Generic Quantitative Risk Assessment Report

Biffa Brookhurst Wood, Langhurstwood Road, Horsham, RH12 4QD.

Revision number: *V1*

Report status: *FINAL*

Date: *July 2023*

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Revision history				
Revision No.	**Date**	**Revision detail**	**By**	**Competency**
1	21st June 2023	Final	G Anderson	BSc. Hons

Quality Assurance		
Date	**Checked by**	**Position**
12th July 2023	T Major	Technical Director
Date	**Approved By**	**Position**
12th July 2023	P Clarke	Director

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EXECUTIVE SUMMARY

Overview	Swan Environmental Services Limited (SES) undertook an Intrusive Generic Quantitative Risk Assessment (Phase 2 Site Investigation) of an area of hardstanding at Biffa's Brookhurst Wood landfill site, Langhurstwood Road, Horsham, West Sussex, RH12 4QD. The report is to assess potentially complete pollutant linkages associated with the site for planning permission purposes relating to a proposed composting facility.
Site Setting	The site covers an area of 2.21 hectares (ha) and is located approximately 4km to the north of Horsham. The site comprises an area of hardstanding to the south of the landfill which is currently used to stockpile recycled materials from the on-site grit screening plant. The grid reference to the centre of the Site is 517102, 134647. The site is irregular in shape and is located to the west of Langhurst Road, to the north of the A264.
Environmental Sensitivity	The site is indicated to be underlain by Unproductive Strata which is understood to be associated with the bedrock geology of the Weald Clay Formation. No superficial deposits are recorded at the site. The closest surface water feature is Boldings Brook, which is located approximately 30m to the west of the site.
Ground Gas	Made ground was encountered during the site investigation. Minor putrescible materials were encountered such as wood fragments. A maximum concentration of 85.5% v/v carbon dioxide was recorded in RBH106. A maximum concentration of 6.6% v/v carbon dioxide was recorded in RBH106. All borehole flow rates were 0.1l/hr.
Controlled Waters	Perched water was encountered in TP01, TP04, TP05, TP10, TP12, TP13, TP15, TP17, TP18 and TP19 during the site investigation works between 15th May and 26th May 2023. Perched water generally existed at the interface between made ground and bedrock at a depth of between 0.2mbgl and 1mbgl. Groundwater was encountered within TP02, TP03, TP07, TP08, TP09, TP11, TP14 and TP24 during the site investigation works between 15th May and 26th May 2023 and during the further trial pitting works on 15th June 2023. Groundwater strikes consisted of water seepages from the bedrock between 1.6mgbl and 2.7mbgl.

	No determinants from the water samples retrieved from the 7No. water samples collected were found to be above the applied screening criteria.
Human Health	In comparison to a commercial end use, no exceedances for human health criteria have been identified, except that asbestos in the form of Chrysotile (loose fibrous debris) was encountered at a depth of 0.15m in TP19.
General conditions encountered	Made Ground was encountered in all of the boreholes advanced across the site. No visual or olfactory evidence of contamination was observed, with the exception of foul-smelling water entering the excavations within TP04 and TP05.
Recommendations	Based on the available information, it is considered unlikely that the conditions at the site would prevent development of the site for commercial end use; however, contamination not encountered may still be present on the site. Care will be required during site redevelopment and because of asbestos being identified, construction workers should wear appropriate PPE and take general precautions to mitigate dust creation. The geotechnical testing identifies the tested clay has a medium volume change potential. pH and sulphate testing results identifies the site as being of Design Class DS-3 and an Aggressive Chemical Environment for Concrete Classification (ACEC) of AC-2s. Due to the variability of the made ground traditional spread foundations are not recommended. Structural loading of buildings either placed on a stiff raft foundation / slab placed on a compacted layer of selected granular material and a safe bearing capacity of 50kN/m^2 should be used for the design. Footing if used should be 900mm below existing or future ground level. An allowable bearing capacity for the clay at 1.0m depth of 125kN/m^2 for foundation design. The majority of the site is site characteristic situation 1 for ground gas and as such gas measures should not be required. However very high Methane and CO_2 within RBH06 give a site characteristic situation 3 and as such gas measures will be required within this area.

1. INTRODUCTION

1.1 Context and Objectives

SES was commissioned by Biffa Waste Services Ltd to undertake an Intrusive Generic Quantitative Risk Assessment (GQRA) of an area of hardstanding to the south of the landfill site at Brookhurst Wood, Langhurstwood Road, Horsham, West Sussex, RH12 4QD.

The overall aim of this GQRA is to support the planning application for the construction of a composting facility. A geotechnical assessment of the soils beneath the site shall also be carried out to assess design parameters.

1.2 Background Information

A review of publicly available information and a Groundsure report for the site indicates that:

- The site is underlain by bedrock geology of the Weald Clay Formation (mudstone). Worked ground (undivided) – void is present in the southeast of the site. No superficial deposits are recorded at the site.
- The Weald Clay Formation is classified as Unproductive Strata.
- Brookhurst Wood Landfill Site is located adjacent to the north and east of the site.
- No coal or non-coal mining is recorded to have taken place at the site.
- The closest surface water feature is Boldings Brook, located approximately 30m to the west of the site.
- The site is not located within a Source Protection Zone.
- There is a limited risk of flooding from rivers and the sea.
- The site is located in a Flood Zone 1.
- Radon protection measures are not required in new buildings or extensions as <1% are above the action level.

It is understood that a brick works was historically present on the site. A current brick works operated by Weinerberger is located approximately 300m to the south of the site.

2. SITE DESCRIPTION

2.1 General

This section aims to summarise the ground conditions identified on site based on the findings of the publicly available information discussed in section 1.2 and detailed in Table 1 below. Based on the historical land use, onsite and offsite potential for contamination. Table 2 presents the Preliminary Conceptual Site Model.

2.2 Environmental Setting

Table 1: Environmental Setting	
Geology	Available British Geological Survey (BGS) geological maps and according to the BGS onshore geo-index the site is underlain by bedrock of the Weald Clay Formation (mudstone). The Weald Clay Formation (limestone) encroaches upon the northeast corner of the site. Worked Ground (undivided) – void, is present in the southeast corner of the site. No superficial deposits are recorded at the site.
Hydrogeology	The site is indicated to be underlain by Unproductive Strata associated with the bedrock geology of the Weald Clay Formation (mudstone). Where the Weald Clay Formation (limestone) encroaches upon the northeast of the site the aquifer designation is Secondary A.
Surface water	The closest surface water feature is indicated to be Boldings Brook, located approximately 30m to the west of the site.
Historical Land Use	Earliest mapping from 1876 shows the south of the site occupying a portion of an agricultural field. The northern portion of the site comprises a wooded area, identified as Langhurst Wood. A railway line (London Brighton and South Coast Railway) is located adjacent to the west of the site. A kiln and chimney is present at the site on 1912 mapping, with further small buildings in the south. A brickworks and further kilns, chimneys and a tramway are located approximately 100m to the south of the site. The site was redeveloped by 1961 with several large buildings in the western and central portion of the site. A further redevelopment of the site occurred prior to 1976, with a large kiln building in the west of the site and a further kiln, linked by a footbridge, encroaching upon the southwest of the site and large buildings in the central and northern portions of the site, with an associated tank. A conveyer encroaches upon the southeast of the site.

Table 1: Environmental Setting	
	A clay pit is located c.100m to the west of the site. A further clay pit is annotated to the north of the site on 1978-1979 mapping. The kiln encroaching upon the southwest of the site is no longer present by 1991-1993 and the footprint of the building in the northern portion of the site has been reduced. Brookhurstwood Landfill Site is annotated to the north of the site on 2010 mapping, on the site of the former clay pit. The on-site kilns had been demolished by 2023 with the building in the north and a smaller building in the south of the site remaining.

2.3 Preliminary Conceptual Site Model (PCSM)

Table 2: PCSM	
Source	**Description of Pollutant Linkage**
On-Site Contaminant Sources	There are potential pollution linkages from on-site potential contaminants of concern; potential receptors may be adversely affected via plausible pathways.
Off-Site Sources	There are potential pollution linkages from off-site potential contaminants of concern; potential receptors may be adversely affected via plausible pathways.

Based on the PCSM the following summary of potential contaminant sources, detailed in Table 3 below, aims to refine the scope of the Site investigation detailed within this report.

Table 3: Summary of Potential Contaminant Sources		
Potential Source	**Potential Contaminants**	**Potential Receptor**
Localised contamination associated with the historical brickworks use and historical tank.	Metals, Phenols, Sulphates, BTEX, MTBE, TPHs, PAHs.	Human health and controlled waters.
Potential for made ground to be present on the site from the construction and latter demolition of the historical kilns and brickworks.	Asbestos, unknown fill material, PAH, hydrocarbons and metals.	Human health and controlled waters.
Localised on-site contamination associated with off-site industrial use including the railway line adjacent to the west of the site and the brickworks approximately 300m to the south of the site.	Metals, PAH's, TPHs, Inorganics, Phenols, sulphates and Asbestos.	Human health and controlled waters.
Potential contamination associated with Brookhurst Wood Landfill Site adjacent to the north and east of the site.	Hydrocarbons, metals, inorganic contaminants, Asbestos and ground gas.	Human health and controlled waters.

A ground investigation was designed with exploratory holes advanced to target specific potential contaminant sources summarised in Table 3 above. In addition, exploratory holes

have also been advanced to provide information on baseline conditions across the site to assist in the design for the redevelopment of the site.

An Exploratory Location Plan is presented as Appendix A.

2.4 Scope of works

The scope of the work comprised:

- Review of Groundsure information relevant to the site.
- Preparation of Health and Safety information.
- Generic Quantitative Risk Assessment investigation comprised:
    - Completion of 7No. rotary borehole locations.
    - Completion of 23No. trial pit locations
    - Logging of soil data.
    - Soil sampling for laboratory analysis
    - Standard penetration testing.
    - Dynamic Cone Penetration (DCP) testing at 15No. locations.
    - BRE365 soakaway testing at 4No. locations.
    - Installation of 7No. combined gas and groundwater monitoring wells.
    - Return visits for gas and groundwater sampling.
- Laboratory analysis for chemical and geotechnical purposes
- Report submission of site findings.

The scope of works was developed in accordance with the Environment Agency Land Contamination Risk Management Guidance (Updated April 2021).

3. FIELD INVESTIGATIONS

3.1 Summary of Field Work

Exploratory fieldwork was undertaken between 15th May 2023 and 26th May 2023, with further trial pitting conducted on 15th June 2023; the works are summarised in Table 4 below.

The site investigation locations have been presented as Appendix A.

The ground conditions encountered and details of monitoring well response zones are indicated on the logs, which are provided in Appendix B.

Return visits were made to monitor installations for groundwater levels and gas concentrations.

No visual or olfactory evidence of contamination was identified during site investigation, with the exception of odorous perched groundwater encountered in TP04 and TP05.

3.2 Borehole Rationale

Table 4: Site Investigation Locations Summary

Location Hole	Potential Source/Rationale	Type	Maximum Depth (m bgl)	Monitoring Wells Response Zone (m bgl)	Chemical (E) / Geotechnical (G) Sample Reference (m bgl)
RBH101	Baseline conditions. Dual purpose Ground water and Ground gas monitoring installation placement	Rotary Core Boreholes with water flush.	5.00	1.00 – 5.00m bgl	N/A
RBH102			5.00	1.00 – 5.00m bgl	
RBH103			5.00	1.00 – 5.00m bgl	
RBH104			5.00	1.00 – 5.00m bgl	
RBH105			10.00	1.00 – 10.00m bgl	
RBH106			10.00	1.00 – 10.00m bgl	
RBH107			5.00	1.50 – 4.00m bgl	
TP01	Baseline conditions, environmental and geotechnical sampling and assessment with DCP probe.	Trial Pits.	2.60	N/A	TP01 – 0.30m (E) TP01 – 1.30m (G)
TP02			2.50		TP02 – 0.60m (E)
TP03			2.40		TP03 – 0.15m (E) TP03 – 0.60m (G)
TP04			2.10		TP04 – 0.10m (E) TP04 – 2.10m (E) TP04 – 2.10m (G)
TP05			2.70		TP05 – 0.70m (E) TP05 – 2.30m (E) TP05 – 2.50m (G)
TP06			2.50		TP06 – 0.30m (E) TP06 – 0.60m (G)
TP07			1.80		N/A

TP08	Ground conditions, environmental and geotechnical sampling.		2.30		TP08 – 0.30m (E) TP08 – 2.20m (G)
TP09	Baseline conditions, environmental and geotechnical sampling and assessment with DCP probe.		2.70		TP09 – 0.60m (E)
TP10	Ground conditions, environmental and geotechnical sampling.		2.40		TP10 – 0.15m (E) TP10 – 2.00m (G)
TP11	Baseline conditions, environmental and geotechnical sampling and assessment with DCP probe.		2.50		TP11 – 0.15m (E)
TP12	Ground conditions, environmental and geotechnical sampling.		2.50		TP12 – 0.24m (E)
TP13			2.40		TP13 – 0.25m (E) TP13 – 2.20m (G)
TP14			2.80		TP14 – 0.70m (E) TP14 – 2.10m (G)
TP15			2.50		TP15 – 0.70m (E) TP15 – 2.30m (E)
TP17			1.80		TP17 – 0.10m (E) TP17 – 1.10m (G)
TP18	Baseline conditions, environmental and geotechnical sampling and assessment with DCP probe.		2.40		TP18 – 0.30m (E)
TP19	Ground conditions, environmental and geotechnical sampling.		2.80		TP19 – 0.15m (E)
TP20	Baseline conditions, environmental and geotechnical sampling and assessment with DCP probe.		2.10		TP20 – 0.30m (E) TP20 – 1.80m (E) TP20 – 1.80m (G)
TP21			1.60		TP21 – 0.40m (E)
TP22			2.60		TP22 – 0.10m (E) TP22 – 2.10m (G)
TP23			0.60		TP23 – 0.15m (E)
TP24			2.10		TP24 – 0.25m (E) TP24 – 2.00m (G)

Notes: TP16 was not dug due to access issues.

