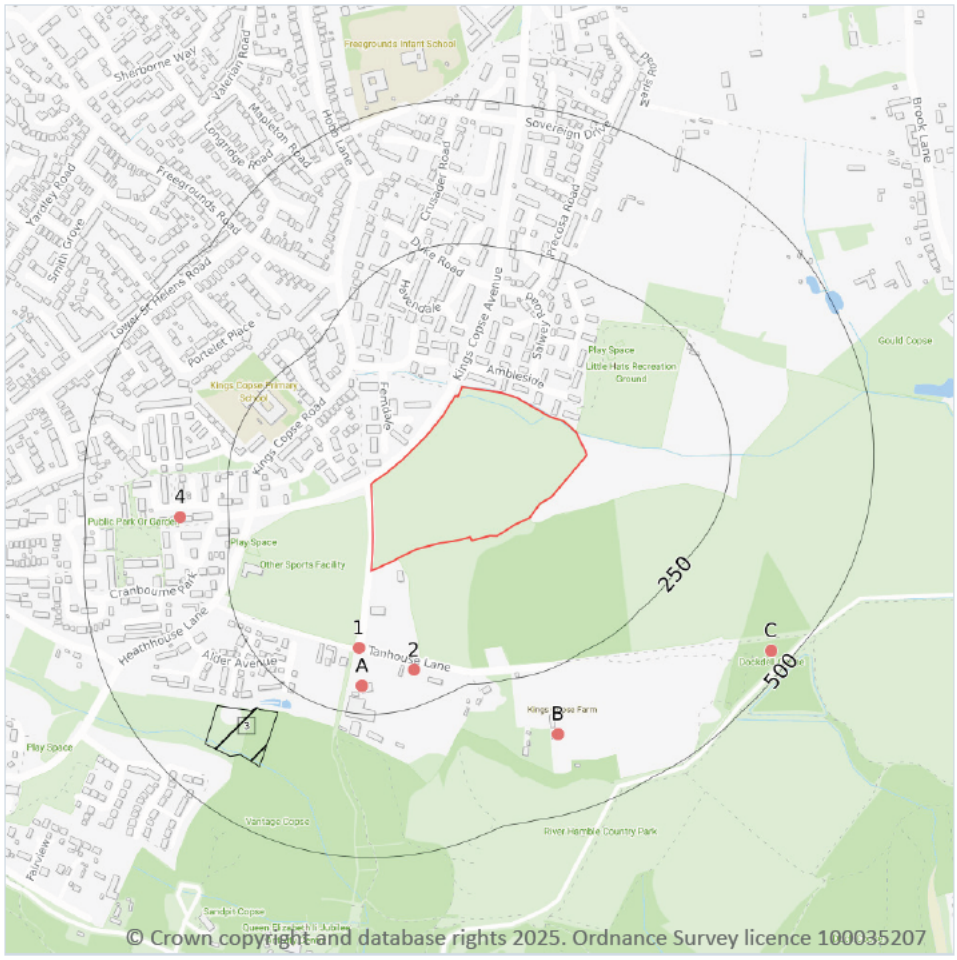
2.5 Historical garages

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



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 22 >**

ID	Location	Details		
3	296m SW	Site Address: Land at Heathhouse Lane, Hedge End, Hampshire Licence Holder Address: Naomi Farm, Pylands Lane, Bursledon, Southampton	Waste Licence: Yes Site Reference: FEA33, 9/21 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 05/12/1983 Licence Surrender: -	Operator: - Licence Holder: Mr N Jones First Recorded - Last Recorded: -

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

3.5 Historical waste sites

Records within 500m	0

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

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

3.6 Licensed waste sites

Records within 500m	0

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

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

3.7 Waste exemptions

Records within 500m	19

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.

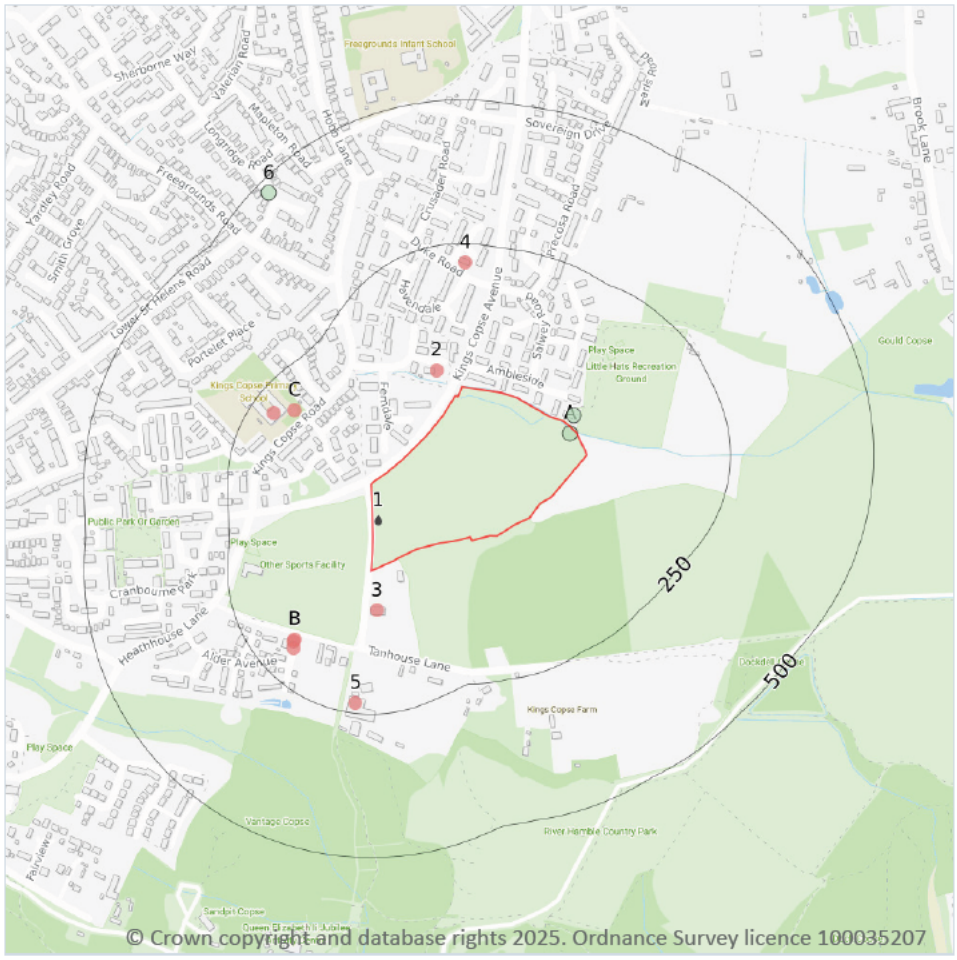
Features are displayed on the Waste and landfill map on page 22 >

ID	Location	Site	Reference	Category	Sub-Category	Description
1	137m S	Cricketwood Tanhouse Lane Southampton Hampshire So30 2sz	EPR/AF0106CJ /A001	Using waste exemption	Non-agricultural waste only	Burning of waste as a fuel in a small appliance
2	189m SE	The Stables Cricket View, Tanhouse Lane, Botley, Southampton, So30 2sz	WEX366527	Using waste exemption	Not on a farm	Use of waste in construction
A	202m S	Cricketwood, Tanhouse Lane, Botley, Southampton, So30 2sz	WEX316295	Disposing of waste exemption	On a farm	Burning waste in the open
A	202m S	Cricketwood, Tanhouse Lane, Botley, Southampton, So30 2sz	WEX316295	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
A	202m S	Cricketwood, Tanhouse Lane, Botley, Southampton, So30 2sz	WEX316295	Using waste exemption	On a farm	Use of waste in construction
A	202m S	Oakwood Farm, Tanhouse Lane, Botley, Southampton, So30 2sz	WEX396840	Using waste exemption	On a farm	Use of waste in construction
A	202m S	Cricketwood, Tanhouse Lane, Botley, Southampton, So30 2sz	WEX187248	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
A	202m S	Cricketwood, Tanhouse Lane, Botley, Southampton, So30 2sz	WEX187248	Using waste exemption	On a farm	Use of waste in construction
A	202m S	Cricketwood, Tanhouse Lane, Botley, Southampton, So30 2sz	WEX187248	Disposing of waste exemption	On a farm	Burning waste in the open
A	202m S	Tanhouse, Tanhouse Lane, Southampton, So302sz	WEX247686	Using waste exemption	On a farm	Use of waste in construction
A	202m S	-	WEX269604	Using waste exemption	On a farm	Use of waste in construction

ID	Location	Site	Reference	Category	Sub-Category	Description
A	202m S	Cricketwood, Tanhouse Lane, Botley, Southampton, So30 2sz	WEX174877	Using waste exemption	Not on a farm	Burning of waste as a fuel in a small appliance
A	202m S	Cricketwood, Tanhouse Lane, Botley, Southampton, So30 2sz	WEX174877	Disposing of waste exemption	Not on a farm	Burning waste in the open
4	335m W	115, Cranbourne Park, Hedge End, Southampton, So30 0nz	WEX364510	Treating waste exemption	Not on a farm	Treatment of waste aerosol cans
B	362m S	Kings Copse Farm, Tanhouse Lane, Botley, Southampton, So30 2sz	WEX413905	Using waste exemption	On a farm	Use of waste in construction
B	362m S	Kings Copse Farm, Tanhouse Lane, Botley, Southampton, So30 2sz	WEX257993	Using waste exemption	On a farm	Use of waste in construction
C	465m SE	-	WEX337246	Disposing of waste exemption	Not on a farm	Burning waste in the open
C	465m SE	-	WEX055914	Disposing of waste exemption	Not on a farm	Burning waste in the open
C	465m SE	-	WEX210913	Disposing of waste exemption	Not on a farm	Burning waste in the open

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

4 Current industrial land use



4.1 Recent industrial land uses

Records within 250m	9

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on page 26 >

ID	Location	Company	Address	Activity	Category
2	54m NW	Electricity Sub Station	Hampshire, SO30	Electrical Features	Infrastructure and Facilities
3	69m S	Advanced Timber Systems	Tanhouse Lane, Botley, Hampshire, SO30 2SZ	General Construction Supplies	Industrial Products

ID	Location	Company	Address	Activity	Category
B	179m SW	Pylon	Hampshire, SO30	Electrical Features	Infrastructure and Facilities
B	184m SW	Mast	Hampshire, SO30	Telecommunications Features	Infrastructure and Facilities
C	186m NW	Electricity Sub Station	Hampshire, SO30	Electrical Features	Infrastructure and Facilities
B	190m SW	Pumping Station	Hampshire, SO30	Water Pumping Stations	Industrial Features
C	210m NW	J H P Engineering Services	Kings Copse Road, Hedge End, Hampshire, SO30 0PQ	Tools Including Machine Shops	Industrial Products
4	217m N	South Coast Smart Repairs	34, Paxton Close, Hedge End, Hampshire, SO30 0PB	Vehicle Repair, Testing and Servicing	Repair and Servicing
5	232m S	Timber Trends	Oakwood Farm, Tanhouse Lane, Botley, Southampton, Hampshire, SO30 2SZ	General Construction Supplies	Industrial Products

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	1

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

Features are displayed on the Current industrial land use map on **page 26 >**

ID	Location	Address	Details	
1	On site	NEWBUNGALOW,TANHOUSELANE,NEWBUNGALOW,TANHOUSELANE,HEDGEEND,SOUTHAMPTON	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: N02623 Permit Version: 1 Receiving Water: INTO LAND	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 08/09/1981 Effective Date: 08/09/1981 Revocation Date: -

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m	0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

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

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

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

4.17 List 2 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	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 26 >**

ID	Location	Details	
A	**On site**	**Incident Date: 22/04/2008** **Incident Identification: 580867** **Pollutant: Sewage Materials** **Pollutant Description: Crude Sewage**	**Water Impact: Category 2 (Significant)** **Land Impact: Category 3 (Minor)** **Air Impact: Category 4 (No Impact)**
A	19m NE	Incident Date: 23/07/2001 Incident Identification: 18285 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
6	477m NW	Incident Date: 13/08/2002 Incident Identification: 99707 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

Records within 500m	0

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

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

4.20 Pollution inventory waste transfers

Records within 500m	0

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

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

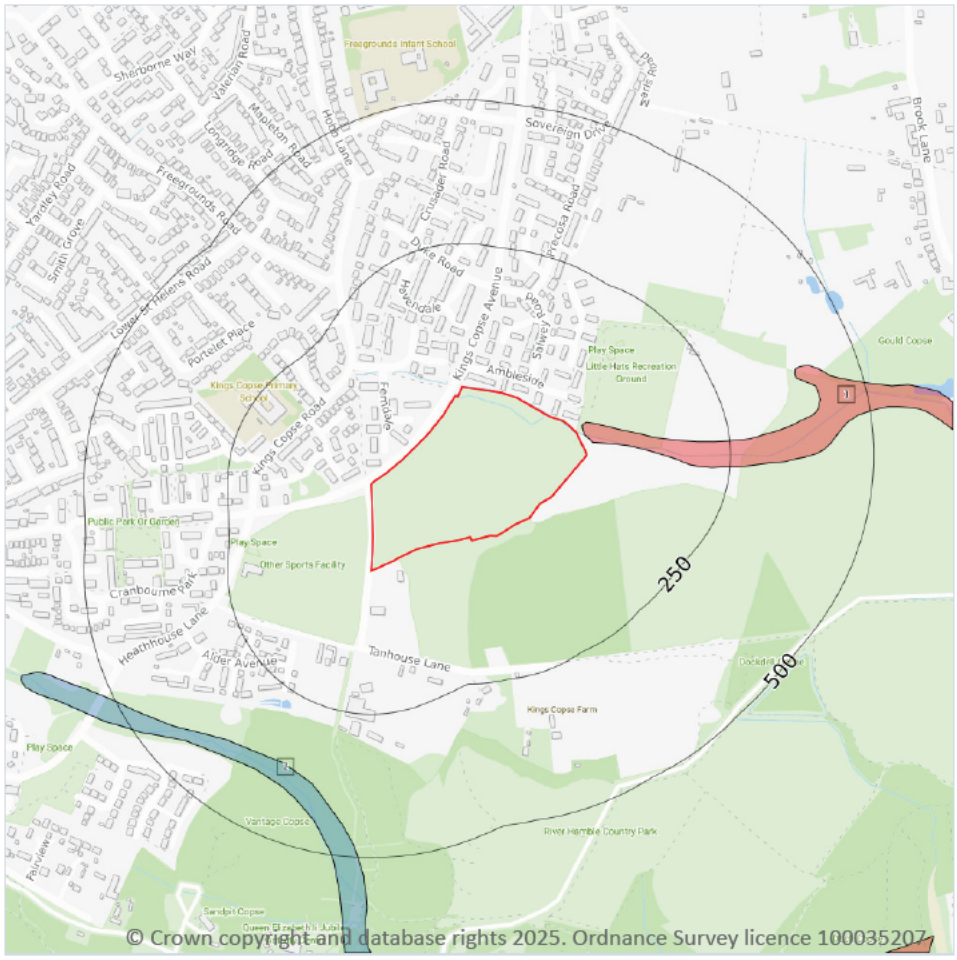
4.21 Pollution inventory radioactive waste

Records within 500m	0

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

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

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

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

5.1 Superficial aquifer

Records within 500m	2

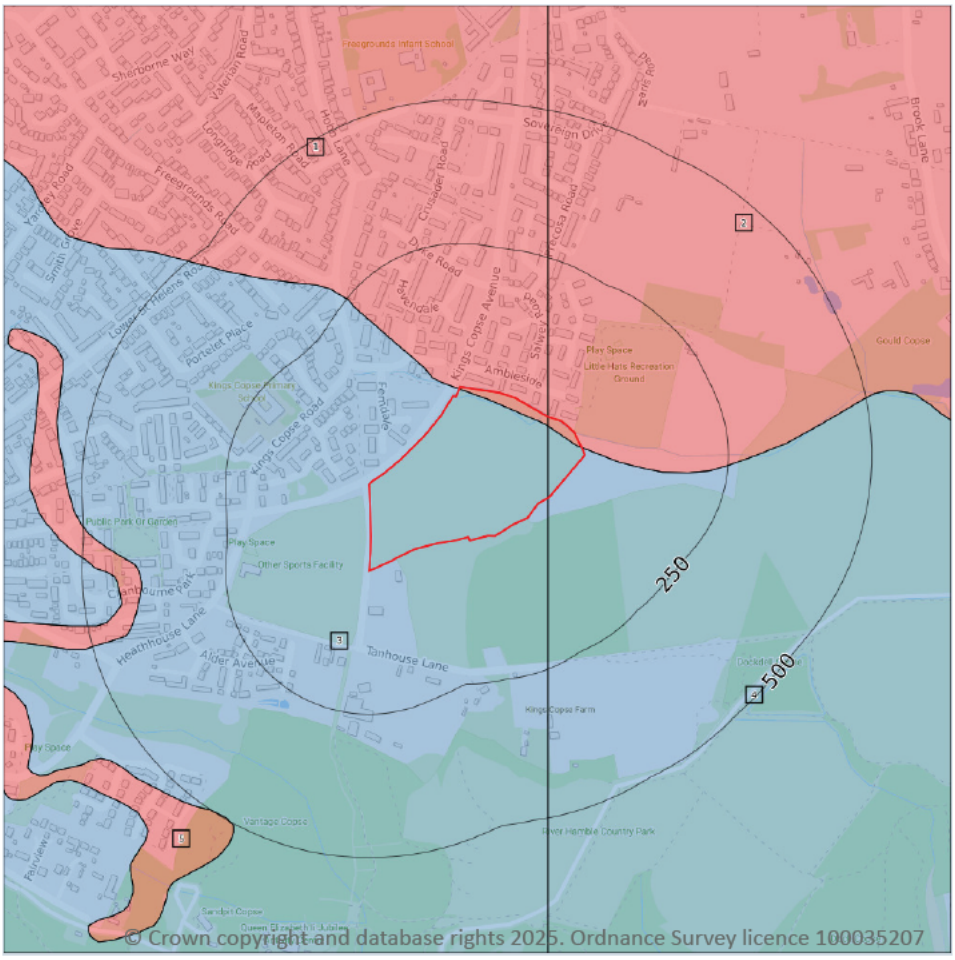
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on page 33 >

ID	Location	Designation	Description
1	11m NE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	368m SW	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

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

Bedrock aquifer



5.2 Bedrock aquifer

Records within 500m	5

Aquifer status of groundwater held within bedrock geology.

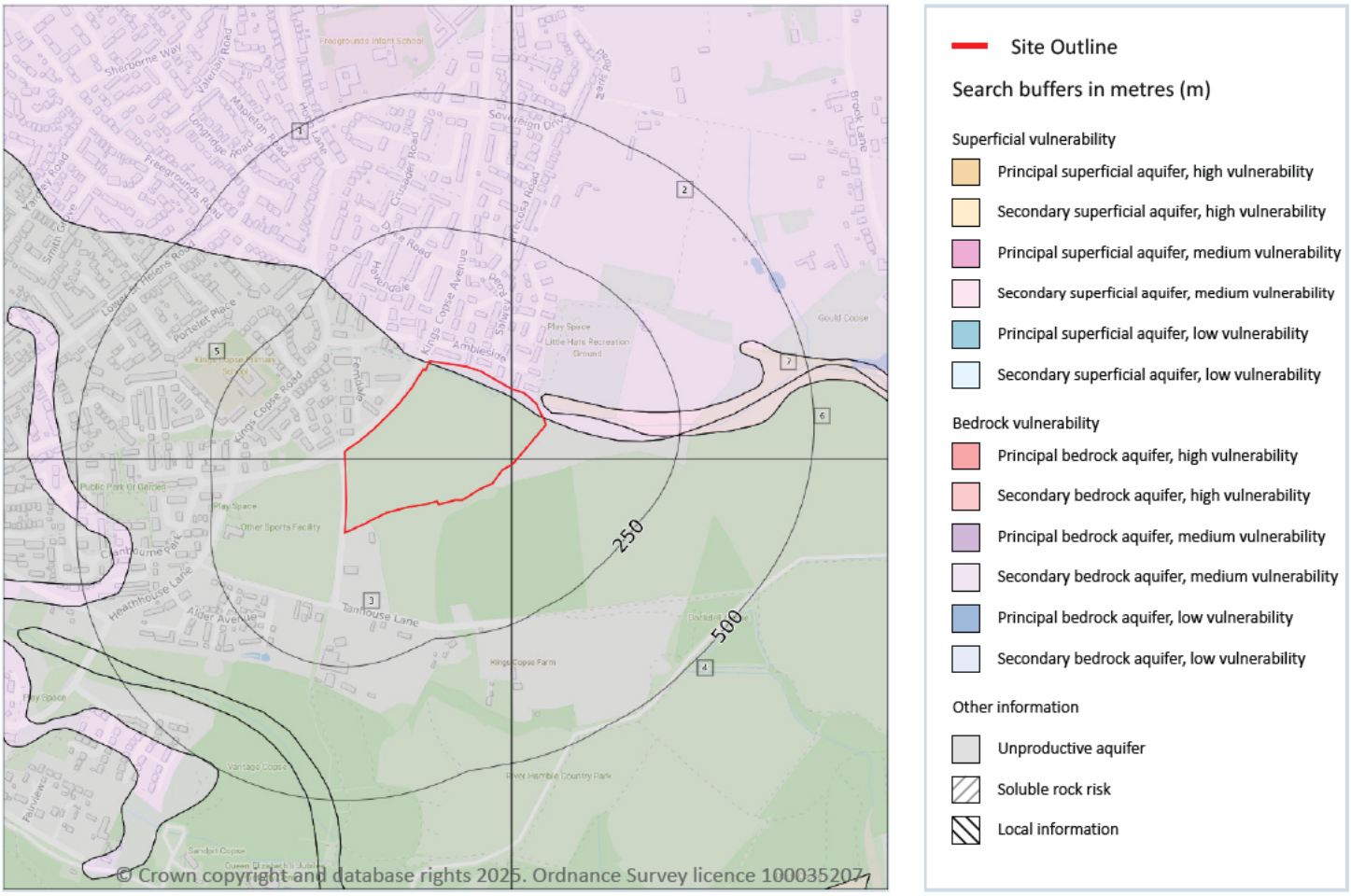
Features are displayed on the Bedrock aquifer map on page 34 >

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	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

ID	Location	Designation	Description
3	**On site**	**Unproductive**	**These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow**
4	**On site**	**Unproductive**	**These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow**
5	397m 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

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	7

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 36 >

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Mixed
2	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Mixed
3	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: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed
4	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: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed
5	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: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed
6	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: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
7	11m NE	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Medium Aquifer type: Secondary 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.

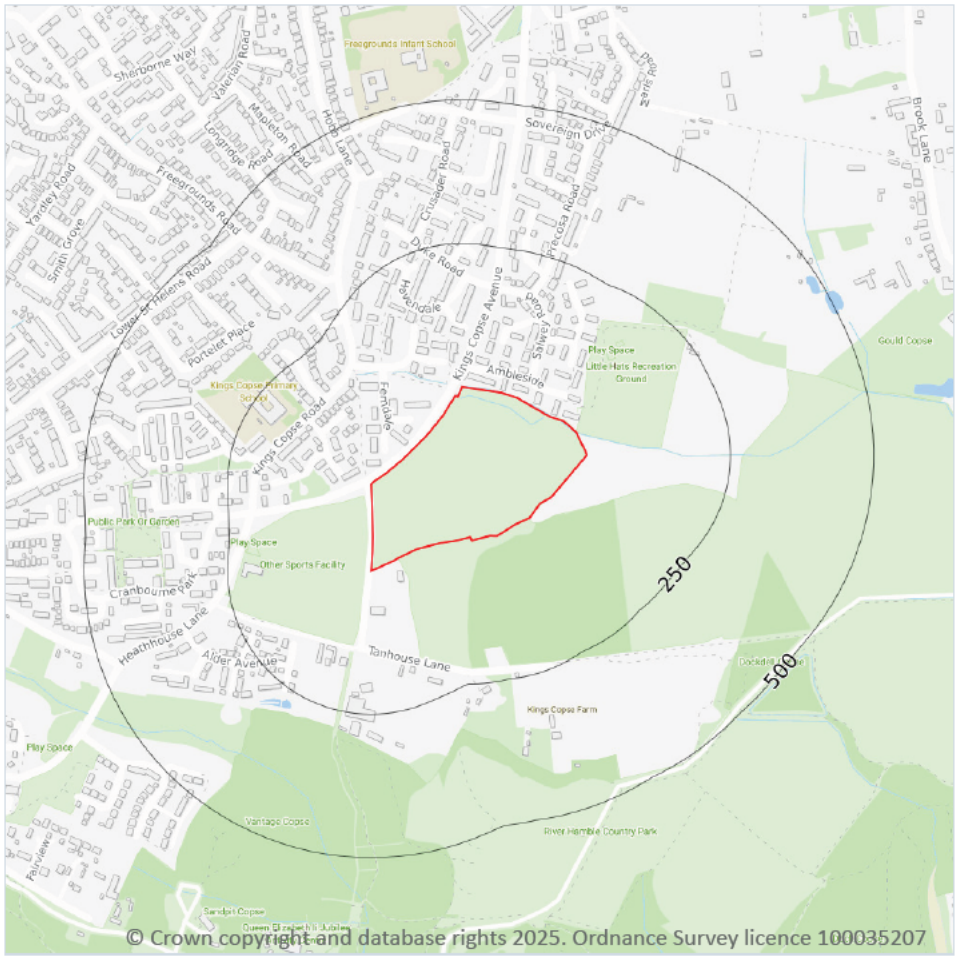
5.5 Groundwater vulnerability- local information

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
- 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	1

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

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

ID	Location	Details	
-	1232m S	Status: Historical Licence No: 11/42/25.10/49 Details: General Farming & Domestic Direct Source: Southern Region Groundwater Point: BRIXEDONE FARM WISHING WELL Data Type: Point Name: Game Bros Easting: 449470 Northing: 110650	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 23/12/1965 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	1

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

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

ID	Location	Details	
-	1185m E	Status: Active Licence No: 30/045 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: STEEPLE COURT FARM, FAREHAM Data Type: Point Name: King Easting: 451200 Northing: 112400	Annual Volume (m^3): 17974 Max Daily Volume (m^3): 1080 Original Application No: 169/1332 Original Start Date: 25/06/1993 Expiry Date: - Issue No: 100 Version Start Date: 12/06/2009 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	0

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

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

5.9 Source Protection Zones

Records within 500m	0

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

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

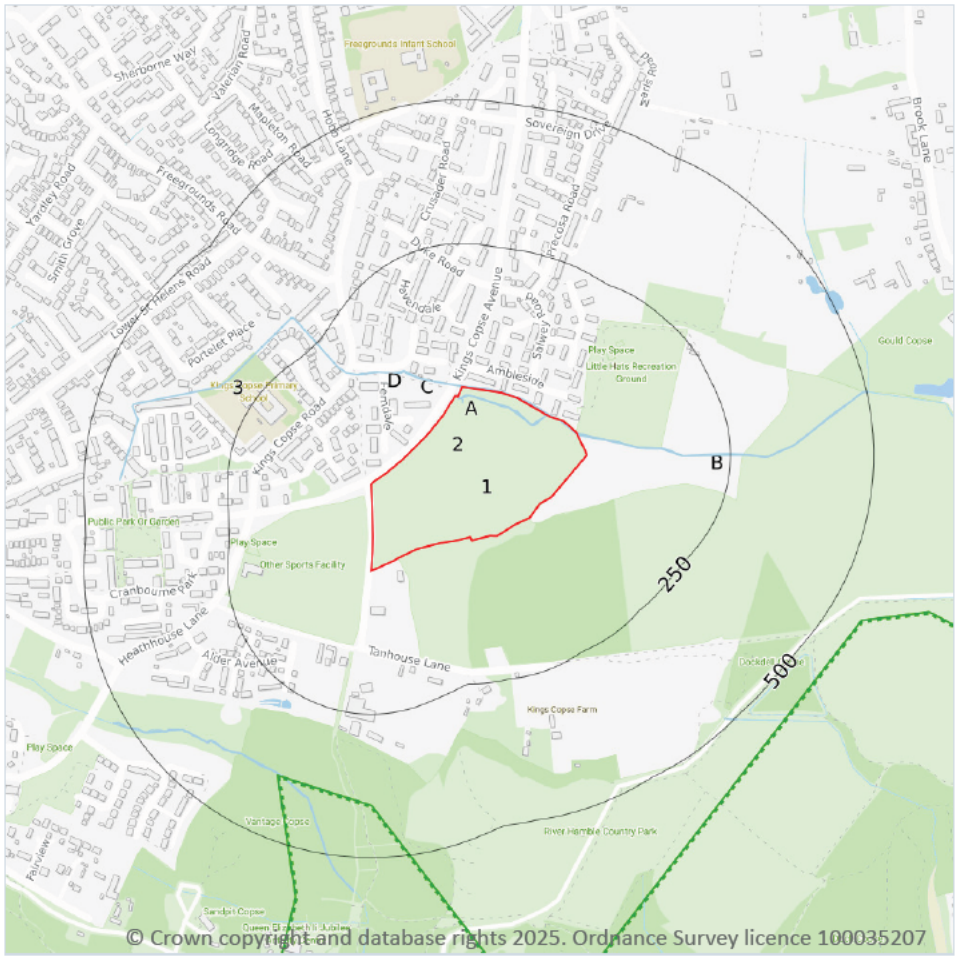
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

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

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

6 Hydrology



Site Outline

Search buffers in metres (m)

Water Network (OS MasterMap)

Surface water features (wider than 5m)

Surface water features (narrower than 5m)

WFD River, canal and surface water transfer water bodies

WFD Lake water bodies

WFD Transitional and coastal water bodies

WFD Surface water body catchments boundaries

WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m	14

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

Features are displayed on the Hydrology map on page 42 >

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

ID	Location	Type of water feature	Ground level	Permanence	Name
A	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
A	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
B	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
A	**On site**	**Inland river not influenced by normal tidal action.**	**Underground**	**Watercourse contains water year round (in normal circumstances)**	**-**
A	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
A	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
A	1m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	1m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	1m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
C	27m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	113m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	136m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
3	159m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	4

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 42 >**

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 42 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	**On site**	**Coastal Catchment**	**Not part of a river WB catchment**	**56**	**East Hampshire Rivers**	**East Hampshire**

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

6.4 WFD Surface water bodies

Records identified	0

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

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

6.5 WFD Groundwater bodies

Records on site	1

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

Features are displayed on the Hydrology map on page 42 >

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	On site	South East Hants Bracklesham Group	GB40702G503000 ↗	Poor	Poor	Good	2019

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

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

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

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

7.2 Historical Flood Events

Records within 250m	0

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

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

7.3 Flood Defences

Records within 250m	0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

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

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

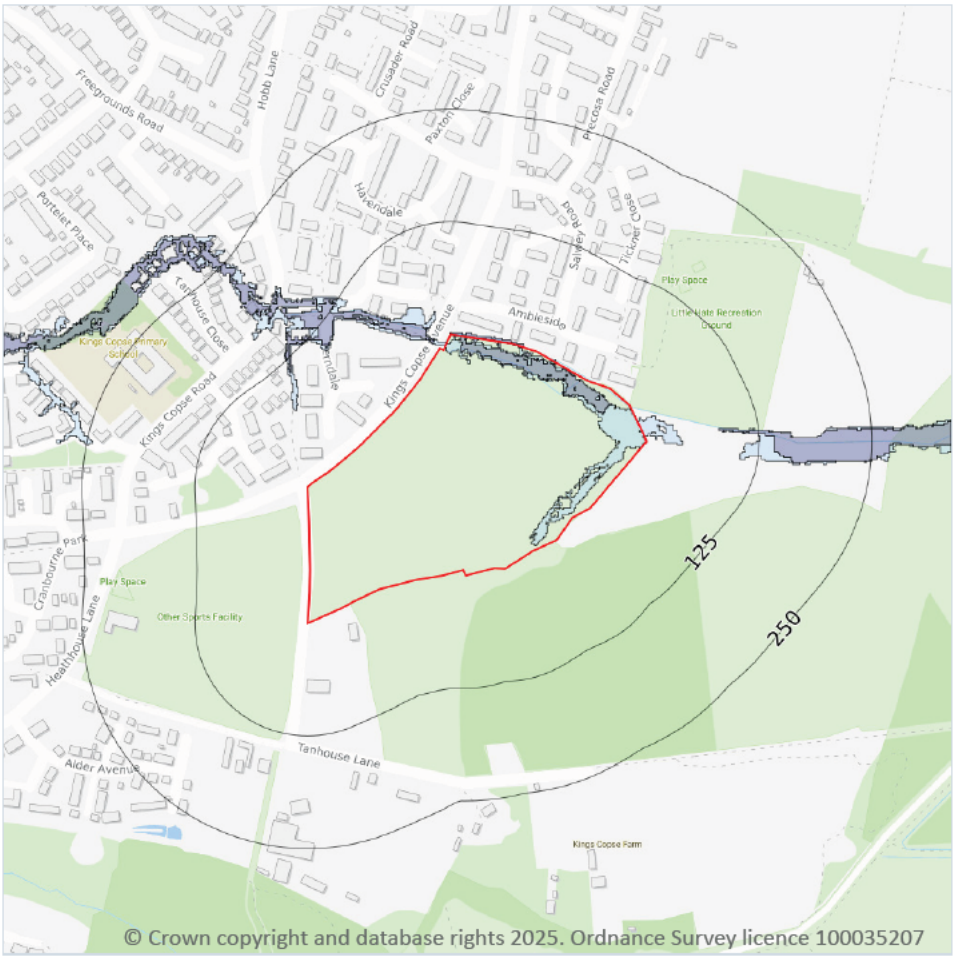
7.5 Flood Storage Areas

Records within 250m	0

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

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

River and coastal flooding - Flood Zones



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 46 >

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

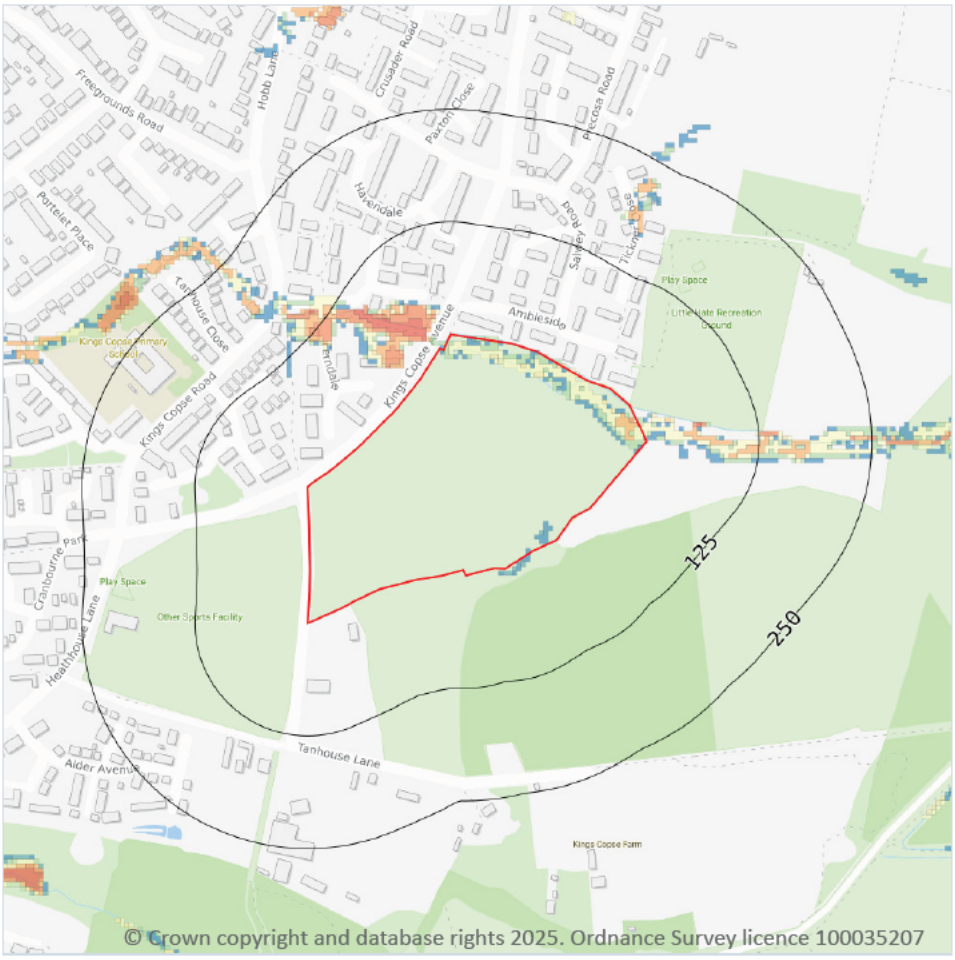
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on page 46 >

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



Site Outline

Search buffers in metres (m)

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

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

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

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

8.1 Surface water flooding

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

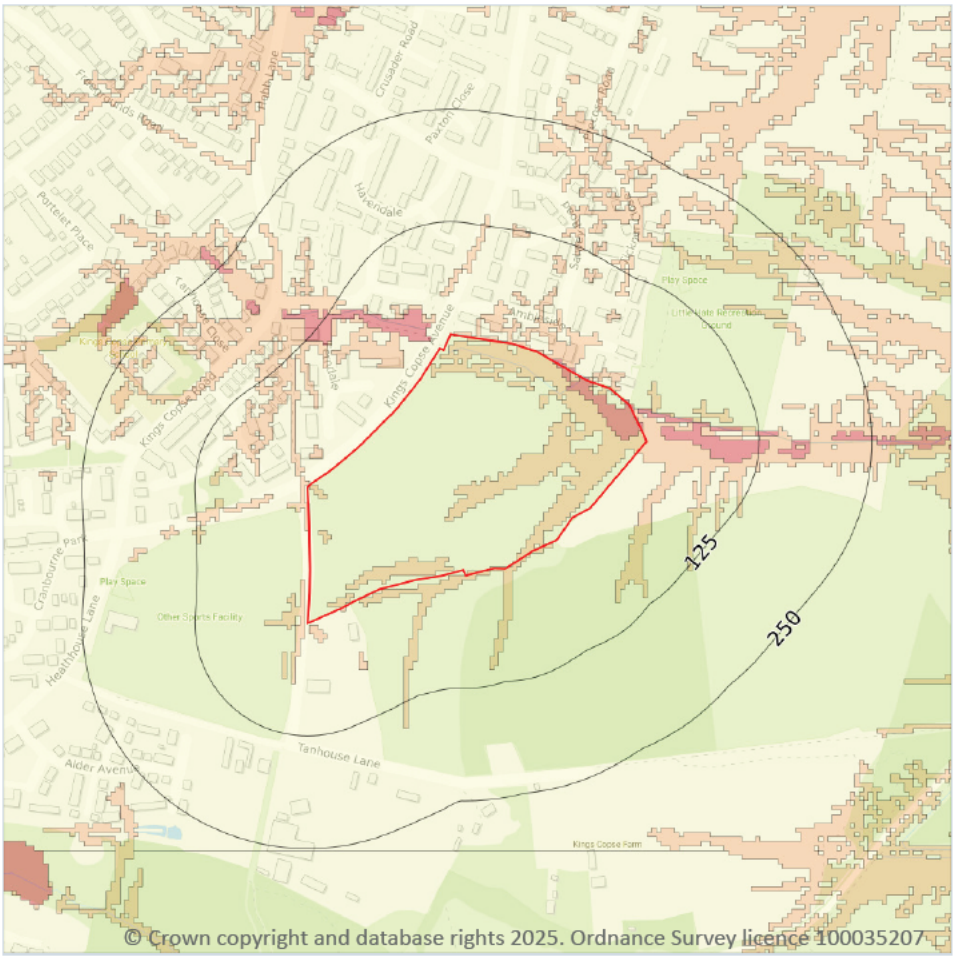
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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

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

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

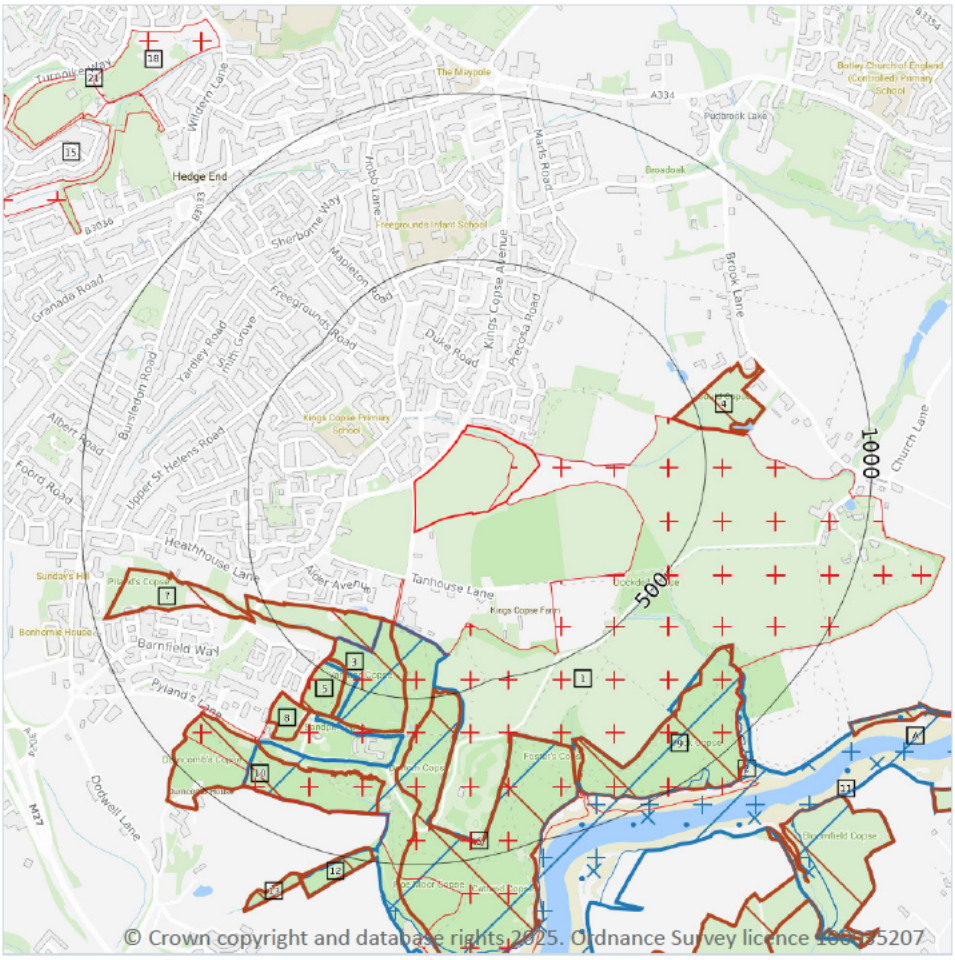
Highest risk on site	**High**
Highest risk within 50m	**High**

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

Features are displayed on the Groundwater flooding map on **page 52 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

- Sites of Special Scientific Interest (SSSI)
- Conserved wetland sites (Ramsar sites)
- Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)
- Local Nature Reserves (LNR)
- Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	4

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

Features are displayed on the Environmental designations map on page 53 >

ID	Location	Name	Data source
2	278m S	Upper Hamble Estuary and Woods SSSI	Natural England

ID	Location	Name	Data source
-	1465m E	Upper Hamble Estuary and Woods SSSI	Natural England
-	1607m E	Upper Hamble Estuary and Woods SSSI	Natural England
-	1636m E	Upper Hamble Estuary and Woods SSSI	Natural England

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	1

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

Features are displayed on the Environmental designations map on page 53 >

ID	Location	Site	Details
A	857m S	Name: Solent & Southampton Water Site status: Listed Data source: Natural England	Overview: The area covered extends from Hurst Spit to Gilkicker Point along the south coast of Hampshire and along the north coast of the Isle of Wight. The site comprises of estuaries and adjacent coastal habitats including intertidal flats, saline lagoons, shingle beaches, saltmarsh, reedbeds, damp woodland, and grazing marsh. The diversity of habitats support internationally important numbers of wintering waterfowl, important breeding gull and tern populations and an important assemblage of rare invertebrates and plants. Ramsar criteria: Ramsar criterion 1 The site is one of the few major sheltered channels between a substantial island and mainland in European waters, exhibiting an unusual strong double tidal flow and has long periods of slack water at high and low tide. It includes many wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs. Ramsar criterion 2 The site supports an important assemblage of rare plants and invertebrates. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on site.