3.3 In-Situ Testing

3.3.1 Standard Penetration Tests

In-situ geotechnical testing was conducted in the boreholes using the Standard Penetration Test starting at 1.2m following the hand dug inspection pit and 1m intervals thereafter, where

possible. The results are shown on the exploratory hole logs contained in Appendix B, and discussed in Section 4.1.6.

3.4 Laboratory Analysis

3.4.1 Soil Chemical Analysis

Selected soil samples were submitted for a range of chemical analysis comprising asbestos, metals, pH, total sulphur, water soluble sulphate (2:1 extract), cyanide, thiocyanate, phenols, total and speciated polycyclic aromatic hydrocarbons (PAHs), and Total Petroleum Hydrocarbons (TPH) (C5-C44).

i2 Analytical of Watford undertook the analytical work, the results of which are included in Appendix C and discussed in Section 5.1.

3.4.2 Geotechnical Analysis

Selected soil samples were submitted to i2 Analytical of Watford where the following geotechnical tests were undertaken:

- 13No. Particle Size Distributions;
- 13No. Atterberg Limits Determinations; and,
- 13No. Moisture content

The results of the geotechnical analysis are presented in Appendix C and discussed in Section 4 below.

3.5 Gas and Groundwater Monitoring

Installations were placed in each of the boreholes drilled on site due to the potential for ground gas being present. Following the intrusive phase of site works, return visits to monitor gas and groundwater were undertaken on the 2nd June 2023, 8th June 2023, and 29th June 2023.

Gas flow was measured, followed by the sampling of gas for determining the concentrations of methane (CH_4), carbon dioxide (CO_2) and Oxygen (O_2) using an ATEX and MCERTS accredited and calibrated hand-held gas analyser (GFM 426). Gas measurements were recorded for a minimum of sixty seconds at each location, at which point the maximum concentration of CH_4 and CO_2 together with the lowest concentration of O_2 were recorded.

Groundwater levels were recorded within the monitoring wells using an electronic dip meter.

7No. water samples were retrieved for testing from the installed boreholes on 8th June 2023 and were analysed for metals, cyanide, thiocyanate, total and speciated polycyclic aromatic hydrocarbons (PAHs), and total petroleum hydrocarbons.

Ground gas results are discussed in Section 4.3 and the recorded groundwater levels are summarised in Section 4.2.

4 GROUND AND GROUNDWATER CONDITIONS

4.1 Ground Conditions

4.1.1 Made Ground

Made Ground was encountered within all the boreholes and trial pits advanced across the site to a maximum depth of 1.70m bgl. The Made Ground was a heterogeneous mix of cohesive and granular materials with anthropomorphic (man-made) materials – brick, concrete, glass, porcelain and tile.

4.1.2 Drift Deposits

No superficial/Drift deposits were encountered during the site investigation.

4.1.3 Solid Geology

Cohesive deposits were encountered underlying the made ground across the site to the maximum depth of investigation, 10.00m, it is the weathered bedrock of the Weald Clay Formation.

The Weald Clay Formation is seen to be light brown and yellow brown mottled grey CLAY, grey fine to coarse gravel- and cobble-sized pieces of mudstone is seen increasingly frequently. With depth, the CLAY is noted to become stiff to very stiff grey and blue grey; it transitions into an extremely weak to weak laminated grey MUDSTONE. Often the mudstone is recovered as angular to subangular gravel and cobble-sized pieces.

4.1.4 Soil Consistency

The site engineer logged the soils from the window sample holes and trial pits; the descriptions are included on the logs in Appendix B. Standard Penetration Test results are presented in Table 5.

In the trial pits the CLAY was noted to be generally firm to stiff, becoming stiff. The boreholes penetrated into the Weald Clay Formation and the CLAY became very stiff. The highly to completely weathered Weald Clay was extremely weak, very weak to weak. Locally the CLAY was softened by perched groundwater.

4.1.5 SPT Results

Table 5 presents the results of Standard Penetration Testing carried out and is discussed further below.

Table 5 – SPT Results									
Boreholes	**Start Depth (m bgl)**	**Strata Type**	**Geological Unit / Description**	**CPT/SPT "N" Value**	**Corrected $(N_1)_{60}$ Value**	**Relative Density (Granular)**	**Eurocode Soil strength**	**Consistency (BS5930)**	**Approximate Undrained Shear Strength (kN/m^2)**
RBH101	2.00	CLAY	WEALD CLAY	24	22	-	High strength	Very Stiff	110
RBH101	4.00	CLAY	WEALD CLAY	50	42	-	Very high strength	Very Stiff	211
RBH101	5.00	MUDSTONE	WEALD CLAY	54	#N/A	-	-	-	-
RBH102	1.20	CLAY	WEALD CLAY	6	6	-	Low strength	Firm	29
RBH102	3.00	CLAY	WEALD CLAY	57	50	-	Very high strength	Very Stiff	248
RBH103	1.20	CLAY	WEALD CLAY	14	14	-	Medium strength	Stiff	69
RBH103	2.00	CLAY	WEALD CLAY	49	45	-	Very high strength	Very Stiff	224
RBH103	3.00	MUDSTONE	WEALD CLAY	52	#N/A	-	-	-	-
RBH103	4.00	MUDSTONE	WEALD CLAY	61	#N/A	-	-	-	-
RBH103	5.00	MUDSTONE	WEALD CLAY	62	#N/A	-	-	-	-
RBH104	1.20	MUDSTONE	WEALD CLAY	31	#N/A	-	-	-	-
RBH104	2.00	MUDSTONE	WEALD CLAY	50	#N/A	-	-	-	-
RBH104	3.00	MUDSTONE	WEALD CLAY	0*	#N/A	-	-	-	-
RBH104	4.00	MUDSTONE	WEALD CLAY	61	#N/A	-	-	-	-

Table 5 – SPT Results									
Boreholes	**Start Depth (m bgl)**	**Strata Type**	**Geological Unit / Description**	**CPT/SPT "N" Value**	**Corrected $(N_1)_{60}$ Value**	**Relative Density (Granular)**	**Eurocode Soil strength**	**Consistency (BS5930)**	**Approximate Undrained Shear Strength (kN/m^2)**
RBH104	5.00	MUDSTONE	WEALD CLAY	46	#N/A	-	-	-	-
RBH105	1.20	CLAY	WEALD CLAY	35	34	-	Very high strength	Very Stiff	172
RBH105	2.00	CLAY	WEALD CLAY	37	34	-	Very high strength	Very Stiff	169
RBH105	3.00	MUDSTONE	WEALD CLAY	57	#N/A	-	-	-	-
RBH105	4.00	MUDSTONE	WEALD CLAY	62	#N/A	-	-	-	-
RBH105	5.50	CLAY	WEALD CLAY	58	48	-	Very high strength	Very Stiff	239
RBH105	7.00	MUDSTONE	WEALD CLAY	50	#N/A	-	-	-	-
RBH105	8.50	MUDSTONE	WEALD CLAY	0*	#N/A	-	-	-	-
RBH106	1.00	MUDSTONE	WEALD CLAY	50	#N/A	-	-	-	-
RBH106	2.00	CLAY	WEALD CLAY	54	49	-	Very high strength	Very Stiff	247
RBH106	3.00	MUDSTONE	WEALD CLAY	53	#N/A	-	-	-	-
RBH106	4.00	CLAY	WEALD CLAY	45	38	-	Very high strength	Very Stiff	190
RBH106	5.00	CLAY	WEALD CLAY	43	36	-	Very high strength	Very Stiff	178
RBH106	6.50	MUDSTONE	WEALD CLAY	0*	#N/A	-	-	-	-

Table 5 – SPT Results									
Boreholes	**Start Depth (m bgl)**	**Strata Type**	**Geological Unit / Description**	**CPT/SPT "N" Value**	**Corrected $(N_1)_{60}$ Value**	**Relative Density (Granular)**	**Eurocode Soil strength**	**Consistency (BS5930)**	**Approximate Undrained Shear Strength (kN/m^2)**
RBH106	8.00	MUDSTONE	WEALD CLAY	0*	#N/A	-	-	-	-
RBH107	1.20	MUDSTONE	WEALD CLAY	57	#N/A	-	-	-	-
RBH107	3.00	MUDSTONE	WEALD CLAY	50	#N/A	-	-	-	-

Notes:

* Denotes refusal during seating blows.

Where the test refused on seating blows or N>50, a corrected N_{60} value is not calculated

4.1.6 California Bearing Ratio

The California Bearing Ratio (CBR) for the soils were measured at 15No. locations using a hand-held DCP TRL probe, the results are summarised in Table 6 below showing the DCP testing and equivalent CBR. Test locations are shown on the Site investigation location plan.

Layers of strata have been inferred and CBR values have been averaged from the blow counts across these strata. Any abnormally high CBR values (>150%) are ignored as these are likely to be from the cone of the probe impacting large granular clasts or hard surfaces and so represent anomalies. Graphs of the DCP data are presented in Appendix E.

Table 6 – Summary of CBR Testing

Location	Depth (m)	Material	Average CBR (%)
TP01	0.238 – 0.376	MADE GROUND	6.77
	0.381 – 0.451	MADE GROUND	37.73
	0.504 – 0.614	MADE GROUND	9.24
	0.616 – 0.623	MADE GROUND	549.73 (anomalous)
TP02	0.230 – 0.300	MADE GROUND	10.29
	0.307 – 0.462	MADE GROUND	32.24
	0.515 – 0.940	MADE GROUND	13.22
TP03	0.405 – 0.532	MADE GROUND	3.78
	0.543 – 0.558	MADE GROUND	230.31 (anomalous)
TP04	0.100 – 0.596	MADE GROUND	11.18
	0.608 – 0.761	MADE GROUND	57.63
TP05	0.920 – 0.270	MADE GROUND	5.84
	0.281 – 0.480	MADE GROUND	39.75
	0.525 – 0.815	MADE GROUND	7.75
	0.833 – 0.852	MADE GROUND	59.89
TP06	0.256 – 0.945	CLAY & MADE GROUND	8.56
TP07	0.296 – 0.671	MADE GROUND	8.39
	0.701 – 0.947	CLAY	21.42
TP09	0.288 – 0.932	CLAY	15.63
TP11	0.271 – 0.368	MADE GROUND	24.30
	0.375 – 0.389	MADE GROUND	156.66 (anomalous)
	0.420 – 0.904	CLAY & MADE GROUND	20.11
	0.906	CLAY	302.00 (anomalous)
TP18	0.190 – 0.334	MADE GROUND	3.43
	0.352 – 0.456	MADE GROUND	39.54
	0.485 – 0.914	CLAY	18.05
TP20	0.159 – 0.389	MADE GROUND	13.06
	0.395 – 0.525	MADE GROUND	190.04 (anomalous)
TP21	0.150 – 0.450	MADE GROUND	67.29
TP22	0.049 – 0.246	MADE GROUND	85.82
TP23	0.049 – 0.171	MADE GROUND	79.49

Table 6 – Summary of CBR Testing			
Location	**Depth (m)**	**Material**	**Average CBR (%)**
TP24	0.100 – 0.356	MADE GROUND	12.08
	0.380 – 0.475	MADE GROUND	105.45

4.1.7 Soil Infiltration

In-situ BRE365 infiltration testing was intended to be carried out at 4No. trial pit locations (TP01, TP03, TP18 and TP19), but was unfeasible due to groundwater ingress from both the made ground and bedrock. Perched water within the made ground was encountered in TP01, TP18 and groundwater was encountered in TP19 and TP03. Groundwater levels within TP03 were recorded to rise by 0.55m over a period of 3hrs.

4.1.8 Soil Plasticity

13No. Atterberg Limit tests were carried out on samples retrieved from the trial pits across the site and are summarised in Table 7, below.

Table 7 - Summary of Plasticity Index Test Results									
Location	**Depth (m bgl)**	**Natural MC (%)**	**Liquid Limit (%)**	**Plastic Limit (%)**	**Plasticity Index (%)**	**% Passing 425µm Sieve**	**Plasticity**	**Modified Plasticity Index**	**Volume Change Potential**
TP01	1.30-1.40	22	49	21	28	70	Medium	19.6	Low
TP03	0.60-0.70	27	58	24	34	97	High	33.0	Medium
TP04	2.10-2.20	25	44	24	20	71	Medium	14.2	Low
TP05	2.50-2.60	23	56	26	30	18	High	5.4	Non-shrinkable
TP06	0.60-0.70	25	63	26	37	97	High	35.9	Medium
TP08	2.20-2.30	22	46	20	26	51	Medium	13.3	Low
TP10	2.00-2.10	17	60	25	35	91	High	31.9	Medium
TP13	2.20-2.30	20	62	29	33	96	High	31.7	Medium
TP14	2.10-2.20	25	63	25	38	98	High	37.2	Medium
TP17	1.10-1.20	11	48	23	25	43	Medium	10.75	Low
TP20	1.80-1.90	22	51	23	28	100	High	28	Medium
TP22	2.10-2.20	22	53	24	29	87	High	25.23	Medium
TP24	2.0-2.1	19	64	27	37	100	High	37	Medium

In accordance with NHBC Chapter 4.2 Building Near Trees (2003) soils can be classified in terms of volume change potential, using the relationship:

$$Ip' = \frac{Ip \times \% \text{ less than } 425\mu m}{100\%}$$

Ip' = modified plasticity index,
Ip = plasticity index.

Based on the laboratory test results, the above relationship and Table 1 of NHBC Chapter 4.2, the tested clay are shown to have a **medium** volume change potential.

4.1.9 Particle Size Distribution

Particle Size Distribution testing was undertaken on 13No. samples retrieved from the trial pits across the site. Results are presented in Table 8, below.

Table 8 – Summary of PSD Results

Sample ID	BS Test Sieve Size (mm)	% Dry Mass
TP01 @ 1.30m	Gravel	17
	Sand	15
	Silt	29
	Clay	39
TP03 @0.60m	Gravel	0
	Sand	3
	Silt	37
	Clay	60
TP04 @ 2.10m	Gravel	6
	Sand	28
	Silt	38
	Clay	28
TP05 @ 2.50m	Gravel	66
	Sand	30
	Fines <0.063mm	4
TP06 @ 0.60m	Gravel	2
	Sand	2
	Silt	33
	Clay	63
TP08 @ 2.20m	Gravel	42
	Sand	16
	Silt	22
	Clay	20
TP10 @ 2.00m	Gravel	4
	Sand	2
	Silt	47
	Clay	47
TP13 @ 2.20m	Gravel	2
	Sand	6

Table 8 – Summary of PSD Results		
Sample ID	**BS Test Sieve Size (mm)**	**% Dry Mass**
	Silt	40
	Clay	52
TP14 @ 2.10m	Gravel	1
	Sand	1
	Silt	36
	Clay	62
16TP17 @ 1.10m	Gravel	53
	Sand	5
	Silt	26
	Clay	16
TP20 @ 1.80m	Gravel	1
	Sand	3
	Silt	51
	Clay	45
TP22 @ 2.10m	Gravel	5
	Sand	10
	Silt	37
	Clay	48
TP24 @ 2.0m	Gravel	0
	Sand	2
	Silt	51
	Clay	47

4.1.10 pH and Sulphate Testing

Samples were recovered to undertake pH and Sulphate Content testing in accordance with BS1377: Part 3:1990 Clause 9 and BS1377 Part 3: 1990 Clause 5.5 and results are presented in Table 9 overleaf.

Table 9 - Summary of pH and Sulphate Test Results			
Sample id/Depth m bgl	**Soil Description**	**pH Value**	**Sulphate Content (Water soluble sulphate as SO^4) mg/l**
TP01 @ 0.30m	MADE GROUND	11.0	420
TP02 @ 0.60m	MADE GROUND	9.9	170
TP03 @ 0.15m	MADE GROUND	10.9	110
TP04 @ 0.10m	MADE GROUND	7.9	2400
TP04 @ 2.10m	CLAY	8.4	240
TP05 @ 0.70m	MADE GROUND	8.9	36
TP05 @ 2.30m	CLAY	8.4	120
TP06 @ 0.30m	MADE GROUND	8.9	120
TP08 @ 0.30m	MADE GROUND	8.1	960
TP09 @ 0.60m	CLAY	8.4	69
TP10 @ 0.15m	MADE GROUND	11.7	83
TP11 @ 0.15m	MADE GROUND	9.2	55
TP12 @ 0.24m	MADE GROUND	11.5	110
TP13 @ 0.25m	MADE GROUND	9.2	36
TP14 @ 0.70m	MADE GROUND:	8.0	730
TP15 @ 0.70m	MADE GROUND	8.4	91
TP15 @ 2.30m	CLAY	6.6	140
TP17 @ 0.10m	MADE GROUND.	11.7	77
TP18 @ 0.30m	MADE GROUND	8.6	220
TP19 @ 0.15m	MADE GROUND	9.8	69
TP20 @ 0.30m	MADE GROUND:	10.6	1830
TP20 @ 1.80m	CLAY	7.3	463
TP21 @ 0.40m	MADE GROUND	11.3	322
TP22 @ 0.10m	MADE GROUND	8.0	140
TP23 @ 0.15m	MADE GROUND	10.0	1090
TP24 @ 0.25m	MADE GROUND	10.2	1730

The results have been reviewed in accordance with BRE Special Digest 1 (2005).

4.2 Groundwater Conditions

Perched water was encountered in TP01, TP02, TP03, TP04, TP05, TP07, TP08, TP09, TP10, TP11, TP12, TP13, TP14, TP15, TP17, TP18 and TP19 during the site investigation works between 15th May and 26th May 2023. Groundwater was encountered within TP24 during the during the further trial pitting works on 15th June 2023. A foul sewerage smell was noted in the perched water within TP04 and TP05.

During the No.3 return monitoring visits the water levels ranged between 1.33m to 1.85m in RBH101; 1.18m to 1.66m in RBH102; 1.86m to 2.40m in RBH103; 1.51m to 2.03m in RBH104; 1.81m to 2.16m in RBH105; 2.53m to 4.07m in RBH106; and 0.79m to 1.77m in RBH107.

No gross hydrocarbon contamination of the soils has been noted at the site;

4.3 Ground Gas

Ground gas monitoring was conducted within all 7No. installed rotary boreholes during three return visits to the site.

The atmospheric pressure was recorded as 1020mb and 1017mb on 2nd June 2023 and 8th June 2023, respectively, with atmospheric pressure falling during both visits. The atmospheric pressure was recorded to be steady at 1010mb during the monitoring visit on 29th June 2023. Zero Hydrogen Sulphide (H_2S) was recorded during the return monitoring visits. A maximum concentration of methane (CH_4) was recorded within RBH106 during the monitoring visit on 8th June 2023 (85.5% v/v). A maximum concentration of Carbon Dioxide (CO_2) was recorded within RBH106 during the monitoring visit on 29th June 2023 (6.6% v/v). All borehole flow rates were less than 0.1l/hr.

In accordance with the methodology outlined with the CIRIA publication C665, SES have utilised the results of the ground gas monitoring surveys to calculate a tentative Gas Screening Value (GSV). The maximum GSV calculated for methane was 0.0855l/hr and for carbon dioxide was 0.0066l/hr (RBH106).

Results are presented in Table 10, overleaf.

4.3.1 Ground Gas Results

Table 10 - Summary of Ground Gas Monitoring

Well	Date	CH_4 Initial %v/v	CH_4 Steady %v/v	CH_4 GSV l/hr	CO_2 Initial %v/v	CO_2 Steady %v/v	CO_2 GSV l/hr	O_2 %v/v	H_2S %v/v	Atmos (mb)	Atmos Dynamic	Flow (l/hr)	Response Zone (mbgl)	Depth to Water (mbgl)	Depth to Base (mbgl)
RBH101	02/06/2023	0.0	0.0	0.0000	1.7	1.7	0.0017	16.1	0	1020	Falling	0.10	1.00 – 5.00	1.33	4.50
	08/06/2023	0.0	0.0	0.0000	3.9	3.9	0.0039	14.9	0	1017	Falling	0.10		1.68	4.65
	29/06/2023	0.0	0.0	0.0000	6.2	6.2	0.0062	0.5	0	1010	Steady	0.10		1.85	4.36
RBH102	02/06/2023	0.0	0.0	0.0000	1.4	1.4	0.0014	17.4	0	1020	Falling	0.10	1.00 – 5.00	1.18	4.67
	08/06/2023	0.0	0.0	0.0000	1.7	1.7	0.0017	13.0	0	1017	Falling	0.10		1.54	4.96
	29/06/2023	0.0	0.0	0.0000	3.2	3.2	0.0032	6.0	0	1010	Steady	0.10		1.66	4.59
RBH103	02/06/2023	0.0	0.0	0.0000	2.9	2.9	0.0029	17.0	0	1020	Falling	0.10	1.00 – 5.00	1.86	3.97
	08/06/2023	0.0	0.0	0.0000	3.0	3.0	0.0030	13.9	0	1017	Falling	0.10		2.40	4.11
	29/06/2023	0.0	0.0	0.0000	3.5	3.5	0.0035	13.4	0	1010	Steady	0.10		2.15	3.81
RBH104	02/06/2023	0.0	0.0	0.0000	1.9	1.9	0.0019	16.6	0	1020	Falling	0.10	1.00 – 5.00	1.51	4.71
	08/06/2023	0.0	0.0	0.0000	2.1	2.1	0.0021	17.4	0	1017	Falling	0.10		1.85	4.94
	29/06/2023	0.0	0.0	0.0000	2.3	2.3	0.0023	16.5	0	1010	Steady	0.10		2.03	4.54
RBH105	02/06/2023	0.2	0.2	0.0002	0.7	0.7	0.0007	12.6	0	1020	Falling	0.10	1.00 – 10.00	1.81	7.53
	08/06/2023	0.1	0.1	0.0001	0.9	0.9	0.0009	15.2	0	1017	Falling	0.10		1.88	7.47
	29/06/2023	0.0	0.0	0.0000	0.8	0.8	0.0008	17.7	0	1010	Steady	0.10		2.16	7.30
RBH106	02/06/2023	83.3	83.3	0.0833	4.1	4.1	0.0041	0.0	0	1020	Falling	0.10	1.00 – 10.00	2.53	9.43
	08/06/2023	85.5	85.5	0.0855	4.9	4.9	0.0049	0.0	0	1017	Falling	0.10		3.70	9.49
	29/06/2023	83.7	83.7	0.0837	6.6	6.6	0.0066	0.0	0	1010	Steady	0.10		4.07	9.41
RBH07	02/06/2023	0.0	0.0	0.0000	0.0	0.0	0.0000	18.0	0	1020	Falling	0.10	1.00 – 4.00	0.79	3.67
	08/06/2023	0.5	0.5	0.0005	5.4	5.4	0.0054	13.9	0	1017	Falling	0.10		1.54	3.94
	29/06/2023	0.0	0.0	0.0000	3.8	3.8	0.0038	11.1	0	1010	Steady	0.10		1.77	3.59

5 ANALYTICAL RESULTS

5.1 Generic Quantitative Risk Assessment (GQRA)

At a Tier II stage, the long term (chronic) toxicity risk to human health is assessed by utilising appropriate and conservative generic assessment criteria (GAC) to determine whether there are actual or potential unacceptable risks at the site and if any viable pollutant linkages are present.

To undertake the Tier II assessment within the context of the development proposal, SES has determined that the most appropriate GAC values available will be those based upon a commercial land use taken into account.

The following assessment, summarised below and in Table 11, has primarily adopted the S4UL (Suitable for Use Levels reference values published by LQM/CIEH in 2015, the S4ULs). Currently, no published GAC value is available for cyanide and therefore SES has utilised the Environmental Agency Contaminated Land Exposure Assessment Tool (CLEA v1.06) to derive the relevant GAC for this proposed land use. Due to the absence of a published lead GAC for direct use within the planning regime, the 2014 Defra C4SL (Category 4 Screening Level) has been used as this value is considered to incorporate the latest toxicological, bio accessibility and exposure modelling research to date.