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m	1

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

Features are displayed on the Environmental designations map on page 53 >

ID	Location	Name	Features of interest	Habitat description	Data source
11	857m S	Solent Maritime	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Annual vegetation of drift lines; Coastal shingle vegetation outside the reach of waves; Glasswort and other annuals colonising mud and sand; Cord-grass swards; Atlantic salt meadows; Shifting dunes with marram; Dune grassland; Desmoulin`s whorl snail; Otter; Common seal	Broad-leaved deciduous woodland; Shingle, Sea cliffs, Islets; Coastal sand dunes, Sand beaches, Machair; Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural England

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

10.4 Special Protection Areas (SPA)

Records within 2000m	5

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

Features are displayed on the Environmental designations map on page 53 >

ID	Location	Name	Species of interest	Habitat description	Data source
A	857m S	Solent & Southampton Water	Eurasian teal; Ringed plover; Mediterranean gull; Sandwich tern; Roseate tern; Common tern; Little tern; Black-tailed godwit; Dark-bellied brent goose	Salt marshes, Salt pastures, Salt steppes; Coastal sand dunes, Sand beaches, Machair; Shingle, Sea cliffs, Islets; Broad-leaved deciduous woodland; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Humid grassland, Mesophile grassland; Bogs, Marshes, Water fringed vegetation, Fens	Natural England

ID	Location	Name	Species of interest	Habitat description	Data source
-	1348m S	Solent and Dorset Coast	Sandwich tern; Common tern; Little tern	Marine areas, Sea inlets; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Salt marshes, Salt pastures, Salt steppes; Shingle, Sea cliffs, Islets; Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	Natural England
-	1521m S	Solent and Dorset Coast	Sandwich tern; Common tern; Little tern	Marine areas, Sea inlets; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Salt marshes, Salt pastures, Salt steppes; Shingle, Sea cliffs, Islets; Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	Natural England
-	1559m S	Solent and Dorset Coast	Sandwich tern; Common tern; Little tern	Marine areas, Sea inlets; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Salt marshes, Salt pastures, Salt steppes; Shingle, Sea cliffs, Islets; Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	Natural England
-	1793m S	Solent and Dorset Coast	Sandwich tern; Common tern; Little tern	Marine areas, Sea inlets; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Salt marshes, Salt pastures, Salt steppes; Shingle, Sea cliffs, Islets; Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	Natural England

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	6

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

Features are displayed on the Environmental designations map on page 53 >

ID	Location	Name	Data source
1	**On site**	**Manor Farm**	**Natural England**
15	1253m NW	Wildern	Natural England
18	1361m NW	Wildern	Natural England
21	1529m NW	Wildern	Natural England
24	1647m NW	Wildern	Natural England
-	1751m W	Netley Common	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m	19

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 53 >

ID	Location	Name	Woodland Type
3	280m S	Catland/fosters/bottom Copses	Ancient & Semi-Natural Woodland
4	425m E	Gould Copse	Ancient & Semi-Natural Woodland
5	454m SW	Catland/fosters/bottom Copses	Ancient Replanted Woodland
6	477m S	Catland/fosters/bottom Copses	Ancient & Semi-Natural Woodland
7	552m SW	Catland/fosters/bottom Copses	Ancient & Semi-Natural Woodland
8	622m SW	Catland/fosters/bottom Copses	Ancient & Semi-Natural Woodland
9	733m S	Catland/fosters/bottom Copses	Ancient & Semi-Natural Woodland

ID	Location	Name	Woodland Type
10	742m S	Catland/fosters/bottom Copses	Ancient & Semi-Natural Woodland
12	961m S	Unknown	Ancient & Semi-Natural Woodland
13	1073m S	Unknown	Ancient & Semi-Natural Woodland
14	1215m SE	Unknown	Ancient & Semi-Natural Woodland
16	1259m SE	Swanwick Wood	Ancient & Semi-Natural Woodland
-	1459m N	Unknown	Ancient & Semi-Natural Woodland
22	1532m SE	Unknown	Ancient & Semi-Natural Woodland
-	1593m N	Unknown	Ancient & Semi-Natural Woodland
-	1712m E	Trullmill/pinkmead Copses	Ancient & Semi-Natural Woodland
-	1895m SE	Unknown	Ancient & Semi-Natural Woodland
-	1905m SE	Unknown	Ancient & Semi-Natural Woodland
-	1998m E	Unknown	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	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

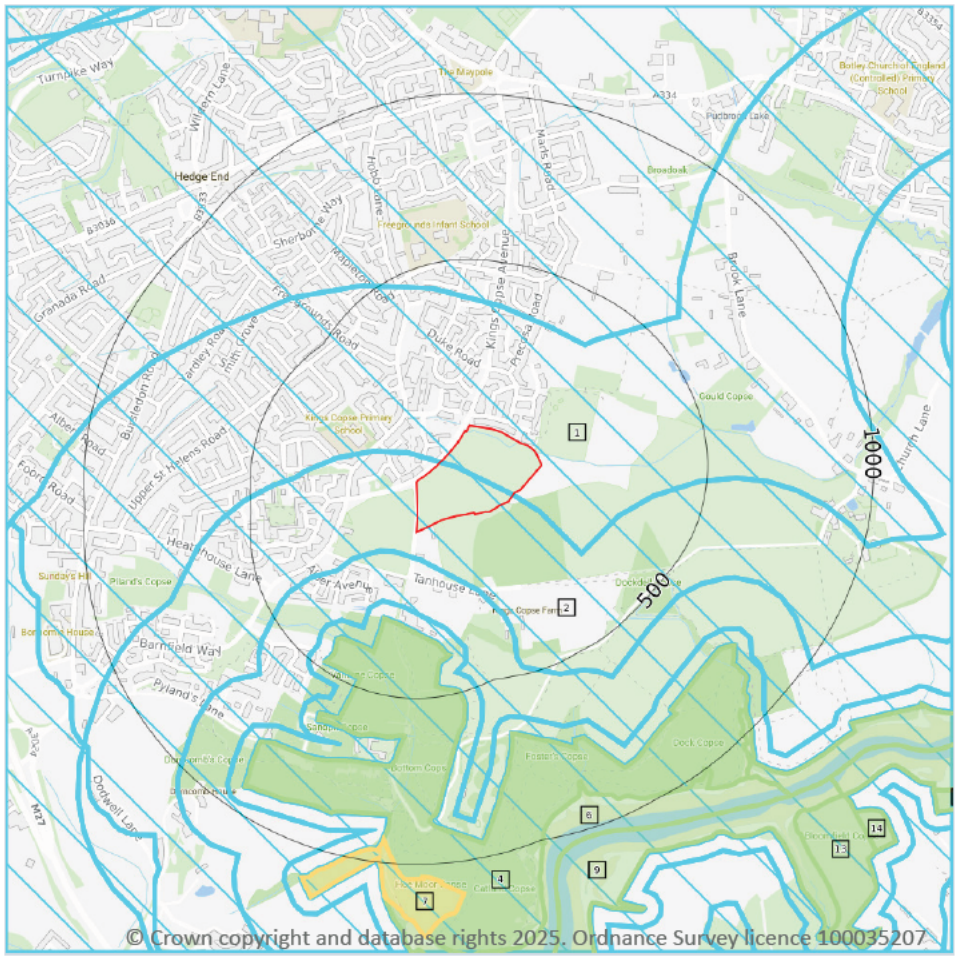
Records within 2000m	1

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	**Hamble Estuary Eutrophic NVZ (TraC)**	**Eutrophic Water**	**3**	**Existing**

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

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site	2

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

Features are displayed on the SSSI Impact Zones and Units map on page 61 >

ID	Location	Type of developments requiring consultation
1	On site	**Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals. Wind and Solar - Wind turbines. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha. Residential - Residential development of 100 units or more. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t). Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Discharges - Any discharge of water or liquid waste of more than 2m³/day to ground (ie to seep away) or to surface water, such as a beck or stream. Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply . Notes: Strategic solutions for recreational impacts are in place. Please contact your Local Planning Authority as they have the information to advise on specific requirements.NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.**

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

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	15

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

Features are displayed on the SSSI Impact Zones and Units map on page 61 >

ID:	4
Location:	278m S
SSSI name:	Upper Hamble Estuary and Woods
Unit name:	Manor Farm Woodland
Broad habitat:	Broadleaved, Mixed And Yew Woodland - Lowland
Condition:	Favourable

Reportable features:

Feature name	Feature condition	Date of assessment
Lowland mixed deciduous woodland	Favourable	08/03/2021

ID: 6
Location: 857m S
SSSI name: Upper Hamble Estuary and Woods
Unit name: Manor Farm Foreshore
Broad habitat: Littoral Sediment
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
H1130 Estuaries	Not Recorded	01/01/1900
H1140 Mudflats and sandflats not covered by seawater at low tide	Not Recorded	01/01/1900
H1310 Salicornia and other annuals colonising mud and sand	Favourable	08/03/2021
H1320 Spartina swards (Spartinion maritimae)	Favourable	08/03/2021
H1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Favourable	08/03/2021
Littoral sediment	Not Recorded	01/01/1900
SM4-28 - Saltmarsh	Favourable	08/03/2021

ID: 7
Location: 929m S
SSSI name: Upper Hamble Estuary and Woods
Unit name: Hoe Moor Creek Woodland
Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
Condition: Unfavourable - No change
Reportable features:

Feature name	Feature condition	Date of assessment
Lowland mixed deciduous woodland	Unfavourable - No change	02/07/2010

ID: 8
Location: 938m SE
SSSI name: Upper Hamble Estuary and Woods
Unit name: Marks Farm
Broad habitat: Littoral Sediment
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
H1130 Estuaries	Not Recorded	01/01/1900
H1140 Mudflats and sandflats not covered by seawater at low tide	Not Recorded	01/01/1900
H1310 Salicornia and other annuals colonising mud and sand	Favourable	08/03/2021
H1320 Spartina swards (Spartinion maritimae)	Favourable	08/03/2021
H1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Favourable	08/03/2021
Littoral sediment	Not Recorded	01/01/1900
Lowland mixed deciduous woodland	Favourable	08/03/2021
Lowland wetland including basin fen, valley fen, floodplain fen, waterfringe fen, spring/flush fen and raised bog lagg	Favourable	08/03/2021
SM4-28 - Saltmarsh	Favourable	08/03/2021

ID: 9
Location: 1023m S
SSSI name: Upper Hamble Estuary and Woods
Unit name: Burridge Foreshore (Lower)
Broad habitat: Littoral Sediment
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
H1130 Estuaries	Favourable	08/03/2021
H1140 Mudflats and sandflats not covered by seawater at low tide	Favourable	08/03/2021
H1310 Salicornia and other annuals colonising mud and sand	Favourable	08/03/2021
H1320 Spartina swards (Spartinion maritimae)	Favourable	08/03/2021
Littoral sediment	Not Recorded	01/01/1900
Lowland mixed deciduous woodland	Favourable	08/03/2021

Feature name	Feature condition	Date of assessment
SM4-28 - Saltmarsh	Favourable	08/03/2021

ID: 12
Location: 1272m SE
SSSI name: Upper Hamble Estuary and Woods
Unit name: Burridge Foreshore (Upper)
Broad habitat: Littoral Sediment
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
H1130 Estuaries	Not Recorded	01/01/1900
H1140 Mudflats and sandflats not covered by seawater at low tide	Not Recorded	01/01/1900
H1310 Salicornia and other annuals colonising mud and sand	Favourable	08/03/2021
H1320 Spartina swards (Spartinion maritimae)	Favourable	08/03/2021
H1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Favourable	08/03/2021
Littoral sediment	Not Recorded	01/01/1900
Lowland mixed deciduous woodland	Favourable	08/03/2021
SM4-28 - Saltmarsh	Favourable	08/03/2021

ID: 13
Location: 1282m SE
SSSI name: Upper Hamble Estuary and Woods
Unit name: Bloomfield Copse
Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Lowland mixed deciduous woodland	Favourable	08/03/2021

ID: 14
Location: 1399m SE
SSSI name: Upper Hamble Estuary and Woods
Unit name: Bloomfield Copse East
Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Lowland mixed deciduous woodland	Favourable	08/03/2021

ID: -
Location: 1464m S
SSSI name: Upper Hamble Estuary and Woods
Unit name: Oaken Copse
Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Lowland mixed deciduous woodland	Favourable	08/03/2021

ID: -
Location: 1465m E
SSSI name: Upper Hamble Estuary and Woods
Unit name: Pinkmead Farm
Broad habitat: Littoral Sediment
Condition: Unfavourable - Declining
Reportable features:

Feature name	Feature condition	Date of assessment
H1130 Estuaries	Not Recorded	01/01/1900
H1140 Mudflats and sandflats not covered by seawater at low tide	Not Recorded	01/01/1900
H1310 Salicornia and other annuals colonising mud and sand	Favourable	08/03/2021
H1320 Spartina swards (Spartinion maritimae)	Favourable	08/03/2021
H1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Favourable	08/03/2021
Littoral sediment	Not Recorded	01/01/1900
Lowland mixed deciduous woodland	Favourable	08/03/2021

Feature name	Feature condition	Date of assessment
Lowland neutral grassland (MG5)	Unfavourable - Declining	08/03/2021
Lowland wetland including basin fen, valley fen, floodplain fen, waterfringe fen, spring/flush fen and raised bog lagg	Unfavourable - Declining	08/03/2021
SM4-28 - Saltmarsh	Favourable	08/03/2021

ID: 17
Location: 1532m SE
SSSI name: Upper Hamble Estuary and Woods
Unit name: Foxburrow Copse
Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Lowland mixed deciduous woodland	-	-

ID: -
Location: 1607m SE
SSSI name: Upper Hamble Estuary and Woods
Unit name: Foxburrow Copse East
Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Lowland mixed deciduous woodland	-	-

ID: -
Location: 1684m E
SSSI name: Upper Hamble Estuary and Woods
Unit name: Ymca
Broad habitat: Littoral Sediment
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
H1130 Estuaries	Not Recorded	01/01/1900

Feature name	Feature condition	Date of assessment
H1140 Mudflats and sandflats not covered by seawater at low tide	Not Recorded	01/01/1900
H1310 Salicornia and other annuals colonising mud and sand	Favourable	08/03/2021
H1320 Spartina swards (Spartinion maritimae)	Favourable	08/03/2021
H1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Favourable	08/03/2021
Littoral sediment	Not Recorded	01/01/1900
Lowland mixed deciduous woodland	Favourable	08/03/2021
Lowland wetland including basin fen, valley fen, floodplain fen, waterfringe fen, spring/flush fen and raised bog lagg	Favourable	08/03/2021
SM4-28 - Saltmarsh	Favourable	08/03/2021

ID: -
Location: 1905m SE
SSSI name: Upper Hamble Estuary and Woods
Unit name: Nt Curbridge Reserve
Broad habitat: Littoral Sediment
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
H1130 Estuaries	Not Recorded	01/01/1900
H1140 Mudflats and sandflats not covered by seawater at low tide	Not Recorded	01/01/1900
H1310 Salicornia and other annuals colonising mud and sand	Favourable	08/03/2021
H1320 Spartina swards (Spartinion maritimae)	Favourable	08/03/2021
H1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Favourable	08/03/2021
Littoral sediment	Not Recorded	01/01/1900
Lowland mixed deciduous woodland	Favourable	08/03/2021
Lowland wetland including basin fen, valley fen, floodplain fen, waterfringe fen, spring/flush fen and raised bog lagg	Favourable	08/03/2021
SM4-28 - Saltmarsh	Favourable	08/03/2021

ID: -
Location: 1920m E
SSSI name: Upper Hamble Estuary and Woods
Unit name: Nt Curbridge (Upper)
Broad habitat: Littoral Sediment
Condition: Unfavourable - Declining
Reportable features:

Feature name	Feature condition	Date of assessment
H1130 Estuaries	Not Recorded	01/01/1900
H1140 Mudflats and sandflats not covered by seawater at low tide	Not Recorded	01/01/1900
H1310 Salicornia and other annuals colonising mud and sand	Favourable	08/03/2021
H1320 Spartina swards (Spartinion maritimae)	Favourable	08/03/2021
H1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Favourable	08/03/2021
Littoral sediment	Not Recorded	01/01/1900
Lowland mixed deciduous woodland	Favourable	08/03/2021
Lowland neutral grassland (MG5)	Unfavourable - Declining	08/03/2021
SM4-28 - Saltmarsh	Favourable	08/03/2021

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

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

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

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

11.3 National Parks

Records within 250m	0

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

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

11.4 Listed Buildings

Records within 250m	0

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

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

11.5 Conservation Areas

Records within 250m	0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m	0

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

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

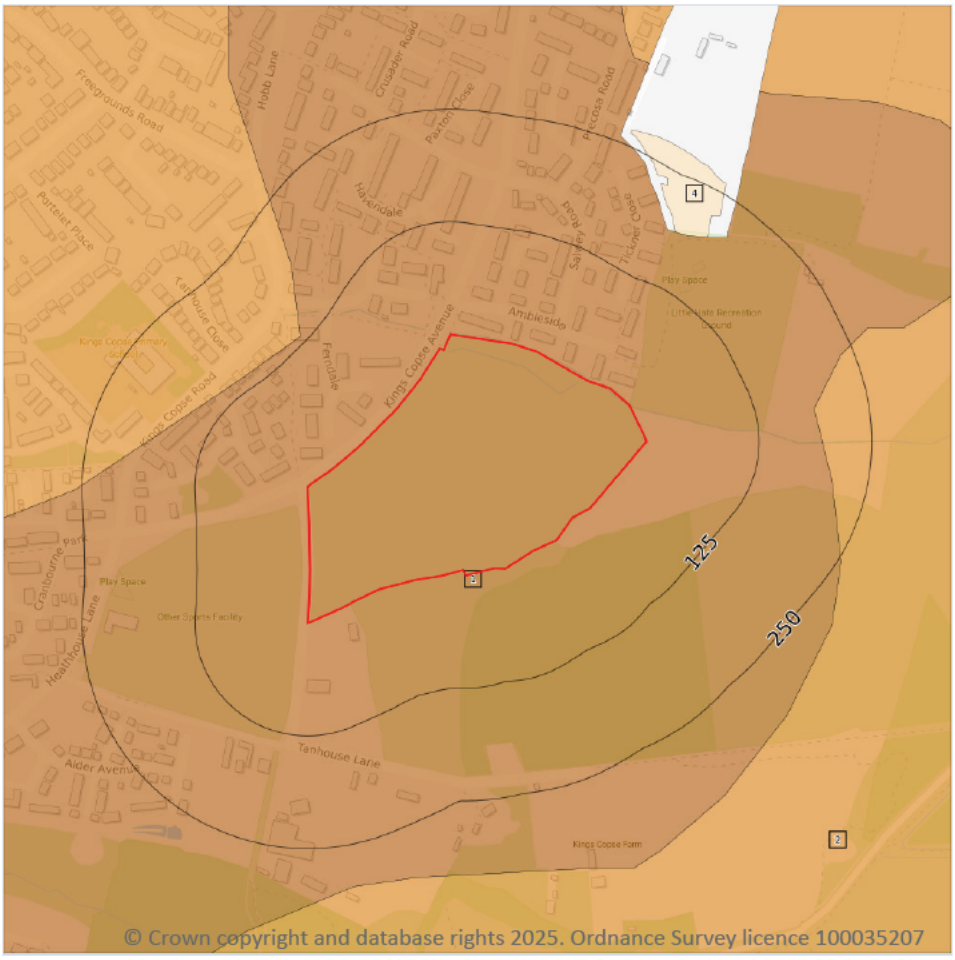
11.7 Registered Parks and Gardens

Records within 250m	0

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

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

12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m	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 73 >

ID	Location	Classification	Description
1	**On site**	**Grade 2**	**Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.**
2	132m NW	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.
4	188m NE	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

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

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

12.3 Tree Felling Licences

Records within 250m	0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	1

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

Location	Reference	Scheme	Start Date	End date
140m S	AG00505951	Higher Level Stewardship	01/12/2013	30/11/2023

This data is sourced from Natural England.

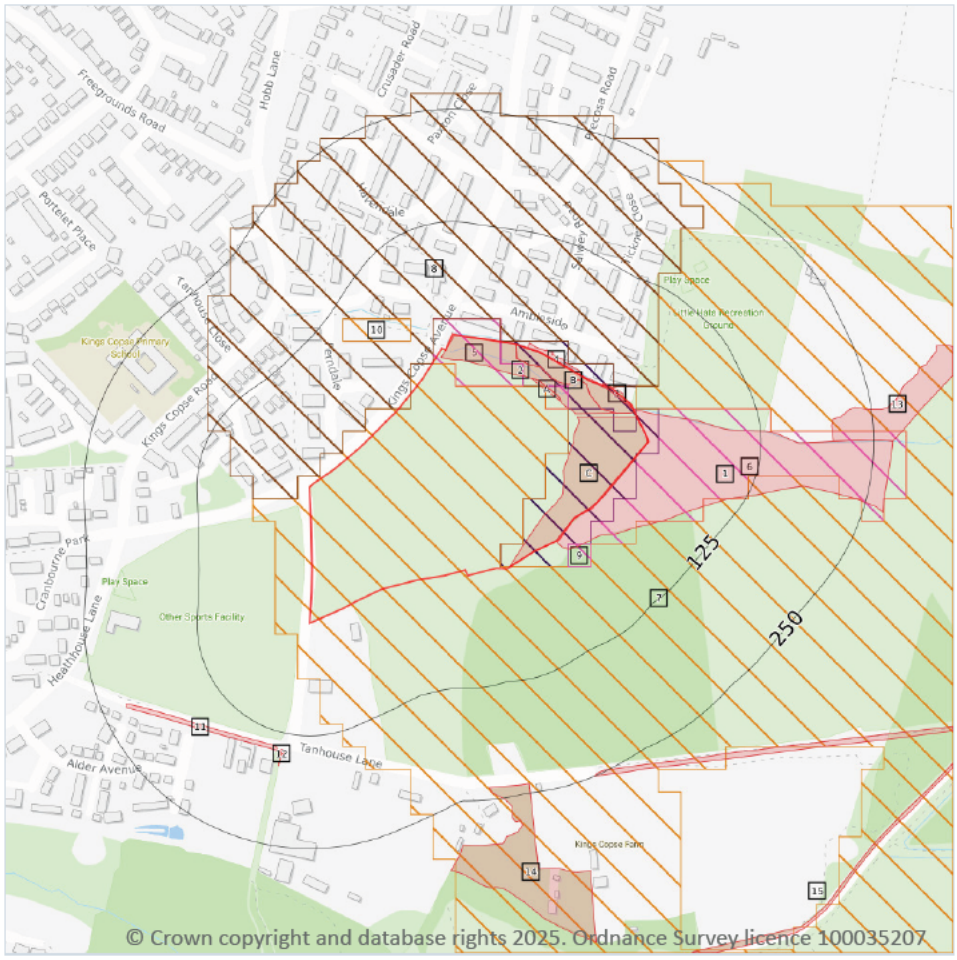
12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations



13.1 Priority Habitat Inventory

Records within 250m	12

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 76 >

ID	Location	Main Habitat	Other habitats
1	On site	Good quality semi-improved grassland	Main habitat: LMEAD (FEP + HLS)
2	On site	Good quality semi-improved grassland	Main habitat: CFPGM (INV > 50%); LMEAD (FEP + HLS)
3	On site	Lowland meadows	Main habitat: CFPGM (INV > 50%); LMEAD (INV > 50%)
4	On site	Lowland meadows	Main habitat: CFPGM (INV > 50%); LMEAD (INV > 50%)

ID	Location	Main Habitat	Other habitats
A	**On site**	**Coastal and floodplain grazing marsh**	**Main habitat: CFPGM (INV > 50%)**
B	**On site**	**Lowland meadows**	**Main habitat: CFPGM (INV > 50%); LMEAD (INV > 50%, FEP + HLS)**
C	**On site**	**Purple moor grass and rush pastures**	**Main habitat: PMGRP (INV > 50%); LMEAD (FEP + HLS)**
11	141m S	No main habitat but additional habitats present	Additional: SALTM (FEP 50%)
12	143m S	No main habitat but additional habitats present	Additional: SALTM (FEP 50%)
13	204m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
14	236m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
15	248m SE	No main habitat but additional habitats present	Additional: SALTM (FEP 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	9

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.

Features are displayed on the Habitat designations map on page 76 >

ID	Location	Type	Habitat
5	**On site**	**Associated Habitats**	**Other associated habitats**
6	**On site**	**Associated Habitats**	**Other associated habitats**
7	**On site**	**Network Enhancement Zone 1**	**Not specified**
8	**On site**	**Network Enhancement Zone 2**	**Not specified**
A	**On site**	**Associated Habitats**	**Other associated habitats**
B	**On site**	**Primary Habitat**	**Lowland meadows**
C	**On site**	**Primary Habitat**	**Purple moor grass and rush pasture**
9	11m SE	Associated Habitats	Other associated habitats
10	34m NW	Network Enhancement Zone 1	Not specified

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

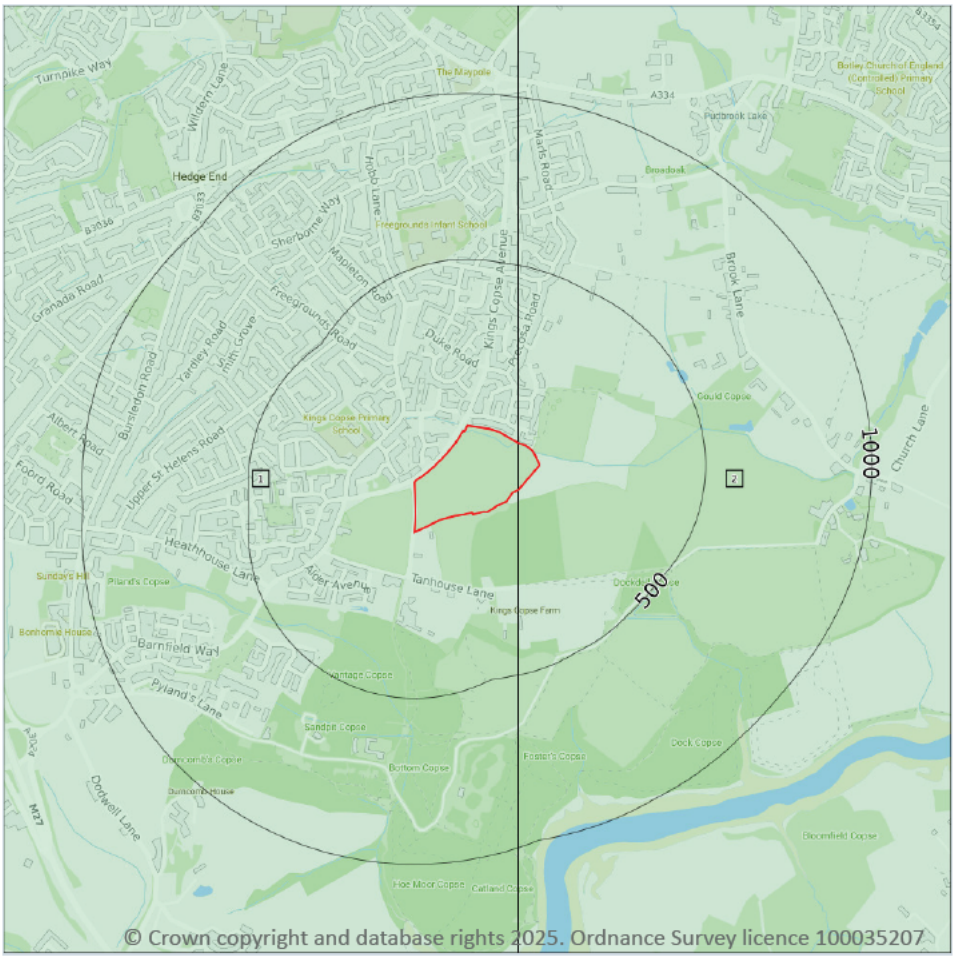
13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m	2

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

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

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	SU41SE
2	On site	Full	Full	Full	No coverage	SU51SW

This data is sourced from the British Geological Survey.

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

14.2 Artificial and made ground (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m	2

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on page 81 >

ID	Location	LEX Code	Description	Rock description
1	**On site**	**ALV-XCZSV**	**Alluvium - Clay, Silt, Sand And Gravel**	**Clay, Silt, Sand And Gravel**
2	383m SW	TFD-XCZ	Tidal Flat Deposits - Clay And Silt	Clay And Silt

This data is sourced from the British Geological Survey.

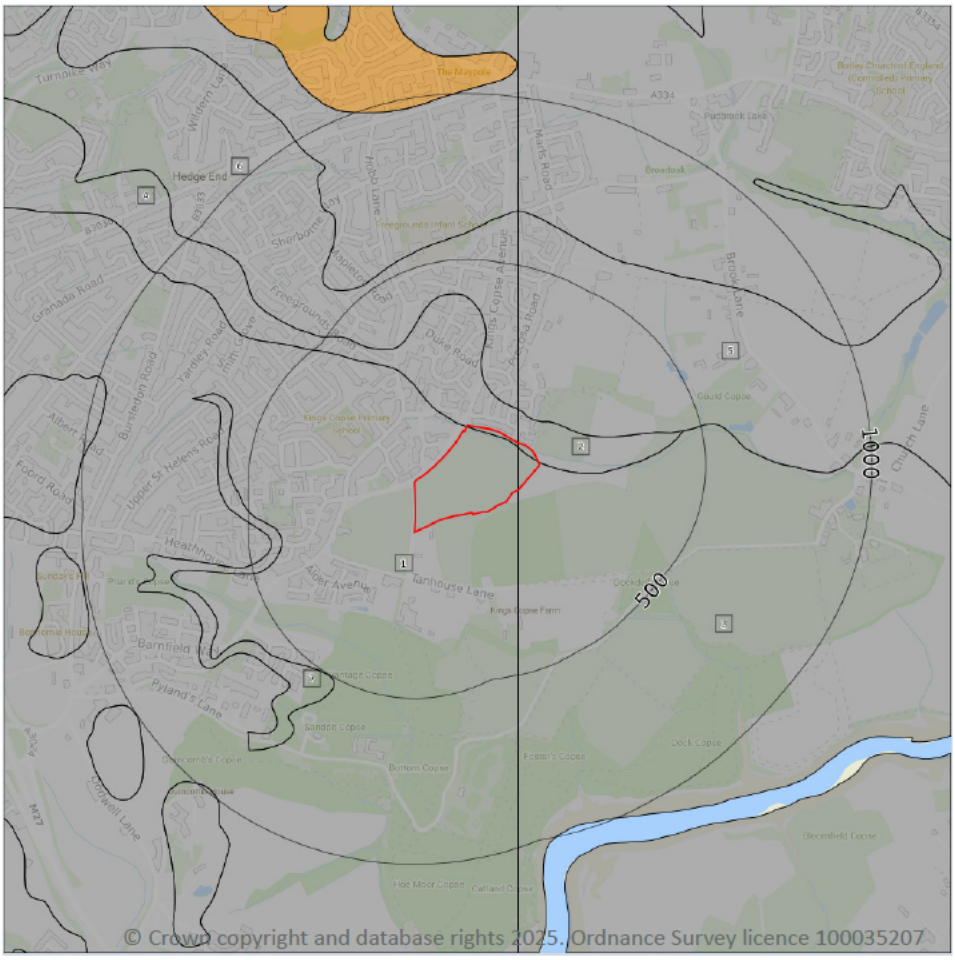
14.4 Landslip (10k)

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	7

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 83 >

ID	Location	LEX Code	Description	Rock age
1	On site	LC-CLSISA	London Clay Formation - Clay, Silt And Sand	Eocene Epoch
2	On site	WHI-SSCL	Whitecliff Sand Member - Sand, Silt And Clay	Palaeogene Period
3	On site	LC-CLSISA	London Clay Formation - Clay, Silt And Sand	Eocene Epoch
4	On site	WHI-SSCL	Whitecliff Sand Member - Sand, Silt And Clay	Palaeogene Period

ID	Location	LEX Code	Description	Rock age
5	80m N	WTT-CLSISA	Wittering Formation - Clay, Silt And Sand	Lutetian Age - Ypresian Age
6	85m N	WTT-CLSISA	Wittering Formation - Clay, Silt And Sand	Lutetian Age - Ypresian Age
7	401m W	PORT-SANDU	Portsmouth Sand Member - Sand	Palaeogene Period

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



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 85 >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW315_southampton_v4

This data is sourced from the British Geological Survey.

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

15.2 Artificial and made ground (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m **2**

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on page 87 >

ID	Location	LEX Code	Description	Rock description
1	11m NE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
2	368m SW	TFD-XCZ	TIDAL FLAT DEPOSITS	CLAY AND SILT

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
11m NE	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.

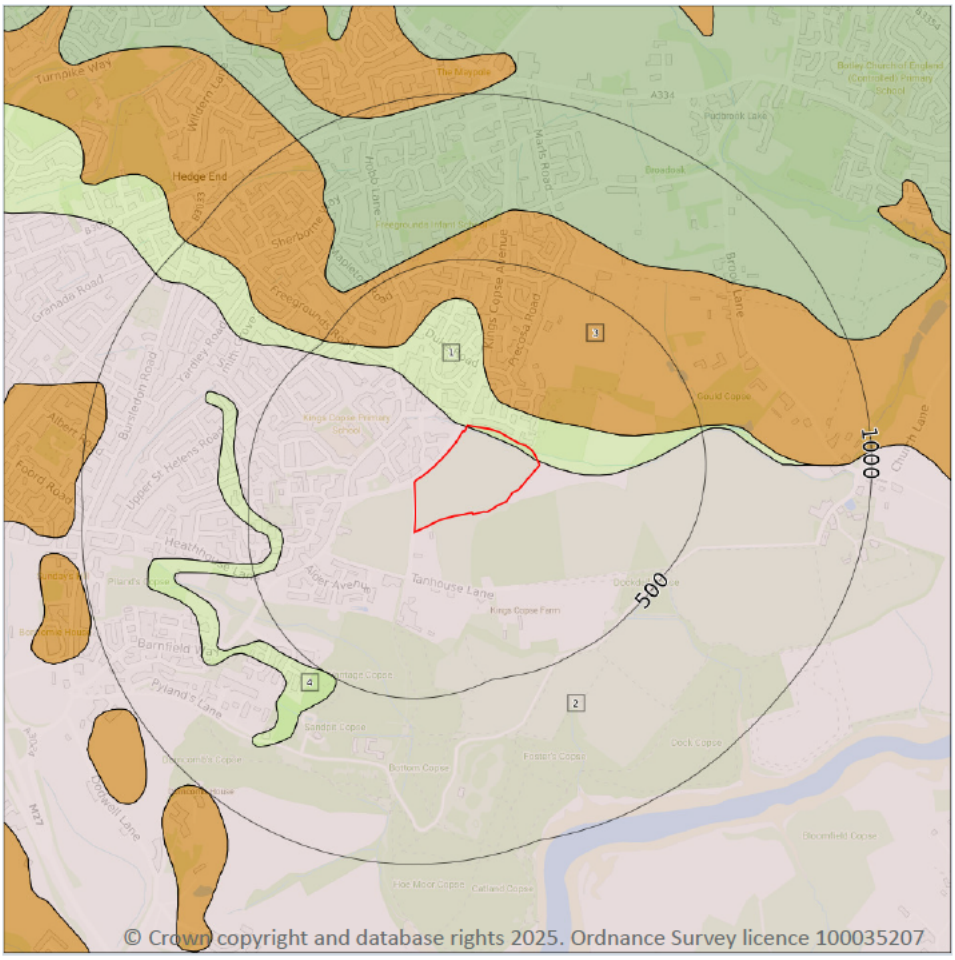
15.7 Landslip permeability (50k)

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	4

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on page 89 >

ID	Location	LEX Code	Description	Rock age
1	**On site**	**WHI-S**	**WHITECLIFF SAND MEMBER - SAND**	**-**
2	**On site**	**LC-XCZS**	**LONDON CLAY FORMATION - CLAY, SILT AND SAND**	**YPRESIAN**
3	83m NE	WTT-XSZC	WITTERING FORMATION - SAND, SILT AND CLAY	YPRESIAN
4	397m W	PORT-S	PORTSMOUTH SAND MEMBER - SAND	-

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

16 Boreholes

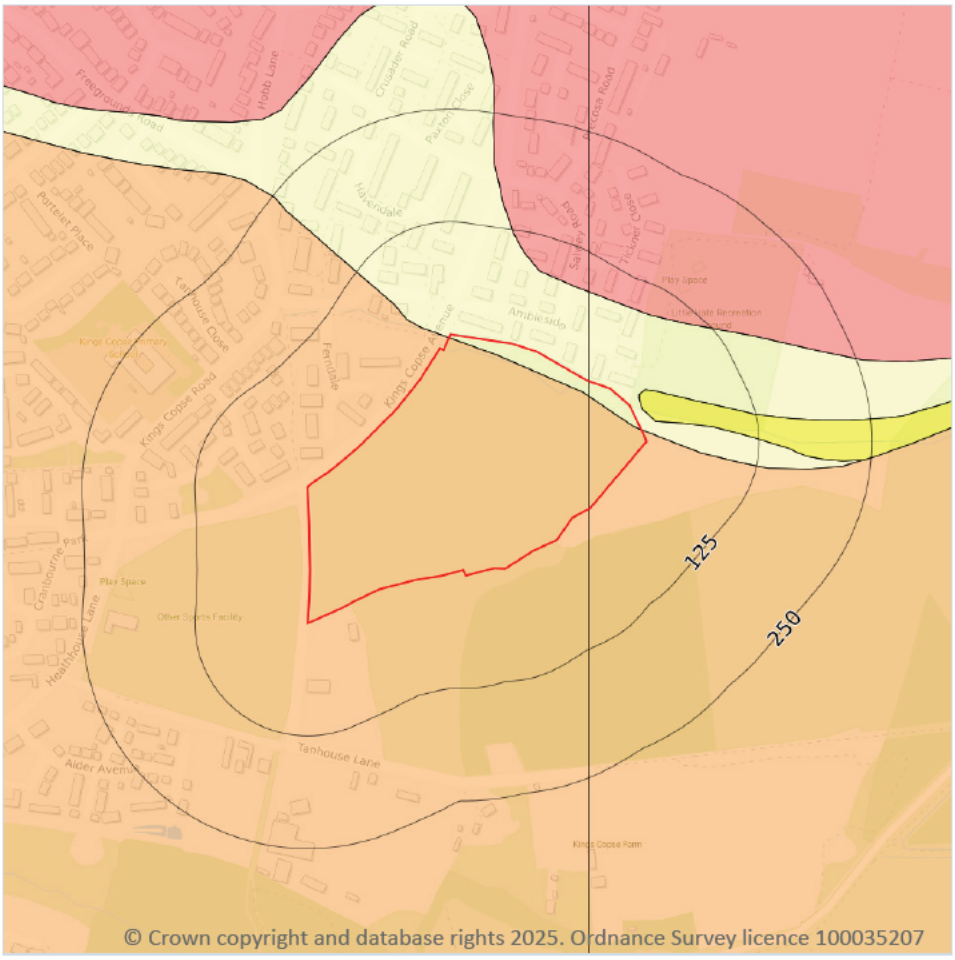
16.1 BGS Boreholes

Records within 250m	0

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

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	3

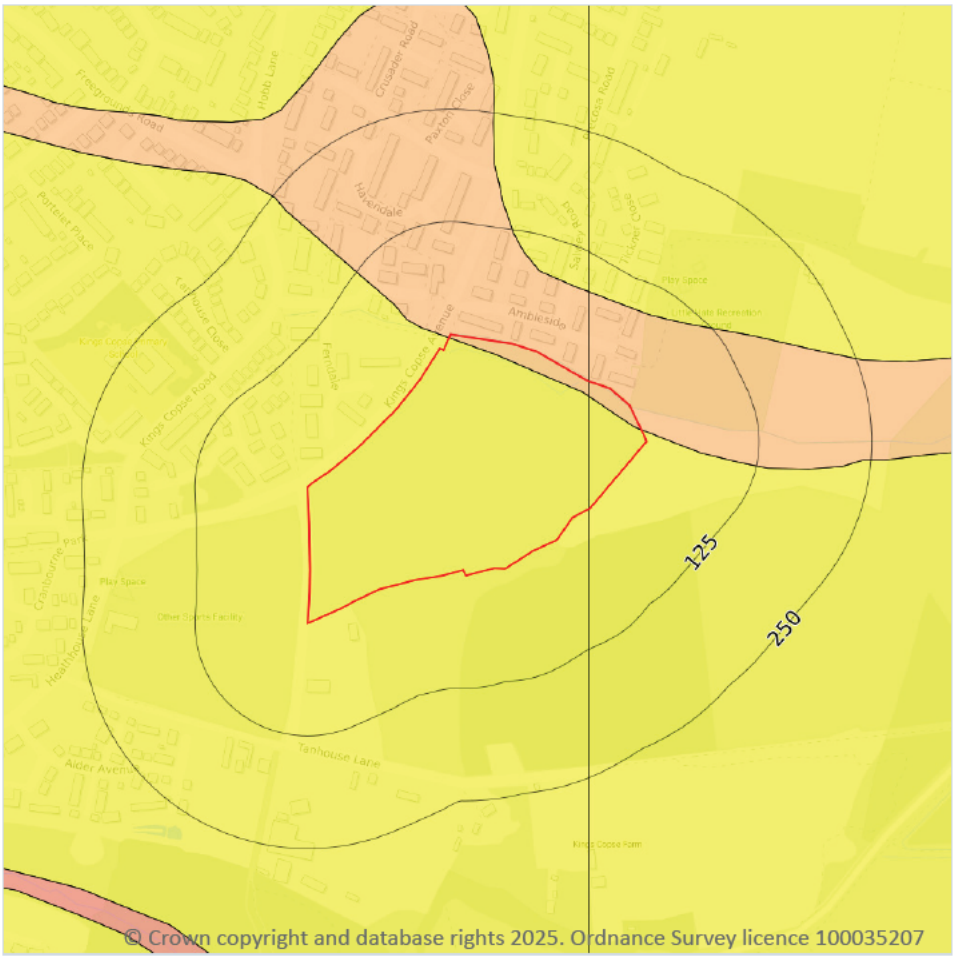
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on page 92 >

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**
On site	**Low**	**Ground conditions predominantly medium plasticity.**
11m NE	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	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.