Table 11 - Summary of Toxicity Assessment for a Commercial End Use (1% SOM)

Determinant	Units	GAC	GAC Source	N	[mc]	Location Strata	Primary Pathways	Assessment
Inorganics								
Total Cyanide	mg/kg	50	(vii)	26	<1.0	N/A		No Further Action Required
Thiocyanate	mg/kg				<5.0			
Arsenic	mg/kg	640	(i)		46		1	
Boron	mg/kg	N/A	(i)		4.3		1, 2	
Cadmium	mg/kg	190	(i)		2.2		1, 2	
Chromium	mg/kg	8600	(i)		43		1, 2, 3	
Copper	mg/kg	68000	(i)		160		1, 2	
Lead	mg/kg	2330	(iv)		570		1, 2	
Mercury [Elemental]	mg/kg	58	(i)		0.9		1, 2	
Nickel	mg/kg	980	(i)		130		1	
Selenium	mg/kg	12000	(i)		<1		1, 2	
Zinc	mg/kg	730000	(i)		1700		1, 2	
TOC	%	N/A	(v)		-		1	
Asbestos	-	D.	-		D	TP19	3	TP19 @ 0.15m (Chrysotile)
Organics – PAHs								
Naphthalene	mg/kg	190	(ii)	26	<0.05	N/A	4	No Further Action Required
Acenaphthylene	mg/kg	8300	(ii)		<0.05		2	
Acenaphthene	mg/kg	84000	(ii)		0.11		2	
Fluorene	mg/kg	63000	(ii)		0.07		2	
Phenanthrene	mg/kg	22000	(ii)		1.10		2	

Table 11 - Summary of Toxicity Assessment for a Commercial End Use (1% SOM)								
Determinant	**Units**	**GAC**	**GAC Source**	**N**	**[mc]**	**Location Strata**	**Primary Pathways**	**Assessment**
Anthracene	mg/kg	520000	(ii)		0.30		2	
Fluoranthene	mg/kg	23000	(ii)		2.90		1, 2	
Pyrene	mg/kg	54000	(ii)		2.70		1, 2	
Benzo(a) Anthracene	mg/kg	170	(ii)		1.10		1	
Chrysene	mg/kg	350	(ii)		1.20		1	
Benzo(b) Fluoranthene	mg/kg	44	(ii)		2.10		1	
Benzo(k) Fluoranthene	mg/kg	1200	(ii)		0.68		1	
Benzo(a)Pyrene	mg/kg	35	(ii)	26	1.20		1	
Indeno (123-cd) Pyrene	mg/kg	500	(ii)		0.85		1	
Dibenzo (a, h) Anthracene	mg/kg	3.5	(ii)		0.23		1	
Benzo(ghi) Perylene	mg/kg	3900	(ii)		1.00		1	
Organics – BTEX and MTBE								
MTBE	mg/kg	N/A	(ii)		<5.0		4	
Benzene	mg/kg	27	(ii)		<5.0		4	No Further Action Required
Toluene	mg/kg	56000	(ii)	26	<5.0	N/A	4	
Ethylbenzene	mg/kg	5700	(ii)		<5.0		4	
Xylene (m&p)	mg/kg	5900	(ii)		<5.0		4	
Xylene (o)	mg/kg	6600	(ii)		<5.0		4	
Organics – TPHs Aromatic								
TPH C5-C7	mg/kg	26000	(iii)		<0.001		4	
TPH C7-C8	mg/kg	56000	(iii)		<0.001		4	
TPH C8-C10	mg/kg	3500	(iii)		<0.001		4	
TPH C10-C12	mg/kg	16000	(iii)		<1.0		4	No Further Action Required
TPH C12-C16	mg/kg	36000	(iii)	26	3.5	N/A	1, 4	
TPH C16-C21	mg/kg	28000	(iii)		15		1	
TPH C21-C35	mg/kg	28000	(iii)		380		1	
TPH C35-C44	mg/kg	28000	(iii)		390		1	
Organics – TPHs Aliphatic								
TPH C5-C6	mg/kg	3200	(iii)		<0.001		4	
TPH C6-C8	mg/kg	7800	(iii)		<0.001		4	
TPH C8-C10	mg/kg	2000	(iii)		<0.001		4	No Further Action Required
TPH C10-C12	mg/kg	9700	(iii)	26	3.6	N/A	4	
TPH C12-C16	mg/kg	59000	(iii)		29.0		1, 4	
TPH C16-C35	mg/kg	1700000	(iii)		593		1	
TPH C35-C44	mg/kg	1600000	(iii)		600		1	

Key
[mc] Maximum Concentration Recorded
D. Detected
N.D. None Detected (Limit of Detection = <0.0001%)
Primary Pathways
1 Ingestion of soil and indoor dust and / or oral background exposure;
2 Consumption of home-grown produce and attached soil – [NB] Not relevant in this commercial setting;
3 Inhalation of dust (background and indoor);
4 Inhalation of vapour (background and indoor);
Generic Assessment Criteria (GAC) Source

Table 11 - Summary of Toxicity Assessment for a Commercial End Use (1% SOM)								
Determinant	**Units**	**GAC**	**GAC Source**	**N**	**[mc]**	**Location Strata**	**Primary Pathways**	**Assessment**
(i) LQM/CIEH Suitable for Use Level (S4UL) (2015); (ii) S4UL – Conservative Assessment Approach of 1% SOM; (iii) S4UL –1% SOM and assumed worst case aliphatic / aromatic compound; (iv) Defra Category 4 Screening Level (2014); (v) CLEA 1.06 Derived Value.								

Laboratory Certificates are presented as Appendix C.

No metals, polyaromatic hydrocarbons or total petroleum hydrocarbons were found to be in excess of the applied screening criteria. However, asbestos in the form of loose fibrous debris of Chrysotile was detected in the sample retrieved from TP19 at a depth of 0.15m bgl as set out in Table 12, below. Asbestos quantification testing was carried out on this sample and the total quantity of asbestos within the sample was determined to be 0.002%.

Table 12 - Summary of Exceedance Locations			
Exploratory Location	**Determinants exceeding GAC**	**Depth (m bgl)**	**Strata**
TP19	**Asbestos (Chrysotile)**	**0.15m**	**MADE GROUND:.Reddish brown slightly gravelly silty sand. Gravel of brick and rounded quartztite.**

5.1.1 Detailed Human Health Risk Assessment

The past uses of the site had identified potentially contaminative uses; a number of on- and off-site uses that may have resulted in elevated levels of certain contaminants of concern. The current use of the land is an area of hardstanding, presently used for the storage of recycled materials from the on-site grit screening plant. The proposed use involves the construction of a composting facility.

The results of the Tier II stage, the long term (chronic) toxicity risk to human health is assessed by utilising appropriate and conservative generic assessment criteria (GAC) to determine whether there are actual or potential unacceptable risks at the site and if any viable pollutant linkages are present, in comparison to a commercial end use.

5.2 Controlled Waters Risk Assessment

5.2.1 Groundwater Conditions

Perched water was encountered in TP01, TP02, TP03, TP04, TP05, TP07, TP08, TP09, TP10, TP11, TP12, TP13, TP14, TP15, TP17, TP18 and TP19 during the site investigation works between 15th May and 26th May 2023. Groundwater was encountered within TP24 during the during the further trial pitting works on 15th June 2023. A foul sewerage smell was noted in the perched water within TP04 and TP05. Perched water generally existed at the interface between made ground and bedrock at a depth of between 0.2mbgl and 1mbgl.

During monitoring visits water varied within the seven boreholes with combined ground gas and groundwater monitoring standpipes. During the No.3 return monitoring visits the water levels ranged between 1.33m to 1.85m in RBH101; 1.18m to 1.66m in RBH102; 1.86m to 2.40m in RBH103; 1.51m to 2.03m in RBH104; 1.81m to 2.16m in RBH105; 2.53m to 4.07m in RBH106; and 0.79m to 1.77m in RBH107.

The site sensitivity regarding controlled waters is detailed in table 13 below:

Table 13 – Summary of Controlled Waters Sensitivity

Potential Risk Feature	Site Specific Summary	Sensitivity Classification
Groundwater Source Protection Zone or Drinking Water Safeguard Zone	The site is not located in a Source Protection Zone	N/A
Distance to the Closest Groundwater Abstraction Point	A historical groundwater abstraction is located 315m to the southeast of the site. There are no active potable abstractions within 2km of the site.	NEGLIGABLE
Aquifer Classification in Superficial Drift Deposits	No superficial deposits are present at the site.	N/A
Aquifer Classification in Bedrock	Unproductive Strata. A Secondary A Aquifer associated with the Weald Clay Formation (limestone) encroaches upon the northeast of the site	LOW
Viability for Anthropogenic Soil in Direct Contact with Aquifer (Drift or Bedrock)	Depths of up 1.70m of Made Ground was identified during the investigation over low-permeability CLAY, interpreted as weathered bedrock of the Weald Clay Formation. No exceedances of determinants were identified in respect to human health criteria for commercial end use.	LOW
Is the Site Located within 250m of a Surface Watercourse?	The closest surface water feature is Boldings Brook located c.30m to the west of the site.	LOW TO MODERATE
SUMMARY: The Initial Conceptual Site Model (ICSM) developed within the context of the site setting has identified limited pollutant linkages, associated with the Unproductive Strata associated with the bedrock. Owing to the absence of potable groundwater abstractions within 2km the risk is considered Low to Moderate.		

The site is identified as being within a low to moderate sensitivity setting in regard of controlled waters on the basis that the site has a presence of low permeability clay, weathered bedrock of the Weald Clay Formation, which would reduce the migration of mobile contaminants into the underlying Unproductive Strata bedrock, and the presence of Boldings Brook approximately 30m to the west of the site. It is therefore considered that the risk posed to controlled waters within influencing distance of the site is **LOW** based on the following rationale;

- Limited as no elevated contaminants of concern are identified at the site within the Made Ground on the site with no exceedances identified in soil analysis. Therefore, a reduced potential for a source of separate-phase or dissolved-phase contamination originating from either a defined on-site source or from impacted soils.

Table14: Comparison of Groundwater Analysis with Tier 1 Screening Levels

DETERMINAND	UNIT	EQS SCREENING VALUE[1,2,3]		DWS [3.4.5]	N	MC	LOC. Of EX	ASSESSMENT
		AA	MAC		GW			
Arsenic	µg/l	50	-	10		1.14		
Cadmium	µg/l	0.08-0.25	0.45-1.5	5		0.3		
Chromium	µg/l	4.7	-	50		4.2		
Copper (hardness)	µg/l	1	-	2000		8		
Total Cyanide	µg/l	1	-	50		<10		
Lead	µg/l	1.2	14	10	7	<0.2	N/A	No Further Assessment
Mercury	µg/l	-	0.07	1.0		<0.05		
Nickel	µg/l	4	34	20		27		
Selenium	µg/l	-	-	10		10		
Zinc (hardness)	µg/l	10.9	-	-		26		
Sulphate as SO_4	mg/l			250		-		
pH	6-9					7.2		
PAH								
Naphthalene	µg/l	2	130	-		<0.01		
Anthracene	µg/l	0.1	0.1	-		<0.01		
Benzo[b]fluoranthene	µg/l	0.00017	0.017	-		<0.01		
Benzo[k]fluoranthene	µg/l	0.00017	0.017	-		<0.01		
Benzo(a)pyrene	µg/l	0.00017	0.027	-	7	<0.01	N/A	No Further Assessment
Indeno(123-cd)pyrene	µg/l	0.00017*	-	-		<0.01		
Benzo(ghi)pyrene	µg/l	0.00017*	-	-		<0.01		
Fluoranthene	µg/l	0.0063	0.12	-		<0.01		
Benzo(ghi)perylene	µg/l	0.00017	0.0082	-		<0.01		

Key
(1) Water Framework Directive – Specific Pollutant
(2) Water Framework Directive – General Physico-chemical Standards
(3) Environmental Quality Standard – Priority Hazardous Substance
(4) Environmental Quality Standard – Other Pollutant
(5) Environmental Quality Standard – Other Substances
(6) Environmental Quality Standard – Non-Statutory
(7) Drinking Water Screening Values
(8) Sum of Four PAHs (benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[g,h,i]perylene and indeno[1,2,3-c,d]pyrene)

6 RISK ASSESSMENT

6.1 Preliminary Conceptual Site Model Summary

A preliminary Conceptual Site Model was developed which considered that there is limited potential for localised contamination to be present.

It stated that any localised contamination (if present) could potentially represent an unacceptable risk to human health (construction workers or future site users) via ingestion, dermal contact and / or inhalation or dust / volatile vapours. Asbestos fibres (if present) represent a potential risk to human health via inhalation.

The initial conceptual site model has been revised following the ground investigation and is based on the identified contaminant sources and pathways as shown in Table 15 below.

Table 15 - Identified Contaminant Sources and Pathways

Source	Contaminant	Pathway
Made Ground	Asbestos (ACM) and potential ACS (Asbestos containing soil)	Inhalation of dust (background and indoor)
Made Ground	Methane	Migration through soils
Made Ground and CLAY	Sulphates	Direct contact Leaching

6.2 Revised Conceptual Site Model

The revised conceptual site model has been developed for the proposed future land use, this summarises the understanding of surface and sub-surface features, the potential contaminant sources, plausible pathways and receptors; for there to be risk, pollution linkage between the source, the pathway and receptor must be proven. The identified contaminant(s) of concern are

- Asbestos
- Methane Gas
- Sulphate

The revised model is detailed and summarised in Table 16 overleaf.

Table 16 - Revised Conceptual Site Model				
Contaminant Source	**Receptor**	**Plausible Pathway**	**Current Residual Risk**	**Mitigation**
Asbestos	Human Health	*Inhalation*	YES	**Further trial pitting and soil sampling should be conducted in the vicinity of TP19 to determine the extent of asbestos contamination.**
Methane and Carbon Dioxide		*Fire and explosion*	YES	**Following assessment of the ground gas regime, gas precautions are needed to be adopted for the site.**
	Buildings	*Fire and explosion*	YES	
Sulphate		*Direct contact* *Leaching*	YES	**The site is classified as being of Design Class DS-3 and an Aggressive Chemical Environment for Concrete Classification (ACEC) of AC-2s.**

6.3 Rational for the revision of the Conceptual Site Model

Based on the available chemical testing data, field data, risk assessments including a GQRA of available soil data summarised in Section 4.1 and future commercial development.

Human Health

Limited instances of determinants found to be in excess of the applied screening criteria for the commercial end use.

Asbestos in the form of loose fibrous debris of Chrysotile was encountered at a depth of 0.15m within TP19. Asbestos quantification testing determined the quantity of asbestos within the sample to be 0.002%.

Ground Gases – Methane and Carbon Dioxide were elevated in one of the borehole installations; elsewhere on the site there was no gas recorded. Gas flows were very low and so the corresponding GSV is low. Given the elevated concentrations of CH_4 and CO within RBH106, the site is classified as Characteristic Situation 2 – Low Risk, and gas protection measures should be adopted for the site

Built-Environment – Water soluble sulphate is present in the MADE GROUND and the underlying Weald Clay Formation. Accordingly precautions are considered necessary.

7.0 GEOTECHNCIAL ASSESSMENT

It is proposed that the site shall be redeveloped into a composting site; waste shall be composted to re-use. Accordingly, the scope of the development proposals are of a new concrete slab for composting with some new small buildings for offices, welfare and leachate control. Leachate run-off from the slab will need to be managed and so a leachate lagoon with some treatment facilities is also required

Made ground is present across the whole site to a depth of up to 1.70m; the type and condition of the made ground is highly variable and contains anthropomorphic materials. Due to the variability of the made ground, SES consider that traditional spread foundations are unsuitable for structural loading on the made ground.

SES therefore advise the any structural loading of buildings either be placed on a stiff raft foundation/slab placed on compacted layer of selected granular material. In which case, an allowable safe bearing capacity of 50kN/m^2 should be used for foundation design. Or alternatively, structural loads may be transferred to undisturbed natural ground – the Weald Clay Formation through the Made Ground. Due to soil plasticity and volume change potential of the CLAY, the minimum footing depth should be 900mm below present of future ground level, whichever is the lower. An allowable safe bearing capacity for the CLAY at 1.00m depth of 125kN/m^2 may be assumed for foundation design.

The composting ground slab may be ground-bearing. Some preparation of the formation is to be expected due to the heterogeneous and highly varied nature of the Made Ground – proof-rolling of the formation is considered prudent; any soft or hard-spots should be treated/removed. The CBR% results are similarly highly variable across the site; it would be prudent for design purposes to assume a CBR value of 3% for slab design.

During excavation of the trial pits, old masonry and former foundations were noted. Stability of excavations may be compromised and temporary shoring or battering of trench-sides are considered likely. Some difficulty excavating the made ground may be experienced and more robust plant may be necessary.

Perched groundwater is to be expected in excavations and so temporary pumping of water is likely to keep trenches dry. Perched groundwater may impact lagoon lining materials and the empty-lagoon scenario should be considered with possible floatation.

Elevated levels of Sulphate have been recorded in both Made Ground and the underlying Weald Clay Formation. In accordance with BRE SD1 (2005), the site should be considered as being of Design Class DS-3 and an Aggressive Chemical Environment for Concrete Classification (ACEC) of AC-2s.

Methane gas and Carbon Dioxide have been found in very high levels within one borehole location RBH06. The gas flow rates are very low and so the calculated GSV is correspondingly relatively low. The GSV has been compared to the criteria outlined within CIRIA C665 to determine the level of risk to the proposed development and to ensure the appropriate remedial options are incorporated into any future building design in this area. CIRIA C665 states that the maximum GSV for carbon dioxide and methane is <0.07 l/hr for Characteristic Situation 1/ Green NHBC Traffic Light Classification – however, the very high Methane and

Carbon Dioxide above 5%, locally to RBH06, Site Characteristic Situation CS3 must be adopted. Generally, however, the majority of the site falls into CS1 with no precautions necessary.

8.0 CONCLUSIONS

Based on the information contained in this report, the following conclusions can be drawn:

- The current and historical uses on the site have are identified potential contaminants of concern; however, analysis and ongoing monitoring identifies one location with Asbestos, widespread elevated sulphates in the Made Ground and underlying natural CLAY and a location with very high Methane gas levels.
- Made ground is present across the site. The intrusive investigation confirmed Made Ground to a maximum depth of up to 1.70m bgl.
- There was no visual or olfactory evidence of contamination identified during the site investigation.
- Brookhurst Wood Landfill Site is located adjacent to the north and east of the site.
- The site is not in an area where Radon protection measures are required.
- Localised perched groundwater may be present at shallow depth and may be encountered in excavations.
- The nature and condition of the Made Ground present on the site means that traditional shallow strip foundations are not suitable; a stiff reinforced raft foundation is recommended, placed at shallow depth on a compacted blanket of granular material OR trench footing may be placed through the Made Ground onto undisturbed natural ground at a minimum footing depth of 900mm.

Based on the information contained in this report and with due regard to the current and future commercial land use, it is the opinion of SES that the site represents a **Low to Moderate** risk with respect to contaminated land liability issues. Therefore, the findings of this report should not prevent successful redevelopment of the Site.

As Asbestos has been identified in one location, other instances of Asbestos or other contaminants cannot be discounted, nor could the potential for brightly coloured or odorous made ground that may be contaminated.

The long-term residual risk to the developed site is considered LOW, but care should be taken during construction/redevelopment of the site where the existing hard-standing is removed for excavations.

9.0 CLOSURE

This report has been prepared by SES with all reasonable skill, care and diligence.

This report should be used for information purposes only and should not be construed as a comprehensive characterisation of all site conditions.

This report is based on a variety of third party and some publicly available information. Swan does not and cannot guarantee the authenticity of this information.

This report is for the exclusive use of Biffa Waste Services Ltd; no warranties or guarantees are expressed or should be inferred by any third parties. Any such third party relies upon this report at their own risk.

Swan disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of the work.

APPENDIX A – SITE LAYOUT AND EXPLORATORY LOCATION PLANS

517000mE

517200mE

134700mN

134600mN

N

RBH107

RBH106

TP17

TP15

TP18*

TP14

TP19

RBH105

TP20*

RBH101

TP01*

TP03*

TP02*

TP13

TP04*

TP05*

RBH102

TP11*

TP22*

TP21*

TP12

TP07*

RBH103

TP06*

TP10

TP24*

TP23*

TP08

TP09*

RBH104

HEAVILY VEGETATED
UNABLE TO ACCESS

CATTLE GRID

53.810 54.140 53.730 53.670 53.960 53.700 53.270 53.730 53.380 54.120 53.610 58.220 58.030 55.000 55.000 53.470 53.400 53.600 53.260 53.750 58.780 54.730 57.480 54.000 53.100 53.230 53.000 52.000 51.000 50.000 53.100 52.910 53.910 53.140 53.210 52.830 51.700 51.470 49.340 48.730

NOTES

1. BASE SURVEY PROVIDED BY THE CLIENT REF: 9598-HBL-XX-XX-DR-S-0001-PROPOSED SITE PLAN. DATED: FEB 2023

LEGEND

TP04 TRIAL PIT LOCATION

TP18* DCP PROBE LOCATION

RGH102 BOREHOLE LOCATION

REV	FIRST ISSUE	DRAWN	CHKD
0		PC	TM

Biffa

SITE: BROOKHURST WOOD LANDFILL SITE

PROJECT: SITE INVESTIGATION

TITLE: DRAWING TITLE
TWO LINES DEEP

SCALE	NUMBER
1:500 @ A2	001

DATE			
10.07.2023			
DRAWN	CH'KED	REV	
PC	TM	0	

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10-07-2023 14:27 S1 Locations.dwg

APPENDIX B – EXPLORATORY HOLE LOGS

WELL NUMBER RBH101

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 25/5/23 **COMPLETED** 26/5/23 **GROUND ELEVATION** _____ **HOLE SIZE** 101mm

DRILLING CONTRACTOR Endeavor Drilling **GROUND WATER LEVELS:**

DRILLING METHOD Rotary Water Flush **AT TIME OF DRILLING** ---

LOGGED BY Gary Anderson **CHECKED BY** Tim Major **AT END OF DRILLING** ---

East 517035 **North** 134656 **AFTER DRILLING** ---

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
					CONCRETE	Casing Type: HDPE
					0.17	Concrete surround and flush cover
					Black sandy fill with subangular gravel of concrete, mudstone, red brick and engineering brick. MADE GROUND.	Plain pipe and bentonite seal
					0.90	
1					Stiff yellow brown CLAY with occasional grey weathered brown mudstone.	Plain pipe and filter pack
					1.30	
					Yellow brown mottled blue stiff CLAY.	
					1.80	
2					Stiff yellow brown CLAY with occasional subangular gravel of grey weathered brown mudstone.	
	SPT	5-6-7-6	N=24			
					2.70	
					Stiff yellow brown CLAY with subangular gravel of grey weathered brown mudstone.	
3						Perforated pipe and filter pack
					3.60	
					Grey weathered brown laminated MUDSTONE.	
					3.90	
4					Yellow brown very stiff CLAY with subangular gravel of grey weathered brown mudstone.	
	SPT	12-17-16-5	N=50+			
					4.20	
					Grey weathering brown weak laminated MUDSTONE.	
5					5.00	End cap
	SPT	10-15-10-19	N=54		Bottom of borehole at 5.00 meters.	

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

WELL NUMBER RBH102

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 24/5/23 **COMPLETED** 25/5/23 **GROUND ELEVATION** _____ **HOLE SIZE** 101mm

DRILLING CONTRACTOR Endeavor Drilling **GROUND WATER LEVELS:**

DRILLING METHOD Rotary Water Flush **AT TIME OF DRILLING** ---

LOGGED BY Gary Anderson **CHECKED BY** Tim Major **AT END OF DRILLING** ---

East 517036 **North** 134620 **AFTER DRILLING** ---

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						Casing Type: HDPE
					CONCRETE	Concrete surround and flush cover
					0.21 Black sandy fill with subangular gravel of concrete, mudstone, red brick and engineering brick. MADE GROUND.	Plain pipe and bentonite seal
1					0.90 Stiff yellow brown CLAY with occasional subangular gravel of grey weathered brown mudstone.	Plain pipe and filter pack
	SPT	1-1-2-2	N=6			
2						
3						Perforated pipe and filter pack
	SPT	7-15-30-5	N=50+			
					3.30 Blue grey laminated MUDSTONE.	
4						
5					5.00	End cap

Bottom of borehole at 5.00 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

WELL NUMBER RBH103

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 23/5/23 **COMPLETED** 23/5/23 **GROUND ELEVATION** _____ **HOLE SIZE** 101mm

DRILLING CONTRACTOR Endeavor Drilling **GROUND WATER LEVELS:**

DRILLING METHOD Rotary Water Flush **AT TIME OF DRILLING** ---

LOGGED BY Gary Anderson **CHECKED BY** Tim Major **AT END OF DRILLING** ---

East 517019 **North** 134590 **AFTER DRILLING** ---

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
					0.15 CONCRETE	Casing Type: HDPE
					Black sandy fill with subangular gravel of concrete, mudstone, red brick and engineering brick. MADE GROUND.	Concrete surround and flush cover
					0.60 Stiff brown CLAY with occasional subangular gravel of grey weathered brown mudstone.	Plain pipe and bentonite seal
1						Plain pipe and filter pack
	SPT	1-3-4-6	N=14			
2						
	SPT	14-10-13-12	N=49		2.10 Stiff blue grey CLAY.	
					2.50 Stiff brown CLAY with occasional subangular gravel of grey weathered brown mudstone.	
3					2.70 Grey weathered brown weak laminated MUDSTONE.	
	SPT	31-21	N=50+ (185mm)			Perforated pipe and filter pack
					3.50 Blue grey laminated MUDSTONE.	
4						
	SPT	13-14-17-17	N=61			
5						
	SPT	27-35	N=50+ (160mm)		5.00 Bottom of borehole at 5.00 meters.	End cap

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

WELL NUMBER RBH104

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 22/5/23 **COMPLETED** 23/5/23 **GROUND ELEVATION** _____ **HOLE SIZE** 101mm

DRILLING CONTRACTOR Endeavor Drilling **GROUND WATER LEVELS:**

DRILLING METHOD Rotary Water Flush **AT TIME OF DRILLING** ---

LOGGED BY Gary Anderson **CHECKED BY** Tim Major **AT END OF DRILLING** ---

East 517064 **North** 134567 **AFTER DRILLING** ---

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
					CONCRETE	Casing Type: HDPE; Concrete surround and flush cover
					0.24 Red brick. MADE GROUND.	
					0.40 Stiff brown CLAY with subangular gravel of grey weathered brown mudstone.	Plain pipe and bentonite seal
1						Plain pipe and filter pack
	SPT	7-8-9-7	N=31		1.20 Grey weathered brown weak laminated MUDSTONE.	
2						
	SPT	18-19-13	N=50+ (95mm)			
					2.60 Stiff brown CLAY with subangular gravel of grey weathered brown mudstone.	
					2.80 Blue grey laminated MUDSTONE.	
3						
	SPT		Refusal (360mm)			Perforated pipe and filter pack
4						
	SPT	8-16-21-16	N=60		4.30 Very stiff blue grey CLAY.	
5						End cap
	SPT	16-14-16	N=50+ (75mm)		5.00 Bottom of borehole at 5.00 meters.	