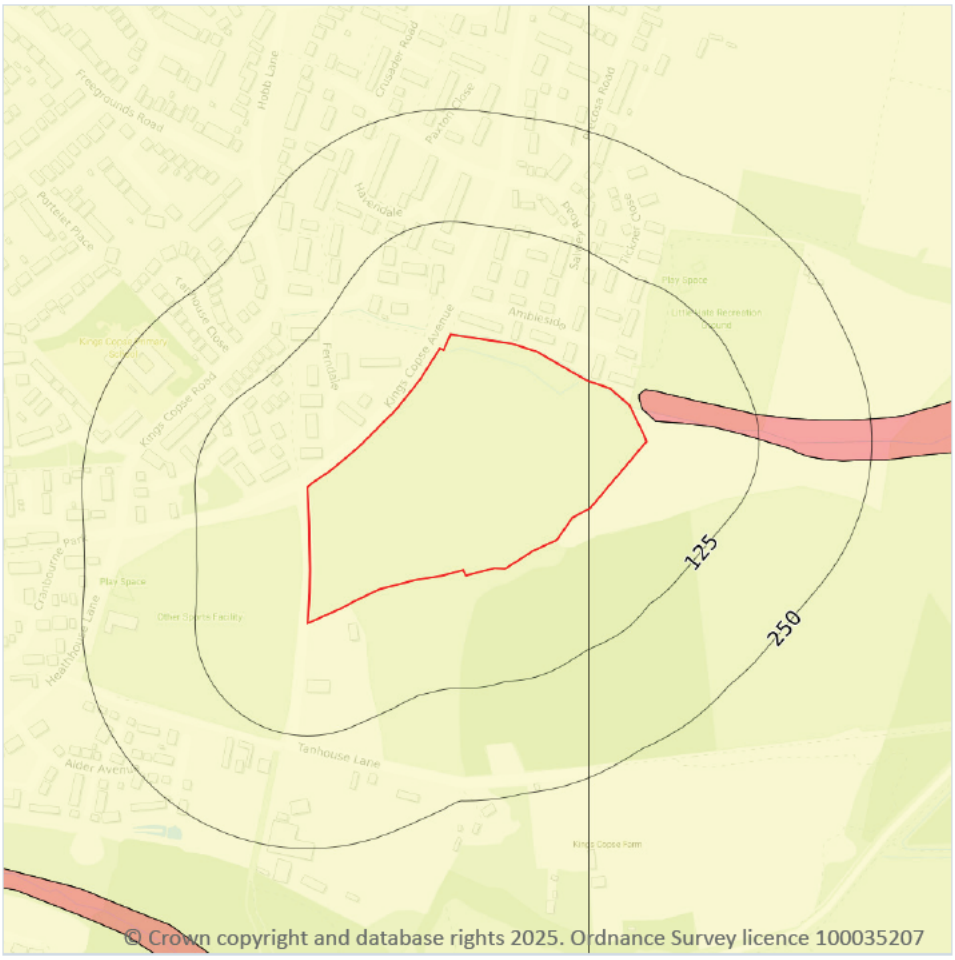
Features are displayed on the Natural ground subsidence - Running sands map on page 94 >

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

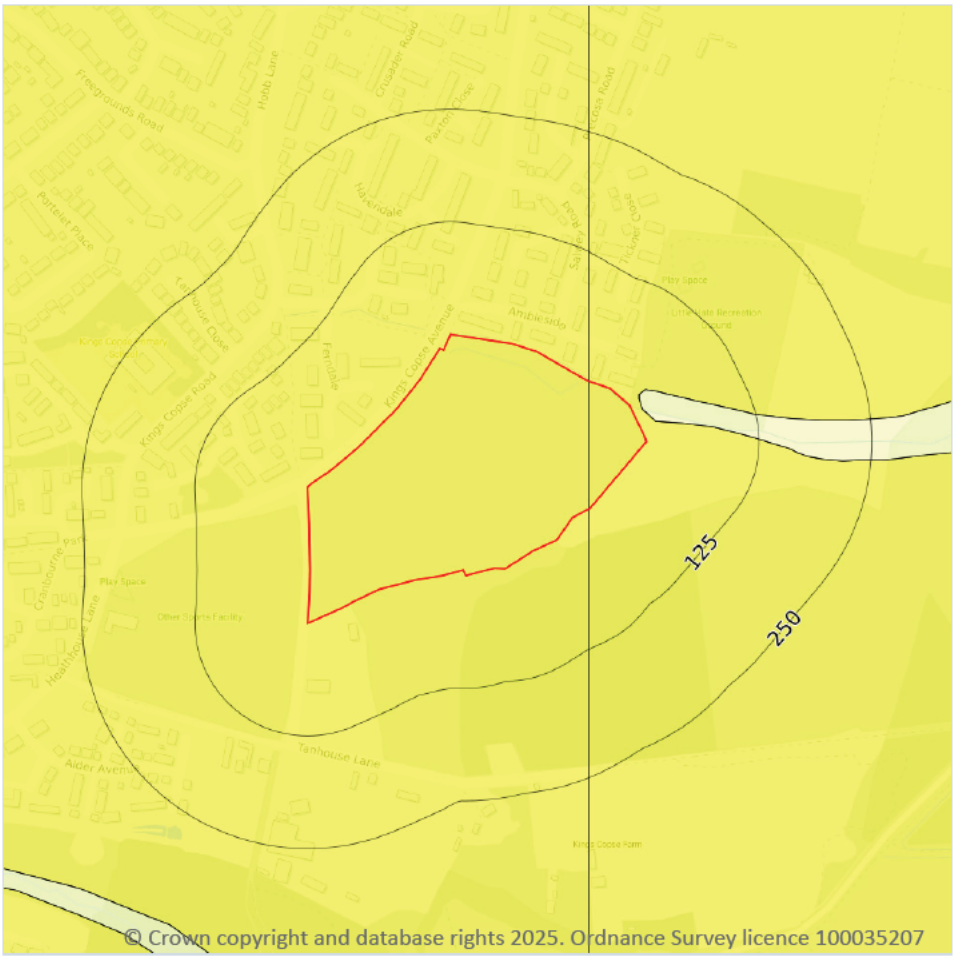
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on page 96 >

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
11m NE	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

17.4 Collapsible deposits

Records within 50m	2

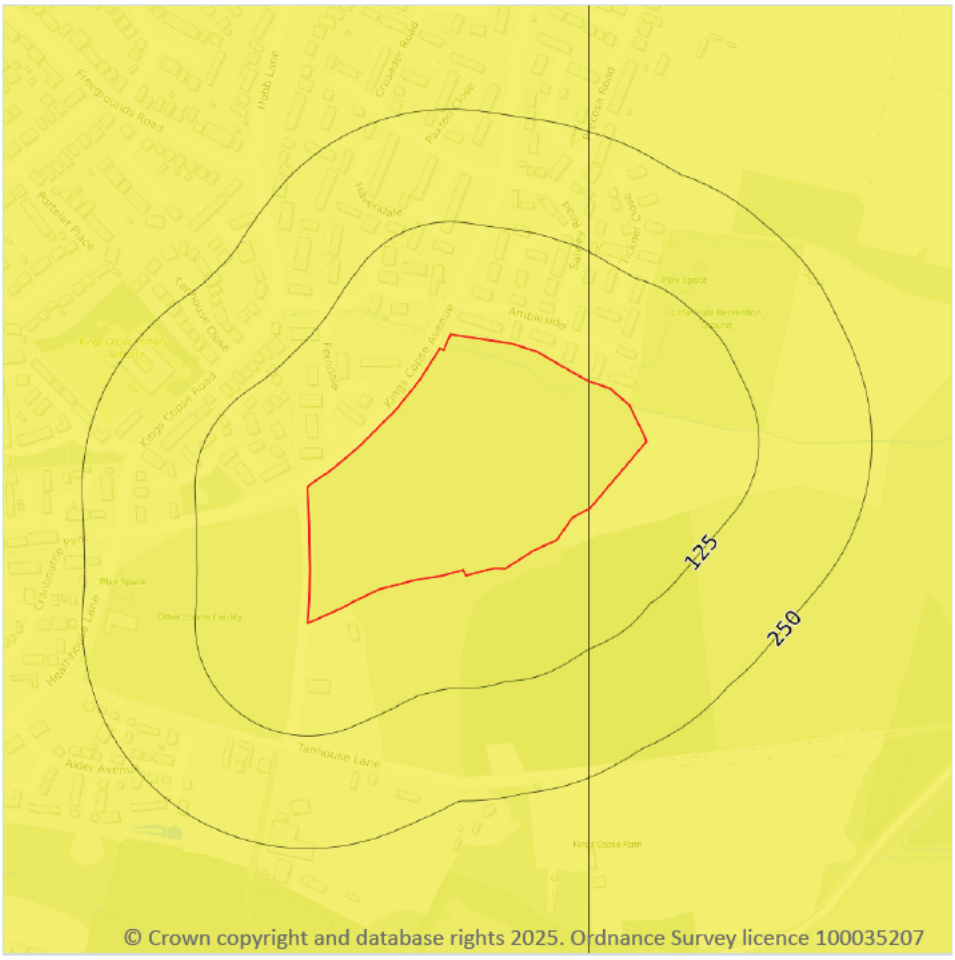
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on page 98 >

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**
11m NE	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	1

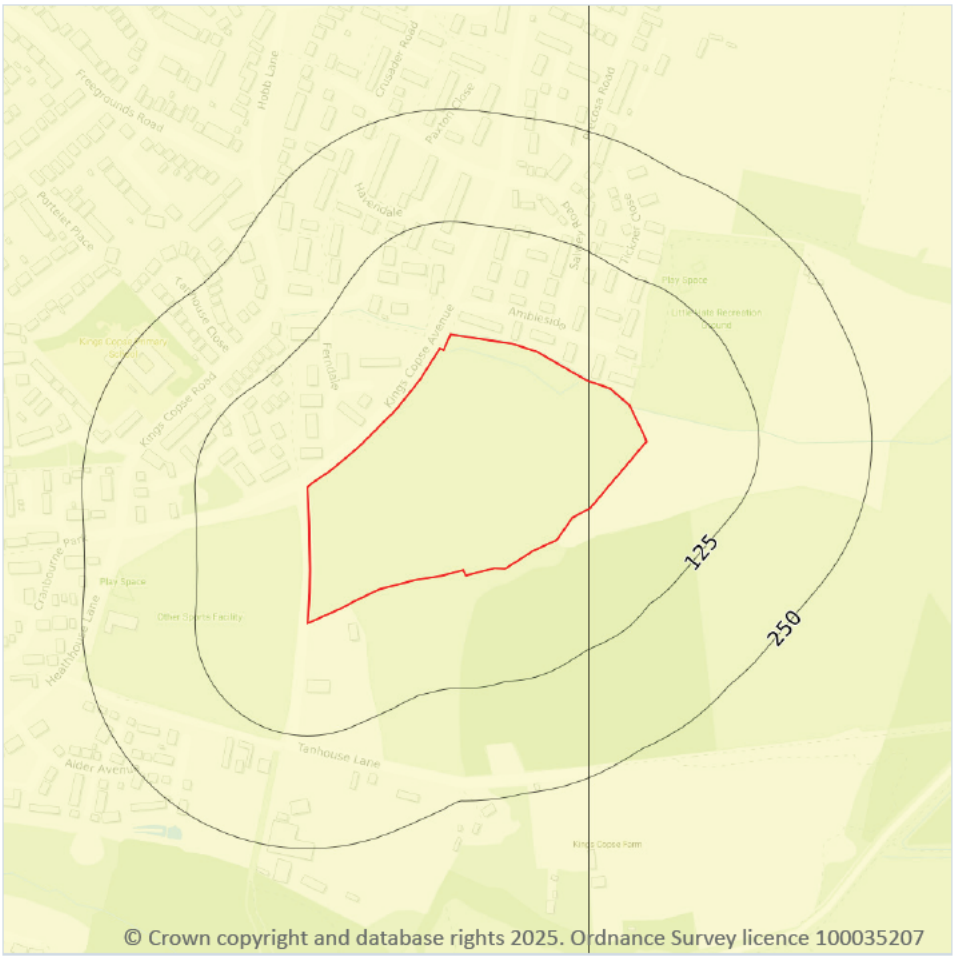
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on page 99 >

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

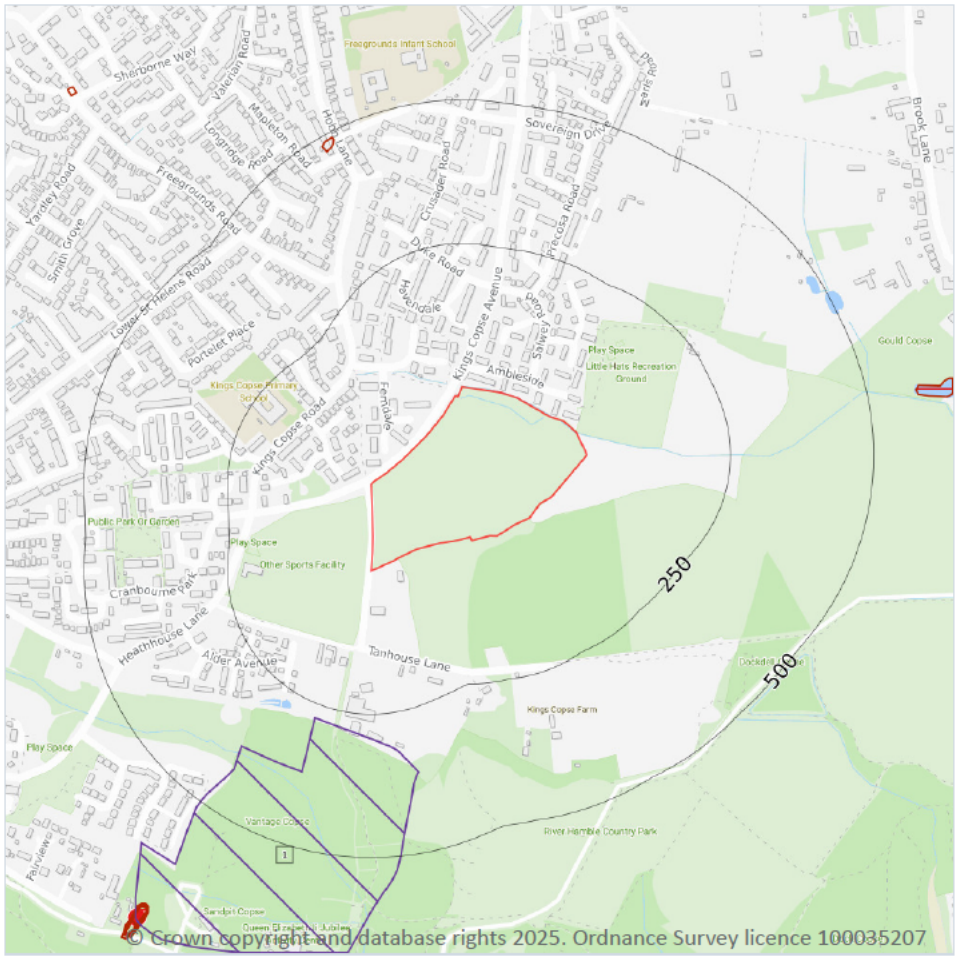
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on page 100 >

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

This data is sourced from the British Geological Survey.

18 Mining and ground workings



Site Outline

Search buffers in metres (m)

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

Non Coal Mining

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

18.1 BritPits

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m	0

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	1

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

Features are displayed on the Mining and ground workings map on **page 102 >**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
1	274m S	Vantage Copse	Sand and gravel	Surface mineral working	Refused	Not available

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	0

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

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site	0

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m	0

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

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m	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

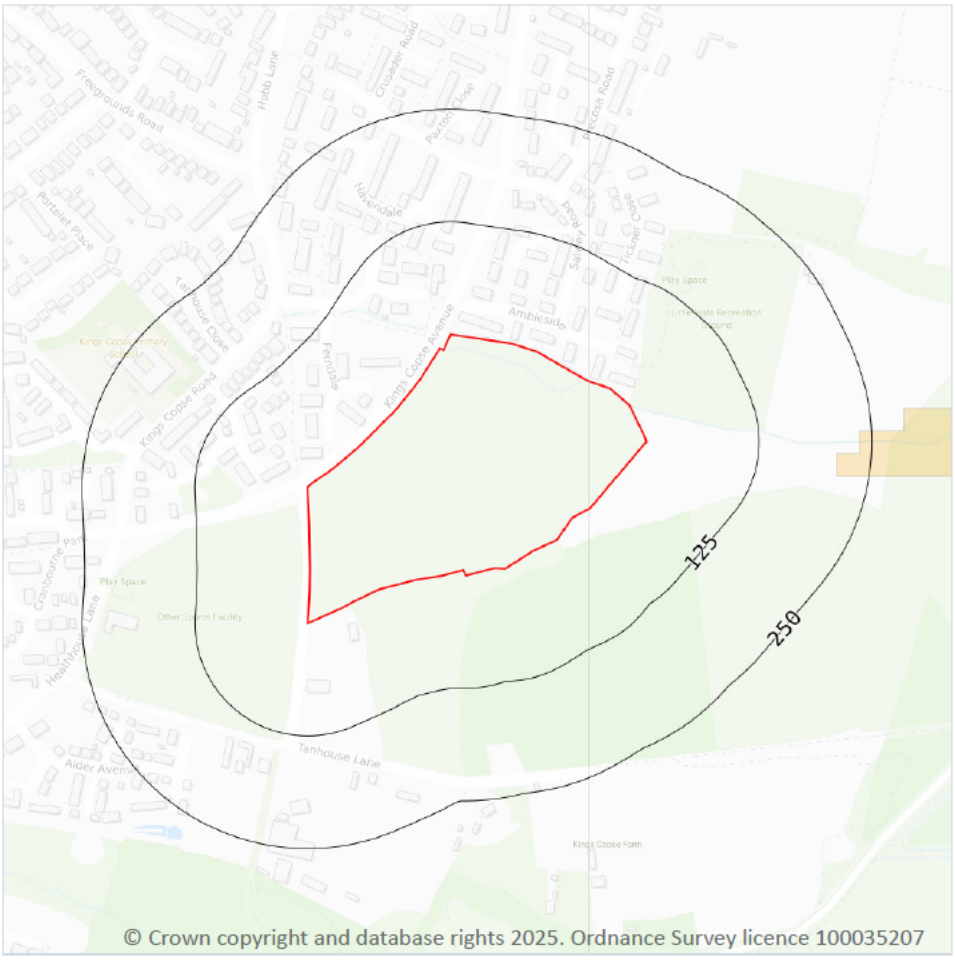
Records within 500m	0

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



Site Outline

Search buffers in metres (m)

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

20.1 Radon

Records on site	1

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

Features are displayed on the Radon map on page 109 >

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

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

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	9

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
11m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

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

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

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

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects

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 ↗.

Terms and conditions

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

Appendix D Site Photographs

Photo 1:	Overhead Drone Shot



Photo 2:	Site entranceway South-western corner of the site. View looking south-west



Photo 3:	Northern portion of the site. View looking north.



Photo 4:	Central area of the site. View looking south.



Photo 5:	Central and western portion of the site. View looking south-west.



Photo 6:	Central and eastern portion of the site. View looking north.



Photo 7:	Pipeline easement Photos



Photo 8:	Southern boundary of the site. South-western corner of the site. View looking south-west



Photo 9:	Central area of the site. View looking north.



Appendix E Risk Assessment Criteria

The classification presented in Table E.1 to Table E.4 below are modified from, 'contaminated land risk assessment: A guide to good practice, 2001, CIRIA C552'.

Table E.1. Classification of Consequence

Classification	Definition
Severe	Short-term (acute) risk to human health likely to result in "significant harm" as defined by the Environmental Protection Act 1990, Part IIA. Short term risk of pollution (note: Water Recourses Act contains no scope for considering significance of pollution) of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem (note: the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000.)
Medium	Chronic damage to Human Health ("significant harm" as defined in DETR, 2000). Pollution of sensitive water recourse (note: Water Recourses Act contains no scope for considering significance of pollution). A significant change in a particular ecosystem (note: the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000.)
Mild	Pollution of non-sensitive water recourses. Significant damage to crops, buildings, structures and services ("significant harm" as defined in the Draft Circular on Contaminated Land, DETR, 2000.)
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.)

Table E.2. Classification of Probability

Classification	Definition
High likelihood	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 receptors of harm or pollution.
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.
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 short term.
Unlikely	There is a pollution linkage, but circumstances are such that it is improbable that an event would occur even in the long term.

Table E.3. Comparison of Consequence Against Probability

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

Table E.4. Risk Classifications

Very High	There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term.
High	Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.
Low	It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.
Very low	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.
None	No potential risk if no pollution linkage has been established.

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Appendix C Main Investigation Report

Main Investigation Report

at
Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ

for
Eastleigh Borough Council

Reference: 21876/MIR Rev1.0
June 2025

Control Document

Project
Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ

Document Type
Main Investigation Report (MIR)

Document Reference
21876/MIR Rev1.0

Document Status
Final

Date
June 2025

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This is not a valid document for use in the design of the project unless it is titled Final in the document status box.

Current regulations and good practice were used in the preparation of this report. The recommendations given in this report must be reviewed by an appropriately qualified person at the time of preparation of the scheme design to ensure that any recommendations given remain valid in light of changes in regulation and practice, or additional information obtained regarding the site.

BGA CORPORATE MEMBER 2025
www.britishgeotech.org
Quality Systems Certifications Ltd ISO 45001:2018
Quality Systems Certifications Ltd ISO 9001:2015

Commission

This document comprises the Main Investigation Report (MIR) and incorporates the results, discussion, and conclusions to this intrusive works. General site data is recorded below:

Commission Record	
Client	Eastleigh Borough Council
Site Name	Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ
Grid Reference	SU 49828 12021
Soils Limited Quotation Ref	Q29697rev1, dated 13th March 2025
Clients Purchase Order	000070556, dated 20th March 2025

The record of revision to this document is presented below:

Record Of Revisions		
Revision	**Date**	**Reason**
Rev 1.0	June 2025	First issue to Client.

Documents associated with this development that must be referred to are given below.

Record Of Associated Documents			
Reference	**Type**	**Date**	**Creator**
21876/PIR Rev1.0	Desk study	June 25	Soils Limited
AKSW-XX-XX-DR-C-9300_PO2,	Site layout	December 24	AKS Ward Construction Consultants

Soils Limited have been provided with a report undertaken on the site by Terra Firma in 2015; however, we note that it includes the following caveat:

The GI was conducted, and this report has been prepared for the sole internal reliance of Hampshire County Council and their design and construction teams. This report shall not be relied upon or transferred to any other parties without the express written authorisation of Terra Firma (South). If an unauthorised third party comes into possession of this report, they rely on it at their peril and the authors owe them no duty of care and skill.

Therefore, and regarding the age of the Terra Firma report, no reliance was placed on it during the present intrusive investigation.

Limitations and Disclaimers

The report was prepared solely for the brief described in our quotation and Section 1.1 of this report. We disclaim any responsibility to the Client and others in respect of any matters outside the scope of our engagement.

We have exercised all reasonable skill, care and diligence within the terms of the Contract with the Client, incorporation of our General Conditions of Contract of Business and taking into account the resources devoted to us by agreement with the Client.

This report is a snapshot of the site and conditions taken only at the time of our investigation works and described in our reporting. The ground is a product of continuing natural and artificial processes, and has variation by depth and location that cannot be determined absolutely. While a ground investigation will aim to understand and mitigate, risk cannot be eliminated.

Current regulations and good practice were used in the preparation of this report. Consideration of any subsequent changes to regulations or practice that may have occurred following issue of this report is the responsibility of the user.

If the term “competent person” is used in this report or any Soils Limited document, it means an engineering geologist or civil engineer with a minimum of three years post graduate experience in the understanding and application of the appropriate codes of practice.

Unless the site investigation works have been designed and specified in accordance with EC7, this report is not a Ground Investigation Report as defined by Eurocode 7.

Any reference to ground level relates to the site level at the time of the investigation, unless otherwise stated. Ground elevations and coordinates are only provided when this forms part of our engagement.

A survey of the possible presence or absence of invasive species including Japanese Knotweed is outside the scope of this investigation.

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Section 1 Introduction

1.1 Objective of Investigation

The Client commissioned Soils Limited to undertake an intrusive ground investigation and to prepare a Main Investigation Report to supply the Client and their designers with information regarding ground conditions, to assist in preparing a foundation scheme for development that was appropriate to the settings present on the site.

The investigation was to be made by means of in-situ testing and geotechnical laboratory testing undertaken on soil samples taken from the exploratory holes.

Soil samples were to be taken for chemical laboratory testing to enable recommendations for the safe redevelopment of the site and the protection of vulnerable receptors from any contamination identified as dictated by the Conceptual Site Model (CSM) in the Preliminary Investigation Report undertaken for the site by Soils Limited (report ref: 21876/PIR Rev1.0, June 2025) and the Revised Conceptual Site Model presented in Appendix E.1.

1.2 Site Description

The site of the proposed development comprised an irregularly shaped field with a gentle slope of <2° down to the north-east (Google Earth™ elevation data).

The study area was entirely covered in grass with large mature trees located on its boundaries. A spring was located on the northern portion of the site. The Hamble River is located approximately 930m south-east of the site.

The site was bounded by ‘Kings Copse Avenue’ to the north-west, housing with gardens to the north-east, open fields with tree lines and thickly vegetated areas including large shrubs to the east and south, and ‘Tanhouse Lane’ with school playing fields across to the west. A plant nursery was located to the south-west of the site. The general site topography of the area comprised of shallow slopes to the north-east/east.

The main access was provided via ‘Tanhouse Lane’ to the west.

The site location plan is given in Figure 1. An aerial photograph of the site and its close environs has been included in
Figure 2.

1.3 Proposed Development

The proposed development was for a new housing estate comprising 200No. residential dwellings including a mixture of two-storey houses and four-storey blocks of residential flats. The proposal was to include hard landscaping in the form of car park spaces, access roads and pavements and soft landscaping in the form of residential gardens.

In compiling this report reliance was placed on drawing number AKSW-XX-XX-DR-C-

9300_PO2, dated December 2024 and prepared by AKS Ward Construction Consultants. The recommendations provided within this report are made exclusively in relation to the scheme outlined above and must not be applied to any other scheme without further consultation with Soils Limited. Soils Limited must be notified about any change or deviation from the scheme outlined.

Development plans provided by the Client are presented in Appendix GG.

1.4 Anticipated Geology

The 1:50,000 BGS map showed the site to be located directly upon the bedrock London Clay Formation with no superficial deposits overlying.

The BGS maps suggested the presence of superficial deposits of Alluvium overlying the bedrock of the Whitecliff Sand Member to the adjacent north-east as well as the Wittering Formation bedrock at ~100m to the north-east and therefore these units might be present on site. The London Clay formation is anticipated to be located beneath the Whitecliff Sand Member and Wittering Formation.

1.4.1 Alluvium

Alluvium is the most recent river or estuarine deposit and generally comprises silty clays usually with an appreciable organic content. Lenses of sand and gravel are also commonly found, as are pockets of peat.

The BSI Code of Practice for Foundations, BS8004: 1986, Clause 2.2.2.3.4 Peat and organic soils, includes the caveat that 'all these soils are highly compressible, and even lightly loaded foundations will be subject to considerable settlements over a long period if placed on them. For this reason, these soils are not suitable for carrying the loads for important structures'.

1.4.2 Whitecliff Sand Member

Sedimentary bedrock comprising sand formed between 66 and 23.03 million years ago during the Palaeogene period. Its parent unit is London Clay Formation.

1.4.3 London Clay Formation

The London Clay Formation in the Hampshire region comprises silty and sandy clay, clayey and sandy silt, silty sand, sporadic claystones and thin beds of flint pebbles. The formation includes the Bognor Sand, Whitecliff Sand, Durley Sand, Portsmouth Sand and Nursling Sand Members. Crystals of gypsum (Selenite) are often found within the weathered part of the London Clay, and precautions against sulphate attack to concrete are sometimes required.

The lowest part of the London Clay Formation rests on the Reading Formation (Lambeth Group).

1.4.4 Wittering Formation

The Wittering Formation comprises greyish brown laminated clay; wavy to lenticular-bedded sand interbedded with clay in equal proportions; and fine to medium-grained sparsely glauconitic sand.

Section 2 Site Works

2.1 Proposed Project Works

The proposed intrusive investigation was designed to provide information on the ground conditions and to aid the design of foundations for the proposed residential development. The intended investigation, as outlined within the Soils Limited quotation Q29697rev101, dated 13th March 2025 and subsequent Change Request Form, dated 14th April 2025, was to comprise the following items:

- Service clearance via EMF/GPR including marking out of Esso/SGN easement
- 8No. (up to) 5.00m deep windowless sampler boreholes
- 8No. (up to) 5.00m deep dynamic probes DPSH-B
- 2No. trial pit infiltration test locations in general accordance with BRE 365
- Additional trial pitting to provide coverage (and enable bulk sampling if earthworks testing is required)
- 4No. (up to) 30.00m deep cable percussive boreholes with alternate SPT/U100 testing at 1.00m centres for the top 5.00m and at 1.50m thereafter
- CBR testing via hand-held DCP
- Geotechnical laboratory testing
- Contamination laboratory analysis including WAC testing

2.1.1 Actual Project Works

The actual project works were undertaken between the 14th of April 2025 and 22nd of April 2025, with subsequent sample logging, laboratory testing and reporting. The actual works comprised:

- Service clearance via EMF/GPR including marking out of Esso/SGN easement
- 8No. windowless sampler boreholes up to 5.00m bgl (WS1 to WS8)
- 8No. dynamic probes DPSH-B up to 5.00m bgl (DP1 to DP8)
- 4No. cable percussive boreholes up to 30.00m bgl with alternate SPT/U100 testing at 1.00m centres for the top 5.00m and at 1.50m thereafter
- 2No. trial pit infiltration test locations in general accordance with BRE 365 (TPSK1 and TPSK2)
- 6No. trial pits to provide coverage and enable bulk sampling (TP3 to TP8)
- 11No. CBR tests via hand-held DCP
- Geotechnical laboratory testing
- Contamination laboratory analysis including 6No. WAC tests

The windowless sampler boreholes were backfilled with gravel upon completion. Following drilling and sampling, the cable percussive boreholes were backfilled with arisings and gravel. The trial pits were backfilled with arisings upon completion (and upon completion of the infiltration testing in TPSK1 and TPSK2) and mounded over to allow future settlement.

Following completion of site works, recovered soil cores and samples were logged and sub-sampled so that samples could be sent to the laboratory for both contamination and geotechnical testing.

2.2 Ground Conditions

On 14th April 2025, service clearance of proposed exploratory hole locations was undertaken using a cable avoidance tool (RD8000) to trace low and high voltage electricity cables, BT, security cabling and metal pipes. To detect non-metallic services such as fibre optic, clay drainage, plastic gas, and water services, Ground Penetration Radar (Leica DS2000) was used.

On 15th April 2025, eleven (11No.) dynamic cone penetrometer tests (DCP1 to DCP11) were conducted across the site to depths of up to 0.95m bgl.

Between 15th and 17th April 2025, four (4No.) cable percussive boreholes (BH1 to BH4) were drilled, using a Dando 4000 drilling rig, to depths ranging between 21.00m and 30.00m bgl.

On 16th April 2025, eight (8No.) trial pits (TPSK1, TPSK2 and TP3 to TP8) were machine excavated, using a JCB 3CX, to a depth of 2.00m bgl. Infiltration testing was undertaken within TPSK1 and TPSK2, as requested by the Client, in general accordance with BRE365, the results of which are presented in Section 3.4.

On 22nd April 2025, eight (8No.) windowless sampler boreholes (WS1 to WS8) were drilled, using a Premier drilling rig, to depths ranging between 4.60m and 5.00m bgl at locations selected by Soils Limited using a development plan and agreed with the Client. WS1 and WS6 were terminated early due to the density of the soils.

Eight (8No.) super heavy dynamic probes, (DP1 to DP8) were driven prior and adjacent to their corresponding windowless sampler borehole to a depth of 5.00m bgl.

The maximum depths of exploratory holes have been included in Table 2.1.

Table 2.1 Final Depth of Exploratory Holes

Exploratory Hole	Depth (m bgl)	Probe Hole	Depth (m bgl)	Exploratory Hole	Depth (m bgl)
WS1	4.70	DP1	5.00	TPSK1	2.00
WS2	5.00	DP2	5.00	TPSK2	2.00
WS3	5.00	DP3	5.00	TP3	2.00
WS4	5.00	DP4	5.00	TP4	2.00
WS5	5.00	DP5	5.00	TP5	2.00
WS6	4.60	DP6	5.00	TP6	2.00
WS7	5.00	DP7	5.00	TP7	2.00
WS8	5.00	DP8	5.00	TP8	2.00

Note(s): The depths given were taken from the ground level **adjacent to the exploratory hole** at the time of investigation.

The approximate exploratory hole locations are shown on Figure 3.
The soil conditions encountered were recorded and soil sampling commensurate with the purposes of the investigation was carried out. The depths given on the exploratory hole logs and quoted in this report were measured from ground level.

The soils encountered from immediately below ground surface have been described in the following manner. Where the soil incorporated an organic content such as either decomposing leaf litter or roots or has been identified as part of the in-situ weathering profile, it has been described as Topsoil both on the logs and within this report. Where man has clearly either placed the soil, or the composition altered, with say greater than an estimated 5% of a non-natural constituent, it has been referred to as Made Ground both on the log and within this report.

For more complete information about the soils encountered within the general area of the site reference must be made to the detailed records given within Appendix B, but for the purposes of discussion, the succession of conditions encountered in the exploratory holes in descending order can be summarised as:

Topsoil (TS)
Whitecliff Sand Member (WHI)
London Clay Formation (LCF)

The ground conditions encountered in the exploratory holes are summarised in Table 2.2.

Table 2.2 Ground Conditions

Strata	Depth Encountered (m bgl)		Typical Thickness (m)	Typical Description
	Top	Bottom		
TS	0.00	0.20 – 0.50	0.35	Firm, dark brown, slightly sandy, slightly gravelly, silty CLAY to very clayey SILT to greyish brown, slightly silty, slightly clayey, fine to medium SAND.
WHI	0.20 – 0.40	1.10 – 1.90	1.20	Greyish brown slightly clayey slightly gravelly fine to medium SAND. Gravel is subangular to subrounded fine to medium flint. Rare fine gravel sized brick fragments. Occasional rootlets.
LCF	0.25 – 0.50	4.60[1] – 30.00[1]	Not proven[2]	Stiff to very stiff, dark brownish grey mottled grey, slightly sandy, slightly silty CLAY with occasional shell fragments. Sand was fine. A band of greyish brown, slightly clayey, subangular to subrounded, fine to coarse GRAVEL of septarian nodules was encountered in WS5 from 3.20m to 3.45m bgl.

Note(s): [1] Final depth of exploratory hole. [2] Base of strata not encountered. The depths given in this table are taken from the ground level on-site at the time of investigation.

2.3 Ground Conditions Encountered in Exploratory Holes

The ground conditions encountered in exploratory holes have been described below in descending order. The engineering logs are presented in Appendix B.1.

2.3.1 Topsoil

Soils described as Topsoil were encountered in all exploratory holes from ground level to depths ranging between 0.20m and 0.50m bgl.

The Topsoil typically comprised firm, dark brown, slightly sandy, slightly gravelly, silty CLAY to very clayey SILT to greyish brown, slightly silty, slightly clayey, fine to medium SAND. Gravel was subangular to subrounded, fine to coarse flint. Abundant rootlets were noted.

The established depth of Topsoil found at each exploratory hole location has been included in Table 2.3.

Table 2.3 Established Depth of Topsoil

Exploratory Hole	Depth (m bgl)	Exploratory Hole	Depth (m bgl)
WS1 [DP1]	0.20	BH3	0.30
WS2 [DP2]	0.25	BH4	0.40
WS3 [DP3]	0.30	TPSK1	0.35
WS4 [DP4]	0.30	TPSK2	0.50
WS5 [DP5]	0.30	TP3	0.35
WS6 [DP6]	0.30	TP4	0.35
WS7 [DP7]	0.30	TP5	0.40
WS8 [DP8]	0.30	TP6	0.50
BH1	0.30	TP7	0.50
BH2	0.40	TP8	0.40

2.3.2 Whitecliff Sand Member

Soils described as the Whitecliff Sand Member were only encountered within WS1 and BH4 to depths of 1.10m and 1.90m bgl respectively located on the northern and western portion of the site.

The Whitecliff Sand Member stratum typically comprised of a greyish brown slightly clayey slightly gravelly fine to medium SAND. Gravel is subangular to subrounded fine to medium flint with Occasional rootlets.

The established depth of Whitecliff Sand Member found at each exploratory hole location has been included in **Error! Reference source not found.**.

Table 2.4 Established Depth of Whitecliff Sand Member

Exploratory Hole	Depth (m bgl)
WS1 [DP1]	1.10
BH4	1.90

2.3.3 London Clay Formation

Soils described as London Clay Formation were encountered within all the trial holes to below the Topsoil and where present the Whitecliff Sand Member to the base of the trial holes to a maximum depth of 30.00m bgl.

The London Clay Formation bedrock typically comprised stiff to very stiff, dark brownish grey mottled grey, slightly sandy, slightly silty CLAY with occasional shell fragments. Sand was fine. A band of greyish brown, slightly clayey, subangular to subrounded, fine to coarse GRAVEL of septarian nodules was encountered in WS5 from 3.20m to 3.45m bgl.

The established depth of London Clay Formation found at each exploratory hole location has been included in **Error! Reference source not found.**.

Table 2.5 Established Depth of London Clay Formation

Exploratory Hole	Depth (m bgl)	Exploratory Hole	Depth (m bgl)
WS1 [DP1]	4.70[I]	BH3	30.00[I]
WS2 [DP2]	5.00[I]	BH4	21.00[I]
WS3 [DP3]	5.00[I]	TPSK1	2.00[I]
WS4 [DP4]	5.00[I]	TPSK2	2.00[I]
WS5 [DP5]	5.00[I]	TP3	2.00[I]
WS6 [DP6]	4.60[I]	TP4	2.00[I]
WS7 [DP7]	5.00[I]	TP5	2.00[I]
WS8 [DP8]	5.00[I]	TP6	2.00[I]
BH1	25.00[I]	TP7	2.00[I]
BH2	30.00[I]	TP8	2.00[I]

Note: [I] Final depth of exploratory hole.

2.4 Roots

Roots (incl. rootlets) were encountered in all twenty exploratory holes to depths ranging between 0.70m and 3.50m bgl, as detailed in Table 2.6. Note that roots were encountered to the final depth of TP6 to TP8, therefore, the final root depth could not be established at these locations.

Table 2.6 Established Depth of Root Penetration

Exploratory Hole	Depth (m bgl)	Exploratory Hole	Depth (m bgl)
WS1	0.70	BH3	1.20
WS2	1.10	BH4	0.40
WS3	1.60	TPSK1	0.90
WS4	3.50	TPSK2	1.80
WS5	1.20	TP3	1.00
WS6	2.00	TP4	0.70
WS7	2.50	TP5	1.40
WS8	1.50	TP6	2.00[I]
BH1	1.00	TP7	1.80
BH2	0.40	TP8	2.00[I]

Note: [I] Final depth of exploratory hole. Great variation in root depth noted, potentially due to the size of the site and allocation of trial hole locations, together with different forms of vegetation including mature trees, shrubbery and grassed areas noted within the site and on its perimeter.

Roots may be found to greater depth at other locations on the site particularly close to trees and/or trees that have been removed both within the site and its close environs.

The study area was entirely covered in grass with large mature trees hedging its boundaries. Tree lines and thickly vegetated areas including large shrubs were present to the adjacent east and south of the site.

From the earliest viewable GoogleEarth™ aerial photographs of the site (1999), vegetation cover has continually increased on its boundaries and to the immediate south and east. No trees appear to have been removed from the site.

It must be emphasised that the probability of determining the maximum depth of roots from a narrow diameter borehole is low.

2.5 Groundwater

Groundwater was encountered within five (5No.) out of the twenty (20No.) exploratory holes. However, this does not exclude the presence of groundwater from the remaining windowless sampler and cable percussive borehole locations as any potential groundwater strikes might have been masked by the rate of drilling.

Changes in groundwater level occur for reasons including seasonal effects and variations in drainage. The investigation was conducted in April (2025), when groundwater levels should typically be falling from their annual maximum (highest) elevation, which typically occurs around March.

The groundwater levels during site works are presented in Table 2.7.

Table 2.7 Groundwater Records

Exploratory Hole	Strike Depth (m bgl)	Standing (m bgl)	Exploratory Hole	Strike Depth (m bgl)
WS1	Not encountered		BH3	Not encountered
WS2	3.30	3.30 after 30mins	BH4	
WS3	Not encountered		TPSK1	
WS4			TPSK2	
WS5	4.00	3.50 after 30mins	TP3	
WS6	4.00	3.80 after 25mins	TP4	
WS7	4.00	3.20 after 25mins	TP5	
WS8	4.00	3.80 after 25mins	TP6	
BH1	Not encountered		TP7	
BH2			TP8	

Groundwater equilibrium conditions may only be conclusively established, if a series of observations are made via groundwater monitoring wells. Groundwater monitoring was not within the brief for the present investigation.

Section 3 Geotechnical In-Situ and Laboratory Testing

3.1 Standard Penetration Tests

Standard Penetration Tests (SPTs) were undertaken in BH1 to BH4. The results were interpreted based on the classifications outlined in Appendix C.1, Table C.1.1 to Table C.1.2.

Table 3.1 Hammer Efficiency

SPT Hammer Ref	Energy Ratio Er (%)
Dando 4000 – AR2847	77

Table 3.2 Standard Penetration Tests (SPT) Interpretation

Strata	Depth Range (m bgl)	Inferred N60 Range	Soil Classification	Inferred Cohesion (Cu kPa)
WHI	0.40-1.90	27	Medium Dense	N/A
LCF	0.30-30.00	7-64	Low to Extremely High	35 – >300

Note(s): SPT "N60" values presented have been corrected in accordance with BS EN 22476 Part 3.

A full interpretation of the SPT results, is outlined in Appendix C.2, Table C.2.1.

3.2 Dynamic Probe Tests

The results were converted to equivalent SPT "N60" values based on dynamic energy using commercial computer software (Geostru). Interpretation based on the classifications outlined in Appendix C.1,Table C.1.1 to Table C.1.2.

Table 3.3 Hammer Efficiency

Rig Reference	Energy Ratio Er (%)
Premier I	90.32
Premier II	84.32

Table 3.4 Inferred SPT Interpretation

Strata	Depth Range (m bgl)	Inferred N60 Range	Soil Classification	Inferred Cohesion (Cu kPa)
WHI[1] (G)	0.20 – 1.10	4 – 16	Very loose to Medium dense	n/a
LCF	0.25 – 5.00	<4 – 129	Very Low to Extremely High	<10 – >300

Note(s): SPT "N60" values presented have been corrected in accordance with BS EN 22476 Part 3. G= granular [1] WS1 only

A full interpretation of the DPSH tests, is outlined in Appendix C.2, Table C.2.2.

Note that the granular soils of the Whitecliff Sand Member were only encountered as a sandy band from 0.20 to 1.10m bgl in WS1.

No discernible trend in relative density / cohesive strength with depth could be established for the granular soils of the Whitecliff Sand Member.

The cohesive strength of the soils of the London Clay Formation were generally increasing with depth.

DP7 exhibited a lower strength profile with blow counts of 0 and 1 persisting to a depth of 3.20m bgl.

3.3 Dynamic Cone Penetrometer Tests

The Transport Research Laboratory (TRL), Dynamic Cone Penetrometer (DCP) was undertaken at eleven locations (DCP1 to DCP11). The results were interpreted based on the classification outlined in Appendix C.1.

The results from DCP testing indicated CBR values of between 2% and 12% for the soils encountered in the top 1.00m bgl.

The DCP results are presented in Appendix C.3.

3.4 Infiltration Tests

Infiltration testing was attempted within two exploratory holes (TPSK1 and TPSK2) within the cohesive soils of the London Clay Formation. BRE DG365:2016 states that for an accurate infiltration rate to be obtained a soakage pit needs to be filled three times in quick succession. Each test can only be ended once 75% of the water present has drained away. Testing comprised pouring clean water via a water tanker into the open trial hole, the drop-in water level over time was then recorded to give an indication of soakage potential.

A full test cycle was not completed in either TPSK1 nor TPSK2 due to insufficient head loss over time with both tests ending before 75% of the water drained away. As such, the tests did not fully comply with BRE Digest 365 “Soakaway Design”.

Infiltration rates could not be calculated due to the poor drainage observed, as detailed in Table 3.5.