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

WELL NUMBER RBH105

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 22/5/23 **COMPLETED** 23/5/23 **GROUND ELEVATION** _____ **HOLE SIZE** 101mm

DRILLING CONTRACTOR Endeavor Drilling **GROUND WATER LEVELS:**

DRILLING METHOD Rotary Water Flush **AT TIME OF DRILLING** ---

LOGGED BY Gary Anderson **CHECKED BY** Tim Major **AT END OF DRILLING** ---

East 517129 **North** 134649 **AFTER DRILLING** ---

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						Casing Type: HDPE
					0.15 CONCRETE	Concrete surround and flush cover
					Brickwork and mortar. MADE GROUND.	
					0.40 Stiff light brown mottled grey CLAY with subangular to subrounded gravel of grey weathered brown mudstone.	Plain pipe and bentonite seal
1					1.10	Plain pipe and filter pack
	SPT	9-10-9-7	N=35		Moderately stiff brown slightly sandy CLAY.	
2					2.00	
	SPT	13-7-9-8	N=37		Very stiff blue grey CLAY.	
					2.40 Light brown mottled grey stiff laminated CLAY.	
3					2.90	
	SPT	13-17-14-13	N=57		Grey weathered brown weak laminated MUDSTONE.	
4						
	SPT	18-21-19-22	N=50+			
5					5.20	
					Blue grey laminated MUDSTONE.	
					5.50	Perforated pipe and filter pack
	SPT	12-15-15-16	N=58		Moderately stiff blue grey CLAY.	
					5.80	
6					Blue grey laminated MUDSTONE with occasional horizons of moderately stiff blue grey clay.	

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

(Continued Next Page)

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

WELL NUMBER RBH105

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
					Blue grey laminated MUDSTONE with occasional horizons of moderately stiff blue grey clay. *(continued)*	
7					7.00 Blue grey laminated MUDSTONE.	
8						
9						
10					10.00 Bottom of borehole at 10.00 meters.	End cap

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

WELL NUMBER RBH106

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 16/5/23 **COMPLETED** 17/5/23 **GROUND ELEVATION** _____ **HOLE SIZE** 101mm

DRILLING CONTRACTOR Endeavor Drilling **GROUND WATER LEVELS:**

DRILLING METHOD Rotary Water Flush **AT TIME OF DRILLING** ---

LOGGED BY Gary Anderson **CHECKED BY** Tim Major **AT END OF DRILLING** ---

East 517148 **North** 134725 **AFTER DRILLING** ---

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						Casing Type: HDPE
					0.12 CONCRETE	Concrete surround and flush cover
					0.16 Red brick. MADE GROUND.	
					Moderately stiff yellow brown mottled grey CLAY with coarse subangular to subrounded gravel of grey weathered brown mudstone.	Plain pipe and bentonite seal
1					0.90	
2	SPT	25-25	N=50+(150mm)		Grey weathered red brown weak laminated fossiliferous MUDSTONE.	Plain pipe and filter pack
					2.00	
3	SPT	15-15-10-14	N=54		Stiff grey CLAY with subangular gravel of weathered mudstone and occasional sandstone and chert gravel.	
					2.50	
					Light grey weathered red brown weak laminated MUDSTONE.	
4	SPT	15-12-13-13	N=53		3.70	
					Stiff light blue CLAY with subangular coarse gravel of grey mudstone.	
5						
					5.60	Perforated pipe and filter pack
6					Blue grey laminated MUDSTONE.	

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

(Continued Next Page)

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

WELL NUMBER RBH106

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
					Blue grey laminated MUDSTONE. *(continued)*	
					6.20 Blue grey laminated MUDSTONE with occasional horizons of light brown sand.	
					6.50 Blue grey laminated MUDSTONE.	
7						
8						
9						
10					10.00	End cap

Bottom of borehole at 10.00 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

WELL NUMBER RBH107

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 26/5/23 **COMPLETED** 26/5/23 **GROUND ELEVATION** _____ **HOLE SIZE** 101mm

DRILLING CONTRACTOR Endeavor Drilling **GROUND WATER LEVELS:**

DRILLING METHOD Rotary Water Flush **AT TIME OF DRILLING** ---

LOGGED BY Gary Anderson **CHECKED BY** Tim Major **AT END OF DRILLING** ---

East 517118 **North** 134727 **AFTER DRILLING** ---

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
						Casing Type: HDPE
					0.10 Red brick floor. MADE GROUND.	Concrete surround and flush cover
					Crushed red brick and coarse grained red sand. MADE GROUND.	
					0.40 Crushed red and engineering brick with a coarse black sandy matrix. MADE GROUND.	Plain pipe and bentonite seal
					0.80	
1					0.90 Red brick floor. MADE GROUND.	Plain pipe and filter pack
					Crushed red brick with a brown clayey sand matrix. MADE GROUND. 1.10	
	SPT	26-31	N=50+		Grey weathered brown weak MUDSTONE.	
2						
						Perforated pipe and filter pack
					2.80 Blue grey laminated MUDSTONE.	
3						
	SPT	21-29	N=50+			
4						End cap
						Base of hole collapsed and unable to recover
5					5.00	

Bottom of borehole at 5.00 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP01

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 18/5/23 **COMPLETED** 18/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 2.1x1.1x2.6

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit ▽ **AT TIME OF EXCAVATION** 1.00 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517038 **North** 134653 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS AND REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION
				REINFORCED CONCRETE
			0.15	MADE GROUND: Reddish brown slightly gravelly coarse SAND with cobbles and boulders.
	D TP01.1			
0.5			0.45	RED BRICK.
1.0			▽	
			1.20	Soft light brown CLAY.
	B TP01.2	CLAY becomes stiff		
1.5			1.60	Very stiff mottled light brown and grey CLAY.
2.0				
2.5			2.60	

Bottom of test pit at 2.60 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP02

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 19/5/23 **COMPLETED** 19/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 2.0x0.9x2.5

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit **AT TIME OF EXCAVATION** 1.60 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517068 **North** 134648 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
			0.15	REINFORCED CONCRETE
0.5	D TP02.1			MADE GROUND: Brownish red coarse angular SAND with cobbles. Cobbles and sand are of brick and crushed brick.
1.0			1.10	Very stiff mottled light brown and grey slightly sandy CLAY.
1.5			1.60 ▽	Stiff mottled grey and brown slightly gravelly CLAY with cobbles. Gravel and cobbles are of closely laminated mudstone. Weald Clay Formation.
2.0				
2.5			2.50	Bottom of test pit at 2.50 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP03

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 18/5/23 **COMPLETED** 18/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 2.1x1.1x2.4

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit **AT TIME OF EXCAVATION** 2.35 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517071 **North** 134657 **3hrs AFTER EXCAVATION** 1.80 m

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
				CONCRETE
			0.15	
	D TP03.1			MADE GROUND: Dark reddish black slightly gravelly SAND with boulders and cobbles. Boulders, cobbles and gravel are of brick.
0.5				
			0.60	
	B TP03.2			Very stiff mottled grey and light brown slightly sandy CLAY.
1.0				
1.5				
			1.70	
				Stiff mottled grey and brown slightly gravelly CLAY. Gravel is of closely laminated mudstone. Weald Clay Formation.
2.0				
			2.40	

Bottom of test pit at 2.40 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP04

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 18/5/23 **COMPLETED** 18/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 2.2x1.1x2.1

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit ▽ **AT TIME OF EXCAVATION** 0.70 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517039 **North** 134623 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
	D TP04.1			MADE GROUND: Reddish black very gravelly SAND with cobbles. Cobbles and gravel of brick.
				0.40
0.5				MADE GROUND: Blackish red very gravelly SAND with cobbles. Cobbles and gravel are of brick.
				0.60
				▽ RED BRICK
				0.80
1.0				Stiff mottled grey and brown slightly gravelly CLAY. Gravel is of closely laminated mudstone. Foul smell. Weald Clay Formation.
1.5				
2.0	D TP04.2			
				2.10
	B TP04.3			Bottom of test pit at 2.10 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP05

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services
PROJECT NAME SIte Investigation
PROJECT NUMBER 4000760
PROJECT LOCATION Brookhurst Wood
DATE STARTED 19/5/23 **COMPLETED** 19/5/23
GROUND ELEVATION _____ **TEST PIT SIZE** 2.2x1.1x2.7
EXCAVATION CONTRACTOR Allshaw Hire
GROUND WATER LEVELS:
EXCAVATION METHOD Trial Pit
▽ **AT TIME OF EXCAVATION** 1.00 m
LOGGED BY Andrew Walton **CHECKED BY** Tim Major
AT END OF EXCAVATION ---
East 517054 **North** 134618
AFTER EXCAVATION ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
				0.10 Pea gravel. From stockpile.
0.5	D TP05.1			MADE GROUND: Red gravelly angular sand with cobbles. Red brick forms a competent wall/foundation on south face of pit from 0.5m to 1.0m. Foul smell.
1.0				1.00 ▽
1.5				Stiff mottled grey and brown slightly gravelly CLAY. Gravel is of closely laminated mudstone. Foul smell. Weald Clay Formation.
2.0				
2.5	D TP05.2			
	B TP05.3			2.70

Bottom of test pit at 2.70 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP06

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 18/5/23 **COMPLETED** 18/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 2.0x1.1x2.5

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit **AT TIME OF EXCAVATION** ---

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517016 **North** 134590 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
				REINFORCED CONCRETE
			0.22	
	D TP06.1			MADE GROUND: Dark grey gravelly very sandy CLAY with cobbles. Reworked natural.
			0.42	
0.5				Very stiff light brown CLAY.
	B TP06.2			
1.0				
			1.10	
				Stiff mottled grey and brown slightly gravelly CLAY. Gravel is of closely laminated mudstone. Weald Clay Formation.
1.5				
2.0				
2.5			2.50	

Bottom of test pit at 2.50 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP07

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 18/5/23 **COMPLETED** 18/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 1.8x1.0x1.8

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit ▽ **AT TIME OF EXCAVATION** 1.60 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517067 **North** 134597 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION
				CONCRETE
				0.28
				0.38 MADE GROUND: Mottled buff and black very gravelly coarse angular SAND with cobbles. Cobbles and gravel are of brick.
0.5				RED BRICK
				0.70
		0.4m wide service trench identified running north - south		Stiff mottled grey and brown slightly gravelly CLAY. Gravel is of closely laminated mudstone. Weald Clay Formation.
1.0				
1.5				▽
		MUDSTONE becomes weak		1.80

Bottom of test pit at 1.80 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP08

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 17/5/23 **COMPLETED** 17/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 2.3x1.1x2.3

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit ▽ **AT TIME OF EXCAVATION** 2.20 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517046 **North** 134570 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
0.5	D TP08.1			MADE GROUND: Brick foundation and red very gravelly coarse SAND wth boulders. Boulders are of brick and blocks of cemented bricks.
1.0				
1.20				
1.5				Stiff mottled grey and brown slightly gravelly CLAY. Gravel is of closely laminated mudstone. Weald Clay Formation.
2.0				
2.30	B TP08.2			Bottom of test pit at 2.30 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP09

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 18/5/23 **COMPLETED** 18/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 2.1x1.3x2.7

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit ▽ **AT TIME OF EXCAVATION** 2.60 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517061 **North** 134567 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS AND REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION
				CONCRETE
				0.20
				Stiff mottled grey and brown slightly gravelly CLAY. Gravel is of closely laminated mudstone. Weald Clay Formation.
0.5	D TP08.1			
1.0				
1.5				
2.0				
2.5		MUDSTONE becomes weak		▽
				2.70
				Bottom of test pit at 2.70 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP10

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 19/5/23 **COMPLETED** 19/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 2.2x1.2x2.4

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit ▽ **AT TIME OF EXCAVATION** 0.60 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517082 **North** 134583 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
			0.15	REINFORCED CONCRETE
	D TP10.1			MADE GROUND: Red and grey sandy GRAVEL with boulders and cobbles. Boulders and cobbles are of concrete and brick.
0.5			0.60 ▽	
			0.70	MADE GROUND: Brick Layer. Required breaking out with pecker.
				Very stiff greyish brown slightly sandy CLAY.
1.0			1.20	
				Stiff mottled grey and brown slightly gravelly CLAY with cobbles. Gravel and cobbles are of closely laminated mudstone. Weald Clay Formation.
1.5				
2.0	B TP10.2			
			2.40	

Bottom of test pit at 2.40 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP11

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 19/5/23 **COMPLETED** 19/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 2.2x1.1x2.5

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit ▽ **AT TIME OF EXCAVATION** 2.00 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517063 **North** 134612 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
				CONCRETE
			0.15	
	D TP11.1			MADE GROUND: Multicoloured very sandy GRAVEL with cobbles. Gravel and cobbles are of brick and concrete.
0.5				
			0.60	
				Soft light brown slightly sandy CLAY.
1.0				
1.5				
			1.85	
				▽ Stiff mottled grey and brown slightly gravelly CLAY with cobbles. Gravel and cobbles are of closely laminated mudstone. Weald Clay Formation.
2.0				
2.5			2.50	
				Bottom of test pit at 2.50 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP12

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 16/5/23 **COMPLETED** 16/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 2.1x1.3x2.5

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit ▽ **AT TIME OF EXCAVATION** 0.30 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517084 **North** 134603 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
				CONCRETE
				0.24
	D TP12.1			▽ MADE GROUND: Red very gravelly BOULDERS. Boulders are of brick and concrete.
0.5				0.51
				Orangish brown very weak closely laminated MUDSTONE. Weald Clay Formation. Recovered as gravel.
1.0				
				1.35
1.5				Stiff mottled grey and brown slightly gravelly CLAY. Gravel is of closely laminated mudstone. Weald Clay Formation.
2.0				
2.5				2.50
				Bottom of test pit at 2.50 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP13

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 15/5/23 **COMPLETED** 15/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 1.8x0.8x2.4

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit ▽ **AT TIME OF EXCAVATION** 0.25 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517084 **North** 134627 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
				REINFORCED CONCRETE
			0.13	
			0.25 ▽	MADE GROUND: Reddish brown, black and grey very sandy coarse rounded GRAVEL. Gravel is of brick, quartzite and tarmac.
	D TP13.1		0.38	MADE GROUND: Reddish brown slightly gravelly SAND. Gravel is of brick, tile and flint. Rare boulders of brick.
0.5				Very stiff mottled light brown and grey slightly sandy CLAY.
1.0				
			1.45	
1.5				Very stiff mottled dark brown and light brown closely laminated CLAY. Rare gravel size fragments of weathered closely laminated mudstone.
2.0				
	B TP13.2		2.40	

Bottom of test pit at 2.40 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP14

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 17/5/23 **COMPLETED** 17/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 2.0x1.3x2.8

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit ▽ **AT TIME OF EXCAVATION** 2.70 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517098 **North** 134676 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
				REINFORCED CONCRETE
				0.25 RED BRICK
				0.40 MADE GROUND: Multicoloured very sandy GRAVEL. Gravel is of flint and brick with rare boulders of brick.
0.5				0.50 MADE GROUND: Black slightly gravelly slightly silty coarse SAND with boulders. Gravel and boulders are of brick, wood fragments, branches and bottles.
	D TP14.1			
1.0				
				1.20 Soft bluish grey slightly sandy CLAY. Laminated from 2m.
1.5				
2.0				
	B TP14.2			
2.5				2.50 Very stiff mottled brown and grey closely laminated CLAY.
				▽ 2.80

Bottom of test pit at 2.80 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP15

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 17/5/23 **COMPLETED** 17/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 2.4x0.9x2.5

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit ▽ **AT TIME OF EXCAVATION** 0.50 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517100 **North** 134697 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
				0.02 MADE GROUND: Multicoloured angular coarse GRAVEL. Gravel is of glass and porcelain.
				MADE GROUND: Dark grey very gravelly coarse angular SAND. Gravel is of brick, glass and quartzite.
				0.40
0.5				▽ MADE GROUND: RED BRICK.
				0.60
				0.65 MADE GROUND: Soft mottled red and grey sandy CLAY.
	D TP15.1			MADE GROUND: Red angular SAND. Crushed brick.
				0.90
1.0				Stiff mottled grey and brown slightly gravelly CLAY. Gravel is of closely laminated mudstone. Weald Clay Formation.
1.5				
2.0				
	D TP15.2			
2.5				2.50

Bottom of test pit at 2.50 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP17

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 17/5/23 **COMPLETED** 17/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 2.1x1.2x1.8

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit **AT TIME OF EXCAVATION** 0.25 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517136 **North** 134709 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
			0.10	CONCRETE
	D TP17.1		0.25	MADE GROUND: Reddish brown and grey very sandy gravelly BOULDERS. Boulders, gravel and sand are of brick.
0.5				Stiff mottled grey and brown slightly gravelly CLAY. Gravel is of closely laminated mudstone. Weald Clay Formation.
1.0	B TP17.2			
1.5				
			1.80	

Bottom of test pit at 1.80 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP18

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 18/5/23 **COMPLETED** 18/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 2.6x1.1x2.4

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit **AT TIME OF EXCAVATION** 0.20 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517140 **North** 134686 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS AND REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION
				CONCRETE
				0.20 ▽
	D TP18.1	Steel rail running east - west		MADE GROUND: Dark grey very sandy very gravelly COBBLES. Cobbles are of brick.
0.5				0.50
				Firm light brown closely laminated slightly sandy CLAY.
				0.80
1.0				Stiff mottled grey and brown slightly gravelly CLAY. Gravel is of closely laminated mudstone. Weald Clay Formation.
1.5				
2.0				
				2.40

Bottom of test pit at 2.40 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP19

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 17/5/23 **COMPLETED** 17/5/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 2.2x1.1x2.8

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit ▽ **AT TIME OF EXCAVATION** 0.80 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517131 **North** 134655 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
				REINFORCED CONCRETE
			0.15	
	D TP19.1			MADE GROUND: Reddish brown slightly gravelly silty SAND. Gravel of brick and rounded quartzite.
			0.30	
				Very stiff light brown CLAY.
0.5				
				▽
1.0				
			1.30	
				Stiff mottled grey and brown slightly gravelly CLAY. Gravel is of closely laminated mudstone. Weald Clay Formation.
1.5				
2.0				
2.5				
			2.80	

Bottom of test pit at 2.80 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP20

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 15/6/23 **COMPLETED** 15/6/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 1.6x0.8x2.1

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit **AT TIME OF EXCAVATION** ---

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517159 **North** 134644 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
				CONCRETE
			0.18	
	D TP20.1			MADE GROUND: Reddish black slightly gravelly silty SAND with boulders and cobbles. Gravel and sand are fine to coarse and angular. Gravel is of brick, flint and glass. Boulders and cobbles are of brick.
0.5				
1.0				
1.5				
			1.70	
	D TP20.2			Soft greenish grey slightly sandy CLAY.
2.0				
			2.10	

Bottom of test pit at 2.10 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP21

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 15/6/23 **COMPLETED** 15/6/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 1.4x0.8x1.6

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit **AT TIME OF EXCAVATION** ---

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517138 **North** 134611 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
				CONCRETE
			0.23	
				MADE GROUND: Reddish black slightly gravelly silty SAND with boulders and cobbles. Gravel and sand are fine to coarse and angular. Gravel, boulders and cobbles are of brick.
0.5	D TP21.1		0.55	
				Stiff greenish grey sandy CLAY. Sand is fine to coarse.
			0.80	
				Stiff mottled orange and grey slightly sandy CLAY. Weald Clay Formation.
1.0				
1.5				
			1.60	

Bottom of test pit at 1.60 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP22

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 15/6/23 **COMPLETED** 15/6/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 2.2x0.9x2.6

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit **AT TIME OF EXCAVATION** ---

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517099 **North** 134619 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
	D TP22.1			MADE GROUND: Greyish orange very gravelly SAND with boulders. Gravel is fine to medium, sand is coarse. Gravel is of brick, limestone and concrete. Boulders are of brick.
				0.45
0.5				Stiff mottled grey and brown slightly gravelly CLAY. Gravel is of closely laminated mudstone. Weald Clay Formation.
1.0				
1.5				
2.0	D TP22.2			
2.5				2.60
				Bottom of test pit at 2.60 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP23

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 15/6/23 **COMPLETED** 15/6/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 3.3x0.9x0.6

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit **AT TIME OF EXCAVATION** ---

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517148 **North** 134578 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
	D TP23.1			0.08 MADE GROUND: White slightly sandy coarse angular GRAVEL. Gravel is of limestone. Terram at base.
				0.30 MADE GROUND: Reddish black gravelly silty SAND with boulders and cobbles. Sand and gravel are fine to coarse. Gravel, boulders and cobbles are of brick.
0.5				MADE GROUND: Red brick foundation. - Unable to progress beyond
				0.60

Bottom of test pit at 0.60 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

TEST PIT NUMBER TP24

Swan Environmental Services
Offices 24/25, The Rear Walled Garden, The Nostell Estate, Nostell
WF4 1AB

CLIENT Biffa Waste Services **PROJECT NAME** SIte Investigation

PROJECT NUMBER 4000760 **PROJECT LOCATION** Brookhurst Wood

DATE STARTED 15/6/23 **COMPLETED** 15/6/23 **GROUND ELEVATION** _____ **TEST PIT SIZE** 1.7x1.1x2.1

EXCAVATION CONTRACTOR Allshaw Hire **GROUND WATER LEVELS:**

EXCAVATION METHOD Trial Pit ▽ **AT TIME OF EXCAVATION** 1.80 m

LOGGED BY Andrew Walton **CHECKED BY** Tim Major **AT END OF EXCAVATION** ---

East 517112 **North** 134580 **AFTER EXCAVATION** ---

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
				CONCRETE
				0.25
	D TP24.1			MADE GROUND: Reddish black gravelly silty SAND with boulders and cobbles. Sand and gravel are fine to coarse. Gravel, boulders and cobbles are of brick.
0.5				
1.0				
1.5				
				1.60
				Very stiff mottled brown and grey slightly sandy CLAY.
				1.80 ▽
				Weathered bedrock: Very weak mottled brown and grey closely laminated MUDSTONE.
2.0				
	D TP24.2			2.10

Bottom of test pit at 2.10 meters.

SWAN BOREHOLE WITHOUT REFUSAL BHW 2023 SI.GPJ GINT STD A4 ASTM LAB.GDT 10/7/23

APPENDIX C – LABORATORY RESULTS

Andrew Walton
Swan Environmental Services☐
Offices 24/25
Rear Walled Garden
The Nostell Estate
Nostell
Wakefield
WF4 1AB

e: andrew@swanenvironmental.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

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Combined Report: Brookhurst Wood

The report has been updated to the current Schedule of Accreditation issue No: 116 Issue date: 12 June 2023

Project / Site name:	Brookhurst Wood	**Samples received on:**	19/05/2023
Your job number:		**Samples instructed on/ Analysis started on:**	22/05/2023
Your order number:	10051	**Analysis completed by:**	07/06/2023
Report Issue Number:	1	**Report issued on:**	07/07/2023
Samples Analysed:	26 soil samples 7 water samples		

Izabela Wójcik

Signed:

Izabela Wójcik
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood
Your Order No: 10051

Lab Sample Number				2686587	2686588	2686589	2686590	2686591
Sample Reference				TP01	TP02	TP03	TP04	TP04
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30-0.40	0.60-0.70	0.15-0.25	0.10-0.20	2.10-2.20
Date Sampled				18/05/2023	19/05/2023	18/05/2023	18/05/2023	18/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	9.7	15	20	16	19
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	EWS	EWS	EWS	EWS	EWS

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	11	9.9	10.9	7.9	8.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	-	-	-	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	420	170	110	2400	240
Total Sulphur	mg/kg	50	MCERTS	1300	270	370	3300	280

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.09	< 0.05	< 0.05	0.08	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.09	< 0.05	< 0.05	0.08	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.08	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80

Analytical Report Number: Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood
Your Order No: 10051