Table 3.5 Infiltration

Exploratory Hole	Test No.	Stratum	Pit Depth (m bgl)	Depth to Water		Duration (mins)	Infiltration Rate (m/s)
				Start	End		
TPSK1	1	LCF	1.80	0.81	0.81	1745	-[1]
TPSK2	1	LCF	2.00	1.13	1.22	1745	-[1]

Notes: [1]No infiltration rate calculated due to insufficient head loss over time within ground conditions encountered.

3.5 Quick Unconsolidated Undrained Triaxial Compression Tests

Quick Unconsolidated Undrained Triaxial Compression Tests (QUU) were performed on

four samples from the London Clay Formation. The strength interpretation was based on the classification outlined in Table C.2.3.

Table 3.6 Undrained Cohesion Results Classification

Strata	Depth Range (m bgl)	Classification	
		High to Very High	Undrained Cohesion Range (c_u)
LCF	6.50-15.50	High to Very High	86-203kPa

Details are given in Table C.2.3, Appendix C.2 and the laboratory report in Appendix C.3.

3.6 Atterberg Limit Tests

Atterberg Limit tests were performed on fourteen samples from the London Clay Formation. The results were classified in accordance with BRE Digest 240 and NHBC Standards Chapter 4.2.

Table 3.7 Atterberg Limit Results Classification

Strata	Depth Range (m bgl)	Volume Change Potential	
		NHBC	BRE 240
LCF	0.80-10.50	Medium to High	Medium to High

Details are in Table C.2.4, Appendix C.2 and the laboratory report in Appendix C.3.

3.7 Particle Size Distribution Testing

Particle Size Distribution (PSD) testing was performed on one sample from the granular beds of the Whitecliff Sand Member.

Table 3.8 Particle Size Distribution Classification

Strata	Depth (m bgl)	Volume Change Potential	
		NHBC	BRE 240
WHI (G)	0.80	No	No

Note: G=granular

A full interpretation of the PSD testing, is outlined in Table C.2.5, Appendix C.2 and the laboratory report in Appendix C.3.

3.8 Sulphate and pH Tests

Water soluble sulphate (2:1) and pH testing in accordance with Building Research Establishment Special Digest 1, 2005, 'Concrete in Aggressive Ground' was undertaken on 5No. samples from the London Clay Formation.

Table 3.9 Sulphate and pH Test Results

Strata	Depth (m bgl)	Sulphate Concentration (mg/l)	pH
LCF	1.00-12.00	<10-395	7.2-8.4

The significance of the sulphate and pH Test results are discussed in Section 5.2 and the laboratory report in Appendix C.3.

Section 4 Engineering Appraisal

4.1 Established Ground Conditions

An engineering appraisal of the soil types encountered during the site investigation and likely to be encountered during the redevelopment of this site is presented. Soil descriptions are based on analysis of disturbed samples taken from the exploratory holes.

4.1.1 Topsoil

Soils described as Topsoil were encountered in all exploratory holes from ground level to depths ranging between 0.20m and 0.50m bgl.

Foundations must not be placed on non-engineered fill unless such use can be justified on the basis of a thorough ground investigation and detailed design. Foundations must be taken through any Topsoil and/or Made Ground and either into, or onto a suitable underlying natural stratum of adequate bearing characteristics.

4.1.2 Whitecliff Sand Member

Soils described as the Whitecliff Sand Member were only encountered underlying the Topsoil within WS1 and BH4 to depths of 1.10m and 1.90m bgl on the northern and western portion of the site.

Soils of the Whitecliff Sand Member are cohesive at shallow depth becoming granular soils and as such the cohesive soils are expected to display low to moderate bearing capacities with moderate to high settlement characteristics. The granular soils are anticipated to have moderate to high bearing values and low to moderate settlement characteristics and would be a suitable founding stratum.

4.1.3 London Clay Formation

Soils described as the London Clay Formation were encountered underlying the Topsoil and Whitecliff Sand Member from 0.20m to 1.90m bgl and persisted to the full investigatory depth of 30.00m bgl.

Soils of the London Clay Formation are overconsolidated, cohesive soils and as such are expected to display to moderate bearing capacities with moderate settlement characteristics and would be a suitable bearing stratum, subject to proposed loadings and type of foundation selected.

4.1.4 Guidance on Shrinkable Soils

The ground conditions were established as Topsoil (thickness of 0.20m to 0.50m), overlying the Wittering Formation of a typical thickness of 1.65m (localised), over bedrock of the London Clay Formation (across the majority of the site).

The volume change potential for the natural strata is presented in Table 4.1.

Table 4.1 Established Volume Change Potential by Strata

Strata	Volume Change Potential		Established Lower Boundary (m bgl)
	BRE	NHBC	
WHI	No	No	1.90
LCF	High	High	30.00+

The granular soils for the Whitecliff Sand Member had no volume change potential. The cohesive soils of the London Clay Formation were classified as having a high volume change potential.

4.1.5 Groundwater

Groundwater was encountered within WS2 and WS5-WS8, which were located on the north, eastern and south-eastern portions of the site. Groundwater strikes might have been masked by the rate of drilling so groundwater may be present in other locations.

The groundwater levels during site works are presented in Table 2.7.

Section 5 Foundation Scheme

5.1 Foundation Recommendations

The proposed development was for a new housing estate comprising 200No. residential dwellings including a mixture of two-storey houses and four-storey blocks of flats. The proposed was to include hard landscaping in the form of car park spaces, access roads and pavements and soft landscaping in the form of residential gardens.

In compiling this report reliance was placed on drawing number AKSW-XX-XX-DR-C-9300_PO2, dated December 2024 and prepared by AKS Ward Construction Consultants.

Foundations **must not** be constructed within any Made Ground/Topsoil due to the likely variability and potential for large load induced settlements both total and differential.

Roots were encountered in all twenty exploratory holes at depths ranging between 0.40m and 3.50m bgl. If roots are encountered during the construction phase foundations **must not be placed within any live root penetrated** or desiccated **cohesive soils or those with a volume change potential**. Should the foundation excavations reveal such materials, the excavations **must** be extended to greater depth to bypass these unsuitable soils. Excavations must be checked by a suitable person prior to concrete being poured.

Considering the type of development, a shallow foundation solution was considered the most suitable for the two storey residential houses and piled foundations should be used for residential flats. The residential flats will require piling due to the increased loads of the buildings that will be exerted onto the soils and the fact that the shallow soils are not suitable for the proposed multi storey flats.

5.1.1 Shallow Foundations into the London Clay Formation

Figure 4 provides a visual representation of the founding depths for the 2 storey residential properties across the site. Foundations for the 2 storey buildings will have to be constructed at depths of 2.00m or lower due to soils of poor engineering characteristics above this depth.

Based on a 5.00m by 0.75m strip foundation, using commercial software an average bearing capacity across the site of 90kPa can be achieved (except the north-western corner of the site centred around WS7). The Geotechnical modelling software recorded poor bearing capacities at depths of 1.00m and 1.50m bgl (<65kPa). At 2.00m depth bearing capacities increase to an average of 90kPa, with settlements in the range 20mm to 30mm have been calculated.

It should be noted that the majority of the 2 storey buildings can be constructed at 2.00m bgl except for the north-western corner of the site located around WS7/DP7. Bearing capacities were calculated to be 65kPa at 2.50m bgl. If the bearing capacity of 65kPa is not sufficient then piling will be required in this area of the site. Alternatively, further

windowless sampling and dynamic probing could be undertaken in this area of the site to confirm the extent of the area requiring deeper/piled foundations.
Anticipated settlements may be taken as proportional to the bearing capacity adopted (for the same configuration of foundation), therefore if the bearing value is halved the anticipated settlement will halve.

All foundation formations must be examined, recorded, and signed off by a competent person.

The use of reinforced trench fill foundations reduces the potential for differential settlement affecting the foundations.

For the allowable bearing value given above, settlements should not exceed the presented values, provided that excavation bases are carefully bottomed out and blinded or concreted as soon after excavation as possible and kept dry.

Foundations must not be constructed over former structures and other hard spots. The foundations design must be suitable for the conditions present at the site.

The anticipated settlement includes both elastic settlement and long-term drained settlement (in the case of cohesive soils).

All loose material, soft spots and Made Ground must be removed from the base of the excavations. Failure to do so could results in increased settlements.

5.1.2 Piled Foundations

The foundations for the proposed residential flats must be piled. The piled foundations must be taken through any Topsoil/Made Ground into suitable strength soils of the London Clay Formation.

The construction of a piled foundation is a specialist job with the actual pile working load depending on the pile type and installation method. Prior to finalising the foundation design the advice from a reputable contractor who is familiar with the ground and groundwater conditions present at the site must be sought.

The vertical load capacities are provided for varying diameters and lengths of bored piles taken into the London Clay Formation, based on geotechnical laboratory testing and in-situ test and must only be used for preliminary design purposes.

A factor of safety of 3 was applied to the characteristic line derived from testing undertaken, for both the shaft and base load capacities. An Nc value of 9 and Alpha value of 0.45 has been used.

The bearing values given in Appendix D.1., are applicable to single vertically loaded piles. Where piles are to be constructed in groups the bearing value of each individual pile should be reduced by a factor of about 0.8 and a calculation made to check the factor of safety against block failure.

From ground level the upper 4m of the pile shaft has been ignored in the preliminary pile design given.

To prevent necking of the green concrete, temporary casing may be required where the pile passes through the Made Ground or London Clay Formation and below the groundwater table (if encountered). To achieve the full bearing value a pile should penetrate the bearing stratum by at least five times the pile diameter.

No allowance has been made for negative skin friction that could be generated where piles pass through very soft cohesive deposits underlying the site. The negative skin friction must be applied to the pile working load and must not be factored.

5.2 Subsurface Concrete

The sulphate and pH tests carried out in accordance with BRE Special Digest 1, 2005, 'Concrete in Aggressive Ground', established the site concrete classifications for each stratum as presented in Table 5.1.

Table 5.1 Concrete Classification

Stratum	Design Sulphate Class	ACEC Class
LCF shallow Foundations	DS-1	AC-1
LCF Piled Foundations	DS-1	AC-1

Concrete to be placed in contact with soil or groundwater must be designed in accordance with the recommendations of Building Research Establishment Special Digest 1 2005, *'Concrete in Aggressive Ground'* taking into account any possible exposure of potentially pyrite bearing natural ground and the pH of the soils.

5.3 Excavations

Shallow excavations in the Topsoil and Whitecliff Sand Member are likely to be marginally stable in the short term at best.

Deeper excavations taken into the London Clay Formation are likely to be unstable and require support. Unsupported earth faces formed during excavation may be liable to collapse without warning and suitable safety precautions must therefore be taken to ensure that such earth faces are adequately supported or battered back to a safe angle of repose.

Excavations beneath the groundwater table are likely to be unstable and dewatering of foundation trenches may be necessary.

Section 6 Pavements

6.1 Pavements

The Transport Research Laboratory (TRL) Dynamic Cone Penetrometer (DCP) was undertaken at eleven locations on site (DCP1 – DCP11). The results from dynamic cone penetrometer tests indicated **CBR values of between 2% and 12%** for the soils encountered in the top 1.00m bgl.

When removing 400mm of Topsoil the worst case CBR value was 1% which was considered unsuitable for design purposes. Multiple soft spots were recorded across the site.

As CBR values were highly variable due to changes in moisture content and ground conditions, **in-situ testing must be undertaken** immediately prior to the installation of pavements/roads. Any soft spots at formation level, as identified across the site, must be dug out and replaced with a suitably compacted granular fill. Prior to construction the formation level must be proof rolled. It is recommended that further CBR testing, or plate load testing be undertaken across the site to confirm road/pavement design.

Granular soils of the Whitecliff Sand Member are regarded as non-frost-susceptible as the percentage material passing a 0.074 mm sieve is less than 10%.

Cohesive soils of the London Clay Formation may be regarded as non-frost-susceptible as their plasticity index was >20%.

Section 7 Site Drainage

7.1 Soakaways

Due to the impermeable nature of the London Clay Formation no infiltration rate could be calculated from the in-situ tests undertaken. Therefore, the use of soakaways on site would not be a viable option due to the poor drainage characteristics of the London Clay Formation.

It is recommended that the results of the testing are passed to a drainage engineer for confirmation.

Section 8 Determination of Chemical Analysis

8.1 Site Characterisation and Revised Conceptual Site Model

The Preliminary Investigation Report undertaken by Soils Limited (report ref: 21876/PIR dated June 2025) identified a low to moderate risk of ground contamination from previous usage of the site and offsite sources.

There were no anthropogenic materials and no visual or olfactory indicators of contamination noted during the investigation.

Deposits of the Whitecliff Sand Member and London Clay Formation were encountered underlying the Topsoil. Groundwater was encountered within the London Clay Formation at depths of between 3.30-3.80m bgl.

The conceptual site model was updated to take account of the above findings and is presented in Appendix E.1.

8.2 Soil Sampling

Exploratory hole locations were established to provide an overview of ground conditions across the site in relation to the proposed construction, together with enabling the collection of samples to enable chemical characterisation of the underlying strata.

Representative samples for potential environmental testing were obtained from the exploratory holes at depths of between 0.10m and 1.00m to allow appropriate representation of the materials encountered, with additional samples to be obtained, if necessary, where there was visual or olfactory evidence of contamination.

Unless otherwise stated, analytical testing was based initially on a screening suite of commonly identified inorganic and organic contaminants, taking into account the prevailing site conditions and the findings of the initial conceptual site model.

8.3 Determination of Chemical Analysis

The driver for determination of the analysis suite was the information obtained from the Preliminary Investigation Report and this intrusive investigation.

The chemical analyses were carried out on 4No. samples of Topsoil and 4 samples of the London Clay Formation. The nature of the analyses is detailed in Table 8.1.

Table 8.1 Chemical Analyses Suites - Soil

No. of Tests		Determinants
TS	LCF	
4	4	Metal suites: Arsenic, Boron (Water Soluble), Cadmium, Chromium (total & hexavalent), Copper, Lead, Mercury, Nickel, Selenium, Vanadium, Zinc
4	4	Organic Matter
4	4	pH

No. of Tests		Determinants
TS	LCF	
4	4	Polycyclic aromatic hydrocarbons (PAH) – (EPA 16)
4	4	Phenols – total monohydric
4	4	Extractable petroleum hydrocarbons (EPH) – Texas banding
2	4	Waste acceptance criteria (WAC)
4	4	Asbestos screening

The soil testing was carried out in compliance with the MCERTS performance standard, and the results are shown in Appendix E.2, test reports 25-04477 and 25-09347.

Section 9 Qualitative Risk Assessment

9.1 Assessment Criteria

The assessment criteria used to determine risks to human health are derived and explained within Appendix E.3.

9.2 Representative Contamination Criteria - Soil

In compiling this report reliance was placed on drawing number AKSW-XX-XX-DR-C-9300_PO2, dated December 2024 and prepared by AKS Ward Construction Consultants. The recommendations provided within this report are made exclusively in relation to the scheme outlined above and must not be applied to any other scheme without further consultation with Soils Limited. Soils Limited must be notified about any change or deviation from the scheme outlined.

Based on the proposed development, the results of the chemical analysis have been compared against generic assessment criteria (GAC) for a '***Residential With home grown produce***' end use, as presented in SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination December 2014 (C4SL), derived for the protection of human health. Where this document has not published screening values for determinants, GACs derived for the same end use have been adopted from the following published guidance; DEFRA Soil Guideline Values (SGV) and LQM/CIEH/Suitable 4 Use Level (S4UL).

To assess the potential toxicity of organic determinants (Petroleum Hydrocarbons and Polyaromatic Hydrocarbons) to the human health, soils samples were analysed for Soil Organic Matter (SOM). The selected samples analysed recorded, SOM values of between 0.5% and 2.4%. For each soil sample tested, the resultant SOM allowed for the correct comparison to be made with the appropriate guideline value for each organic determinant analysed.

9.2.1 Risk Assessment – Topsoil and London Clay Formation

No exceedances were recorded within the four samples of the Topsoil and the four samples of the London Clay Formation tested when compared to GAC for a Residential with Home Grown Produce end use.

9.3 Asbestos

The test certificate for each sample submitted for contamination analysis during this investigation includes the results of an Asbestos Screen.

In each case 'Not detected' was reported.

This finding does not obviate the risk of asbestos being present on the site and the Client must seek advice from qualified and competent asbestos specialist during and prior to undertaking works to ensure compliance with appropriate legislation and guidance.

9.4 Risk to Controlled Waters

The site was predominantly located on an Unproductive Strata (Secondary A Aquifer in far northern portion of the site associated with the Whitecliff Sand Member), is not within a groundwater source protection zone and there are no groundwater abstractions within 1km of the site.

The nearest surface watercourse is a stream located along the northern portion of the site.

The Groundwater levels across the site were recorded at depths of around 3.00m bgl or in most instances were not recorded at all. The water within some of the windowless sampler boreholes may have been perched. Surface water maybe present during winter months especially on the northern portion of the site close to the spring. Based on the above the groundwater vulnerability is low to very low but surface water is moderate.

From the ground conditions encountered, low groundwater levels and the fact that the new drainage regime will control water flows the risk to controlled waters was considered to be low.

9.5 Risk from Ground Gas Ingression

The preliminary Risk Assessment (21876/May 2025) concluded that there was no Potential sources of ground gas within influencing distance of the site. In addition there was no Made Ground/Anthropogenic materials recorded within the soils on site. Therefore no ground gas monitoring wells were proposed and no gas monitoring has been undertaken.

9.5.1 Radon

According to the British Geological Survey, in conjunction with the Radiation Protection Division of the Health Protection Agency, the site is in an area where less than 1% of homes are estimated to be at or above the action level.

The site is not located in a radon affected area and no radon protective measures are necessary in the construction of new dwellings or extensions.

9.6 Generic Quantitative Risk Assessment

A quantitative risk assessment is undertaken for soil. The CSM has been updated to take account of the assessments below and presented in Appendix E.1. The full laboratory chemical report is presented in Appendix E.2.

9.6.1 Soils

None of the eight samples tested (Topsoil and London Clay Formation) recorded concentrations of determinants in excess of the relevant soil screening values for the proposed “Residential with Home Grown Produce” end use.

9.6.2 Controlled Waters

The Groundwater Risk Assessment established that **there was no risk** to the groundwater receptor from the ground conditions encountered, low groundwater levels

and the fact that the new drainage regime will control water flows the risk to controlled waters was considered to be low.

9.6.3 Ground Gas

The Preliminary Investigation Report identified a very low risk of ground gas sources that could potentially affect the site. In addition no Made Ground or anthropogenic materials were recorded within the boreholes undertaken on site.

9.7 Recommendations

Soil chemical analysis did not record any samples with substance levels over their representative guideline values and there was no evidence of Made Ground on site.

Therefore, there was no risk identified to vulnerable receptors of Human Health, Building Structures and Services or controlled waters.

Based on this investigation no further works are required, subject to agreement and approval of the local authority, which should be sought at the soonest opportunity.

A discovery strategy should be implemented to ensure that any unexpected contamination is suitably identified and addressed during the construction phase.

9.8 Protection of Services

Contamination of the ground may pose a risk to human health by permeating potable water supply pipes. To fulfil their statutory obligations, UK water supply companies require robust evidence from developers to demonstrate either that the ground in which new plastic supply pipes will be laid is free from contaminants specified in UKWIR Report 10/WM/03/21 Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites (UKWIR, 2010), or that the proposed remedial strategy will mitigate any existing risk.

9.9 Duty of Care

Groundworkers must maintain a good standard of personal hygiene including the wearing of overalls, boots, gloves and eye protectors and the use of dust masks during periods of dry weather.

9.10 Excavated Material

Excavated material as waste must be defined or classified prior to any disposal, transport, recycling or re-use at or by an appropriately licensed or exempt carrier and/or off-site disposal facility. The requirements inherent in both Duty of Care and Health and Safety must also be complied with. In order to determine what is to happen, what is suitable, appropriate and most effective in the disposal of wastes, especially those subject to CDM waste management plan requirements, several factors must be considered, and competent advice must always be sought.

9.11 HazWasteOnline

The waste classification tool HazWasteOnline™ followed by WAC analysis was undertaken on six samples to provide a general indication for future waste removal.

The samples were all classified as Non-Hazardous, with the HazWasteOnline™ report presented in Appendix F. The WAC certificates are presented in Appendix E.2, within Test Report 25-09347.

9.12 Re-use of Excavated Material On-site

The re-use of on-site soils may be undertaken either under the Environmental Permitting Regulations 2007 (EPR), in which case soils other than uncontaminated soils are classed as waste, or under the CL:AIRE Voluntary Code of Practice (CoP) which was published in September 2008 and is accepted as an alternative regime to the EPR.

9.13 Imported Material

Any soil, which is to be imported onto the site, must undergo chemical analysis to permit classification prior to its importation and placement in order to ascertain its status with specific regard to contamination, i.e. to prove that it is suitable for the purpose for which it is intended.

9.14 Discovery Strategy

There may be areas of contamination not identified during the investigation. Such occurrences may also be discovered during the demolition and construction phases for the redevelopment of the site.

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Figure 1 – Site Location Map



Job Number 21876	**Project** Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ
Client Eastleigh Borough Council	**Date** June 2025



Figure 2 – Aerial Photograph

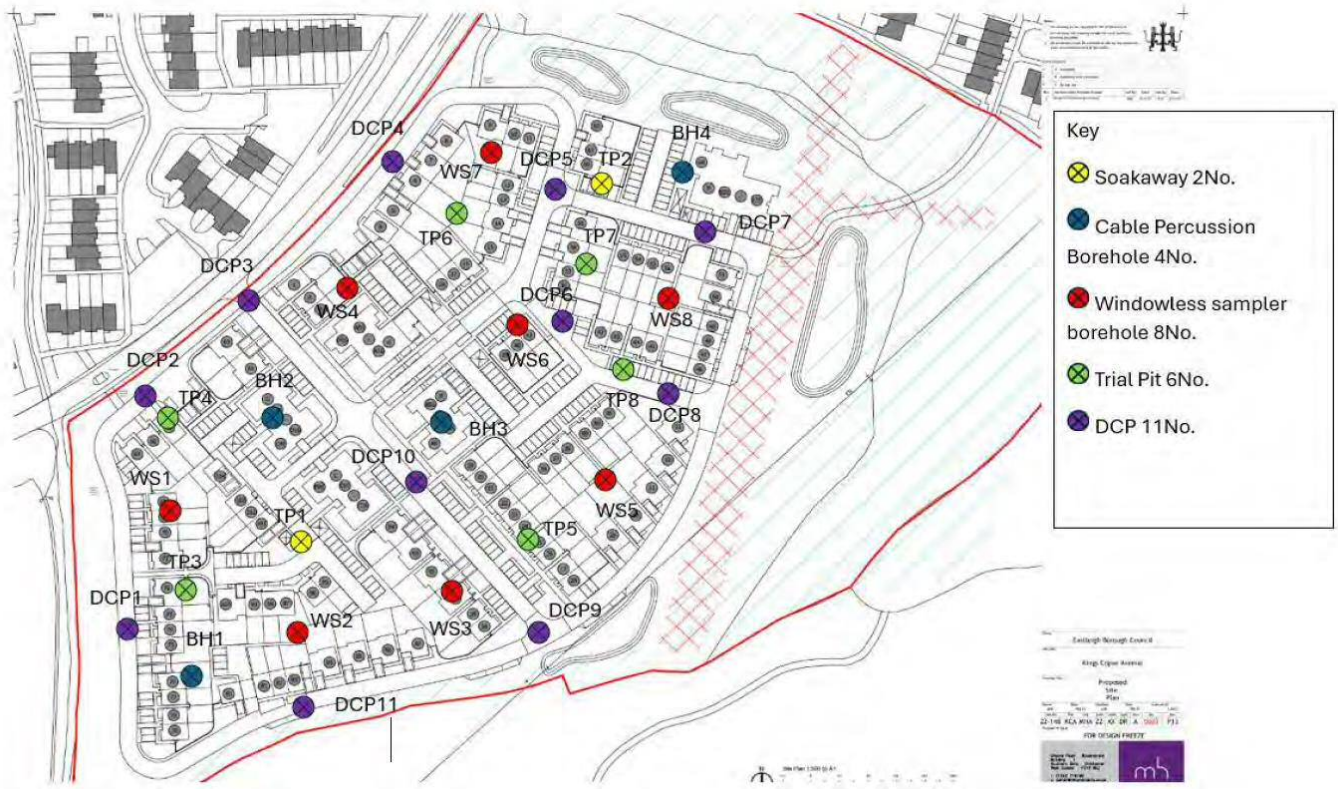


Figure 3 – Exploratory Hole Plan



Figure 4 Foundation Plan

Job Number 21876	**Project** Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ
Client Eastleigh Borough Council	**Date** June 2025

Appendix A Standards and Resources

The site works, soil descriptions and geotechnical testing was undertaken in accordance with the following standards were applicable:

- BS 5930:2015 and BS EN ISO 22476-2&3:2005+A1:2011
- BS EN 1997-1:2004+A1:2013
- BS EN ISO 14688-1:2018
- BS EN ISO 14688-2:2018
- BS 10175:2011+A2:2017
- LCRM 2021 Environment Agency
- BS 8004:2015 – Code of practice for foundations
- BS 1377:1990 Parts 1 to 8
- BRE Digest 241 “Low-rise buildings on shrinkable clay soils: Part 2
- BRE Special Digest 1, 2005, ‘Concrete in Aggressive Ground’
- Stroud, M. A. 1974, “The Standard Penetration Test – its application and interpretation”, Proc. ICE Conf. on Penetration Testing in the UK, Birmingham. Thomas Telford, London.
- N.E. Simons, B.K. Menzies, “A Short Course in Foundation Engineering”
- NHBC Standards Chapter 4.2, January 2025
- SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination December 2014
- CIRIA C733, Asbestos in soil and made ground: a guide to understanding and managing risks and CAR2012 regulations.
- Google Earth (accessed April 2025)
- British Geological Survey Website & iGeology App (accessed April 2025)

Appendix B Field Work

Appendix B.1 Engineers Logs

soils LIMITED

Contract Name:		Client:			Hole ID:
Kings Copse Avenue		Eastleigh Borough Council			**BH1**
Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
21876	16/04/25	AS	AS	FINAL	**CP**
Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
			Dando 4000	25/06/2025	1:50

Weather: | Termination: | SPT Hammer: AR2847 Energy Ratio: 77% | Sheet 1 of 3

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.20 - 5.40	D	Ublow = 80		(0.30)		Soft greyish brown slightly silty, slightly sandy CLAY . Sand is fine . Rare rootlets. TOPSOIL		
0.40	B			0.30		Soft orangish brown slightly mottled light grey slightly sandy slightly silty CLAY. Sand is fine . Occasional rootlets. LONDON CLAY FORMATION.		
				(0.70)				
1.00	D			1.00		Firm brown slightly silty, slightly sandy CLAY. Sand is fine. LONDON CLAY FORMATION.		
1.20 - 1.50	U	Ublow = 20						
1.60	B							
2.00	SPT D	N=12 (1,2/2,3,3,4)		(2.20)				
2.50	D							
3.00 - 3.45	U	Ublow = 45						
				3.20		Firm to stiff grey slightly silty, slightly sandy CLAY . Rare angular , fine to coarse cement stone gravel. LONDON CLAY FORMATION.		
3.45	D							
				(1.20)				
4.00	SPT D	N=50 (2,3/50 for 270mm)						
4.40	B			4.40		CLAYSTONE. LONDON CLAY FORMATION.		
				(0.40)				
				4.80		Firm to stiff grey slightly silty, slightly sandy CLAY . Rare angular , fine to coarse cement stone gravel. LONDON CLAY FORMATION.		
5.00	SPT D	N=23 (1,3/4,5,6,8)						
6.00	D							
6.50 - 6.95	U	Ublow = 75						
6.95	D			(4.20)				
7.50	D							
8.00	SPT D	N=27 (3,4/6,6,7,8)						
9.00	B			9.00		CLAYSTONE. LONDON CLAY FORMATION.		
				(0.40)				
				9.40		Stiff to very stiff grey slightly silty, slightly sandy CLAY . Sand is fine . Occasional sand lenses. LONDON CLAY FORMATION.		
9.50 - 9.95	U	Ublow = 80						
9.95	D							

Start & End of Shift Observations					Borehole Diameter		Casing Diameter	
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Chiselling				Installation			
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)

Remarks:
No groundwater encountered.
Rootlets recorded to 1.00m bgl.

Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

soils LIMITED

Contract Name:		Client:			Hole ID:
Kings Copse Avenue		Eastleigh Borough Council			**BH1**
Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
21876	16/04/25	AS	AS	FINAL	**CP**
Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
			Dando 4000	25/06/2025	1:50

Weather: | Termination: | SPT Hammer: AR2847 Energy Ratio: 77% | Sheet 2 of 3

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
						Stiff to very stiff grey slightly silty, slightly sandy CLAY . Sand is fine . Occasional sand lenses. LONDON CLAY FORMATION.		
10.50	D							
11.00	SPT D	N=33 (4,4/6,8,9,10)						
12.00	D							
12.50 - 12.90	U	Ublow = 80						
12.90	D							
13.50	D							
14.00	SPT D	N=40 (4,5/7,10,11,12)		(8.60)				
15.00	D							
15.50 - 15.95	U	Ublow = 80						
15.95	D							
16.50	D							
17.00	SPT D	N=49 (4,6/9,12,13,15)						
18.00	D			18.00 (0.30) 18.30		CLAYSTONE. LONDON CLAY FORMATION.		
18.50 - 18.80	U	Ublow = 80				Stiff to very stiff grey slightly silty, slightly sandy CLAY . Sand is fine . Occasional sand lenses. Occasional shell fragments. LONDON CLAY FORMATION.		
18.80	D							
19.50	D							
20.00	SPT	N=50 (6,9/50 for 255mm)						

Start & End of Shift Observations					Borehole Diameter		Casing Diameter	
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Chiselling				Installation			
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)

Remarks:
No groundwater encountered.
Rootlets recorded to 1.00m bgl.

Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

soils LIMITED

Contract Name:		Client:			Hole ID:
Kings Copse Avenue		Eastleigh Borough Council			**BH1**
Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
21876	16/04/25	AS	AS	FINAL	**CP**
Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
			Dando 4000	25/06/2025	1:50

Weather: | Termination: | SPT Hammer: AR2847 Energy Ratio: 77% | Sheet 3 of 3

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
	D					Stiff to very stiff grey slightly silty, slightly sandy CLAY . Sand is fine . Occasional sand lenses. Occasional shell fragments. LONDON CLAY FORMATION.		
21.00	D							
21.50 - 21.90	U	Ublow = 80						
21.90	D							
22.50	D			(6.70)				
23.00 - 23.35	U	Ublow = 80						
23.50	D							
24.00	D							
24.50	SPT	N=43 (3,5/9,10,12,12)						
	D							
				25.00		End of Borehole at 25.00m		

21 22 23 24 25 26 27 28 29 30

Start & End of Shift Observations					Borehole Diameter		Casing Diameter	
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Chiselling				Installation			
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)

Remarks:
No groundwater encountered.
Rootlets recorded to 1.00m bgl.

Water Strikes

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

soils LIMITED

Contract Name:	Client:	Hole ID:
Kings Copse Avenue	Eastleigh Borough Council	**BH2**

Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
21876	16/04/25 - 17/04/25	AS	AS	FINAL	**CP**

Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
			Dando 4000	25/06/2025	1:50

Weather: | Termination: | SPT Hammer: AR2847 Energy Ratio: 77% | Sheet 1 of 3

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.30	D			(0.40)		Soft dark brown slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is angular to subangular, fine to coarse flint . Occasional rootlets. TOPSOIL.		
0.50	B			0.40		Stiff orangish brown mottled light grey slightly sandy CLAY. Sand is fine. LONDON CLAY FORMATION.		
1.20 - 1.65	U	Ublow = 40						
1.65	D							
2.00	SPT D	N=12 (2,2/2,3,3,4)		(3.00)				
2.50	D							
3.00 - 3.45	U	Ublow = 60						
3.45	D			3.40		Stiff grey slightly sandy, slightly silty CLAY. LONDON CLAY FORMATION.		
4.00	SPT D	N=17 (2,3/3,4,4,6)		(1.60)				
4.50	D							
5.00	B U			5.00		CLAYSTONE. LONDON CLAY FORMATION.		
5.50	SPT D	N=26 (4,3/5,6,7,8)		(0.30) 5.40		Stiff to very stiff grey slightly silty, slightly sandy CLAY . Sand is fine . Occasional sand lenses. Occasional shell fragments. LONDON CLAY FORMATION.		
6.00	D							
6.50 - 6.95	U	Ublow = 80						
6.95	D							
7.50	D							
8.00	SPT D	N=29 (3,4/5,7,8,9)						
9.00	D							
9.50 - 9.95	U	Ublow = 80						
9.95	D							

1 2 3 4 5 6 7 8 9 10

Start & End of Shift Observations					Borehole Diameter		Casing Diameter	
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Remarks:
No groundwater encountered.
Rootlets recorded to 0.40m bgl.

Chiselling				Installation			
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)

Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

soils LIMITED

Contract Name:		Client:			Hole ID:
Kings Copse Avenue		Eastleigh Borough Council			**BH2**
Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
21876	16/04/25 - 17/04/25	AS	AS	FINAL	**CP**
Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
			Dando 4000	25/06/2025	1:50

Weather: | Termination: | SPT Hammer: AR2847 Energy Ratio: 77% | Sheet 2 of 3

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
						Stiff to very stiff grey slightly silty, slightly sandy CLAY . Sand is fine . Occasional sand lenses. Occasional shell fragments. LONDON CLAY FORMATION.		
10.50	D							
11.00	SPT D	N=36 (5,6/7,9,10,10)						
12.00	D							
12.50 - 12.95	U	Ublow = 80						
12.95	D							
13.50	D							
14.00	SPT D	N=40 (5,7/7,10,11,12)						
15.00	D			(21.60)				
15.50 - 15.95	U	Ublow = 80						
15.95	D							
16.50	D							
17.00	SPT D	N=50 (5,5/50 for 212mm)						
18.00	D							
18.50 - 18.95	U	Ublow = 80						
18.95	D							
19.50	D							
20.00	SPT	N=50 (5,6/50 for 275mm)						

11 12 13 14 15 16 17 19 20

Start & End of Shift Observations					Borehole Diameter		Casing Diameter	
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Remarks:
No groundwater encountered.
Rootlets recorded to 0.40m bgl.

Chiselling				Installation			
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)

Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

soils LIMITED

Contract Name:	Client:	Hole ID:
Kings Copse Avenue	Eastleigh Borough Council	**BH2**

Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
21876	16/04/25 - 17/04/25	AS	AS	FINAL	**CP**

Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
			Dando 4000	25/06/2025	1:50

Weather: | Termination: | SPT Hammer: AR2847 Energy Ratio: 77% | Sheet 3 of 3

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
	D					Stiff to very stiff grey slightly silty, slightly sandy CLAY . Sand is fine . Occasional sand lenses. Occasional shell fragments. LONDON CLAY FORMATION.		
21.00	D							
21.50 - 21.95	U	Ublow = 80						
22.00	D							
22.50	D							
23.00	SPT	N=50 (6,7/50 for 285mm)						
	D							
24.00	D							
24.50 - 24.80	U	Ublow = 80						
25.50	D							
26.00	SPT	N=50 (6,8/50 for 255mm)						
	D							
27.00	D			27.00		Stiff to very stiff grey slightly silty, slightly sandy CLAY . Sand is fine . Occasional sand lenses. shell fragments. LONDON CLAY FORMATION.		
27.50 - 27.85	U	Ublow = 80						
27.95	D							
28.50	D			(3.00)				
29.00 - 29.30	U	Ublow = 80						
29.30	D							
29.50	SPT	N=50 (6,8/50 for 280mm)						
	D							
				30.00		End of Borehole at 30.00m		

Start & End of Shift Observations					Borehole Diameter		Casing Diameter	
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Remarks:
No groundwater encountered.
Rootlets recorded to 0.40m bgl.

Chiselling				Installation			
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)

Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

soils LIMITED

Contract Name:		Client:			Hole ID:
Kings Copse Avenue		Eastleigh Borough Council			**BH3**
Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
21876	15/04/25	AS	AS	FINAL	**CP**
Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
			Dando 4000	25/06/2025	1:50

Weather: | Termination: | SPT Hammer: AR2847 Energy Ratio: 77% | Sheet 1 of 3

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
				(0.30) 0.30		Orange brown clayey gravelly SILT. Gravel is fine to medium flint. TOPSOIL.		
						Soft to firm brown, orange, grey slightly sandy CLAY. Sand is fine. LONDON CLAY FORMATION.		
1.20	SPT D	N=6 (1,1/1,1,2,2)		(2.30)				
2.00 - 2.40	U	Ublow = 40						
2.60 - 3.00	B			2.60 (0.40)		Dark grey silty gravelly CLAY. Gravel is fine to medium sub-angular to sub-rounded flint. LONDON CLAY FORMATION.		
3.00	SPT	N=38 (13,12/20,8,5,5)		3.00		Soft to firm brown, orange, grey slightly sandy silty CLAY. LONDON CLAY FORMATION.		
3.10 - 3.40	B			(0.50) 3.50				
						Dark grey silty slightly sandy CLAY. Sand is fine. LONDON CLAY FORMATION		
4.00 - 4.35	U	Ublow = 60						
5.00	SPT	N=25 (3,4/25 for 225mm)		(3.30)				
6.00	D							
6.50	SPT	50 (4,4/50 for 200mm)						
6.80	D			6.80 (0.40) 7.20		CLAYSTONE. LONDON CLAY FORMATION.		
7.50	D					Stiff to very stiff dark grey silty slightly sandy CLAY. Shell fragments at 11.00m bgl. LONDON CLAY FORMATION.		
8.00	SPT	N=34 (4,5/8,8,9,9)						
9.00	D							
9.50	SPT	N=33 (4,5/6,8,9,10)						

Start & End of Shift Observations					Borehole Diameter		Casing Diameter	
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Chiselling				Installation			
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)

Remarks:
No groundwater encountered.
Rootlets observed to 1.20m bgl.

Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

soils LIMITED

Contract Name:	Client:	Hole ID:
Kings Copse Avenue	Eastleigh Borough Council	**BH3**

Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
21876	15/04/25	AS	AS	FINAL	**CP**

Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
			Dando 4000	25/06/2025	1:50

Weather: | Termination: | SPT Hammer: AR2847 Energy Ratio: 77% |

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
10.50	D					Stiff to very stiff dark grey silty slightly sandy CLAY. Shell fragments at 11.00m bgl. LONDON CLAY FORMATION.		
11.00 - 11.30	U	Ublow = 70						
12.00	D							
12.50	SPT	N=37 (5,5/37 for 225mm)						
13.50	D							
14.00 - 14.35	U	Ublow = 90						
15.00	D			(13.10)				
15.50	SPT	N=47 (3,5/7,12,14,14)						
16.50	D							
17.00 - 17.30	U	Ublow = 100						
18.00	D							
18.50	SPT	N=43 (5,6/8,9,12,14)						
19.50	D							
20.00 - 20.30	U	Ublow = 100						

11 12 13 14 15 16 17 18 19 20

Start & End of Shift Observations					Borehole Diameter		Casing Diameter	
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Remarks:
No groundwater encountered.
Rootlets observed to 1.20m bgl.

Chiselling				Installation			
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)

Water Strikes

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

soils LIMITED

Contract Name:	Client:	Hole ID:
Kings Copse Avenue	Eastleigh Borough Council	**BH3**

Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
21876	15/04/25	AS	AS	FINAL	**CP**

Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
			Dando 4000	25/06/2025	1:50

Weather: | Termination: | SPT Hammer: AR2847 Energy Ratio: 77% | Sheet 3 of 3

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
				20.30		Stiff to very stiff dark grey silty slightly sandy CLAY. Shell fragments at 11.00m bgl. LONDON CLAY FORMATION.		
				(0.40)		CLAYSTONE. LONDON CLAY FORMATION.		
				20.70		Very Stiff dark grey silty CLAY. LONDON CLAY FORMATION.		
21.00	D							
21.50	SPT	N=50 (4,10/50 for 275mm)						
22.50	D							
23.00 - 23.20	U	Ublow = 100						
24.00	D							
24.50	SPT	N=48 (5,10/10,12,12,14)						
				(9.30)				
25.50	D							
26.00 - 26.20	U	Ublow = 100						
27.00	D							
27.50	SPT	N=48 (5,6/10,12,13,13)						
28.50	D							
29.00	SPT	50 (8,10/50 for 225mm)						
30.00	D			30.00		End of Borehole at 30.00m		

21 22 23 24 25 26 27 28 29 30

Start & End of Shift Observations					Borehole Diameter		Casing Diameter	
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Chiselling				Installation			
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)

Remarks:
No groundwater encountered.
Rootlets observed to 1.20m bgl.

Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

soils LIMITED

Contract Name:	Client:	Hole ID:
Kings Copse Avenue	Eastleigh Borough Council	**BH4**

Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
21876	14/04/25 - 15/04/25	AS	AS	FINAL	**CP**

Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
			Dando 4000	25/06/2025	1:50

Weather: | Termination: | SPT Hammer: AR2847 Energy Ratio: 77% | Sheet 1 of 3

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.25	D			(0.40)		Grass over brown clayey, slightly gravelly SILT. Gravel is angular fine to medium flint. and rare brick TOPSOIL.		
0.40	B			0.40		Firm orange, brown, sandy silty CLAY. WHITECLIFF SAND FORMATION.		
				(0.60)				
1.00	D			1.00		Orange, grey, brown silty clayey SAND. Sand is fine to medium. WHITECLIFF SAND FORMATION.		
1.20	SPT	N=21 (3,4/6,4,5,6)		(0.30)				
				1.30		Orange, brown silty SAND. WHITECLIFF SAND FORMATION.		
1.50	B			(0.60)				
				1.90		Soft to Firm orange, brown silty sandy CLAY. LONDON CLAY FORMATION.		
2.10 - 2.55	U	Ublow = 35		(0.70)				
2.55	D			2.60		Firm to stiff dark grey very silty CLAY. LONDON CLAY FORMATION.		
2.80	D							
3.00	SPT D	N=8 (1,2/2,2,2,2)						
3.60	D							
4.00 - 4.40	U	Ublow = 35						
4.40	D							
				(4.30)				
5.00	SPT D	N=24 (2,3/5,6,6,7)						
6.00	D							
6.50 - 6.95	U	Ublow = 80						
6.95	D			6.90		CLAYSTONE. LONDON CLAY FORMATION.		
				(0.40)				
7.50	D			7.30		Firm to stiff dark grey very silty CLAY. LONDON CLAY FORMATION.		
				(0.40)				
7.70	B			7.70		CLAYSTONE. LONDON CLAY FORMATION.		
				(0.30)				
8.00	SPT B	N=40 (4,4/8,10,10,12)		8.00		Firm to stiff grey very silty sandy CLAY. LONDON CLAY FORMATION.		
9.00	D			(2.80)				
9.50	SPT D	N=30 (4,4/6,6,8,10)						

Start & End of Shift Observations					Borehole Diameter		Casing Diameter	
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Chiselling				Installation			
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)

Remarks:
No groundwater encountered.
Rootlets recorded to 0.40m bgl.

Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

soils LIMITED

Contract Name:		Client:			Hole ID:
Kings Copse Avenue		Eastleigh Borough Council			**BH4**
Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
21876	14/04/25 - 15/04/25	AS	AS	FINAL	**CP**
Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
			Dando 4000	25/06/2025	1:50

Weather: | Termination: | SPT Hammer: AR2847 Energy Ratio: 77% | Sheet 2 of 3

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
						Firm to stiff grey very silty sandy CLAY. LONDON CLAY FORMATION.		
10.50	D							
10.80	D			10.80		CLAYSTONE. LONDON CLAY FORMATION.		
11.00	SPT	N=39 (8,6/7,8,10,14)		11.00		Stiff grey very silty slightly sandy CLAY. LONDON CLAY FORMATION.		
	D							
				(1.80)				
12.00	D							
12.50 - 12.80	U	Ublow = 80						
12.80	B			12.80		CLAYSTONE. LONDON CLAY FORMATION.		
				(0.30)				
				13.10		Stiff to very stiff grey very silty slightly sandy CLAY. LONDON CLAY FORMATION		
13.50	D							
14.00	SPT	N=46 (4,5/7,11,12,16)						
	D							
15.00	D							
15.50 - 15.95	U	Ublow = 80						
15.95	D							
16.30	B							
				(7.90)				
17.00 - 17.40	U	Ublow = 70						
17.40	D							
18.00	D							
18.50	SPT	N=43 (5,8/8,10,12,13)						
	D							
19.00	B							
20.00	SPT	N=50 (6,8/50 for 280mm)						

11 12 13 14 15 16 17 18 19 20

Start & End of Shift Observations					Borehole Diameter		Casing Diameter	
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Remarks:
No groundwater encountered.
Rootlets recorded to 0.40m bgl.

Chiselling				Installation			
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)

Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

soils LIMITED

Contract Name:	Client:	Hole ID:
Kings Copse Avenue	Eastleigh Borough Council	**BH4**

Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
21876	14/04/25 - 15/04/25	AS	AS	FINAL	**CP**

Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
			Dando 4000	25/06/2025	1:50

Weather: | Termination: | SPT Hammer: AR2847 Energy Ratio: 77% | Sheet 3 of 3

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
	D					Stiff to very stiff grey very silty slightly sandy CLAY. LONDON CLAY FORMATION		
20.50	SPT	N=50 (5,9/50 for 275mm)						
	D			21.00		End of Borehole at 21.00m		

21 22 23 24 25 26 27 28 29 30

Start & End of Shift Observations				
Date	Time	Depth (m)	Casing (m)	Water (m)

Borehole Diameter	
Depth (m)	Dia (mm)

Casing Diameter	
Depth (m)	Dia (mm)

Remarks:
No groundwater encountered.
Rootlets recorded to 0.40m bgl.

Chiselling			
From (m)	To (m)	Duration	Remarks

Installation			
Top (m)	Base (m)	Type	Dia (mm)

Water Strikes

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

soils LIMITED

Contract Name:		Client:			Hole ID:
Kings Copse Avenue		Eastleigh Borough Council			**WS1**
Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
21876	22/04/25	JM	AS	FINAL	**WS**
Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
			Premier 1	25/06/2025	1:50

Weather: | Termination: | Sheet 1 of 1

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.10	ES			0.20		Greyish brown slightly silty slightly clayey fine to medium SAND. Abundant rootlets. TOPSOIL		
0.30	WAC			(0.50)		Greyish brown slightly clayey slightly gravelly fine to medium SAND. Gravel is subangular to subrounded fine to medium flint. Rare fine gravel sized brick fragments. Occasional rootlets. WHITECLIFF SAND FORMATION.		
0.80	D			0.70				
1.00	D			(0.40)		Light brownish grey mottled dark orangish brown slightly clayey fine to medium SAND. WHITECLIFF SAND FORMATION.		
				1.10				
				(0.90)		Soft light brownish grey mottled orangish slightly silty slightly sandy CLAY. Sand is fine. LONDON CLAY FORMATION.		
				2.00				
				(1.30)		Firm greyish brown mottled orangish brown slightly silty slightly sandy CLAY. Sand is fine. Silt occasionally occurs in partings. LONDON CLAY FORMATION.		
				3.30				
				(1.40)		Stiff to very stiff dark brownish grey mottled grey slightly sandy CLAY. Sand is fine. LONDON CLAY FORMATION		
				4.70		End of Borehole at 4.70m		

1 2 3 4 5 6 7 8 9 10

Start & End of Shift Observations					Borehole Diameter		Casing Diameter	
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Chiselling				Installation			
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)

Remarks:
Rootlets observed to 0.70m bgl.
No groundwater recorded.

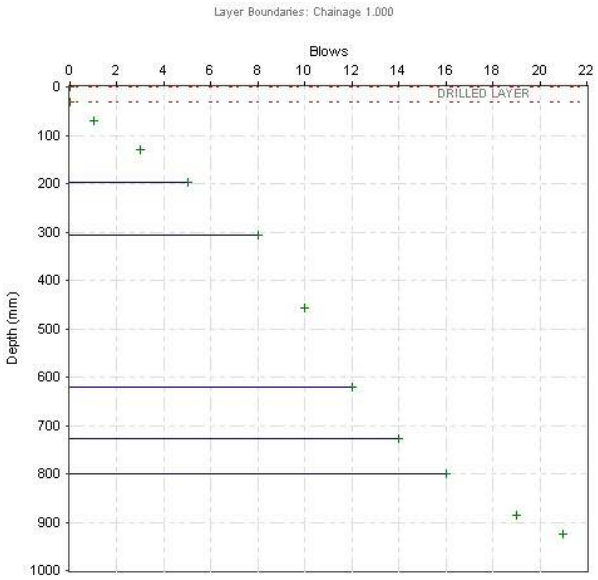
Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

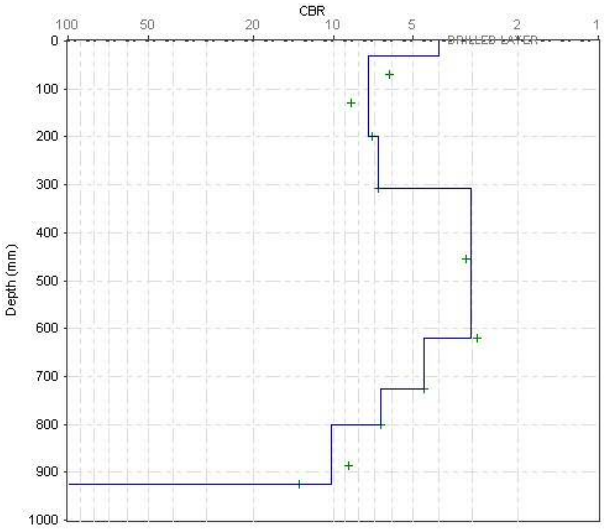
DCP Layer Strength Analysis Report

Project Name: 21876 DCP

Chainage (km):	1.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	26	Surface Moisture:	Unknown
Test Date:	15/04/2025	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	0.00	0	0	0	Base	0.00	0.00	0.00	0.00
2	0.00	4	31	31	Base	0.01	0.01	0.01	0.01
3	33.40	7	167	198	Base	0.02	0.13	0.13	0.13
4	36.33	7	109	307	Base	0.02	0.08	0.08	0.08
5	78.25	3	313	620	Base	0.01	0.11	0.11	0.11
6	53.00	5	106	726	Base	0.01	0.05	0.05	0.05
7	37.00	7	74	800	Base	0.02	0.05	0.05	0.05
8	24.80	10	124	924	Base	0.03	0.13	0.13	0.13

Pavement Strength

	Layer Contribution		
Layer	**SN**	**SNC**	**SNP**
Surface	--	--	--
Base	0.58	0.58	0.58
Sub-Base	--	--	--
Subgrade	--	--	--
Pavement Strength	0.58	0.58	0.58

CBR Relationship:

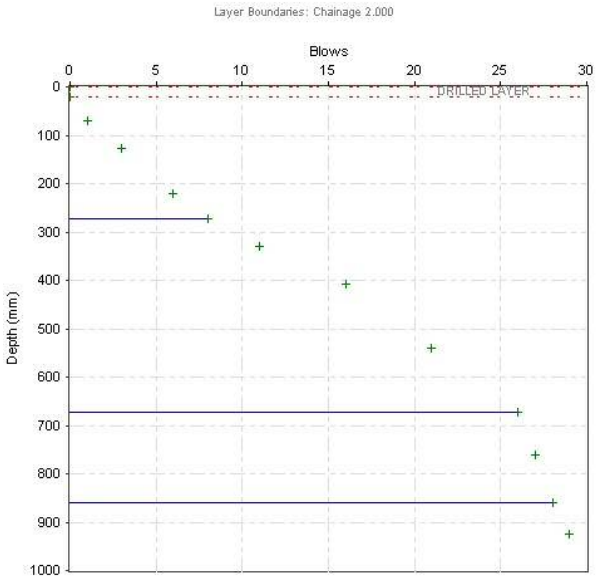
TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

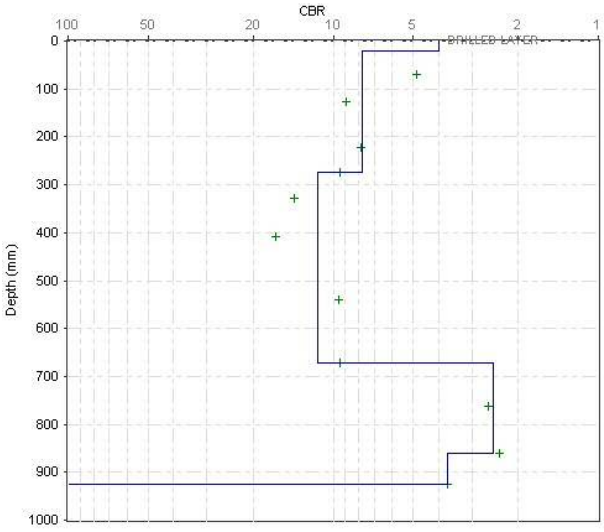
DCP Layer Strength Analysis Report

Project Name: 21876 DCP

Chainage (km):	2.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	26	Surface Moisture:	Unknown
Test Date:	15/04/2025	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	0.00	0	0	0	Base	0.00	0.00	0.00	0.00
2	0.00	4	20	20	Base	0.01	0.01	0.01	0.01
3	31.75	8	254	274	Base	0.02	0.22	0.22	0.22
4	22.11	11	398	672	Base	0.03	0.48	0.48	0.48
5	94.00	2	188	860	Base	0.01	0.05	0.05	0.05
6	64.00	4	64	924	Base	0.01	0.03	0.03	0.03

Pavement Strength

	Layer Contribution		
Layer	**SN**	**SNC**	**SNP**
Surface	--	--	--
Base	0.79	0.79	0.79
Sub-Base	--	--	--
Subgrade	--	--	--
Pavement Strength	0.79	0.79	0.79

CBR Relationship:

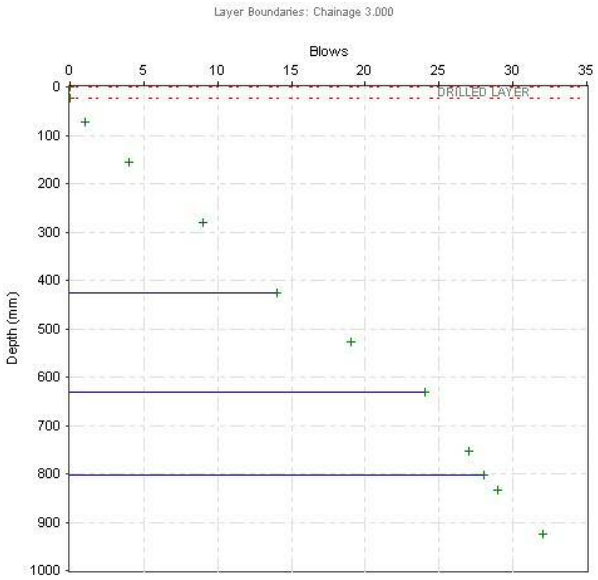
TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

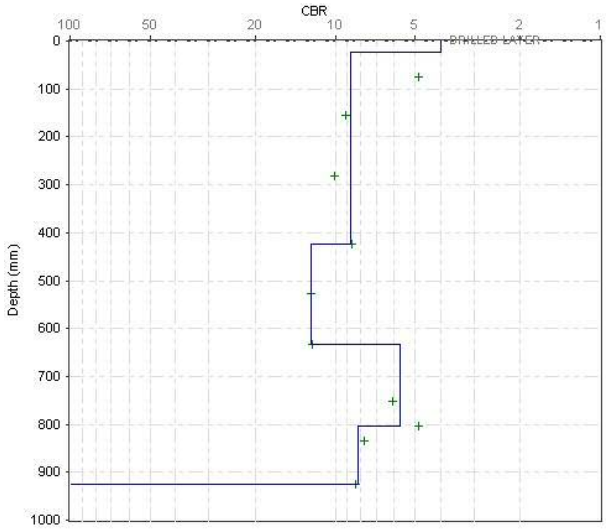
DCP Layer Strength Analysis Report

Project Name: 21876 DCP

Chainage (km):	3.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	26	Surface Moisture:	Unknown
Test Date:	15/04/2025	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	0.00	0	0	0	Base	0.00	0.00	0.00	0.00
2	0.00	4	24	24	Base	0.01	0.01	0.01	0.01
3	28.64	9	401	425	Base	0.02	0.38	0.38	0.38
4	20.70	12	207	632	Base	0.03	0.27	0.27	0.27
5	42.75	6	171	803	Base	0.02	0.11	0.11	0.11
6	30.25	8	121	924	Base	0.02	0.11	0.11	0.11

Pavement Strength

	Layer Contribution		
Layer	**SN**	**SNC**	**SNP**
Surface	--	--	--
Base	0.87	0.87	0.87
Sub-Base	--	--	--
Subgrade	--	--	--
Pavement Strength	0.87	0.87	0.87

CBR Relationship:

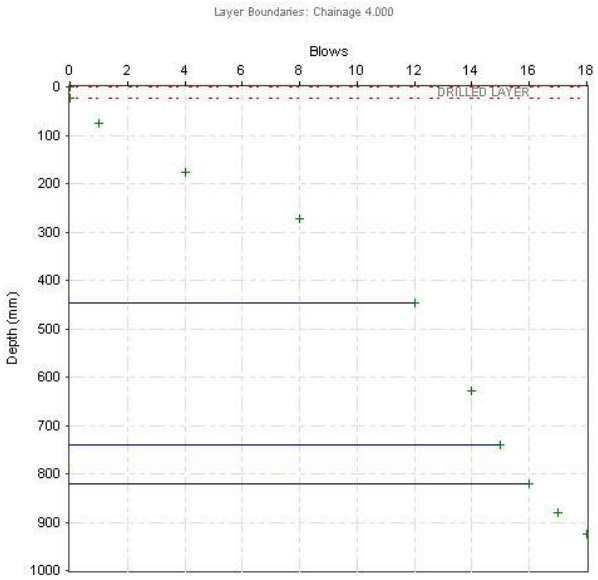
TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

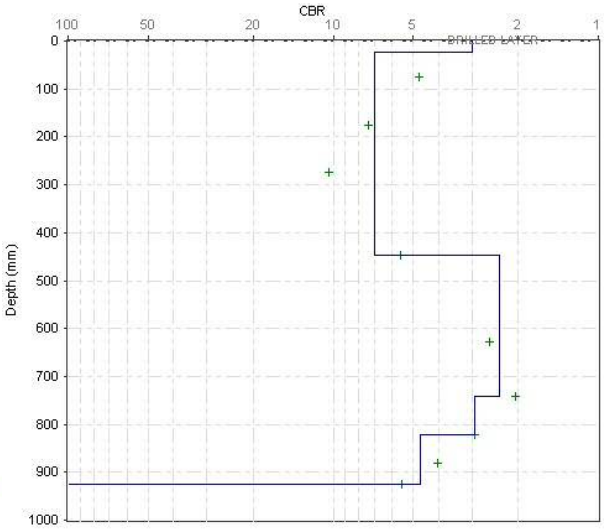
DCP Layer Strength Analysis Report

Project Name: 21876 DCP

Chainage (km):	4.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	26	Surface Moisture:	Unknown
Test Date:	15/04/2025	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	0.00	0	0	0	Base	0.00	0.00	0.00	0.00
2	0.00	3	24	24	Base	0.01	0.01	0.01	0.01
3	35.25	7	423	447	Base	0.02	0.32	0.32	0.32
4	98.00	2	294	741	Base	0.01	0.08	0.08	0.08
5	80.00	3	80	821	Base	0.01	0.03	0.03	0.03
6	51.50	5	103	924	Base	0.01	0.05	0.05	0.05

Pavement Strength

	Layer Contribution		
Layer	**SN**	**SNC**	**SNP**
Surface	--	--	--
Base	0.49	0.49	0.49
Sub-Base	--	--	--
Subgrade	--	--	--
Pavement Strength	0.49	0.49	0.49

CBR Relationship:

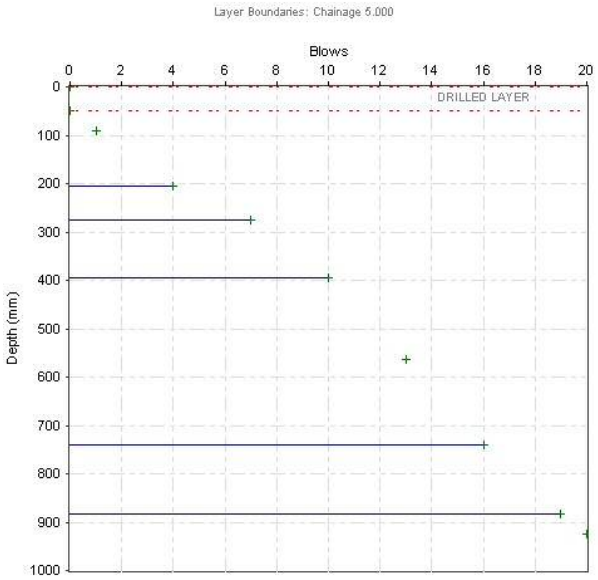
TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

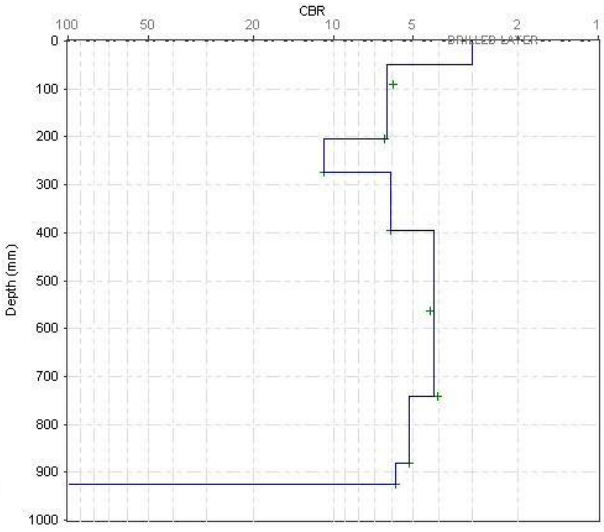
DCP Layer Strength Analysis Report

Project Name: 21876 DCP

Chainage (km):	5.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	26	Surface Moisture:	Unknown
Test Date:	15/04/2025	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	0.00	0	0	0	Base	0.00	0.00	0.00	0.00
2	0.00	3	49	49	Base	0.01	0.02	0.02	0.02
3	39.00	6	156	205	Base	0.02	0.11	0.11	0.11
4	23.33	11	70	275	Base	0.03	0.08	0.08	0.08
5	40.33	6	121	396	Base	0.02	0.08	0.08	0.08
6	57.50	4	345	741	Base	0.01	0.16	0.16	0.16
7	47.00	5	141	882	Base	0.01	0.08	0.08	0.08
8	42.00	6	42	924	Base	0.02	0.03	0.03	0.03

Pavement Strength

	Layer Contribution		
Layer	**SN**	**SNC**	**SNP**
Surface	--	--	--
Base	0.56	0.56	0.56
Sub-Base	--	--	--
Subgrade	--	--	--
Pavement Strength	0.56	0.56	0.56

CBR Relationship:

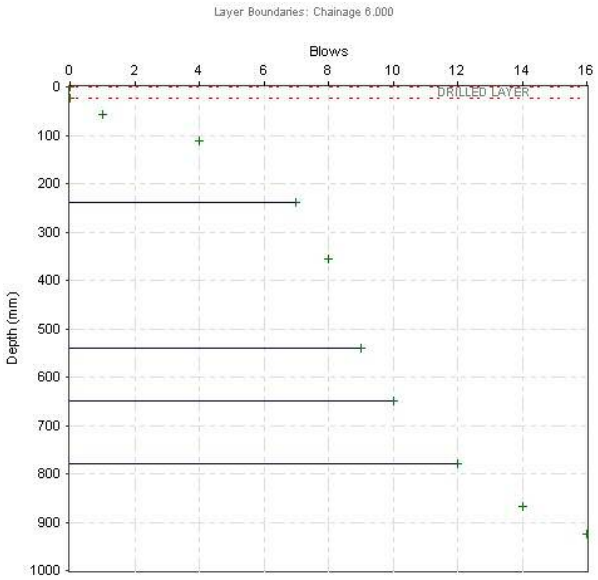
TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

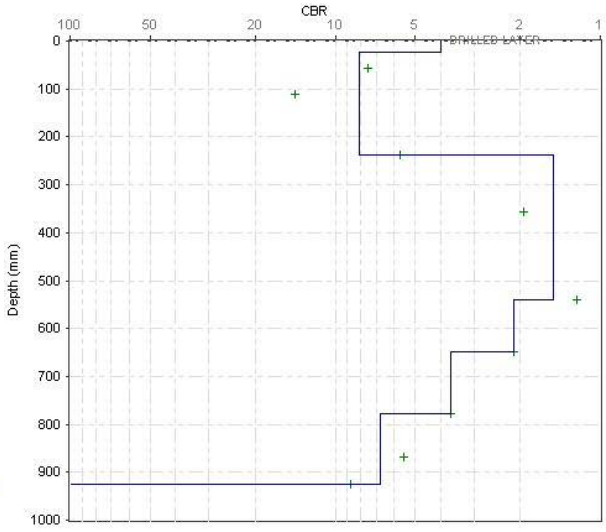
DCP Layer Strength Analysis Report

Project Name: 21876 DCP

Chainage (km):	6.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	26	Surface Moisture:	Unknown
Test Date:	15/04/2025	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	0.00	0	0	0	Base	0.00	0.00	0.00	0.00
2	0.00	4	24	24	Base	0.01	0.01	0.01	0.01
3	30.71	8	215	239	Base	0.02	0.19	0.19	0.19
4	150.50	2	301	540	Base	0.00	0.05	0.05	0.05
5	109.00	2	109	649	Base	0.01	0.03	0.03	0.03
6	65.00	4	130	779	Base	0.01	0.05	0.05	0.05
7	36.25	7	145	924	Base	0.02	0.11	0.11	0.11

Pavement Strength

	Layer Contribution		
Layer	**SN**	**SNC**	**SNP**
Surface	--	--	--
Base	0.44	0.44	0.44
Sub-Base	--	--	--
Subgrade	--	--	--
Pavement Strength	0.44	0.44	0.44

CBR Relationship:

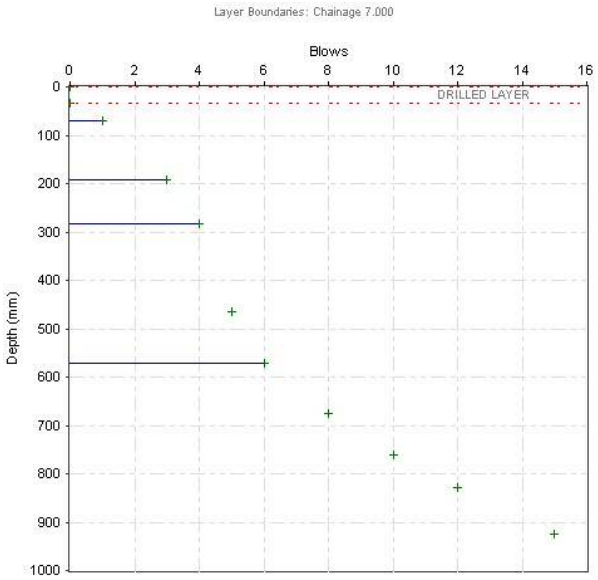
TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

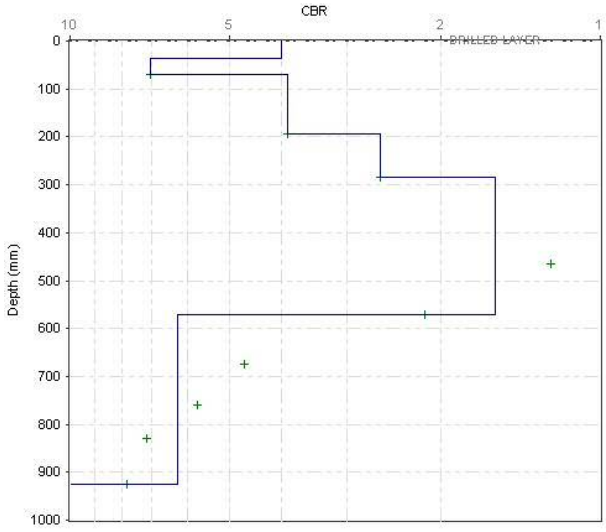
DCP Layer Strength Analysis Report

Project Name: 21876 DCP

Chainage (km):	7.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	26	Surface Moisture:	Unknown
Test Date:	15/04/2025	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	0.00	0	0	0	Base	0.00	0.00	0.00	0.00
2	0.00	4	35	35	Base	0.01	0.01	0.01	0.01
3	35.00	7	35	70	Base	0.02	0.03	0.03	0.03
4	61.50	4	123	193	Base	0.01	0.05	0.05	0.05
5	90.00	3	90	283	Base	0.01	0.03	0.03	0.03
6	144.50	2	289	572	Base	0.00	0.05	0.05	0.05
7	39.11	6	352	924	Base	0.02	0.24	0.24	0.24

Pavement Strength

	Layer Contribution		
Layer	**SN**	**SNC**	**SNP**
Surface	--	--	--
Base	0.41	0.41	0.41
Sub-Base	--	--	--
Subgrade	--	--	--
Pavement Strength	0.41	0.41	0.41

CBR Relationship:

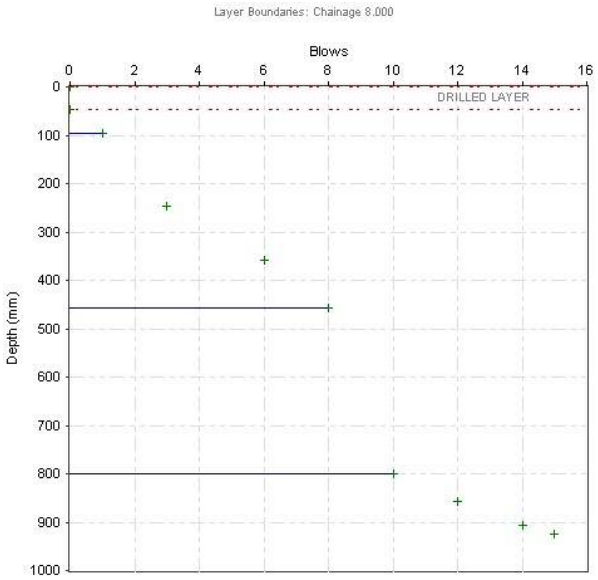
TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

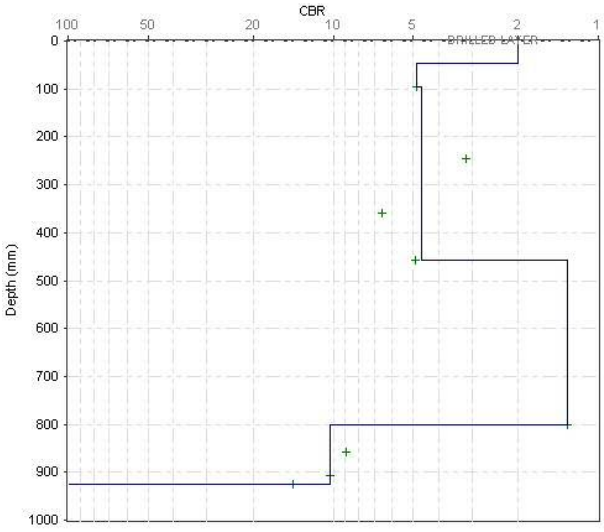
DCP Layer Strength Analysis Report

Project Name: 21876 DCP

Chainage (km):	8.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	26	Surface Moisture:	Unknown
Test Date:	15/04/2025	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	0.00	0	0	0	Base	0.00	0.00	0.00	0.00
2	0.00	2	46	46	Base	0.01	0.02	0.02	0.02
3	50.00	5	50	96	Base	0.01	0.03	0.03	0.03
4	51.71	5	362	458	Base	0.01	0.19	0.19	0.19
5	171.50	1	343	801	Base	0.00	0.05	0.05	0.05
6	24.60	10	123	924	Base	0.03	0.13	0.13	0.13

Pavement Strength

	Layer Contribution		
Layer	**SN**	**SNC**	**SNP**
Surface	--	--	--
Base	0.42	0.42	0.42
Sub-Base	--	--	--
Subgrade	--	--	--
Pavement Strength	0.42	0.42	0.42

CBR Relationship:

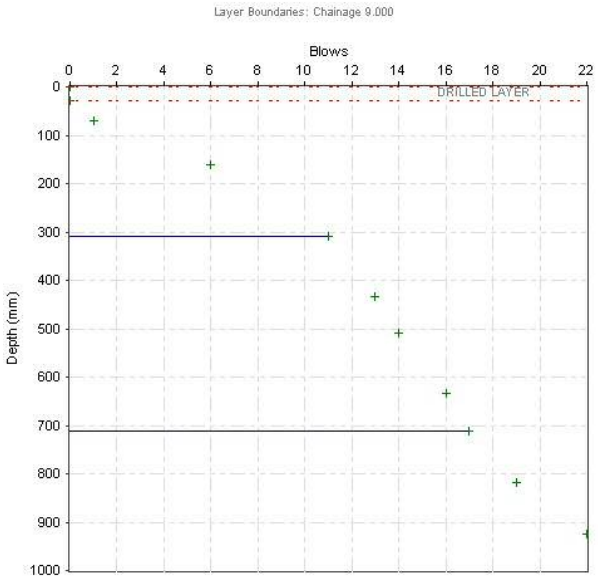
TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

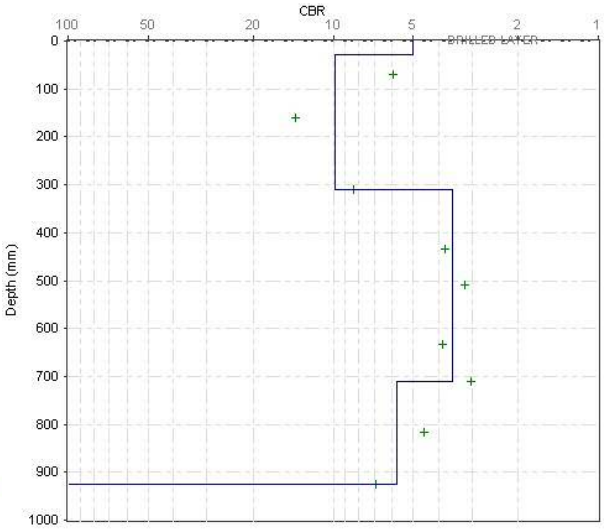
DCP Layer Strength Analysis Report

Project Name: 21876 DCP

Chainage (km):	9.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	26	Surface Moisture:	Unknown
Test Date:	15/04/2025	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	0.00	0	0	0	Base	0.00	0.00	0.00	0.00
2	0.00	5	28	28	Base	0.01	0.01	0.01	0.01
3	25.55	10	281	309	Base	0.03	0.30	0.30	0.30
4	67.00	4	402	711	Base	0.01	0.16	0.16	0.16
5	42.60	6	213	924	Base	0.02	0.13	0.13	0.13

Pavement Strength

	Layer Contribution		
Layer	**SN**	**SNC**	**SNP**
Surface	--	--	--
Base	0.60	0.60	0.60
Sub-Base	--	--	--
Subgrade	--	--	--
Pavement Strength	0.60	0.60	0.60

CBR Relationship:

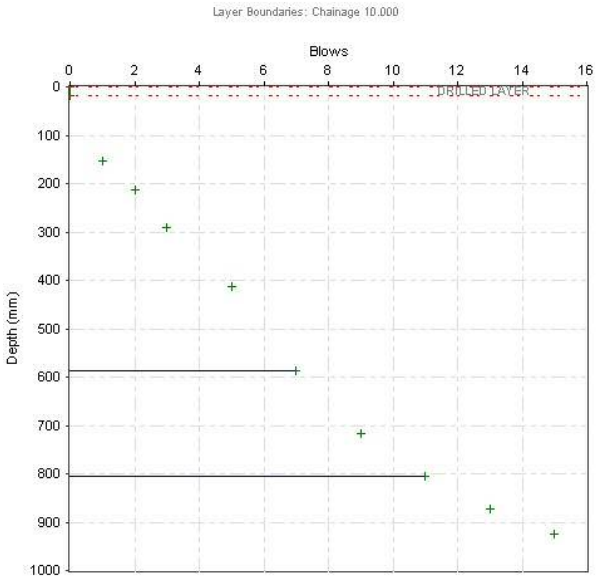
TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

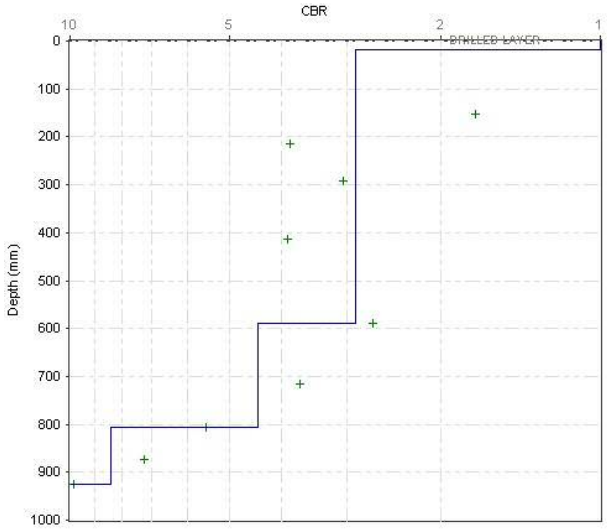
DCP Layer Strength Analysis Report

Project Name: 21876 DCP

Chainage (km):	10.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	26	Surface Moisture:	Unknown
Test Date:	15/04/2025	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	0.00	0	0	0	Base	0.00	0.00	0.00	0.00
2	0.00	1	19	19	Base	0.00	0.00	0.00	0.00
3	81.29	3	569	588	Base	0.01	0.19	0.19	0.19
4	54.25	4	217	805	Base	0.01	0.11	0.11	0.11
5	29.75	8	119	924	Base	0.02	0.11	0.11	0.11

Pavement Strength

	Layer Contribution		
Layer	**SN**	**SNC**	**SNP**
Surface	--	--	--
Base	0.40	0.40	0.40
Sub-Base	--	--	--
Subgrade	--	--	--
Pavement Strength	0.40	0.40	0.40

CBR Relationship:

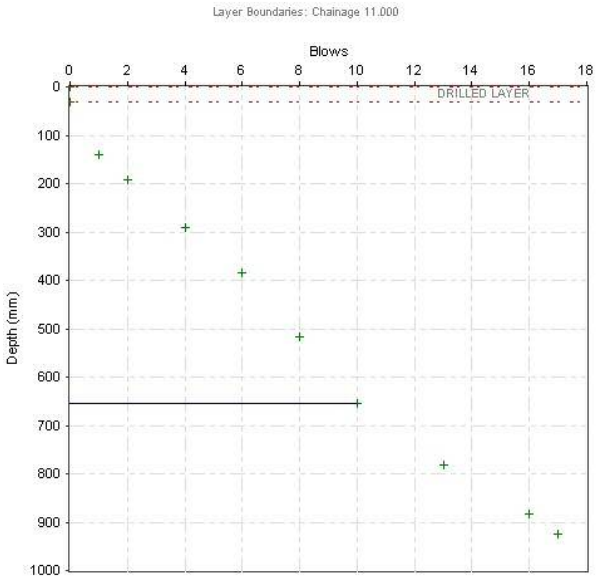
TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

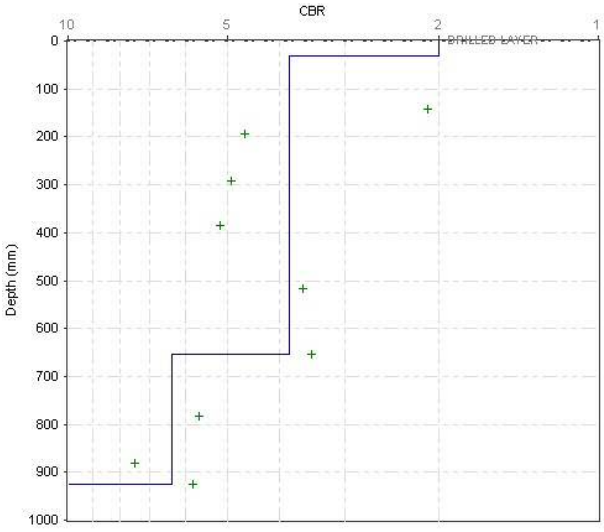
DCP Layer Strength Analysis Report

Project Name: 21876 DCP

Chainage (km):	11.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	26	Surface Moisture:	Unknown
Test Date:	15/04/2025	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	0.00	0	0	0	Base	0.00	0.00	0.00	0.00
2	0.00	2	31	31	Base	0.01	0.01	0.01	0.01
3	62.30	4	623	654	Base	0.01	0.27	0.27	0.27
4	38.57	6	270	924	Base	0.02	0.19	0.19	0.19

Pavement Strength

	Layer Contribution		
Layer	**SN**	**SNC**	**SNP**
Surface	--	--	--
Base	0.47	0.47	0.47
Sub-Base	--	--	--
Subgrade	--	--	--
Pavement Strength	0.47	0.47	0.47

CBR Relationship:

TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

Appendix C Geotechnical In-Situ and Laboratory Testing

Appendix C.1 Classification

Classification based on SPT "N" values:
The inferred undrained strength of the cohesive soils was based on the SPT "N" blow counts, derived from the relationship suggested by Stroud (1974) and classified using Table C.1.1. (Ref: Stroud, M. A. 1974, "The Standard Penetration Test – its application and interpretation", Proc. ICE Conf. on Penetration Testing in the UK, Birmingham. Thomas Telford, London.).

Table C.1.1 SPT "N" Blow Count Cohesive Classification

Classification	Undrained Cohesive Strength C_u (kPa)
Extremely low	<10
Very low	10 – 20
Low	20 – 40
Medium	40 – 75
High	75 – 150
Very high	150 – 300
Extremely high	> 300

Note(s): (Ref: BS EN ISO 14688-2:2004+A1:2013 Clause 5.3.)

The relative density of granular soils was classified based of the relationship given in Table C.1.2.

The *UK National Annex to Eurocode 7: Geotechnical design – Part 2: Ground investigation and testing, NA 3.7 SPT test, BS EN 1997-2:2007, Annex F* states "Relative density descriptions on borehole records should also be based on uncorrected SPT N values, unless significantly disturbed, using the density classification in BS 5930:2015, Table 7.

Table C.1.2 SPT "N" Blow Count Granular Classification

Classification	SPT "N" blow count (blows/300mm)
Very loose	0 to 4
Loose	4 to 10
Medium dense	10 to 30
Dense	30 to 50
Very dense	Greater than 50

Note(s): (Ref: The Standard Penetration Test (SPT): Methods and Use, CIRIA Report 143, 1995)

Classification of DCP results to CBR:

The DCP consists of a cone fixed to the bottom of a 575mm vertical rod. An 8kg weight is repeatedly lifted and dropped onto an anvil at the mid-height of the rod to deliver a 'blow'. A vertical scale alongside the rod is used to measure the depth of penetration of the cone. These measurements are then converted to CBR values using the following equation derived from the DTP Interim Advice Note 73/06 – Design Guidance for Road Pavement Foundations:

Appendix C.2 Interpretation

Table C.2.1 Interpretation of SPT Tests

BH	Strata	SPT N60 Blow Counts	Inferred Cohesive Strength
BH1	LC 0.30 – 25.00[1] CLAY	15-64	Medium to Extremely High (Cu = 75->300kPa)
BH2	LC 0.40 – 30.00[1] CLAY	15-64	Medium to Extremely High (Cu = 75->300kPa)
BH3	LC 0.30 – 30.00[1] CLAY	7-64	High to Extremely High (Cu = 35->300kPa)
BH4	WHI 0.40 – 1.90 SAND	27	Medium Dense
	LC 1.90 – 21.00[1] CLAY	10-64	Medium to Extremely High (Cu = 50->300kPa)

Note(s): [1] Base of Borehole

Table C.2.2 Interpretation of DPSH Blow Counts

DP	Strata	Equivalent SPT N60 Blow Counts	Inferred Cohesive Strength/Granular Density
DP1	WHI (granular) 0.20 – 1.10 SAND	4 - 16	Very loose to Medium dense
	LCF[1] (cohesive) 1.10 – 5.00 CLAY	<4 - 129	Extremely low to Extremely High (C_u = <10 – >300kPa)
DP2	LCF 0.25 – 5.00 CLAY	<4 - 32	Extremely low to Very High (C_u = <10 – 160kPa)
DP3	LCF 0.30 – 5.00 CLAY	<4 -24	Extremely low to High (C_u = <10 – 120kPa)
DP4	LCF 0.30 – 5.00 CLAY	<4 - 28	Extremely low to High (C_u = <10 – 140kPa)
DP5	LCF 0.30 – 3.20 CLAY	<4 - 19	Extremely low to High (C_u = <10 – 95kPa)
	LCF 3.20 – 3.45 GRAVEL	19 - 23	Medium Dense
	LCF 3.45 – 5.00 CLAY	15 - 27	High (C_u = 75 – 135kPa)

DP	Strata	Equivalent SPT N60 Blow Counts	Inferred Cohesive Strength/Granular Density
DP6	LCF 0.30 – 5.00 CLAY	<2 - 34	Extremely low to Very High (C_u = <10 – 170kPa)
DP7	LCF 0.30 – 5.00 CLAY	<4 - 15	Extremely low to Medium (C_u = <10 – 75kPa)
DP8	LCF 0.30 – 5.00 CLAY	<4 - 27	Extremely low to High (C_u = <10 – 135kPa)

Note(s): [1] Ground conditions inferred past the base of windowless sampler boreholes.

Table C.2.3 Interpretation of QUU Tests

Location	Stratum	Sample Depth (m bgl)	Moisture Content (%)	Soil Strength	Shear Strength (kPa)
BH1	LCF	6.50	22	High	86
BH2	LCF	9.50	20	High	119
BH3	LCF	11.00	20	High	99
BH4	LCF	15.50	23	Very high	203

Table C.2.4 Interpretation of Atterberg Limit Tests

Stratum	M/C (%)	PI (%)	>425µm (%)	Mod PI (%)	Class	VCP	
						BRE	NHBC
LCF	20.6-50.4	27-50	100	27-50	CI-CH	Medium to High	Medium to High

Note(s): BRE Volume Change Potential refers to BRE Digest 240 (based on Atterberg results). VCP=Volume Change Potential
NHBC Volume Change Potential refers to NHBC Standards Chapter 4.2
Soils Classification based on British Soil Classification System
The Atterberg Limit Tests were undertaken in accordance with BS 1377: Part 2:1990 Clauses 3.2, 4.3 and 5th

Table C.2.5 Interpretation of PSD Tests

Location	Depth (m bgl)	Soil Description	VCP		>63µm Sieve (%)
			BRE	NHBC	
WS1	0.80	Brown slightly silty/clayey fine to coarse SAND	No	No	6

Note(s): (The Particle Size Distribution Tests were undertaken in accordance with BS 1377: Part 2: 1990 Clause 9).
VCP=Volume Change Potential

Appendix C.3 Geotechnical In-Situ and Laboratory Results

Laboratory Report

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES A PHENNA GROUP COMPANY

Contract Number: 78501

Client Ref: **21876**
Client PO: **21876/AS**

Date Received: **30-04-2025**
Date Completed: **07-05-2025**
Report Date: **07-05-2025**

Client: **Soils Limited**

This report has been checked and approved by:

Contract Title: **Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ**
For the attention of: **Alex Stratford**

[redacted]

Shaun Jones
Laboratory manager

Description	Qty
Determination of water content BS EN ISO 17892-1:2014 - @ Non Accredited Test	7
1 point Liquid & Plastic Limit.. BS EN ISO 17892-12 - * UKAS	7
Particle Size Distribution BS EN ISO 17892-4 : 5.1 - * UKAS	1

Notes: **Observations and Interpretations are outside the UKAS Accreditation**
*** - denotes test included in laboratory scope of accreditation**
- denotes test carried out by approved contractor
@ - denotes non accredited tests

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Approved Signatories:
Brendan Evans (Senior Office Administrator) - Darren Bourne (Quality Senior Technician) - Paul Evans (Director)
Richard John (Quality/Technical Manager) - Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager)
Wayne Honey (HR & HSE Manager)

GEO Site & Testing Services Ltd
Unit 3-4 Heol Aur, Dafen Ind Est, Llanelli, Carmarthenshire SA14 8QN
Tel: 01554 784 040 Fax: 01554 784 040 info@gstl.co.uk https://gstl.co.uk

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**WATER CONTENT, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX** **BS EN ISO 17892-12:2018+A2:2022 1 Point Liquid Limit** **BS EN ISO 17892-1:2014+A1:2022 Determination of Water Content**	
Contract Number	78501	
Project Name	Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ	
Date Tested	03/05/2025	
	DESCRIPTIONS	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
WS2		D	1.50	-		Brown sandy silty CLAY
WS3		D	2.00	-		Brown sandy silty CLAY
WS4		D	2.50	-		Brown silty CLAY
WS5		D	1.00	-		Brown sandy silty CLAY
WS6		D	1.50	-		Brown sandy silty CLAY
WS7		D	3.00	-		Grey/ brown sandy silty CLAY
WS8		D	0.80	-		Brown sandy silty CLAY
				-		
				-		
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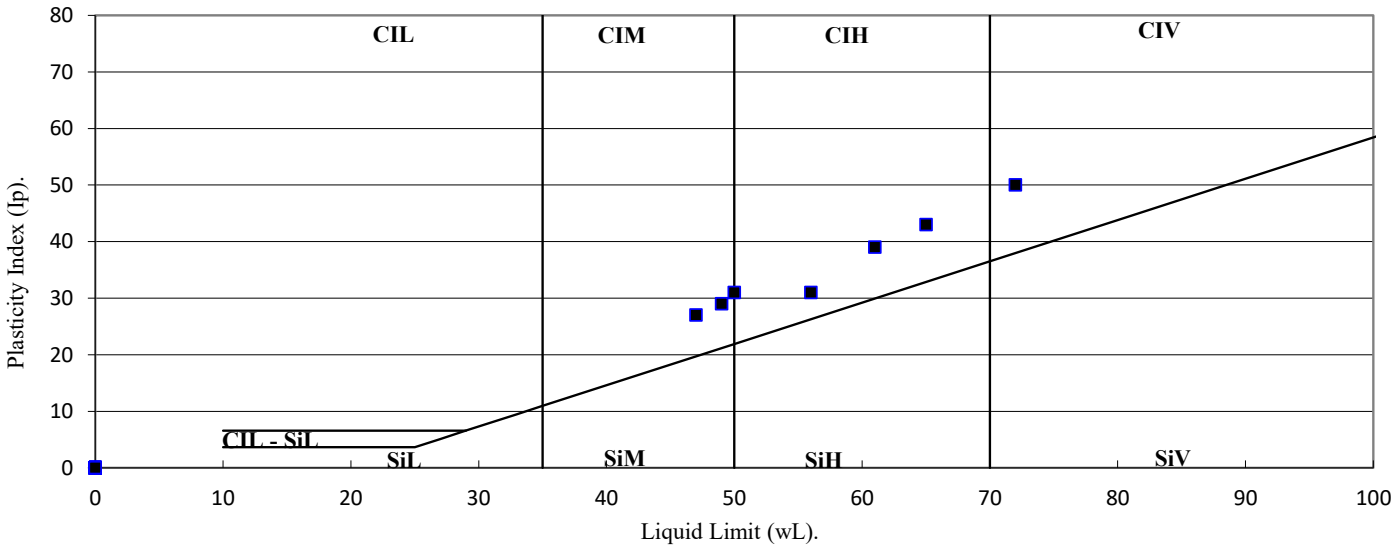
Operator
Dean

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	WATER CONTENT, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX BS EN ISO 17892-12:2018+A2:2022 1 Point Liquid Limit BS EN ISO 17892-1:2014+A1:2022 Determination of Water Content	
Contract Number	78501	
Project Name	Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ	
Date Tested	03/05/2025	
Test Comments	80g/30° Fall cone used	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Water Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Factor Applied	Remarks
WS2		D	1.50	-		27.5	47	20	27	100	0.995	CI Intermediate Plasticity
WS3		D	2.00	-		26.7	61	22	39	100	0.992	CH High Plasticity
WS4		D	2.50	-		29.9	72	22	50	100	0.995	CV Very High Plasticity
WS5		D	1.00	-		50.4	50	19	31	100	0.992	CI/H Inter/High Plasticity
WS6		D	1.50	-		27.7	49	20	29	100	0.992	CI Intermediate Plasticity
WS7		D	3.00	-		34.2	56	25	31	100	0.992	CH High Plasticity
WS8		D	0.80	-		28.4	65	22	43	100	0.994	CH High Plasticity
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SYMBOLS : NP = Non Plastic **NB: All liquid limits are 4 point and wet sieved**

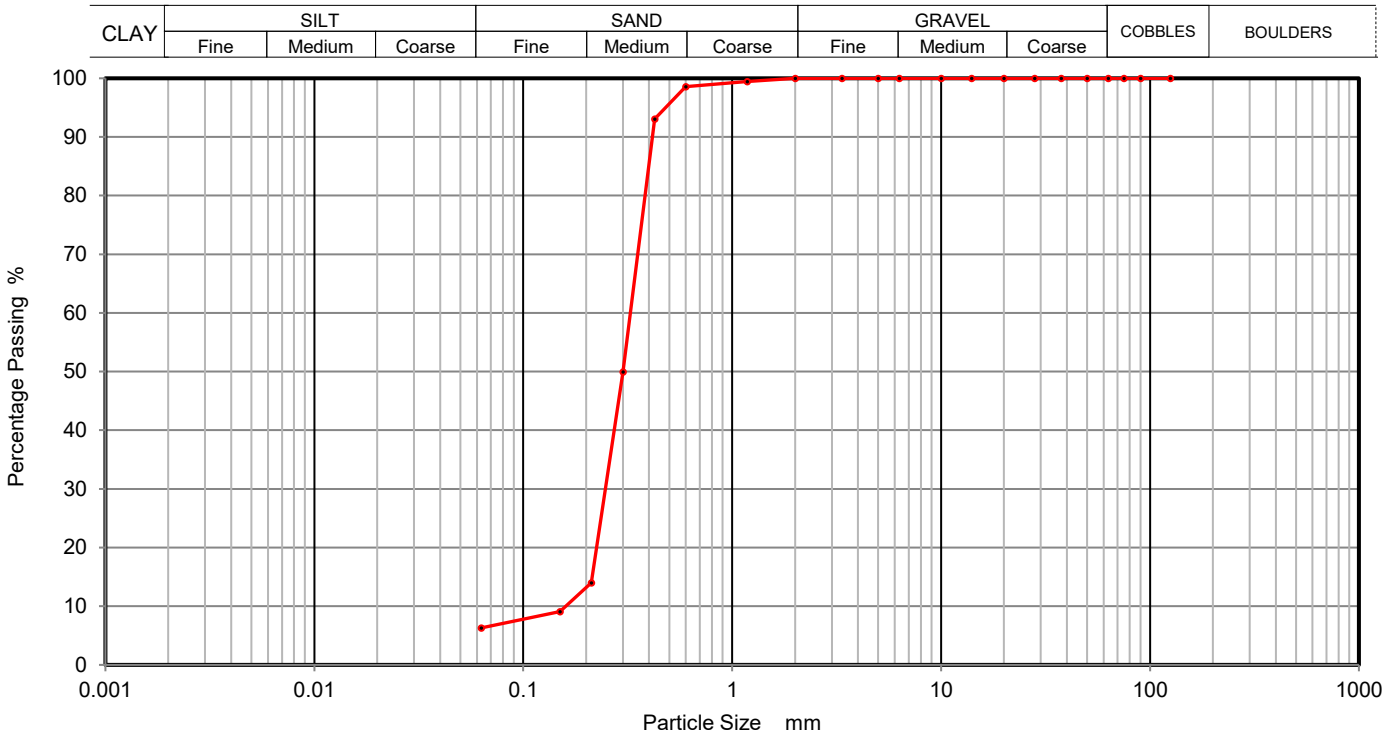
PLASTICITY CHART
BS EN ISO 14688-2:2018 Clause 4.4



***For sample descriptions please see sample descriptions sheet**

Operator
Dean

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	PARTICLE SIZE DISTRIBUTION BS EN ISO 17892-4:2016 Wet Sieve, Clause 5.2	Contract Number	78501
		Borehole/Pit No.	WS1
Project Name	Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ	Sample No.	
Sample Description	Brown slightly silty/ clayey fine to coarse SAND	Depth Top	0.80
		Depth Base	
Date Tested	03/05/2025	Sample Type	D



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	99		
0.63	99		
0.425	93		
0.30	50		
0.20	14		
0.15	9		
0.063	6		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	94
Silt and Clay	6

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Operator
Cameron. T

Laboratory Report

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES A PHENNA GROUP COMPANY

Contract Number: 78459

Client Ref: **21876**
Client PO: **21876/AS**

Date Received: **29-04-2025**
Date Completed: **13-05-2025**
Report Date: **13-05-2025**

Client: **Soils Limited**

This report has been checked and approved by:

Contract Title: **Kings Copse Avenue, Hedge End, Ham**
For the attention of: **Alex Stratford**

[redacted]

Richard John
Quality/Technical Manager

Description	Qty
Determination of water content BS EN ISO 17892-1:2014 - @ Non Accredited Test	7
1 point Liquid & Plastic Limit.. BS EN ISO 17892-12 - * UKAS	7
Quick Undrained Triaxial Compression test - single specimen at one confining pressure (100mm or 38mm diameter) BS 1377:1990 - Part 7 : 8 - * UKAS	4

Notes: **Observations and Interpretations are outside the UKAS Accreditation**
*** - denotes test included in laboratory scope of accreditation**
- denotes test carried out by approved contractor
@ - denotes non accredited tests

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Approved Signatories:
Brendan Evans (Senior Office Administrator) - Darren Bourne (Quality Senior Technician) - Paul Evans (Director)
Richard John (Quality/Technical Manager) - Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager)
Wayne Honey (HR & HSE Manager)

GEO Site & Testing Services Ltd
Unit 3-4 Heol Aur, Dafen Ind Est, Llanelli, Carmarthenshire SA14 8QN
Tel: 01554 784 040 Fax: 01554 784 040 info@gstl.co.uk https://gstl.co.uk

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**WATER CONTENT, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX** **BS EN ISO 17892-12:2018+A2:2022 1 Point Liquid Limit** **BS EN ISO 17892-1:2014+A1:2022 Determination of Water Content**	
Contract Number	78459	
Project Name	Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ	
Date Tested	09/05/2025	
	DESCRIPTIONS	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
BH1		D	4.00	-		Brown silty CLAY
BH1		D	9.95	-		Brown silty CLAY
BH2		D	2.00	-		Brown silty CLAY
BH2		D	6.00	-		Brown silty CLAY
BH3		D	5.00	-		Brown silty CLAY
BH3		D	10.50	-		Brown silty CLAY
BH4		D	7.50	-		Brown silty CLAY
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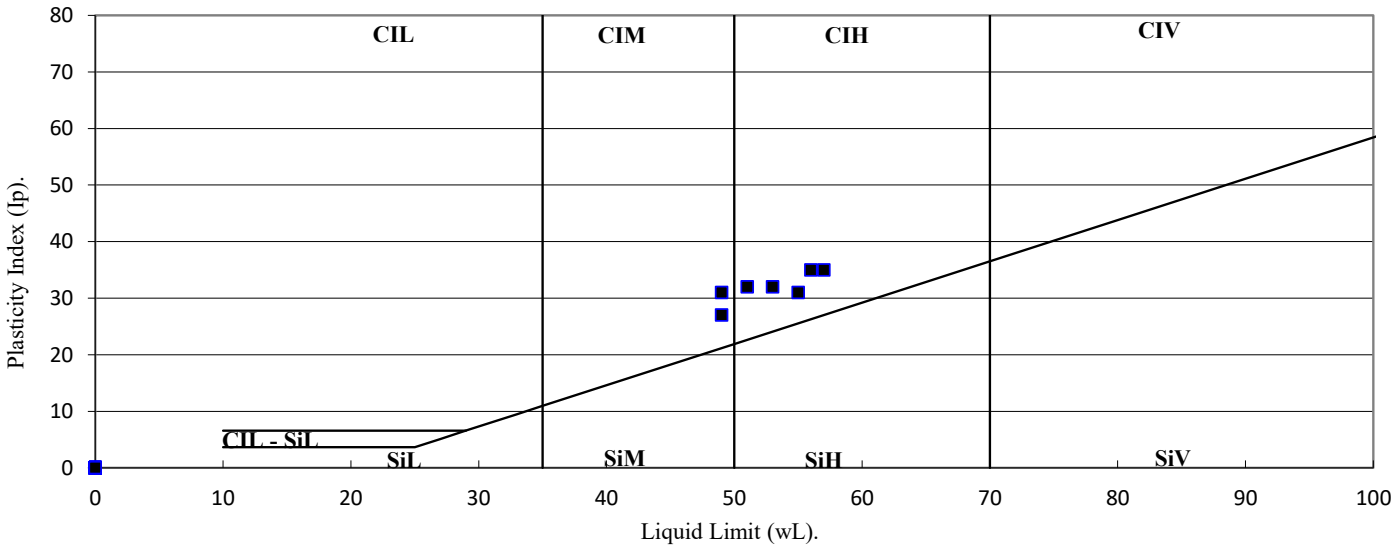
Operator
Clayton. J

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**WATER CONTENT, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX** **BS EN ISO 17892-12:2018+A2:2022 1 Point Liquid Limit** **BS EN ISO 17892-1:2014+A1:2022 Determination of Water Content**	
Contract Number	78459	
Project Name	Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ	
Date Tested	09/05/2025	
Test Comments	80g/30° Fall cone used	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Water Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Factor Applied	Remarks
BH1		D	4.00	-		21.2	49	22	27	100	0.997	CI Intermediate Plasticity
BH1		D	9.95	-		23.0	56	21	35	100	0.991	CH High Plasticity
BH2		D	2.00	-		25.6	55	24	31	100	1.010	CH High Plasticity
BH2		D	6.00	-		20.6	57	22	35	100	0.991	CH High Plasticity
BH3		D	5.00	-		21.7	51	19	32	100	0.998	CH High Plasticity
BH3		D	10.50	-		20.9	49	18	31	100	0.991	CI Intermediate Plasticity
BH4		D	7.50	-		25.3	53	21	32	100	0.988	CH High Plasticity
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SYMBOLS : NP = Non Plastic **NB: All liquid limits are 4 point and wet sieved**

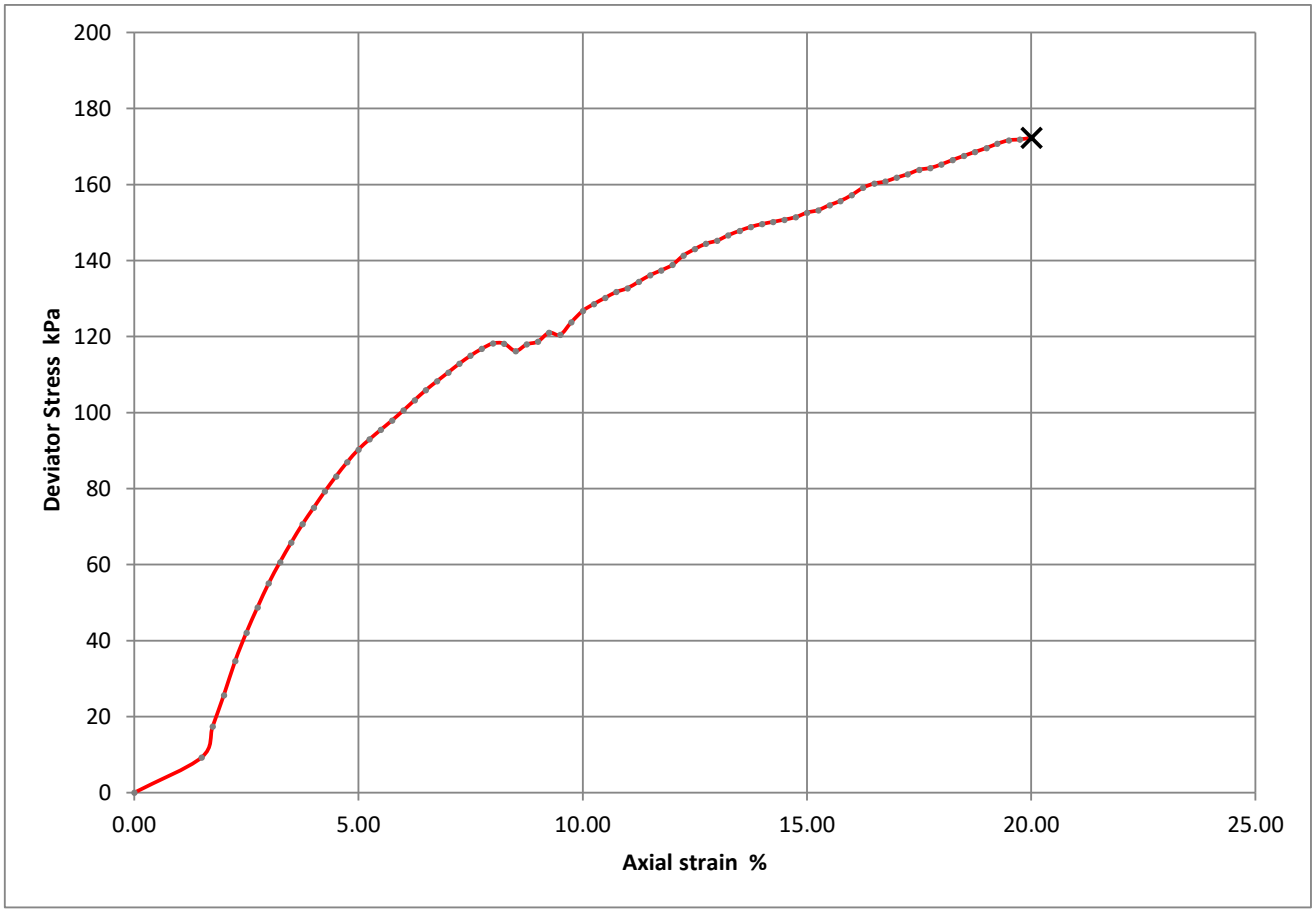
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BS EN ISO 14688-2:2018 Clause 4.4



***For sample descriptions please see sample descriptions sheet**

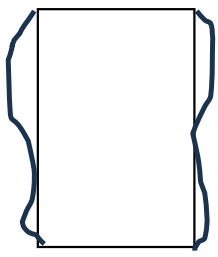
Operator
Clayton. J

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Single Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 8**	Contract Number	78459
		Borehole/Pit No.	BH1
Project Name	Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ	Sample No.	
Soil Description	Brown sandy silty CLAY	Depth Top (m)	6.50
		Depth Base (m)	
Date Tested	07/05/2025	Sample Type	D
		Operator	David. E



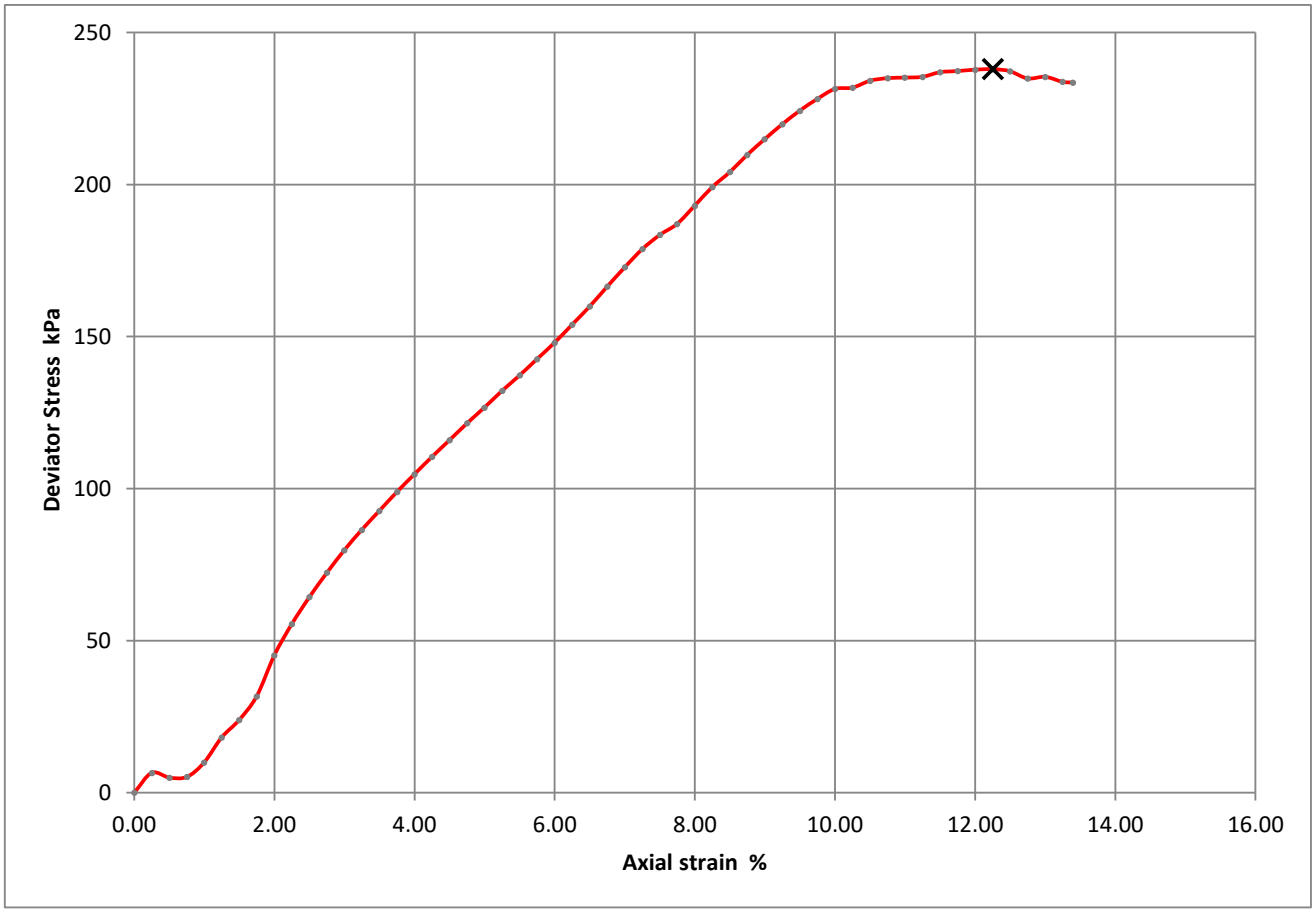
Moisture Content (%)	22
Bulk Density (Mg/m^3)	2.02
Dry Density (Mg/m^3)	1.66
Specimen Length (mm)	180.4
Specimen Diameter (mm)	104.3
Cell Pressure (kPa)	120
Deviator Stress (kPa)	172
Undrained Shear Strength (kPa)	86
Failure Strain (%)	20
Mode Of Failure	Plastic
Membrane Used/Thickness	Rubber/0.4mm
Rate of Strain (%/min)	1.52

Notes.



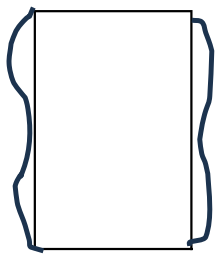
Failure Sketch.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Single Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 8**	Contract Number	78459
		Borehole/Pit No.	BH2
Project Name	Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ	Sample No.	
Soil Description	Brown sandy silty CLAY	Depth Top (m)	9.50
		Depth Base (m)	
Date Tested	07/05/2025	Sample Type	D
		Operator	David. E



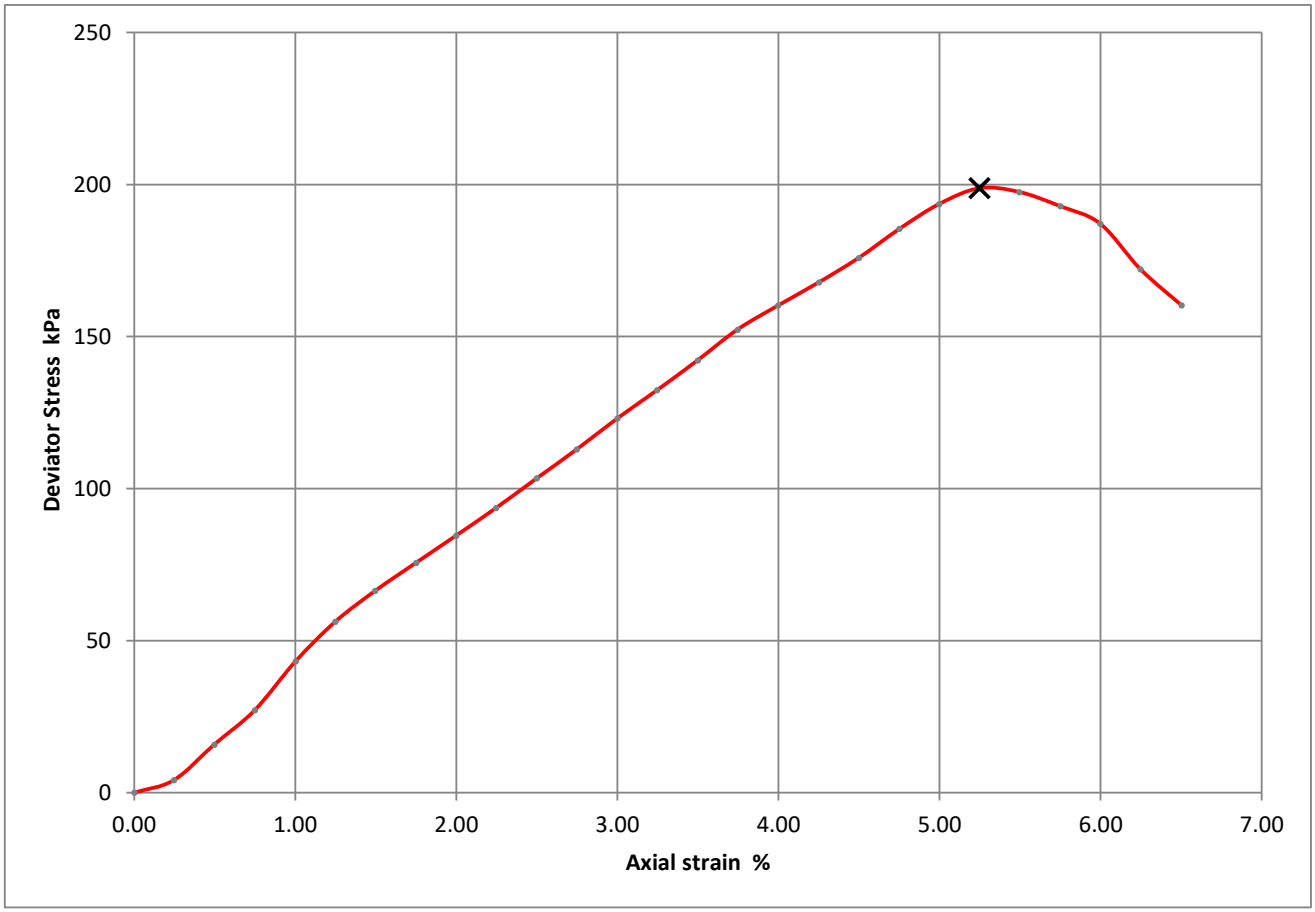
Moisture Content (%)	20
Bulk Density (Mg/m^3)	1.98
Dry Density (Mg/m^3)	1.64
Specimen Length (mm)	189.2
Specimen Diameter (mm)	104.3
Cell Pressure (kPa)	80
Deviator Stress (kPa)	238
Undrained Shear Strength (kPa)	119
Failure Strain (%)	12
Mode Of Failure	Plastic
Membrane Used/Thickness	Rubber/0.4mm
Rate of Strain (%/min)	1.45

Notes.



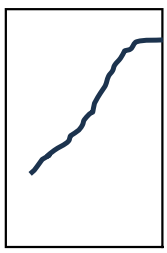
Failure Sketch.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Single Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 8**	Contract Number	78459
		Borehole/Pit No.	BH3
Project Name	Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ	Sample No.	
Soil Description	Brown sandy silty CLAY	Depth Top (m)	11.00
		Depth Base (m)	
Date Tested	07/05/2025	Sample Type	D
		Operator	David. E



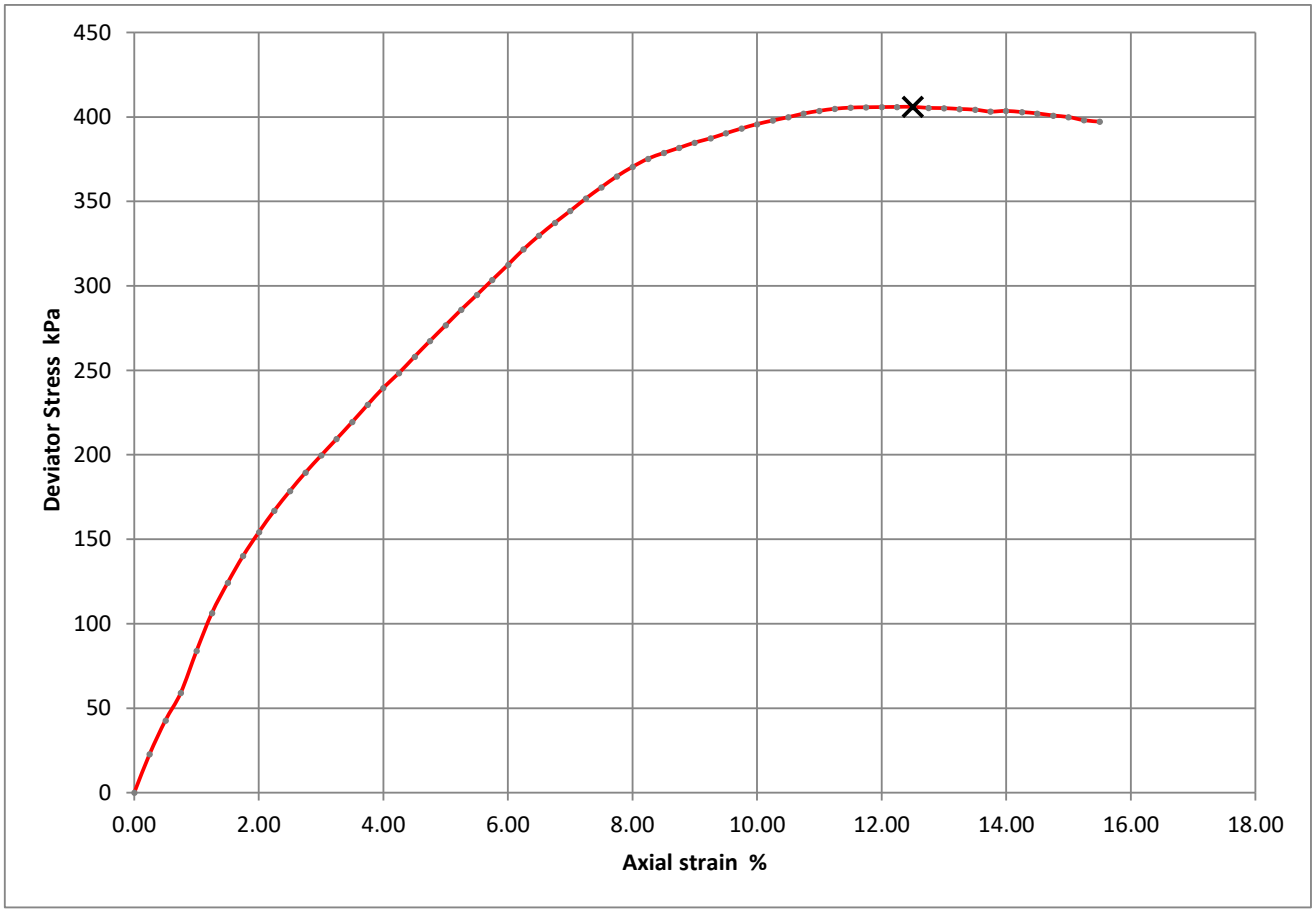
Moisture Content (%)	20
Bulk Density (Mg/m^3)	1.92
Dry Density (Mg/m^3)	1.59
Specimen Length (mm)	208.4
Specimen Diameter (mm)	104.3
Cell Pressure (kPa)	160
Deviator Stress (kPa)	199
Undrained Shear Strength (kPa)	99
Failure Strain (%)	5
Mode Of Failure	Brittle
Membrane Used/Thickness	Rubber/0.4mm
Rate of Strain (%/min)	1.32

Notes.



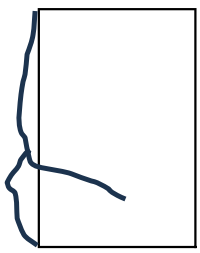
Failure Sketch.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Single Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 8**	Contract Number	78459
		Borehole/Pit No.	BH4
Project Name	Kings Copse Avenue, Hedge End, Hampshire SO30 2SZ	Sample No.	
Soil Description	Brown sandy silty CLAY	Depth Top (m)	15.50
		Depth Base (m)	
Date Tested	07/05/2025	Sample Type	D
		Operator	David. E



Moisture Content (%)	23
Bulk Density (Mg/m^3)	1.99
Dry Density (Mg/m^3)	1.63
Specimen Length (mm)	208.1
Specimen Diameter (mm)	104.2
Cell Pressure (kPa)	240
Deviator Stress (kPa)	406
Undrained Shear Strength (kPa)	203
Failure Strain (%)	13
Mode Of Failure	Compound
Membrane Used/Thickness	Rubber/0.4mm
Rate of Strain (%/min)	1.32

Notes.



Failure Sketch.

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DETS Report No: 25-04479

Site Reference:	Kings Copse Avenue, Hedge End, Hampshire, SO30 2SZ
Project / Job Ref:	21876
Order No:	21876/AS
Sample Receipt Date:	28/04/2025
Sample Scheduled Date:	28/04/2025
Report Issue Number:	1
Reporting Date:	02/05/2025

Authorised by:

Steve Knight
Customer Support Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

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Soil Analysis Certificate						
DETS Report No: 25-04479	**~Date Sampled**	22/04/25	22/04/25	22/04/25	22/04/25	22/04/25
Soils Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Kings Copse Avenue, Hedge End, Hampshire, SO30 2SZ	**~TP / BH No**	WS1	WS7	BH1	BH2	BH3
~Project / Job Ref: 21876	**~Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: 21876/AS	**~Depth (m)**	1.00	2.00	6.00	4.00	8.00
Reporting Date: 02/05/2025	**DETS Sample No**	774314	774315	774316	774317	774318

Determinand	**Unit**	**RL**	**Accreditation**					
pH	pH Units	N/a	**MCERTS**	7.7	7.2	8.2	7.8	8.4
Total Sulphate as SO_4	mg/kg	< 200	**MCERTS**	867	778	732	439	778
Total Sulphate as SO_4	%	< 0.02	**MCERTS**	0.09	0.08	0.07	0.04	0.08
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	**MCERTS**	< 10	< 10	248	88	264
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	**MCERTS**	< 0.01	< 0.01	0.25	0.09	0.26
Total Sulphur	%	< 0.02	NONE	0.04	0.05	0.30	5.42	0.35
Ammonium as NH_4	mg/kg	< 0.5	**MCERTS**	< 0.5	< 0.5	3.4	< 0.5	3.6
Ammonium as NH_4	mg/l	< 0.05	**MCERTS**	< 0.05	< 0.05	0.34	< 0.05	0.36
W/S Chloride (2:1)	mg/kg	< 1	**MCERTS**	8	10	8	11	14
W/S Chloride (2:1)	mg/l	< 0.5	**MCERTS**	4	4.9	4	5.7	7.2
Water Soluble Nitrate (2:1) as NO_3	mg/kg	< 3	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Water Soluble Nitrate (2:1) as NO_3	mg/l	< 1.5	**MCERTS**	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
W/S Magnesium	mg/l	< 0.1	NONE	0.2	0.5	13	5.7	12

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Soil Analysis Certificate						
DETS Report No: 25-04479	**~Date Sampled**	22/04/25				
Soils Ltd	**~Time Sampled**	None Supplied				
~Site Reference: Kings Copse Avenue, Hedge End, Hampshire, SO30 2SZ	**~TP / BH No**	BH4				
~Project / Job Ref: 21876	**~Additional Refs**	None Supplied				
~Order No: 21876/AS	**~Depth (m)**	12.00				
Reporting Date: 02/05/2025	**DETS Sample No**	774319				

Determinand	**Unit**	**RL**	**Accreditation**					
pH	pH Units	N/a	**MCERTS**	8.1				
Total Sulphate as SO_4	mg/kg	< 200	**MCERTS**	1190				
Total Sulphate as SO_4	%	< 0.02	**MCERTS**	0.12				
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	**MCERTS**	395				
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	**MCERTS**	0.40				
Total Sulphur	%	< 0.02	NONE	0.39				
Ammonium as NH_4	mg/kg	< 0.5	**MCERTS**	5.4				
Ammonium as NH_4	mg/l	< 0.05	**MCERTS**	0.54				
W/S Chloride (2:1)	mg/kg	< 1	**MCERTS**	14				
W/S Chloride (2:1)	mg/l	< 0.5	**MCERTS**	7.2				
Water Soluble Nitrate (2:1) as NO_3	mg/kg	< 3	**MCERTS**	< 3				
Water Soluble Nitrate (2:1) as NO_3	mg/l	< 1.5	**MCERTS**	< 1.5				
W/S Magnesium	mg/l	< 0.1	NONE	19				

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Soil Analysis Certificate - Sample Descriptions
DETS Report No: 25-04479
Soils Ltd
~Site Reference: Kings Copse Avenue, Hedge End, Hampshire, SO30 2SZ
~Project / Job Ref: 21876
~Order No: 21876/AS
Reporting Date: 02/05/2025

DETS Sample No	~TP / BH No	~Additional Refs	~Depth (m)	Moisture Content (%)	Sample Matrix Description
774314	WS1	None Supplied	1.00	14.3	Light brown sand
774315	WS7	None Supplied	2.00	18.7	Light brown sandy clay
774316	BH1	None Supplied	6.00	14	Brown sandy clay
774317	BH2	None Supplied	4.00	16.9	Brown clay
774318	BH3	None Supplied	8.00	12.9	Brown sandy clay
774319	BH4	None Supplied	12.00	14.6	Brown clay

Moisture content is part of procedure E003 & is not an accredited test

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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 25-04479

Soils Ltd

~Site Reference: Kings Copse Avenue, Hedge End, Hampshire, SO30 2SZ

~Project / Job Ref: 21876

~Order No: 21876/AS

Reporting Date: 02/05/2025

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

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List of HWOL Acronyms and Operators
DETS Report No: 25-04479
Soils Ltd
~Site Reference: Kings Copse Avenue, Hedge End, Hampshire, SO30 2SZ
~Project / Job Ref: 21876
~Order No: 21876/AS
Reporting Date: 02/05/2025

Acronym	**Description**
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total
~	Sample details provided by customer and can affect the validity of results

Det - Acronym

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Certificate Key

Symbol	Description
F	Filtered sample
UF	Unfiltered sample
D	Dried sample
AR	As received sample
RL	Reporting limit
~	Sample details provided by customer and can affect the validity of results
M/S	Missing Sample
M	MCERTS accredited test
U	UKAS accredited test

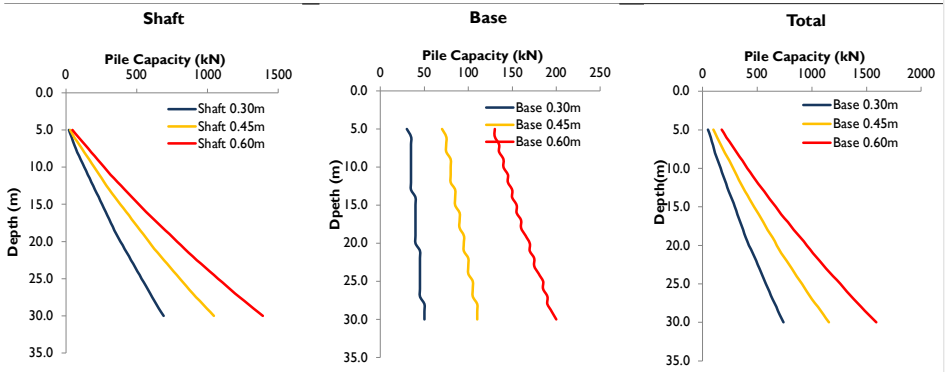
Appendix D Foundation Design

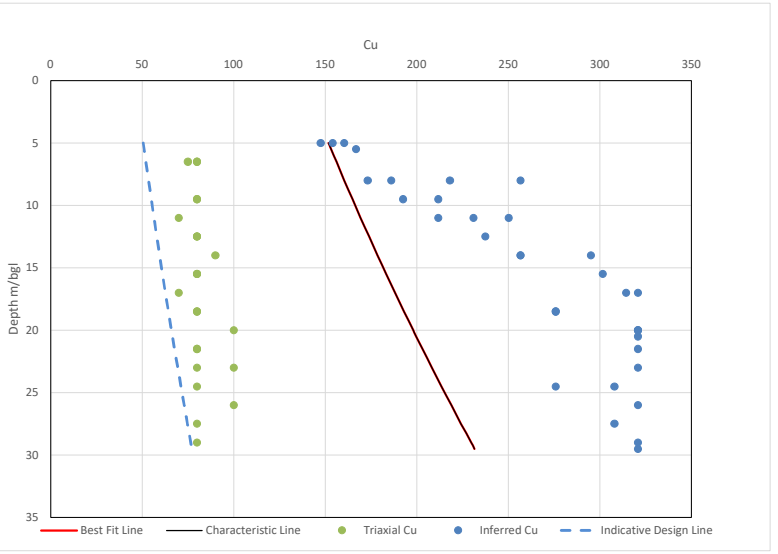
Appendix D.1 Preliminary Pile Design

Preliminary Pile Working Loads

Single Vertically Loaded Pile (kN)

Name:	**OK**	**N_c value**	**9**	**Pile Start Depth:**	**4**	**FOS**	
Job No:	**21876**	**α value:**	**0.45**	**Pile Final Depth:**	**30**	**Shaft**	**Base**
Date:	**3.6.25**			**Pile Increment:**	**1**	**3**	**3**





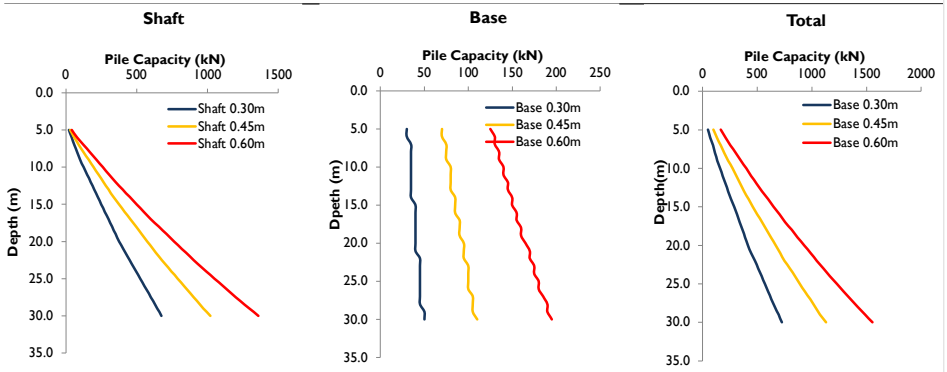
Pile Diameter (m):

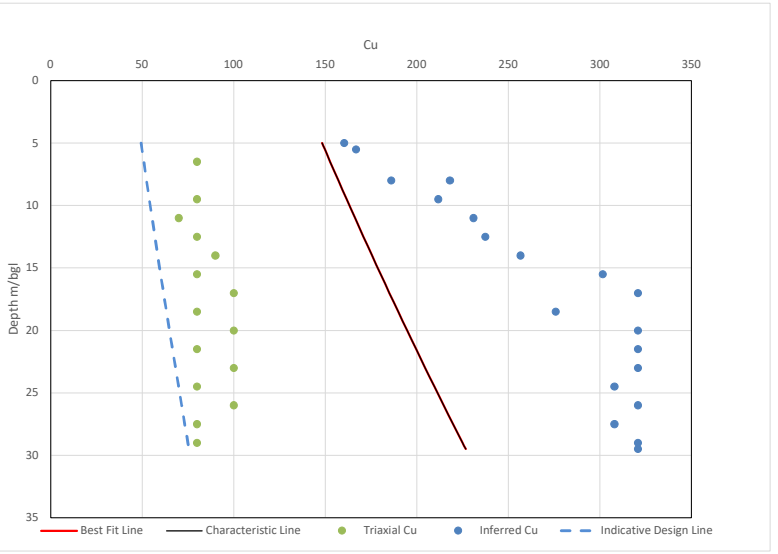
Pile Depths	0.30			0.45			0.60		
(m bgl)	Shaft	Base	Total	Shaft	Base	Total	Shaft	Base	Total
4.0									
5.0	20	30	50	30	70	100	45	130	175
6.0	40	35	75	60	75	135	90	130	220
7.0	60	35	95	95	75	170	135	135	270
8.0	80	35	115	130	75	205	180	135	315
9.0	105	35	140	165	80	245	225	140	365
10.0	130	35	165	200	80	280	270	140	410
11.0	155	35	190	235	80	315	315	145	460
12.0	180	35	215	270	80	350	365	145	510
13.0	205	35	240	305	85	390	415	150	565
14.0	230	40	270	345	85	430	465	150	615
15.0	255	40	295	385	85	470	515	155	670
16.0	280	40	320	425	90	515	565	155	720
17.0	305	40	345	465	90	555	620	160	780
18.0	330	40	370	505	90	595	675	160	835
19.0	355	40	395	545	95	640	730	165	895
20.0	385	40	425	585	95	680	785	170	955
21.0	415	45	460	625	95	720	840	170	1010
22.0	445	45	490	670	100	770	895	175	1070
23.0	475	45	520	715	100	815	955	175	1130
24.0	505	45	550	760	100	860	1015	180	1195
25.0	535	45	580	805	105	910	1075	185	1260
26.0	565	45	610	850	105	955	1135	185	1320
27.0	595	45	640	895	105	1000	1195	190	1385
28.0	625	50	675	945	110	1055	1260	190	1450
29.0	655	50	705	995	110	1105	1325	195	1520
30.0	690	50	740	1045	110	1155	1390	200	1590

Preliminary Pile Working Loads

Single Vertically Loaded Pile (kN)

Name:	**OK**	**N_c value**	**9**	**Pile Start Depth:**	**4**	**FOS**	
Job No:	**21876**	**α value:**	**0.45**	**Pile Final Depth:**	**30**	**Shaft**	**Base**
Date:	**3.6.25**			**Pile Increment:**	**1**	**3**	**3**





Pile Diameter (m):

Pile Depths	0.30			0.45			0.60		
(m bgl)	Shaft	Base	Total	Shaft	Base	Total	Shaft	Base	Total
4.0									
5.0	20	30	50	30	70	100	40	125	165
6.0	40	30	70	60	70	130	80	130	210
7.0	60	35	95	90	75	165	125	130	255
8.0	80	35	115	125	75	200	170	135	305
9.0	100	35	135	160	75	235	215	135	350
10.0	125	35	160	195	80	275	260	140	400
11.0	150	35	185	230	80	310	305	140	445
12.0	175	35	210	265	80	345	350	145	495
13.0	200	35	235	300	80	380	400	145	545
14.0	225	35	260	335	85	420	450	150	600
15.0	250	40	290	375	85	460	500	150	650
16.0	275	40	315	415	85	500	550	155	705
17.0	300	40	340	455	90	545	600	155	755
18.0	325	40	365	495	90	585	655	160	815
19.0	350	40	390	535	90	625	710	160	870
20.0	375	40	415	575	95	670	765	165	930
21.0	405	40	445	615	95	710	820	170	990
22.0	435	45	480	655	95	750	875	170	1045
23.0	465	45	510	700	100	800	930	175	1105
24.0	495	45	540	745	100	845	990	175	1165
25.0	525	45	570	790	100	890	1050	180	1230
26.0	555	45	600	835	100	935	1110	180	1290
27.0	585	45	630	880	105	985	1170	185	1355
28.0	615	45	660	925	105	1030	1230	190	1420
29.0	645	50	695	970	105	1075	1295	190	1485
30.0	675	50	725	1020	110	1130	1360	195	1555

Appendix E Chemical Laboratory Analyses

Appendix E.1 Conceptual Site Model

Table E.1.1 CSM Revised Pre-Chemical Analyses

Source (Error! Reference source not found. & Error! Reference source not found.)	Potential Contaminant (Error! Reference source not found.)	Exposure Pathway (Error! Reference source not found.)	Receptor (Error! Reference source not found.)	Initial Assessment from Preliminary Investigation Report Information			Comments	Further Works
				Severity	Probability	Risk		
Tanhouse Off-site sources from which potential contamination would have migrated onto the site.	Metals, Semi-metals and non-metals, PAHs	Inhalation of dust	Site Workers/Site Maintenance	Medium	Low	Low	Site located on bedrock of the Whitecliff Sand Member and London Clay Formation. Whitecliff Sand Member classified as a Secondary A aquifer which could support groundwater at a local scale. London Clay Formation classed as Unproductive Strata which and would act as an aquiclude to the deep groundwater receptors. The Ground investigation did not record any anthropogenic materials and the absence of Made Ground. From the ground conditions encountered, low groundwater levels and the fact that the new drainage regime will control water flows the risk to controlled waters was considered to be low.	Chemical testing prior to undertaking a generic quantitative risk assessment. However, the risk is Low, precautionary Site Investigation works and testing should be undertaken.
			End Users	Medium	Unlikely	Low		
	PAHs, TPHs	Inhalation of vapour/gases	Site Workers/Site Maintenance	Mild	Low			
			End Users					
	Metals, Semi-metals and non-metals, PAHs, TPHs, pH	Ingestion and absorption via direct contact	Site Workers/Site Maintenance	Medium	Unlikely			
			End Users					
	Metals, Semi-metals and non-metals, PAHs, TPHs, pH	Migration via surface runoff	Surface Water	Medium	Low	Low		
		Migration in solution via groundwater	Surface Water	-				
			Shallow Aquifer					
			Deep Aquifer					
		Direct contact with construction material	Buried Structures	Mild	Low	Low		
			Buried Services					
	PAHs, TPHs	Migration of gases via permeable soils	Site Workers/Site Maintenance	Medium	Unlikely			
			End Users					
			Building and Confined Spaces					

Table E.1.2 CSM Revised Post-Chemical Analyses

Source	Potential Contaminant	Exposure Pathway	Receptor	Initial Assessment from Desk Study and Main Investigation Report Information			Comments	Further Works
				Severity	Probability	Risk		
Tanhouse Off-site sources from which potential contamination would have migrated onto the site.	Metals, Semi-metals and non-metals, PAHs	Inhalation of dust	Site Workers/Site Maintenance	Medium	Low	Low	Site located on bedrock of the Whitecliff Sand Member and London Clay Formation. Whitecliff Sand Member classified as a Secondary A aquifer which could support groundwater at a local scale. London Clay Formation classed as Unproductive Strata which and would act as an aquiclude to the deep groundwater receptors. The Ground investigation did not record any anthropogenic materials and the absence of Made Ground. From the ground conditions encountered, low groundwater levels and the fact that the new drainage regime will control water flows the risk to controlled waters was considered to be low.	No further works required subject to regulatory agreement. Discovery strategy in place. H&S precautions for ground workers.
			End Users	Medium	Unlikely	Low		
	PAHs, TPHs	Inhalation of vapour/gases	Site Workers/Site Maintenance	Mild	Low			
			End Users					
	Metals, Semi-metals and non-metals, PAHs, TPHs, pH	Ingestion and absorption via direct contact	Site Workers/Site Maintenance	Medium	Unlikely			
			End Users					
	Metals, Semi-metals and non-metals, PAHs, TPHs, pH	Migration via surface runoff	Surface Water	Medium	Low	Low		
		Migration in solution via groundwater	Surface Water	-				
			Shallow Aquifer					
			Deep Aquifer					
		Direct contact with construction material	Buried Structures	Mild	Low	Low		
			Buried Services					
	PAHs, TPHs	Migration of gases via permeable soils	Site Workers/Site Maintenance	Medium	Unlikely			
			End Users					
			Building and Confined Spaces					

Appendix E.2 Chemical Laboratory Results

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Unit 1
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Kent
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t: 01622 850410

DETS Report No: 25-04477

Site Reference:	Kings Copse Avenue, Hedge End, Hampshire
Project / Job Ref:	21876
Order No:	21876/AS
Sample Receipt Date:	28/04/2025
Sample Scheduled Date:	28/04/2025
Report Issue Number:	1
Reporting Date:	02/05/2025

Authorised by:

Steve Knight
Customer Support Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

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Soil Analysis Certificate						
DETS Report No: 25-04477	**~Date Sampled**	22/04/25	22/04/25	22/04/25	22/04/25	22/04/25
Soils Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Kings Copse Avenue, Hedge End, Hampshire	**~TP / BH No**	WS1	WS2	WS3	WS4	WS5
~Project / Job Ref: 21876	**~Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: 21876/AS	**~Depth (m)**	0.10	0.20	0.50	0.80	0.10
Reporting Date: 02/05/2025	**DETS Sample No**	774300	774301	774302	774303	774304

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	6.8	7.3	7.3	7.8	7.1
Organic Matter (SOM)	%	< 0.1	MCERTS	1.9	2	0.9	0.7	2.4
Arsenic (As)	mg/kg	< 2	MCERTS	6	8	10	13	7
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	7	13	29	22	18
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	6	13	23	19	10
Lead (Pb)	mg/kg	< 3	MCERTS	15	26	21	12	16
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	< 3	6	18	16	9
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Vanadium (V)	mg/kg	< 1	MCERTS	13	24	47	35	34
Zinc (Zn)	mg/kg	< 3	MCERTS	20	28	50	39	28
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2

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Soil Analysis Certificate						
DETS Report No: 25-04477	**~Date Sampled**	22/04/25	22/04/25	22/04/25		
Soils Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied		
~Site Reference: Kings Copse Avenue, Hedge End, Hampshire	**~TP / BH No**	WS6	WS7	WS8		
~Project / Job Ref: 21876	**~Additional Refs**	None Supplied	None Supplied	None Supplied		
~Order No: 21876/AS	**~Depth (m)**	0.20	0.50	1.00		
Reporting Date: 02/05/2025	**DETS Sample No**	774305	774306	774307		

Determinand	**Unit**	**RL**	**Accreditation**					
Asbestos Screen (S)	N/a	N/a	**ISO17025**	Not Detected	Not Detected	Not Detected		
pH	pH Units	N/a	**MCERTS**	6.6	6.5	7.6		
Organic Matter (SOM)	%	< 0.1	**MCERTS**	2.3	1.3	0.5		
Arsenic (As)	mg/kg	< 2	**MCERTS**	6	5	11		
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1		
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**	< 0.2	< 0.2	< 0.2		
Chromium (Cr)	mg/kg	< 2	**MCERTS**	13	11	25		
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2		
Copper (Cu)	mg/kg	< 4	**MCERTS**	16	9	16		
Lead (Pb)	mg/kg	< 3	**MCERTS**	17	8	10		
Mercury (Hg)	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1		
Nickel (Ni)	mg/kg	< 3	**MCERTS**	5	4	16		
Selenium (Se)	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2		
Vanadium (V)	mg/kg	< 1	**MCERTS**	25	16	33		
Zinc (Zn)	mg/kg	< 3	**MCERTS**	23	17	41		
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2		

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 25-04477	**~Date Sampled**	22/04/25	22/04/25	22/04/25	22/04/25	22/04/25
Soils Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Kings Copse Avenue, Hedge End, Hampshire	**~TP / BH No**	WS1	WS2	WS3	WS4	WS5
~Project / Job Ref: 21876	**~Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: 21876/AS	**~Depth (m)**	0.10	0.20	0.50	0.80	0.10
Reporting Date: 02/05/2025	**DETS Sample No**	774300	774301	774302	774303	774304

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 25-04477	**~Date Sampled**	22/04/25	22/04/25	22/04/25		
Soils Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied		
~Site Reference: Kings Copse Avenue, Hedge End, Hampshire	**~TP / BH No**	WS6	WS7	WS8		
~Project / Job Ref: 21876	**~Additional Refs**	None Supplied	None Supplied	None Supplied		
~Order No: 21876/AS	**~Depth (m)**	0.20	0.50	1.00		
Reporting Date: 02/05/2025	**DETS Sample No**	774305	774306	774307		

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6		

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Soil Analysis Certificate - EPH Texas Banded						
DETS Report No: 25-04477	**~Date Sampled**	22/04/25	22/04/25	22/04/25	22/04/25	22/04/25
Soils Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Kings Copse Avenue, Hedge End, Hampshire	**~TP / BH No**	WS1	WS2	WS3	WS4	WS5
~Project / Job Ref: 21876	**~Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Order No: 21876/AS	**~Depth (m)**	0.10	0.20	0.50	0.80	0.10
Reporting Date: 02/05/2025	**DETS Sample No**	774300	774301	774302	774303	774304

Determinand	Unit	RL	Accreditation					
EPH Texas (C6 - C8) : HS_1D_MS _Total	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
EPH Texas (>C8 - C10) : EH_1D_Total	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C10 - C12) : EH_1D_Total	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C12 - C16) : EH_1D_Total	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C16 - C21) : EH_1D_Total	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C21 - C40) : EH_1D_Total	mg/kg	< 6	**MCERTS**	< 6	< 6	< 6	< 6	< 6
EPH Texas (C6 - C40) : HS_1D_MS+EH_1D_Total	mg/kg	< 6	NONE	< 6	< 6	< 6	< 6	< 6

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Soil Analysis Certificate - EPH Texas Banded						
DETS Report No: 25-04477	**~Date Sampled**	22/04/25	22/04/25	22/04/25		
Soils Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied		
~Site Reference: Kings Copse Avenue, Hedge End, Hampshire	**~TP / BH No**	WS6	WS7	WS8		
~Project / Job Ref: 21876	**~Additional Refs**	None Supplied	None Supplied	None Supplied		
~Order No: 21876/AS	**~Depth (m)**	0.20	0.50	1.00		
Reporting Date: 02/05/2025	**DETS Sample No**	774305	774306	774307		

Determinand	Unit	RL	Accreditation					
EPH Texas (C6 - C8) : HS_1D_MS _Total	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		
EPH Texas (>C8 - C10) : EH_1D_Total	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1		
EPH Texas (>C10 - C12) : EH_1D_Total	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1		
EPH Texas (>C12 - C16) : EH_1D_Total	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1		
EPH Texas (>C16 - C21) : EH_1D_Total	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1		
EPH Texas (>C21 - C40) : EH_1D_Total	mg/kg	< 6	**MCERTS**	< 6	< 6	< 6		
EPH Texas (C6 - C40) : HS_1D_MS+EH_1D_Total	mg/kg	< 6	NONE	< 6	< 6	< 6		

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Soil Analysis Certificate - Sample Descriptions
DETS Report No: 25-04477
Soils Ltd
~Site Reference: Kings Copse Avenue, Hedge End, Hampshire
~Project / Job Ref: 21876
~Order No: 21876/AS
Reporting Date: 02/05/2025

DETS Sample No	~TP / BH No	~Additional Refs	~Depth (m)	Moisture Content (%)	Sample Matrix Description
774300	WS1	None Supplied	0.10	6.8	Light brown sandy clay with vegetation
774301	WS2	None Supplied	0.20	12.6	Brown sandy clay
774302	WS3	None Supplied	0.50	18.1	Light brown clay
774303	WS4	None Supplied	0.80	19.5	Light brown clay
774304	WS5	None Supplied	0.10	12.2	Light brown sandy clay with vegetation
774305	WS6	None Supplied	0.20	9.6	Light brown sandy clay with vegetation
774306	WS7	None Supplied	0.50	12.9	Light brown sandy clay with stones
774307	WS8	None Supplied	1.00	17.7	Light brown clay

Moisture content is part of procedure E003 & is not an accredited test

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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 25-04477

Soils Ltd

~Site Reference: Kings Copse Avenue, Hedge End, Hampshire

~Project / Job Ref: 21876

~Order No: 21876/AS

Reporting Date: 02/05/2025

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

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List of HWOL Acronyms and Operators
DETS Report No: 25-04477
Soils Ltd
~Site Reference: Kings Copse Avenue, Hedge End, Hampshire
~Project / Job Ref: 21876
~Order No: 21876/AS
Reporting Date: 02/05/2025

Acronym	**Description**
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total
~	Sample details provided by customer and can affect the validity of results

EPH Texas (C10 - C12) - EH_1D_Total
EPH Texas (C12 - C16) - EH_1D_Total
EPH Texas (C16 - C21) - EH_1D_Total
EPH Texas (C21 - C40) - EH_1D_Total
EPH Texas (C6 - C40) - HS_1D_MS+EH_1D_Total
EPH Texas (C6 - C8) - HS_1D_MS _Total
EPH Texas (C8 - C10) - EH_1D_Total

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Certificate Key

Symbol	Description
F	Filtered sample
UF	Unfiltered sample
D	Dried sample
AR	As received sample
RL	Reporting limit
~	Sample details provided by customer and can affect the validity of results
M/S	Missing Sample
S	Subcontracted analysis
M	MCERTS accredited test
U	UKAS accredited test

Appendix E.3 General Assessment Criteria

HUMAN HEALTH RISK ASSESSMENT

Introduction

The statutory definition of contaminated land was initially defined in the Environmental Protection Act 1990, ref. 1.1, which was introduced by the Environment Act 1995, ref. 1.2, and retained in the Environment Act 2021, ref 1.3, as;

'Land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that –

> (a) significant harm is being caused or there is a significant possibility of such harm being caused; or
> (b) pollution of controlled waters is being, or is likely to be, caused.'

The UK guidance on the assessment of contaminated land has developed as a direct result of the introduction of these Acts. The technical guidance supporting the original legislation was summarised in a number of key documents collectively known as the Contaminated Land Reports (CLRs). These have since been replaced or superseded by Land Contamination Risk Management (LCRM) 2021, ref 1.4 produced and administrated by the Environment Agency online through the .GOV.uk website https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm .

However, the basic definitions, methodology and guidance remain essentially the same utilizing the UK Contaminated Land Exposure Assessment Models (CLEA) as within the original CLR and planning guidance it replaces or supersedes.

In establishing whether a site fulfils the statutory definition of 'contaminated land' it remains necessary to identify, whether a pollutant linkage exists in respect of the land in question and whether the pollutant linkage:

- is resulting in significant harm being caused to the identified receptor in the pollutant linkage,
- presents a significant possibility of significant harm being caused to that receptor,
- is resulting in the pollution of the controlled waters which constitute the receptor, or
- is likely to result in such pollution.

A 'pollutant linkage' may therefore be defined as the confirmation of a link between a contaminant 'source' and a vulnerable at risk 'receptor' by means of a 'pathway' and that the risk is potentially significant. If there is no complete linkage, risk defaults to low to negligible and can never be potentially significant.

Assessment Methodology

A four-stage assessment process is followed for identifying potential pollutant linkages on a site. These stages are summarised in the table below:

No.	Process	Description
1	Hazard Identification	Establishing contaminant sources, pathways and receptors (the conceptual model).
2	Hazard Assessment	Analysing the potential for unacceptable risks (what linkages could be present, what could be the effects).
3	Risk Estimation	Trying to establish the magnitude and probability of the possible consequences (what degree of harm might result and to what receptors, and how likely is it).
4	Risk Evaluation	Deciding whether the risk is unacceptable in the context of existing and future proposals.

Stages 1 and 2 develop an initial *'conceptual model'* based upon information collated from desk-based available and existing site information and a walkover of the site as recommended in BS10175 and LCRM. The formation of any conceptual model is an iterative process and as such it should be updated and refined throughout each phase of the project to reflect any additional information obtained and unknowns being resolved and identify the potential contaminants of concern at the site, i.e. those with the potential to cause significant harm to identified receptors.

The extent of the desk studies and enquiries to be conducted should be in general accordance with BS10175 and other UK guidance to produce an initial conceptual model highlighting the known potential risks, remaining unknowns and contaminants of concern. The information from these enquiries is presented in a desk study or preliminary report with recommendations, if necessary, for further work based upon the conceptual model findings and any identified or unresolved unknowns.

If potential pollutant linkages or potentially significant unknowns are identified within the initial conceptual model, further site investigation and report will be recommended and usually required under planning. Such investigation should be based on and driven by the findings of the initial conceptual model and planned in general accordance with BS10175, LCRM and other current UK guidance where relevant. The number of exploratory holes and samples collected for analysis should be consistent with the size, extent and nature of the site, the identified contaminants of concern and the level of initial risk identified in the initial conceptual model. This will enable a contamination risk assessment to be conducted in accordance with current UK requirements, at which point the conceptual model can be updated and any relevant pollutant linkages can be further quantified and any remaining unknowns resolved. As previously this is an iterative process that may highlight or require additional investigation to resolve to the satisfaction of the regulator.

A two-stage investigation process may therefore be more appropriate where time constraints are less of an issue with the first intrusive investigation being conducted as an initial or screening assessment to confirm or validate the presence of potential sources on site identified in the initial conceptual model and to investigate if additional unknown sources not previously identified are present. This helps to define the scope, extent and requirements of a second more refined and targeted investigation to delineate wherever possible the extent of the identified contamination, contaminants of concern and/or remaining unknowns.

All site works should be undertaken in general accordance with the British Standards BS 10175, ref. 5, for environmental only investigations and BS 5930:2015, ref. 1.6, in the case of combined Geoenvironmental and/or Geotechnical investigations.

The results of analysis are compared initially against generic guidance values which are dependent on the proposed end-use of the development and which must ultimately be based on traceable, scientifically valid and justified exposure and chemical data using the UKCLEA methodology.

The end-use and therefore potential exposure pathways may be defined as one of the following under current UK guidance;

- Residential with homegrown produce i.e. typical low rise and low-density housing with gardens where vegetables and fruits may be grown for home consumption.
- Residential without homegrown produce i.e. low-density housing where no gardens are present where vegetables and fruits could be grown for home consumption.
- Allotments – i.e. areas where vegetables and fruits are grown for home consumption but are not specifically associated with a residential property.
- Public open space residential – i.e. grassed areas adjacent and/or directly related to high density housing and other common or communal open areas on which underlying soils could be exposed but on which vegetables and fruits are not grown for consumption.
- Public open space – i.e. areas such as parks, playing fields and other recreational areas to which public access is possible but otherwise to which there is no direct residential linkage.
- Commercial – i.e. industrial premises where there is limited exposure to soil and residents are not present on site.

Standard Land-use Scenarios

The standard land-use scenarios used to develop exposure models are further detailed in the following sections:

Residential with homegrown produce

Generic scenario assumes a house built on a ground bearing slab with a private garden having a lawn, flowerbeds and a small fruit and vegetable patch.

- Critical receptor is assumed to be a young female child (zero to six years old)
- Exposure pathways include direct soil and indoor dust ingestion, consumption of home-grown produce and any adhering soil, skin contact with soils and indoor dust and inhalation of indoor and outdoor dust and vapours.

A sub-set of the Residential land-use is **Residential without Homegrown produce**. The generic scenario assumes low density housing with communal landscaped gardens where the consumption of homegrown vegetables will not occur and the pathways of direct ingestion and produce inputs are suitably moderated.

Allotments

Areas of open space commonly made available to local users but remote from residential properties, but on which tenants may grow fruit and vegetables for their own consumption. Typically, there are a number of plots to a site which may have a total area of up to 1 hectare. The tenants are assumed to be adults and that young children make only occasional accompanied visits.

Although some allotment holders may choose to keep animals on allotments, potential exposure to animal products is not currently considered within the CLEA model.

- Critical receptor is a young female child (zero to six years old)
- Exposure pathways include direct soil ingestion, consumption of homegrown produce and any adhering soil, skin contact with soils and inhalation of outdoor dust and vapours but at reduced exposure levels reflecting non-residential status.

Commercial

This generic scenario assumes a typical commercial or light industrial property at which employees spend most time indoors and are involved in office-based or relatively light physical work.

- Critical receptor is a working female adult (aged 16 to 65 years old).
- Exposure duration is over working lifetime
- Exposure pathways include direct soil and indoor dust ingestion, skin contact with soils and dusts and inhalation of dust and vapours but exposure reduced to reflect non-residential nature and general lack of open spaces.

Public Open Space within Residential Area

This generic scenario refers to any grassed area up to 0.05 ha that is associated with residential properties but is not for their exclusive use and on which no fruit or vegetables are grown for home consumption.

- Grassed area of up to 0.05 ha and a considerable proportion of this (up to 50%) may be bare soil which can be interacted with directly
- Predominantly used by children for play and/or access
- Sufficiently close proximity to home for tracking back of soil to occur, thus indoor exposure pathways apply

- older children chosen as the critical receptor on basis that they will use site most frequently (age class 4-9 years)
- ingestion rate assumed to be 75 mg.day^{-1}

Public Open Space Park

This generic scenario refers to any public park or grassed space that is more than 0.5ha in area:

- Public park (>0.5 ha), predominantly grassed and may also contain children's play equipment and border areas of soil containing flowers or shrubs (75% assumed cover)
- Female child age classes 1-6
- Soil ingestion rate of 50 mg.day^{-1}
- Occupancy period outdoors = 2 hours.day^{-1}
- Exposure frequency of 170 days.year-1 for age classes 2-18 and 85
- days.year^{-1} for age class 1
- Outdoor exposure pathways only (no tracking back of soils).

Human Health Generic Quantitative Risk Assessment (GQRA) involves the comparison of contaminant concentrations measured in soil at the site with Generic Assessment Criteria (GAC) generated using the CLEA model based on the exposure and land use scenario assumptions noted above.

GAC's are deliberately conservative values adopted to ensure that they are applicable to the majority of possible contaminated sites and below which there is considered a low to negligible risk to identified human health receptors, i.e. there can be no harm. These values may be published Contaminated Land Exposure Assessment Model (CLEA) derived GAC's derived by a competent third party or the Environment Agency / DEFRA. It is imperative to the risk assessor to understand the uncertainties and limitations associated with these GAC's to ensure that they are used appropriately.

Where the adoption of a GAC is not appropriate, for instance when the intended land-use is at variance the CLEA standard land-uses or the contaminant is susceptible to wide variation depending on factors such as form and bioavailability, then a Detailed Quantitative Risk Assessment (DQRA) may be undertaken to develop site specific or remediation values for relevant soil contaminants based on site and contaminant specific conditions.

In 2014, the publication of Category 4 Screening Levels (C4SL), refs 1.8 and 1.9, as part of the Defra-funded research project SP1010, included modifications to certain exposure assumptions documented within EA Science Report SC050221/SR3 (herein after referred to as SR3) ref 1.7 used in the generation of SGVs. C4SL were published for six substances (cadmium, arsenic, benzene, benzo(a)pyrene, chromium VI and lead) for a sandy loam soil type with 6% soil organic matter, based on a low level of toxicological concern. Where a C4SL has been published, Soils Limited has adopted them as GAC for these six substances.

For all other substances the soils will be compared to Suitable For Use Levels (S4ULs) published by LQM, ref. 1.10, which were developed for around 85 substances and are

intended to enable a screening assessment of the risks posed by soil quality on development sites. The updated LQM/CIEH GAC publication was developed to accommodate recent developments in the understanding of chemical, toxicological and routine exposure to soil-based contaminants.

Where no S4UL or C4SL is available, assessment criteria may be generated using the Contaminated Land Exposure Assessment (CLEA) Software Version 1.07, ref. 1.11, Toxicological and physico-chemical/fate and transport data used to generate the criteria has been derived from a hierarchy of data sources as follows:

1. Environment Agency or Department of Environment Food and Rural Affairs (DEFRA) documents;
2. Other documents produced by UK Government or state organisations;
3. European institution documents;
4. International organisation documents;
5. Foreign government institutions.

In the case of the majority of contaminants considered, the toxicological data has been drawn originally from the relevant CLR 9 TOX report, or updated toxicological data published by the Environment Agency (2009), where available. Where no TOX report is available reference has been made to appropriately determined health criteria values, derived from the above-noted hierarchy, as this is considered to represent appropriate peer reviewed data sources. Similarly, fate and transport data should also be determined by reference to appropriate sources and the CLEA model assumptions.

Chemical laboratory test results are processed as follows. A statistical analysis of the results is conducted, as detailed in CIEH and CL:AIRE ‘Guidance on Comparing Soil Contamination Data with a Critical Concentration’, ref. 1.12. Individual concentrations are then compared to the selected guideline values to identify and isolate concentrations of contaminants that are in excess of the selected screening low or no risk criteria.

Where the risk estimation identifies significant concentrations of one or more contaminants, further risk evaluation needs to be undertaken often as a site specific DQRA in line with current guidance to determine and confirm if the identified exceedances are significant in the context of the proposed development or activity.

References

1.1 The Environmental Protection Act, Part IIA, Section 78, DoE 1990.

1.2 Environment Act 1995, Section 57, DoE 1995.

1.3 Environment Act 2021 OEP 2021.

1.4 Land Contamination Risk Management Gov.UK (EA) 2021

1.5 BS 10175: 2011+A2:2017 '*Investigation of potentially contaminated sites. Code of practice*', British Standards Institute, 2017

1.6 BS 5930: 2015+A1:2020 '*Code of practice for ground investigations*', British Standards Institute, 2015

1.7 Science Report SC050021/SR3 '*Updated technical background to the CLEA model*', Environment Agency, 2008

1.8 DEFRA SP1010: Development of Category 4 Screening Levels for the Assessment of Land Affected by Contamination, published March 2014.

1.9 Contaminated Land: Applications in Real Environment (CL:AIRE) (2014). 'Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination', Revision 2, DEFRA research project SP1010.

1.10 The LQM/S4ULs for Human Health Risk Assessment, Nathanail P, McCaffery C, Gillett A, Ogden R, and Nathanail J, Land Quality Press, Nottingham, published 2015.

1.11 CLEA '*Software Version 1.071*' (downloaded from the CL:AIRE website , https://www.claire.co.uk/home/news/44-risk-assessment/178-soil-guideline-values)

1.12 CIEH '*Guidance on Comparing Soil Contamination Data with a Critical Concentration*', Chartered Institute of Environmental Health (CIEH) and Contaminated Land: Applications in Real Environments (CL:AIRE), May 2008.

Land Use				Residential With or Without Plant Uptake							Allotments			Commercial			Public Open Space (POS)								
				With home-grown produce				Without home-grown produce									Residential			Park					
				SOM	1.0	2.5	6	1	2.5	6	1	2.5	6	1	2.5	6	1	2.5	6	1	2.5	6	Name	Authority	Date
Type	Contaminants	Species	Year																						
	Antimony		2010							550						7500							EIC/AGS/ CL:AIRE	EIC/AGS/ CL:AIRE	2010
Metals	Arsenic		2014				37			40			49			640			79			168	C4SL	DEFRA	2014
			2015				37			40			40			640			79			170	S4UL	LQM/CIEH	2015
	Barium		2010							1300						22000							EIC/AGS/ CL:AIRE	EIC/AGS/ CL:AIRE	2010
	Beryllium		2015				1.7			1.7			35			12			2.2			63	S4UL	LQM/CIEH	2015
	Boron		2015				290			11000			45			240000			21000			46000	S4UL	LQM/CIEH	2015
	Cadmium		2015				11			85			1.9			190			120			532	S4UL	LQM/CIEH	2015
			2014				26			149			4.9			410			220			880	C4SL	DEFRA	2014
	Chromium	III	2015				910			910			18000			8600			1500			33000	S4UL	LQM/CIEH	2015
		VI	2014				21			21			170			49			23			250	C4SL	DEFRA	2014
		VI	2015				6			6			1.8			33			7.7			220	S4UL	LQM/CIEH	2015
	Copper		2015				2400			7100			520			68000			12000			44000	S4UL	LQM/CIEH	2015
	Lead		2014*				82-210			130-310			30-84			1100-6000			270-760			580-1400	C4SL	DEFRA	2014
	Mercury	Elemental	2012				1.0			1.0			26			26							210	DEFRA	2012
			2015				1.2			1.2			21			*58*			16			*30*	S4UL	LQM/CIEH	2015
		Inorganic	2012				170			170			80			36000							SGV	DEFRA	2012
			2015				40			56			19			1100			120			240	S4UL	LQM/CIEH	2015
		Methyl	2012				11			11			8			410							SGV	DEFRA	2012
			2015				11			15			6			320			40			68	S4UL	LQM/CIEH	2015
	Molybdenum		2010							670						17000							EIC/AGS/ CL:AIRE	EIC/AGS/ CL:AIRE	2010
	Nickel		2012				130			130			230			1800							SGV	DEFRA	2012
			2015				130			180			53			980			230			800	S4UL	LQM/CIEH	2015
	Selenium		2012				350			595			120			13000							SGV	DEFRA	2012
			2015				250			430			88			12000			1100			1800	S4UL	LQM/CIEH	2015
	Vanadium		2015				410			1200			91			9000			2000			5000	S4UL	LQM/CIEH	2015
	Zinc		2015				3700			40000			620			730000			81000			170000	S4UL	LQM/CIEH	2015
BTEX & MTBE	Benzene		2012				0.33			0.33			0.07			95							SGV	DEFRA	2012
			2014				0.87			3.3			0.18			98			140			230	C4SL	DEFRA	2014
			2015	0.087	0.17	0.37	0.38	0.7	1.4	0.017	0.034	0.075	27	47	90	72	72	73	90	100	110	S4UL	LQM/CIEH	2015
	Toluene		2012				610			610			120			4400							SGV	DEFRA	2012
			2015	130	290	660	*880*	1900	3900	22	51	120	*56000*	*110000*	*180000*	56000	56000	56000	*87000*	*95000*	*100000*	S4UL	LQM/CIEH	2015
	Ethylbenzene		2012				350			350			90			2800							SGV	DEFRA	2012
			2015	47	110	260	83	190	440	16	39	91	*5700*	*13000*	*27000*	24000	24000	25000	*17000*	*22000*	*27000*	S4UL	LQM/CIEH	2015
	Xylenes	o-xylene	2012				250			250			160			2600							SGV	DEFRA	2012
			2015	60	140	330	88	210	480	28	67	160	*6600*	*15000*	*33000*	41000	42000	43000	*17000*	*24000*	*33000*	S4UL	LQM/CIEH	2015
		m-xylene	2012				240			240			180			3500							SGV	DEFRA	2012
			2015	59	140	320	82	190	450	31	74	170	*6200*	*14000*	*31000*	41000	42000	43000	*17000*	*24000*	*32000*	S4UL	LQM/CIEH	2015
		p-xylene	2012				230			230			160			3200							SGV	DEFRA	2012
			2015	56	130	310	79	180	430	29	69	160	*5900*	*14000*	*30000*	41000	42000	43000	*17000*	*23000*	*31000*	S4UL	LQM/CIEH	2015
Petroleum Hydrocarbons Fractions	Aliphatic >C5 - C6		2015	42	78	160	42	78	160	730	1700	3900	*3200*	*5900*	*12000*	*570000*	590000	600000	*95000*	*5900*	*12000*	S4UL	LQM/CIEH	2015
	Aliphatic >C6 - C8		2015	100	230	530	100	230	530	2300	5600	13000	*7800*	*17000*	*40000*	600000	610000	620000	*150000*	*17000*	*40000*	S4UL	LQM/CIEH	2015
	Aliphatic >C8 - C10		2015	27	65	150	27	65	150	320	770	1700	*2000*	*4800*	*11000*	13000	13000	13000	*14000*	*4800*	*11000*	S4UL	LQM/CIEH	2015
	Aliphatic >C10 - C12		2015	*130*	*330*	*760*	*130*	*330*	*770*	2200	4400	7300	*9700*	*23000*	*47000*	13000	13000	13000	*21000*	*23000*	*47000*	S4UL	LQM/CIEH	2015
	Aliphatic >C12 - C16		2015	*1100*	*2400*	*4300*	*1100*	*2400*	*4400*	11000	13000	13000	*59000*	*82000*	*90000*	13000	13000	13000	*25000*	*82000*	*90000*	S4UL	LQM/CIEH	2015
	Aliphatic >C16 - C35		2015	*65000*	*92000*	*110000*	*65000*	*92000*	110000	260000	270000	270000	1600000	1700000	1800000	250000	250000	250000	450000	170000	180000	S4UL	LQM/CIEH	2015
	Aliphatic >C35 - C44		2015	*65000*	*92000*	*140000*	*65000*	*92000*	110000	260000	270000	270000	1600000	1700000	1800000	250000	250000	250000	450000	170000	180000	S4UL	LQM/CIEH	2015
	Aromatic >C5 - C7		2015	70	140	300	370	690	1400	13	27	57	*26000*	*46000*	*86000*	56000	56000	56000	*76000*	*84000*	*92000*	S4UL	LQM/CIEH	2015
	Aromatic >C7 - C8		2015	130	290	660	860	1800	3900	22	51	120	*56000*	*110000*	*180000*	56000	56000	56000	*87000*	*95000*	*100000*	S4UL	LQM/CIEH	2015

Land Use			Residential With or Without Plant Uptake									Allotments			Commercial			Public Open Space (POS)								
			With home-grown produce			Without home-grown produce												Residential			Park					
		SOM	1.0	2.5	6	1	2.5	6	1	2.5	6	1	2.5	6	1	2.5	6	1	2.5	6	Name	Authority	Date
Type	Contaminants Species	Year																					
	Aromatic >C8 - C10	2015	34	83	190	47	110	270	8.6	21	51	*3500*	*8100*	*17000*	5000	5000	5000	*7200*	*8500*	*9200*	S4UL	LQM/CIEH	2015
	Aromatic >C10 - C12	2015	74	180	380	250	590	1200	13	31	74	*16000*	*28000*	*34000*	5000	5000	5000	*9200*	*9700*	*10000*	S4UL	LQM/CIEH	2015
	Aromatic >C12 - C16	2015	140	330	660	1800	2300	2500	23	57	130	*36000*	*37000*	*38000*	5100	5100	5000	10000	10000	10000	S4UL	LQM/CIEH	2015
	Aromatic >C16 - C21	2015	260	540	930	1900	1900	1900	46	110	260	28000	28000	28000	3800	3800	3800	7600	7700	7800	S4UL	LQM/CIEH	2015
	Aromatic >C21 - C35	2015	1100	1500	1700	1900	1900	1900	370	820	1600	28000	28000	28000	3800	3800	3800	7800	7800	7900	S4UL	LQM/CIEH	2015
	Aromatic >C34 - C44	2015	1100	1500	1700	1900	1900	1900	370	820	1600	28000	28000	28000	3800	3800	3800	7800	7800	7900	S4UL	LQM/CIEH	2015
	Aliphatic + Aromatic >C44 - C70		1600	1800	1900	1900	1900	1900	1200	2100	3000	28000	28000	28000	3800	28000	28000	7800	7800	7900	S4UL	LQM/CIEH	2015
Polycyclic Aromatic Hydrocarbons (PAH's) (mg/kg)	Acenaphthene	2015	210	510	1100	*3000*	*4700*	*6000*	34	85	200	*84000*	*97000*	100000	15000	15000	15000	29000	29000	29000	S4UL	LQM/CIEH	2015
	Acenaphthylene	2015	170	420	920	*2900*	*4600*	*6000*	28	69	160	*83000*	*97000*	100000	15000	15000	15000	29000	29000	29000	S4UL	LQM/CIEH	2015
	Anthracene	2015	2400	5400	11000	*31000*	*35000*	*37000*	380	950	2200	520000	54000	540000	74000	74000	74000	150000	150000	150000	S4UL	LQM/CIEH	2015
	Benzo(a)anthracene	2015	7.2	11	13	11	14	15	2.9	6.5	13	170	170	180	29	29	29	49	56	62	S4UL	LQM/CIEH	2015
	Benzo(a)pyrene	2014			5			5.3			5.7			76			10			21	C4SL	DEFRA	2014
		2015	2.2	2.7	3	3.2	3.2	3.2	0.79	2	3.5	35	35	36	5.7	5.7	5.7	11	12	13	S4UL	LQM/CIEH	2015
	Benzo(b)fluoranthene	2015	2.6	3.3	3.7	3.9	4.0	4.0	0.99	2.1	3.9	44	44	45	7.1	7.2	7.2	13	15	16	S4UL	LQM/CIEH	2015
	Benzo(ghi)perylene	2015	320	340	350	360	360	360	290	470	640	3900	4000	4000	640	640	640	1400	1500	1600	S4UL	LQM/CIEH	2015
	Benzo(k)fluoranthene	2015	77	93	100	110	110	110	37	75	130	1200	1200	1200	190	190	190	370	410	440	S4UL	LQM/CIEH	2015
	Chrysene	2015	15	22	27	30	31	32	4.1	9.4	19	350	350	350	57	57	57	93	110	120	S4UL	LQM/CIEH	2015
	Dibenz(a,h)anthracene	2015	0.24	0.28	0.3	0.31	0.32	0.32	0.14	0.27	0.43	3.5	3.6	3.6	0.57	0.57	0.58	1.1	1.3	1.4	S4UL	LQM/CIEH	2015
	Fluoranthene	2015	280	560	890	1500	1600	1600	52	130	290	23000	23000	23000	3100	3100	3100	6300	6300	6400	S4UL	LQM/CIEH	2015
	Fluorene	2015	170	400	860	*2800*	*3800*	*4500*	27	67	160	63000	68000	71000	9900	9900	9900	20000	20000	20000	S4UL	LQM/CIEH	2015
	Indeno(1,2,3-cd)pyrene	2015	27	36	41	45	46	46	9.5	21	39	500	510	510	82	82	82	150	170	180	S4UL	LQM/CIEH	2015
	Naphthalene	2015	2.3	5.6	13	2.3	5.6	13	4.1	10	24	*190*	*460*	*1100*	4900	4900	4900	*1200*	*1900*	*3000*	S4UL	LQM/CIEH	2015
	Phenanthrene	2015	95	220	440	*1300*	*1500*	*1500*	15	38	90	22000	22000	23000	3100	3100	3100	6200	6200	6300	S4UL	LQM/CIEH	2015
	Pyrene	2015	620	1200	2000	3700	3800	3800	110	270	620	54000	54000	54000	7400	7400	7400	15000	15000	15000	S4UL	LQM/CIEH	2015
	Coal Tar (Bap as surrogate matter)	2015	0.79	0.98	1.1	1.2	1.2	1.2	0.32	0.67	1.2	15	15	15	2.2	2.2	2.2	4.4	4.7	4.8	S4UL	LQM/CIEH	2015
Chloroalkanes & alkenes	1,2 Dichloroethane	2015	0.0071	0.011	0.019	0.0092	0.013	0.023	0.0046	0.0083	0.016	0.67	0.97	1.7	29	29	29	21	24	28	S4UL	LQM/CIEH	2015
	1,1,1 Trichloroethane	2015	8.8	18	39	9	18	40	48	110	240	660	1300	3000	140000	140000	*140000*	*57000*	*76000*	*100000*	S4UL	LQM/CIEH	2015
	1,1,2,2 Tetrachloroethane	2015	1.6	3.4	7.5	3.9	8	17	0.41	0.89	2	270	550	1100	1400	1400	1400	1800	2100	2300	S4UL	LQM/CIEH	2015
	1,1,1,2 Tetrachloroethane	2015	1.2	2.8	6.4	1.5	3.5	8.2	0.79	1.9	4.4	110	250	560	1400	1400	1400	1500	1800	2100	S4UL	LQM/CIEH	2015
	Tetrachloroethene (PCE)	2015	0.18	0.39	0.9	0.18	0.4	0.92	0.65	1.5	3.6	19	42	95	1400	1400	1400	*810*	*1100*	1500	S4UL	LQM/CIEH	2015
		2021	0.31	0.7	1.6	0.32	0.71	1.6	2	4.8	11	24	55	130	3200	3300	3400	1400	1900	2500	C4SL	CLAIRE	2021
	Tetrachloromethane (Carbon Tetrachloride)	2015	0.026	0.056	0.13	0.026	0.056	0.13	0.45	1	2.4	2.9	6.3	14	890	920	950	190	270	400	S4UL	LQM/CIEH	2015
	Trichloroethene (TCE)	2015	0.016	0.034	0.075	0.017	0.036	0.08	0.041	0.091	0.21	1.2	2.6	5.7	120	120	120	70	91	120	S4UL	LQM/CIEH	2015
		2021	0.0093	0.02	0.043	0.0097	0.02	0.045	0.032	0.072	0.16	0.73	1.5	3.4	76	78	79	41	54	69	C4SL	CLAIRE	2021
	Trichloromethane (Chloroform)	2015	0.91	1.7	3.4	1.2	2.1	4.2	0.42	0.83	1.7	99	170	350	2500	2500	2500	2600	2800	3100	S4UL	LQM/CIEH	2015
	Vinyl Chloride (Cloroethene)	2015	0.00064	0.00087	0.0014	0.00077	0.001	0.0015	0.00055	0.001	0.0018	0.059	0.077	0.12	3.5	3.5	3.5	4.8	5	5.4	S4UL	LQM/CIEH	2015
		2021	0.0064	0.01	0.017	0.015	0.019	0.029	0.0017	0.0031	0.0058	1.1	1.4	2.2	7.8	7.8	7.8	18	19	19	C4SL	CLAIRE	2021
Explosives	2,4,6 Trinitrotoluene	2015	1.6	3.7	8.1	65	66	66	0.24	0.58	1.4	1000	1000	1000	130	130	130	260	270	270	S4UL	LQM/CIEH	2015
	RDX (Hexogen/Cyclonite/1,3,5-trinitro-1,3,5-triazacyclohexane)	2015	120	250	540	13000	13000	13000	17	38	85	210000	210000	210000	26000	26000	27000	49000	51000	53000	S4UL	LQM/CIEH	2015
	HMX (Octogen/1,3,5,7-tetrenitro-1,3,5,7-tetrazacyclo-octane)	2015	5.7	13	26	6700	6700	6700	0.86	1.9	3.9	110000	110000	110000	13000	13000	13000	*23000*	*23000*	*24000*	S4UL	LQM/CIEH	2015
Pesticides	Aldrin	2015	5.7	6.6	7.1	7.3	7.4	7.5	3.2	6.1	9.6	170	170	170	18	18	18	30	31	31	S4UL	LQM/CIEH	2015
	Dieldrin	2015	0.97	2	3.5	7	7.3	7.4	0.17	0.41	0.96	170	170	170	18	18	18	30	30	31	S4UL	LQM/CIEH	2015
	Atrazine	2015	3.3	7.6	17.4	610	620	620	0.5	1.2	2.7	9300	9400	9400	1200	1200	1200	2300	2400	2400	S4UL	LQM/CIEH	2015
	Dichlorvos	2015	0.032	0.066	0.14	6.4	6.5	6.6	0.0049	0.01	0.022	140	140	140	16	16	16	26	26	27	S4UL	LQM/CIEH	2015
	Alpha - Endosulfan	2015	7.4	18	41	*160*	*280*	*410*	1.2	2.9	6.8	*5600*	*7400*	*8400*	1200	1200	1200	2400	2400	2500	S4UL	LQM/CIEH	2015
	Beta - Endosulfan	2015	7	17	39	*190*	*320*	*440*	1.1	2.7	6.4	*6300*	*7800*	*8700*	1200	1200	1200	2400	2400	2500	S4UL	LQM/CIEH	2015
	Alpha -Hexachlorocyclohexanes	2015	0.23	0.55	1.2	6.9	9.2	11	0.035	0.087	0.21	170	180	180	24	24	24	47	48	48	S4UL	LQM/CIEH	2015
	Beta -Hexachlorocyclohexanes	2015	0.085	0.2	0.46	3.7	3.8	3.8	0.013	0.032	0.077	65	65	65	8.1	8.1	8.1	15	15	16	S4UL	LQM/CIEH	2015
	Gamma -Hexachlorocyclohexanes	2015	0.06	0.14	0.33	2.9	3.3	3.5	0.0092	0.023	0.054	67	69	70	8.2	8.2	8.2	14	15	15	S4UL	LQM/CIEH	2015

Land Use			Residential With or Without Plant Uptake							Allotments			Commercial			Public Open Space (POS)								
			With home-grown produce			Without home-grown produce										Residential			Park					
		SOM	1.0	2.5	6	1	2.5	6	1	2.5	6	1	2.5	6	1	2.5	6	1	2.5	6	Name	Authority	Date
Type	Contaminants Species	Year																					
Chlorobenzenes	Chlorobenzene	2015	0.46	1	2.4	0.46	1	2.4	5.9	14	32	56	130	290	11000	13000	14000	*1300*	*2000*	*2900*	S4UL	LQM/CIEH	2015
	1,2-Dichlorobenzene	2015	23	55	130	24	57	130	94	230	540	*2000*	*4800*	*11000*	90000	95000	98000	*24000*	*36000*	*51000*	S4UL	LQM/CIEH	2015
	1,3-Dichlorobenzene	2015	0.4	1	2.3	0.44	1.1	2.5	0.25	0.6	1.5	30	73	170	300	300	300	390	440	470	S4UL	LQM/CIEH	2015
	1,4-Dichlorobenzene	2015	61	150	350	61	150	350	15	37	88	*4400*	*10000*	*25000*	17000	17000	1700	*36000*	*36000*	*36000*	S4UL	LQM/CIEH	2015
	1,2,3,-Trichlorobenzene	2015	1.5	3.6	8.6	1.5	3.7	8.8	4.7	12	28	102	250	590	1800	1800	1800	*770*	*1100*	*1600*	S4UL	LQM/CIEH	2015
	1,2,4,-Trichlorobenzene	2015	2.6	6.4	15	2.6	6.4	15	55	140	320	220	530	1300	15000	17000	19000	*1700*	*2600*	*4000*	S4UL	LQM/CIEH	2015
	1,3,5,-Trichlorobenzene	2015	0.33	0.81	1.9	0.33	0.81	1.9	4.7	12	28	23	55	130	1700	1700	1800	*380*	*580*	*860*	S4UL	LQM/CIEH	2015
	1,2,3,4,-Tetrachlorobenzene	2015	15	36	78	24	56	120	4.4	11	26	1700	3080	4400	830	830	830	*1500*	*1600*	*1600*	S4UL	LQM/CIEH	2015
	1,2,3,5,- Tetrachlobenzene	2015	0.66	1.6	3.7	0.75	1.9	4.3	0.38	0.9	2.2	*49*	*120*	*240*	78	79	79	*110*	*120*	*130*	S4UL	LQM/CIEH	2015
	1,2,4, 5,- Tetrachlobenzene	2015	0.33	0.77	1.6	0.73	1.7	3.5	0.06	0.16	0.37	*42*	*72*	*96*	13	13	13	25	26	26	S4UL	LQM/CIEH	2015
	Pentachlrobenzene	2015	5.8	12	22	19	30	38	1.2	3.1	7	*640*	*770*	*830*	100	100	100	190	190	190	S4UL	LQM/CIEH	2015
	Hexachlorobenzene	2015	*1.8*	*3.3*	4.9	*4.1*	*5.7*	*6.7*	0.47	1.1	2.5	*110*	120	120	16	16	16	30	30	30	S4UL	LQM/CIEH	2015
Phenols & Chlorophenols																							
	Phenols	2012			420			420			280			*3200*							SGV	DEFRA	2012
		2015	120	200	380	440	690	1200	23	42	83	*440*	*690*	*1300*	*440*	*690*	*1300*	*440*	*690*	*1300*	S4UL	LQM/CIEH	2015
	Chlorophenols (4 Congeners)	2015	0.87	2	4.5	94	150	210	0.13	0.3	0.7	3500	4000	4300	620	620	620	1100	1100	1100	S4UL	LQM/CIEH	2015
	Pentachlorophenols	2015	0.22	0.52	1.2	*27*	29	31	0.03	0.08	0.19	400	400	400	60	60	60	110	120	120	S4UL	LQM/CIEH	2015
Others																							
	Carbon Disulphide	2015	0.14	0.29	0.62	0.14	0.29	0.62	4.8	10	23	11	22	47	11000	11000	12000	1300	1900	2700	S4UL	LQM/CIEH	2015
	Hexachloro-1,3-Butadiene	2015	0.29	0.7	1.6	0.32	0.78	1.8	0.25	0.61	1.4	31	66	120	25	25	25	48	50	51	S4UL	LQM/CIEH	2015
	Sum of PCDDs, PCDFs and dioxin-like PCB's.	2012			8			8			8			240							SGV	DEFRA	2012

NOTE

Priority	Guideline (mg kg^{-1})
1	Site Specific Assessment Criteria (SSAC) (Soils Limited)
2	2014: Category 4 Screening Level (C4SL) (Contaminated Land: Application in Real Environment (CL:ARE), 2014 and 2021) * Use upper range value for Lead unless otherwise indicated
3	2012: Soil Guideline Value (SGV) (Environment Agency, 2009)
4	2015: Suitable 4 Use Level (S4UL) (Nathanail *et al*, 2015)

For Generic Risk Assessment, the values in Bold should have priority unless site specific, Client or regulatory requirements dictate otherwise – which must be justified

Table reviewed January 2024

Appendix F HazWasteOnline Report

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

a) understand the origin of the waste
b) select the correct List of Waste code(s)
c) confirm that the list of determinands, results and sampling plan are fit for purpose
d) select and justify the chosen metal species (Appendix B)
e) correctly apply moisture correction and other available corrections
f) add the meta data for their user-defined substances (Appendix A)
g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

G9VOG-9W7GN-N2I3B

Report is invalid if pages are removed.

Job name

21876

Description/Comments

Project

21876(1)

Site

Kings Copse Avenue, Hedge End, SO30 2SZ

Classified by

Name:
Margaret Lo
Date:
30 May 2025 13:53 GMT
Telephone:
07467803676

Company:
Soils Ltd
Pool Innovation Centre
Redruth
Cornwall
TR15 3PL

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification: **CERTIFIED**

Course	Date
Hazardous Waste Classification	06 Apr 2023

Next 3 year Refresher due by Apr 2026

Purpose of classification

2 - Material Characterisation

Address of the waste

Kings Copse Avenue, Hedge End, **Post Code** SO30 2SZ

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Residential development

Description of the specific process, sub-process and/or activity that created the waste

Residential development

Description of the waste

Residential development

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS1 774308/0.30/2025-04-22		Non Hazardous		3
2	WS3 774309/0.10/2025-04-22		Non Hazardous		5
3	WS4 774310/0.50/2025-04-22		Non Hazardous		7
4	WS8 774311/0.60/2025-04-22		Non Hazardous		9
5	TP1 774312/0.30/2025-04-22		Non Hazardous		11
6	TP2 774313/0.90/2025-04-22		Non Hazardous		13

Related documents

#	Name	Description
1	25-09347.hwol	DETS North .hwol file used to populate the Job
2	Soils Suite 2 2025	waste stream template used to create this Job

Report

Created by: Margaret Lo

Created date: 30 May 2025 13:53 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	15
Appendix B: Rationale for selection of metal species	16
Appendix C: Version	17

Classification of sample: WS1 774308/0.30/2025-04-22

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS1 774308/0.30/2025-04-22
Moisture content:
9.7%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.7% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		4.1	mg/kg	1.32	4.888	mg/kg	0.000489 %		
2		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.2	mg/kg	3.22	0.582	mg/kg	0.0000582 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1	mg/kg	1.142	0.103	mg/kg	0.0000103 %		
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		7.9	mg/kg	1.462	10.426	mg/kg	0.00104 %		
5		chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<1	mg/kg	2.27	<2.27	mg/kg	<0.000227 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9.1	mg/kg	1.126	9.252	mg/kg	0.000925 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	14	mg/kg	1.56	19.719	mg/kg	0.00126 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<**LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		3.5	mg/kg	2.976	9.406	mg/kg	0.000941 %		
10		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<0.5	mg/kg	2.554	<1.277	mg/kg	<0.000128 %		<**LOD**
11		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		14	mg/kg	1.785	22.568	mg/kg	0.00226 %		
12		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		23	mg/kg	2.774	57.616	mg/kg	0.00576 %		
13		TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<**LOD**
14		pH			PH		8	pH		8	pH	8pH		
15		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
16		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		acenaphthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-469-6	83-32-9									
18		fluorene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-695-5	86-73-7									
19		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-581-5	85-01-8									
20		anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-371-1	120-12-7									
21		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-912-4	206-44-0									
22		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-927-3	129-00-0									
23		benzo[a]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-883-8	191-24-2									
31		monohydric phenols				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
				P1186									
32		polychlorobiphenyls; PCB				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0127 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS3 774309/0.10/2025-04-22

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS3 774309/0.10/2025-04-22
Moisture content:
13%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 13% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.6	mg/kg	1.32	7.581	mg/kg	0.000758 %		
2		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.4	mg/kg	3.22	1.121	mg/kg	0.000112 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1	mg/kg	1.142	0.0994	mg/kg	0.00000994 %		
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		17	mg/kg	1.462	21.616	mg/kg	0.00216 %		
5		chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<1	mg/kg	2.27	<2.27	mg/kg	<0.000227 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		16	mg/kg	1.126	15.672	mg/kg	0.00157 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	36	mg/kg	1.56	48.853	mg/kg	0.00313 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<**LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		7.6	mg/kg	2.976	19.679	mg/kg	0.00197 %		
10		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<0.5	mg/kg	2.554	<1.277	mg/kg	<0.000128 %		<**LOD**
11		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		30	mg/kg	1.785	46.593	mg/kg	0.00466 %		
12		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		41	mg/kg	2.774	98.954	mg/kg	0.0099 %		
13		TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<**LOD**
14		pH			PH		9.5	pH		9.5	pH	9.5 pH		
15		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
16		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		acenaphthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-469-6	83-32-9									
18		fluorene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-695-5	86-73-7									
19		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-581-5	85-01-8									
20		anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-371-1	120-12-7									
21		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-912-4	206-44-0									
22		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-927-3	129-00-0									
23		benzo[a]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-883-8	191-24-2									
31		monohydric phenols				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
				P1186									
32		polychlorobiphenyls; PCB				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0243 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS4 774310/0.50/2025-04-22

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS4 774310/0.50/2025-04-22
Moisture content:
23%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 23% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11	mg/kg	1.32	11.183	mg/kg	0.00112 %		
2		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.5	mg/kg	3.22	1.24	mg/kg	0.000124 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2	mg/kg	1.142	0.176	mg/kg	0.0000176 %		
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		34	mg/kg	1.462	38.264	mg/kg	0.00383 %		
5		chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<1	mg/kg	2.27	<2.27	mg/kg	<0.000227 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		21	mg/kg	1.126	18.206	mg/kg	0.00182 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	41	mg/kg	1.56	49.243	mg/kg	0.00316 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.07	mg/kg	1.353	0.073	mg/kg	0.0000073 %		
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		12	mg/kg	2.976	27.501	mg/kg	0.00275 %		
10		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<0.5	mg/kg	2.554	<1.277	mg/kg	<0.000128 %		<**LOD**
11		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		57	mg/kg	1.785	78.352	mg/kg	0.00784 %		
12		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		74	mg/kg	2.774	158.071	mg/kg	0.0158 %		
13		TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<**LOD**
14		pH			PH		7.7	pH		7.7	pH	7.7 pH		
15		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
16		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		acenaphthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-469-6	83-32-9									
18		fluorene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-695-5	86-73-7									
19		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-581-5	85-01-8									
20		anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-371-1	120-12-7									
21		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-912-4	206-44-0									
22		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-927-3	129-00-0									
23		benzo[a]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-883-8	191-24-2									
31		monohydric phenols				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
				P1186									
32		polychlorobiphenyls; PCB				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0365 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS8 774311/0.60/2025-04-22

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS8 774311/0.60/2025-04-22
Moisture content:
20%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 20% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10	mg/kg	1.32	10.563	mg/kg	0.00106 %		
2		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.3	mg/kg	3.22	0.773	mg/kg	0.0000773 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1	mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<**LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		34	mg/kg	1.462	39.754	mg/kg	0.00398 %		
5		chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<1	mg/kg	2.27	<2.27	mg/kg	<0.000227 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9.9	mg/kg	1.126	8.917	mg/kg	0.000892 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	12	mg/kg	1.56	14.974	mg/kg	0.00096 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<**LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		12	mg/kg	2.976	28.572	mg/kg	0.00286 %		
10		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<0.5	mg/kg	2.554	<1.277	mg/kg	<0.000128 %		<**LOD**
11		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		52	mg/kg	1.785	74.264	mg/kg	0.00743 %		
12		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		41	mg/kg	2.774	90.992	mg/kg	0.0091 %		
13		TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<**LOD**
14		pH			PH		8.3	pH		8.3	pH	8.3 pH		
15		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
16		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		acenaphthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-469-6	83-32-9									
18		fluorene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-695-5	86-73-7									
19		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-581-5	85-01-8									
20		anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-371-1	120-12-7									
21		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-912-4	206-44-0									
22		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-927-3	129-00-0									
23		benzo[a]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-883-8	191-24-2									
31		monohydric phenols				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
				P1186									
32		polychlorobiphenyls; PCB				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0263 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP1 774312/0.30/2025-04-22

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP1 774312/0.30/2025-04-22
Moisture content:
16%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 16% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.8	mg/kg	1.32	10.869	mg/kg	0.00109 %		
2		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.3	mg/kg	3.22	0.811	mg/kg	0.0000811 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1	mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<**LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		28	mg/kg	1.462	34.376	mg/kg	0.00344 %		
5		chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<1	mg/kg	2.27	<2.27	mg/kg	<0.000227 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9.4	mg/kg	1.126	8.89	mg/kg	0.000889 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	10	mg/kg	1.56	13.102	mg/kg	0.00084 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<**LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		13	mg/kg	2.976	32.501	mg/kg	0.00325 %		
10		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<0.5	mg/kg	2.554	<1.277	mg/kg	<0.000128 %		<**LOD**
11		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		50	mg/kg	1.785	74.978	mg/kg	0.0075 %		
12		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		39	mg/kg	2.774	90.881	mg/kg	0.00909 %		
13		TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<**LOD**
14		pH			PH		7.3	pH		7.3	pH	7.3 pH		
15		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
16		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		acenaphthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-469-6	83-32-9									
18		fluorene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-695-5	86-73-7									
19		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-581-5	85-01-8									
20		anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-371-1	120-12-7									
21		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-912-4	206-44-0									
22		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-927-3	129-00-0									
23		benzo[a]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-883-8	191-24-2									
31		monohydric phenols				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
				P1186									
32		polychlorobiphenyls; PCB				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0262 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP2 774313/0.90/2025-04-22

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP2 774313/0.90/2025-04-22
Moisture content:
20%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 20% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.7	mg/kg	1.32	7.077	mg/kg	0.000708 %		
2		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.4	mg/kg	3.22	1.03	mg/kg	0.000103 %		
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1	mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<**LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		27	mg/kg	1.462	31.57	mg/kg	0.00316 %		
5		chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<1	mg/kg	2.27	<2.27	mg/kg	<0.000227 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		5.5	mg/kg	1.126	4.954	mg/kg	0.000495 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	7.3	mg/kg	1.56	9.109	mg/kg	0.000584 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<**LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		4.5	mg/kg	2.976	10.715	mg/kg	0.00107 %		
10		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<0.5	mg/kg	2.554	<1.277	mg/kg	<0.000128 %		<**LOD**
11		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		40	mg/kg	1.785	57.126	mg/kg	0.00571 %		
12		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		23	mg/kg	2.774	51.044	mg/kg	0.0051 %		
13		TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<**LOD**
14		pH			PH		7.1	pH		7.1	pH	7.1 pH		
15		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
16		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		acenaphthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-469-6	83-32-9									
18		fluorene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-695-5	86-73-7									
19		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-581-5	85-01-8									
20		anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-371-1	120-12-7									
21		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-912-4	206-44-0									
22		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-927-3	129-00-0									
23		benzo[a]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-883-8	191-24-2									
31		monohydric phenols				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
				P1186									
32		polychlorobiphenyls; PCB				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0169 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non GB MCL determinands

chromium(III) oxide (worst case) (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Unknown Oil

Hazard statements taken from WM3 1st Edition 2015
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

acenaphthylene (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

acenaphthene (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

fluorene (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

anthracene (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

fluoranthene (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

pyrene (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

indeno[123-cd]pyrene (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

benzo[ghi]perylene (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

monohydric phenols (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)
Data source: CLP combined data
Data source date: 26 Mar 2019
Hazard Statements: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 <= conc. < 3 % , Eye Irrit. 2; H319 1 <= conc. < 3 % , Aquatic Chronic 2; H411

polychlorobiphenyls; PCB (EC Number: 215-648-1, CAS Number: 1336-36-3)

GB MCL index number: 602-039-00-4
Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

boron {diboron trioxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

chromium in Cr(III) compounds {chromium(III) oxide (worst case)}

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (edit as required)

chromium in Cr(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

vanadium {divanadium pentaoxide; vanadium pentoxide}

Worst case species (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.142.6646.12090 (22 May 2025)
HazWasteOnline Database: 2025.142.6646.12090 (22 May 2025)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024
GB MCL List v6.0 - version 6.0 of 15th February 2025

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

a) understand the origin of the waste
b) select the correct List of Waste code(s)
c) confirm that the list of determinands, results and sampling plan are fit for purpose
d) select and justify the chosen metal species (Appendix B)
e) correctly apply moisture correction and other available corrections
f) add the meta data for their user-defined substances (Appendix A)
g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

ILX9V-RCHA0-0LURA

Report is invalid if pages are removed.

Job name

21876[2]

Description/Comments

Project

21876(2)

Site

Kings Copse Avenue, Hedge End, SO30 2SZ

Classified by

Name:
Margaret Lo
Date:
30 May 2025 13:55 GMT
Telephone:
07467803676

Company:
Soils Ltd
Pool Innovation Centre
Redruth
Cornwall
TR15 3PL

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification: CERTIFIED

Course	Date
Hazardous Waste Classification	06 Apr 2023

Next 3 year Refresher due by Apr 2026

Purpose of classification

2 - Material Characterisation

Address of the waste

Kings Copse Avenue, Hedge End, **Post Code** SO30 2SZ

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Residential development

Description of the specific process, sub-process and/or activity that created the waste

Residential development

Description of the waste

Residential development

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS1-0.10-22/04/2025	0.10	Non Hazardous		3
2	WS2-0.20-22/04/2025	0.20	Non Hazardous		5
3	WS3-0.50-22/04/2025	0.50	Non Hazardous		7
4	WS4-0.80-22/04/2025	0.80	Non Hazardous		9
5	WS5-0.10-22/04/2025	0.10	Non Hazardous		11
6	WS6-0.20-22/04/2025	0.20	Non Hazardous		13
7	WS7-0.50-22/04/2025	0.50	Non Hazardous		15
8	WS8-1.00-22/04/2025	1.00	Non Hazardous		17

Related documents

#	Name	Description
1	25-04477.1 (1).hwol	DETS South .hwol file used to populate the Job
2	Soils Suite 2 2025	waste stream template used to create this Job

Report

Created by: Margaret Lo

Created date: 30 May 2025 13:55 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	19
Appendix B: Rationale for selection of metal species	20
Appendix C: Version	21

Classification of sample: WS1-0.10-22/04/2025

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS1-0.10-22/04/2025
Sample Depth:
0.10 m
Moisture content:
6.8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 6.8% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6	mg/kg	1.32	7.383	mg/kg	0.000738 %		
2		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		7	mg/kg	1.462	9.535	mg/kg	0.000954 %		
5		chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<2	mg/kg	2.27	<4.54	mg/kg	<0.000454 %		<LOD
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		6	mg/kg	1.126	6.296	mg/kg	0.00063 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15	mg/kg	1.56	21.806	mg/kg	0.0014 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		<3	mg/kg	2.976	<8.929	mg/kg	<0.000893 %		<LOD
10		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2	mg/kg	2.554	<5.108	mg/kg	<0.000511 %		<LOD
11		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		13	mg/kg	1.785	21.629	mg/kg	0.00216 %		
12		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		20	mg/kg	2.774	51.71	mg/kg	0.00517 %		
13		TPH (C6 to C40) petroleum group			TPH		<6	mg/kg		<6	mg/kg	<0.0006 %		<LOD
14		pH			PH		6.8	pH		6.8	pH	6.8 pH		
15		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-917-1	208-96-8									
17		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-469-6	83-32-9									
18		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-695-5	86-73-7									
19		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8									
20		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
21		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0									
22		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0									
23		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
31		monohydric phenols				<2	mg/kg		<2	mg/kg	<0.0002 %		<**LOD**
				P1186									
										Total:	0.0111 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS2-0.20-22/04/2025

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS2-0.20-22/04/2025
Sample Depth:
0.20 m
Moisture content:
12.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.6% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8	mg/kg	1.32	9.232	mg/kg	0.000923 %		
2		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<**LOD**
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<**LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		13	mg/kg	1.462	16.606	mg/kg	0.00166 %		
5		chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<2	mg/kg	2.27	<4.54	mg/kg	<0.000454 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		13	mg/kg	1.126	12.792	mg/kg	0.00128 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	26	mg/kg	1.56	35.445	mg/kg	0.00227 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<**LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		6	mg/kg	2.976	15.608	mg/kg	0.00156 %		
10		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2	mg/kg	2.554	<5.108	mg/kg	<0.000511 %		<**LOD**
11		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		24	mg/kg	1.785	37.446	mg/kg	0.00374 %		
12		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		28	mg/kg	2.774	67.889	mg/kg	0.00679 %		
13		TPH (C6 to C40) petroleum group			TPH		<6	mg/kg		<6	mg/kg	<0.0006 %		<**LOD**
14		pH			PH		7.3	pH		7.3	pH	7.3 pH		
15		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-917-1	208-96-8									
17		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-469-6	83-32-9									
18		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-695-5	86-73-7									
19		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8									
20		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
21		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0									
22		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0									
23		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
31		monohydric phenols				<2	mg/kg		<2	mg/kg	<0.0002 %		<**LOD**
				P1186									
										Total:	0.0182 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS3-0.50-22/04/2025

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS3-0.50-22/04/2025
Sample Depth:
0.50 m
Moisture content:
18.1%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 18.1% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10	mg/kg	1.32	10.813	mg/kg	0.00108 %		
2		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<**LOD**
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<**LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		29	mg/kg	1.462	34.713	mg/kg	0.00347 %		
5		chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<2	mg/kg	2.27	<4.54	mg/kg	<0.000454 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		23	mg/kg	1.126	21.208	mg/kg	0.00212 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	21	mg/kg	1.56	26.827	mg/kg	0.00172 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<**LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		18	mg/kg	2.976	43.876	mg/kg	0.00439 %		
10		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2	mg/kg	2.554	<5.108	mg/kg	<0.000511 %		<**LOD**
11		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		47	mg/kg	1.785	68.717	mg/kg	0.00687 %		
12		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		50	mg/kg	2.774	113.601	mg/kg	0.0114 %		
13		TPH (C6 to C40) petroleum group			TPH		<6	mg/kg		<6	mg/kg	<0.0006 %		<**LOD**
14		pH			PH		7.3	pH		7.3	pH	7.3 pH		
15		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-917-1	208-96-8									
17		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-469-6	83-32-9									
18		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-695-5	86-73-7									
19		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8									
20		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
21		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0									
22		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0									
23		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
31		monohydric phenols				<2	mg/kg		<2	mg/kg	<0.0002 %		<**LOD**
				P1186									
										Total:	0.031 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS4-0.80-22/04/2025

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS4-0.80-22/04/2025
Sample Depth:
0.80 m
Moisture content:
19.5%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 19.5% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13	mg/kg	1.32	13.817	mg/kg	0.00138 %		
2		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<**LOD**
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<**LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		22	mg/kg	1.462	25.884	mg/kg	0.00259 %		
5		chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<2	mg/kg	2.27	<4.54	mg/kg	<0.000454 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		19	mg/kg	1.126	17.22	mg/kg	0.00172 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	12	mg/kg	1.56	15.068	mg/kg	0.000966 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<**LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		16	mg/kg	2.976	38.334	mg/kg	0.00383 %		
10		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2	mg/kg	2.554	<5.108	mg/kg	<0.000511 %		<**LOD**
11		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		35	mg/kg	1.785	50.298	mg/kg	0.00503 %		
12		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		39	mg/kg	2.774	87.094	mg/kg	0.00871 %		
13		TPH (C6 to C40) petroleum group			TPH		<6	mg/kg		<6	mg/kg	<0.0006 %		<**LOD**
14		pH			PH		7.8	pH		7.8	pH	7.8 pH		
15		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-917-1	208-96-8									
17		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-469-6	83-32-9									
18		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-695-5	86-73-7									
19		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8									
20		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
21		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0									
22		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0									
23		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
31		monohydric phenols				<2	mg/kg		<2	mg/kg	<0.0002 %		<**LOD**
				P1186									
										Total:	0.0242 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS5-0.10-22/04/2025

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS5-0.10-22/04/2025
Sample Depth:
0.10 m
Moisture content:
12.2%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.2% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7	mg/kg	1.32	8.115	mg/kg	0.000811 %		
2		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<**LOD**
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<**LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		18	mg/kg	1.462	23.098	mg/kg	0.00231 %		
5		chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<2	mg/kg	2.27	<4.54	mg/kg	<0.000454 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10	mg/kg	1.126	9.885	mg/kg	0.000989 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	16	mg/kg	1.56	21.912	mg/kg	0.0014 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<**LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		9	mg/kg	2.976	23.518	mg/kg	0.00235 %		
10		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2	mg/kg	2.554	<5.108	mg/kg	<0.000511 %		<**LOD**
11		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		34	mg/kg	1.785	53.291	mg/kg	0.00533 %		
12		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		28	mg/kg	2.774	68.2	mg/kg	0.00682 %		
13		TPH (C6 to C40) petroleum group			TPH		<6	mg/kg		<6	mg/kg	<0.0006 %		<**LOD**
14		pH			PH		7.1	pH		7.1	pH	7.1 pH		
15		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-917-1	208-96-8									
17		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-469-6	83-32-9									
18		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-695-5	86-73-7									
19		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8									
20		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
21		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0									
22		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0									
23		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
31		monohydric phenols				<2	mg/kg		<2	mg/kg	<0.0002 %		<**LOD**
				P1186									
										Total:	0.02 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS6-0.20-22/04/2025

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS6-0.20-22/04/2025
Sample Depth:
0.20 m
Moisture content:
9.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.6% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6	mg/kg	1.32	7.161	mg/kg	0.000716 %		
2		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		13	mg/kg	1.462	17.176	mg/kg	0.00172 %		
5		chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<2	mg/kg	2.27	<4.54	mg/kg	<0.000454 %		<LOD
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		16	mg/kg	1.126	16.285	mg/kg	0.00163 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	17	mg/kg	1.56	23.971	mg/kg	0.00154 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		5	mg/kg	2.976	13.453	mg/kg	0.00135 %		
10		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2	mg/kg	2.554	<5.108	mg/kg	<0.000511 %		<LOD
11		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		25	mg/kg	1.785	40.345	mg/kg	0.00403 %		
12		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		23	mg/kg	2.774	57.68	mg/kg	0.00577 %		
13		TPH (C6 to C40) petroleum group			TPH		<6	mg/kg		<6	mg/kg	<0.0006 %		<LOD
14		pH			PH		6.6	pH		6.6	pH	6.6 pH		
15		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-917-1	208-96-8									
17		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-469-6	83-32-9									
18		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-695-5	86-73-7									
19		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8									
20		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
21		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0									
22		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0									
23		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
31		monohydric phenols				<2	mg/kg		<2	mg/kg	<0.0002 %		<**LOD**
				P1186									
										Total:	0.0167 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS7-0.50-22/04/2025

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS7-0.50-22/04/2025
Sample Depth:
0.50 m
Moisture content:
12.9%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.9% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5	mg/kg	1.32	5.75	mg/kg	0.000575 %		
2		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<**LOD**
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<**LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		11	mg/kg	1.462	14.003	mg/kg	0.0014 %		
5		chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<2	mg/kg	2.27	<4.54	mg/kg	<0.000454 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9	mg/kg	1.126	8.826	mg/kg	0.000883 %		
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	8	mg/kg	1.56	10.869	mg/kg	0.000697 %		
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<**LOD**
9		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		4	mg/kg	2.976	10.369	mg/kg	0.00104 %		
10		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2	mg/kg	2.554	<5.108	mg/kg	<0.000511 %		<**LOD**
11		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		16	mg/kg	1.785	24.878	mg/kg	0.00249 %		
12		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		17	mg/kg	2.774	41.077	mg/kg	0.00411 %		
13		TPH (C6 to C40) petroleum group			TPH		<6	mg/kg		<6	mg/kg	<0.0006 %		<**LOD**
14		pH			PH		6.5	pH		6.5	pH	6.5 pH		
15		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-917-1	208-96-8									
17		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-469-6	83-32-9									
18		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-695-5	86-73-7									
19		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8									
20		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
21		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0									
22		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0									
23		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
31		monohydric phenols				<2	mg/kg		<2	mg/kg	<0.0002 %		<**LOD**
				P1186									
										Total:	0.0112 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS8-1.00-22/04/2025

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS8-1.00-22/04/2025
Sample Depth:
1.00 m
Moisture content:
17.7%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 17.7% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11	mg/kg	1.32	11.953	mg/kg	0.0012 %		
2	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<**LOD**
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<**LOD**
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		25	mg/kg	1.462	30.072	mg/kg	0.00301 %		
5	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<2	mg/kg	2.27	<4.54	mg/kg	<0.000454 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		16	mg/kg	1.126	14.826	mg/kg	0.00148 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	10	mg/kg	1.56	12.837	mg/kg	0.000823 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<**LOD**
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		16	mg/kg	2.976	39.191	mg/kg	0.00392 %		
10	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2	mg/kg	2.554	<5.108	mg/kg	<0.000511 %		<**LOD**
11	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		33	mg/kg	1.785	48.484	mg/kg	0.00485 %		
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		41	mg/kg	2.774	93.608	mg/kg	0.00936 %		
13	TPH (C6 to C40) petroleum group			TPH		<6	mg/kg		<6	mg/kg	<0.0006 %		<**LOD**
14	pH			PH		7.6	pH		7.6	pH	7.6 pH		
15	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-917-1	208-96-8									
17		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-469-6	83-32-9									
18		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-695-5	86-73-7									
19		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8									
20		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
21		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0									
22		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0									
23		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
24		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
25		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
26		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
27		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
28		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
29		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
30		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
31		monohydric phenols				<2	mg/kg		<2	mg/kg	<0.0002 %		<**LOD**
				P1186									
										Total:	0.0246 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non GB MCL determinands

chromium(III) oxide (worst case) (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Unknown Oil

Hazard statements taken from WM3 1st Edition 2015
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

acenaphthylene (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

acenaphthene (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

fluorene (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

anthracene (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

fluoranthene (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

pyrene (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

indeno[123-cd]pyrene (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

benzo[ghi]perylene (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

monohydric phenols (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)
Data source: CLP combined data
Data source date: 26 Mar 2019
Hazard Statements: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 <= conc. < 3 % , Eye Irrit. 2; H319 1 <= conc. < 3 % , Aquatic Chronic 2; H411

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

boron {diboron trioxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

chromium in Cr(III) compounds {chromium(III) oxide (worst case)}

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (edit as required)

chromium in Cr(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

vanadium {divanadium pentaoxide; vanadium pentoxide}

Worst case species (edit as required)

zinc {zinc chromate}

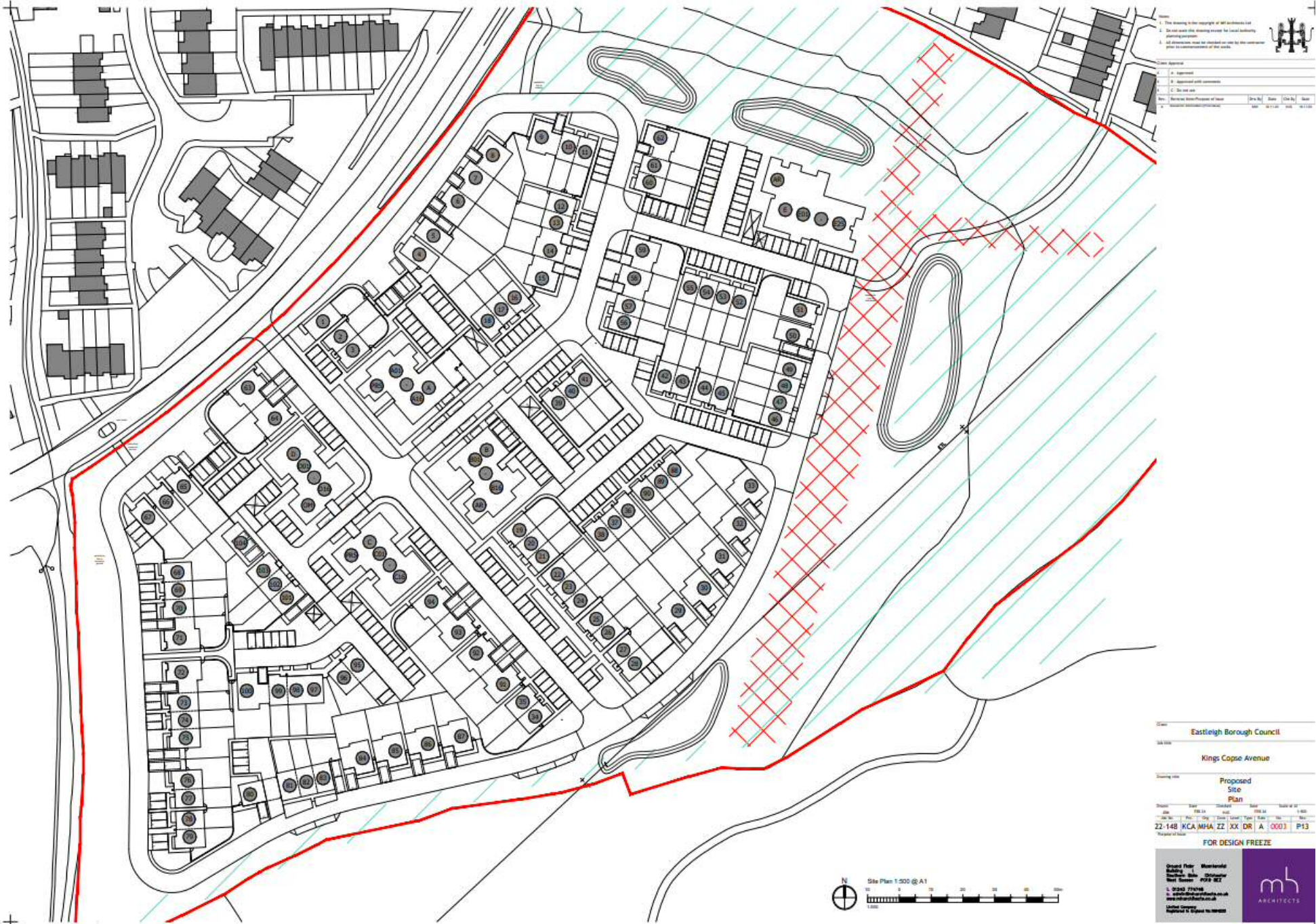
Worst case CLP species based on hazard statements/molecular weight (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.142.6646.12090 (22 May 2025)
HazWasteOnline Database: 2025.142.6646.12090 (22 May 2025)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024
GB MCL List v6.0 - version 6.0 of 15th February 2025

Appendix G Information Provided by the Client



Client
Eastleigh Borough Council

Job title
Kings Copse Avenue

Drawing title
Proposed
Site
Plan

Drawn	Date	Checked	Date	Scale @ A1
JMc	FEB 24	AGC	FEB 24	1:500

Job No.	Proj.	Org.	Zone	Level	Type	Role	No.	Rev.
22-148	KCA	MHA	ZZ	XX	DR	A	0003	P13

Purpose of Issue
FOR DESIGN FREEZE

Ground Floor Building 1 Stanhope Gate Windsor Road Gloucester GL1 2EX
t. 01242 771748
e. admin@mharchitects.co.uk
www.mharchitects.co.uk
Limited Company Registered in England No. 6894826

IDENTIFIES RISKS DURING THE CONSTRUCTION PROCESS ON THE DRAWINGS:

NOTE: The list below and notes on the drawing identify risks which are deemed to be unusual, abnormal, residual or unexpected to a competent contractor carrying out the works. These notes relate to risks which we have been unable to design out.

ises



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GENERAL NOTES

1. All setting out to be in accordance with the Architects drawings. Any discrepancies between the Engineers and the Architects drawings to be referred to the Architect before proceeding. Dimensions must not be scaled.
2. The existing suface has been created from 23295_F by Maptec Surveys. The proposed surface has been created from 22-148 0003 P04 by MH Architects
3. Construction depths used: Buildings 525mm under FFl 650mm under roads, 450mm under footpaths.
4. No bulking factor has been included in these calculations.
5. It is assumed that all material is suitable for re-use. The figures below identify a total cut or fill value and do not allow for any volume(s) of possible contamination that would need to be removed from site.
6. No allowance has been given for foundations, services or drainage.

Height Bands
- Fill 1.5m - 2m
- Fill 1m - 1.5m
- Fill 0.5m - 1m
- Fill 0m - 0.5m
- Cut 0m - 0.5m
- Cut 0.5m - 1m
- Cut 1m - 1.5m
- Cut 1.5m - 2m
- Cut 2m - 2.5m
- Cut 2.5m - 3m

Total Cut:	15,011.05m³
Total Fill:	4,684.02m³
Net cut:	10,327.03m³

WORK IN PROGRESS

Rev.	Amendment	Drn	Chkd	Date
P01	Initial issue	CJ	AS	23.07.24

Drg. Status **PRELIMINARY** Suitability **S2**

AKSWard
CONSTRUCTION CONSULTANTS

Seacourt Tower
West Way
Oxford
OX2 0JJ

Tel: 01865 240071
Fax: 01865 248006
e-mail: oxford@aksward.com
web: www.aksward.com

☐ London
☐ Hitchin
■ Oxford
☐ Southampton

Client **Eastleigh Borough Council**

Project **Kings Copse Close**

Title **Cut and Fill to Formation Level**

Reviewed Scheme	09.07.24	Date	AS
Reviewed Final		Date	
Scales at A1	1:500	Project No.	L241014

Project Ref.	Originator	Zone	Level	Type	Role	Drg No.	Rev.
AKSW	XX	XX	DR	C	9110		WIP

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