Lab Sample Number				2686587	2686588	2686589	2686590	2686591
Sample Reference				TP01	TP02	TP03	TP04	TP04
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30-0.40	0.60-0.70	0.15-0.25	0.10-0.20	2.10-2.20
Date Sampled				18/05/2023	19/05/2023	18/05/2023	18/05/2023	18/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	27	23	39	24	19
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	1	0.9	1.9	0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21	30	21	28	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	71	19	51	11	24
Lead (aqua regia extractable)	mg/kg	1	MCERTS	98	26	58	20	19
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	32	28	30	32
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	69	70	63	76	73
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
TPH-CWG - Aliphatic (C16-C35)	mg/kg	10	MCERTS	30	14	< 10	< 10	< 10
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	7.4	3.4	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	15	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	15	14	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	37	23	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	14	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood
Your Order No: 10051

Lab Sample Number				2686592	2686593	2686594	2686595	2686596
Sample Reference				TP05	TP05	TP06	TP08	TP09
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70-0.80	2.30-2.40	0.30-0.40	0.30-0.40	0.60-0.70
Date Sampled				19/05/2023	19/05/2023	18/05/2023	17/05/2023	18/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	36	22	14	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	15	15	14	15
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	EWS	EWS	EWS	EWS	EWS

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.9	8.4	8.9	8.1	8.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	-	-	-	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	36	120	120	960	69
Total Sulphur	mg/kg	50	MCERTS	680	200	540	1300	270

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.24	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.24	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.13	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.16	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	0.19	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	0.11	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.13	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.11	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.13	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	1.44	< 0.80

Analytical Report Number: Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood
Your Order No: 10051

Lab Sample Number				2686592	2686593	2686594	2686595	2686596
Sample Reference				TP05	TP05	TP06	TP08	TP09
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70-0.80	2.30-2.40	0.30-0.40	0.30-0.40	0.60-0.70
Date Sampled				19/05/2023	19/05/2023	18/05/2023	17/05/2023	18/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16	29	21	16	31
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	0.8	4.2	1	1.1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.6	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	43	33	23	27	28
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19	25	37	28	24
Lead (aqua regia extractable)	mg/kg	1	MCERTS	41	20	40	34	16
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	39	33	22	23	34
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	130	86	61	84	59
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
TPH-CWG - Aliphatic (C16-C35)	mg/kg	10	MCERTS	< 10	< 10	31	< 10	< 10
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	3.2	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	16	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	15	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	< 10	35	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	< 10	14	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood
Your Order No: 10051

Lab Sample Number				2686597	2686598	2686599	2686600	2686601
Sample Reference				TP10	TP11	TP12	TP13	TP14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.15-0.25	0.15-0.25	0.24-0.35	0.25-0.38	0.70-0.80
Date Sampled				19/05/2023	19/05/2023	16/05/2023	15/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	11	13	8.8	15	< 0.1
Moisture Content	%	0.01	NONE	16	5.8	21	15	17
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	DSO	DSO	DSO	DSO	DSO
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	11.7	9.2	11.5	9.2	8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	-	-	-	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	83	55	110	36	730
Total Sulphur	mg/kg	50	MCERTS	2000	710	1400	330	6500
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.2	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.21	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80

Analytical Report Number: Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood
Your Order No: 10051

Lab Sample Number				2686597	2686598	2686599	2686600	2686601
Sample Reference				TP10	TP11	TP12	TP13	TP14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.15-0.25	0.15-0.25	0.24-0.35	0.25-0.38	0.70-0.80
Date Sampled				19/05/2023	19/05/2023	16/05/2023	15/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.1	12	20	21	41
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3	1.2	3.3	0.9	4.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	1.7	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	18	23	18	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	20	110	32	52	120
Lead (aqua regia extractable)	mg/kg	1	MCERTS	12	74	21	82	570
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	12	19	24	18	49
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	36	440	70	38	480
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
TPH-CWG - Aliphatic (C16-C35)	mg/kg	10	MCERTS	21	593	128.9	< 10	324
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	3.6
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	4.2	< 2.0	29
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	23	8.9	< 8.0	84
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	21	570	120	< 8.0	240
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	22	600	140	< 10	350
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	15	< 10	< 10	14
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	380	220	< 10	94
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	390	230	< 10	110

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood
Your Order No: 10051

Lab Sample Number				2686602	2686603	2686604	2686605	2686606
Sample Reference				TP15	TP15	TP17	TP18	TP19
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70-0.80	2.30-2.40	0.10-0.25	0.30-0.40	0.15-0.25
Date Sampled				17/05/2023	17/05/2023	17/05/2023	18/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	12	14	21	15
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	0.002
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	0.002
Asbestos Analyst ID	N/A	N/A	N/A	MLO	MLO	MLO	MLO	MLO

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.4	6.6	11.7	8.6	9.8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	-	-	-	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	91	140	77	220	69
Total Sulphur	mg/kg	50	MCERTS	230	220	940	950	530

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.75	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.22	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.14	< 0.05	0.07	2.1	0.23
Pyrene	mg/kg	0.05	MCERTS	0.16	< 0.05	0.09	2	0.26
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.08	< 0.05	< 0.05	1.1	0.13
Chrysene	mg/kg	0.05	MCERTS	0.12	< 0.05	< 0.05	1.2	0.18
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.15	< 0.05	< 0.05	2.1	0.24
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.08	< 0.05	< 0.05	0.68	0.12
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.11	< 0.05	< 0.05	1.2	0.14
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.85	0.12
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.23	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1	0.16

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	0.84	< 0.80	< 0.80	13.3	1.58

Analytical Report Number: Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood
Your Order No: 10051

Lab Sample Number				2686602	2686603	2686604	2686605	2686606
Sample Reference				TP15	TP15	TP17	TP18	TP19
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70-0.80	2.30-2.40	0.10-0.25	0.30-0.40	0.15-0.25
Date Sampled				17/05/2023	17/05/2023	17/05/2023	18/05/2023	17/05/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	4.2	9.9	17	36
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	0.5	0.9	1	1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	0.3	0.3	2.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	33	31	22	34	26
Copper (aqua regia extractable)	mg/kg	1	MCERTS	29	30	37	120	72
Lead (aqua regia extractable)	mg/kg	1	MCERTS	52	20	38	110	81
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	21	39	23	34	35
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	97	71	93	710	1700
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
TPH-CWG - Aliphatic (C16-C35)	mg/kg	10	MCERTS	< 10	< 10	< 10	189.1	49
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	9.1	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	180	49
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	< 10	< 10	190	50
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	3.5
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	61	15
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	< 10	< 10	64	20

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood
Your Order No: 10051

Lab Sample Number				2716108	2716109	2716110	2716111	2716112
Sample Reference				TP22	TP20	TP21	TP24	TP23
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.20	0.30-0.40	0.40-0.50	0.25-0.35	0.15-0.25
Date Sampled				15/06/2023	15/06/2023	15/06/2023	15/06/2023	15/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	11	15	12	14	11
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3	0.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	PDO	PDO	PDO	PDO	PDO

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8	10.6	11.3	10.2	10
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	280	3700	640	3500	2200
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	140	1830	322	1730	1090
Total Sulphur	mg/kg	50	MCERTS	460	5100	1800	5900	2600

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.11
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.07
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.42	< 0.05	0.18	1.1
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.3
Fluoranthene	mg/kg	0.05	MCERTS	0.16	0.47	< 0.05	0.54	2.9
Pyrene	mg/kg	0.05	MCERTS	0.14	0.36	< 0.05	0.49	2.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.24	< 0.05	0.29	1.1
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.24	< 0.05	0.27	0.96
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	0.37	1.3
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	0.16	0.55
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.3	1.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.2	0.58
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.22	0.7

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	1.73	< 0.80	3.02	13.3

Analytical Report Number: Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood
Your Order No: 10051

Lab Sample Number				2716108	2716109	2716110	2716111	2716112
Sample Reference				TP22	TP20	TP21	TP24	TP23
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10-0.20	0.30-0.40	0.40-0.50	0.25-0.35	0.15-0.25
Date Sampled				15/06/2023	15/06/2023	15/06/2023	15/06/2023	15/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	21	46	15	26	17
Boron (water soluble)	mg/kg	0.2	MCERTS	1.9	3	2.3	2.5	4.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	40	25	24	31
Copper (aqua regia extractable)	mg/kg	1	MCERTS	57	160	55	61	80
Lead (aqua regia extractable)	mg/kg	1	MCERTS	110	190	30	58	82
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.9	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	130	26	38	27
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	150	300	59	120	220
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0#	< 5.0#	< 5.0#	< 5.0#	< 5.0#
p & m-xylene	µg/kg	5	MCERTS	< 5.0#	< 5.0#	< 5.0#	< 5.0#	< 5.0#
o-xylene	µg/kg	5	MCERTS	< 5.0#	< 5.0#	< 5.0#	< 5.0#	< 5.0#
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
TPH-CWG - Aliphatic (C16-C35)	mg/kg	10	MCERTS	< 10	77	< 10	< 10	94
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	5.9	< 2.0	< 2.0	5.4
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	18	< 8.0	< 8.0	17
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	59	< 8.0	< 8.0	77
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	83	< 10	< 10	99
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	38
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10	46

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood
Your Order No: 10051

Lab Sample Number				2719082
Sample Reference				TP20
Sample Number				None Supplied
Depth (m)				1.80-1.90
Date Sampled				15/06/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	15
Total mass of sample received	kg	0.001	NONE	0.2

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-
Asbestos Quantification Total	%	0.001	ISO 17025	-
Asbestos Analyst ID	N/A	N/A	N/A	PDO

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.3
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	930
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	463
Total Sulphur	mg/kg	50	MCERTS	730

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80

Analytical Report Number: Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood
Your Order No: 10051

Lab Sample Number				2719082
Sample Reference				TP20
Sample Number				None Supplied
Depth (m)				1.80-1.90
Date Sampled				15/06/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12
Boron (water soluble)	mg/kg	0.2	MCERTS	1.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	27
Lead (aqua regia extractable)	mg/kg	1	MCERTS	23
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	57
Monoaromatics & Oxygenates				
Benzene	µg/kg	5	MCERTS	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0#
p & m-xylene	µg/kg	5	MCERTS	< 5.0#
o-xylene	µg/kg	5	MCERTS	< 5.0#
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0
TPH-CWG - Aliphatic (C16-C35)	mg/kg	10	MCERTS	< 10
Petroleum Hydrocarbons				
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10

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Analytical Report Number: Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood
Your Order No: 10051

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2686606	TP19	0.15-0.25	126	Loose Fibrous Debris	**Chrysotile**	0.002	**0.002**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood

Your Order No: 10051

Lab Sample Number				2707495	2707496	2707497	2707498	2707499
Sample Reference				BH01	BH02	BH03	BH04	BH05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/06/2023	08/06/2023	08/06/2023	08/06/2023	08/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	7	7.2	7.1	7	7.1
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	110	200	100	160	210
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.44	0.41	0.3	0.42	0.34
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.4	0.07	0.2	0.08	0.06
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	4.2	< 0.2	< 0.2	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	2.6	5	3.6	1	6.2
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	27	14	11	9.1	5.9
Selenium (dissolved)	µg/l	0.6	ISO 17025	5	10	1	< 0.6	< 0.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	16	26	4.2	8.7	18
Petroleum Hydrocarbons								
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH Oils (C25 - C40) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood

Your Order No: 10051

Lab Sample Number				2707500	2707501
Sample Reference				BH06	BH07
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				08/06/2023	08/06/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
General Inorganics					
pH (L005B)	pH Units	N/A	ISO 17025	7.1	7
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10
Speciated PAHs					
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16
Heavy Metals / Metalloids					
Boron (dissolved)	µg/l	10	ISO 17025	210	240
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.45	1.14
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.05	0.3
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	2.9	8
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	4.8	19
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	1.1
Zinc (dissolved)	µg/l	0.5	ISO 17025	7.1	15
Petroleum Hydrocarbons					
Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10.0	< 10.0
Diesel Range Organics (C10 - C25) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10
TPH Oils (C25 - C40) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10

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Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2686587	TP01	None Supplied	0.30-0.40	Brown sand with gravel and brick.
2686588	TP02	None Supplied	0.60-0.70	Brown sand with gravel and brick.
2686589	TP03	None Supplied	0.15-0.25	Brown sand with gravel and brick.
2686590	TP04	None Supplied	0.10-0.20	Brown sand with gravel and brick.
2686591	TP04	None Supplied	2.10-2.20	Brown clay and sand with gravel.
2686592	TP05	None Supplied	0.70-0.80	Brown sand with gravel and stones.
2686593	TP05	None Supplied	2.30-2.40	Brown sand with gravel and stones.
2686594	TP06	None Supplied	0.30-0.40	Brown clay and sand with gravel and stones.
2686595	TP08	None Supplied	0.30-0.40	Brown clay and sand with gravel.
2686596	TP09	None Supplied	0.60-0.70	Brown clay with gravel.
2686597	TP10	None Supplied	0.15-0.25	Brown sand with gravel and stones.
2686598	TP11	None Supplied	0.15-0.25	Brown clay and sand with gravel and stones.
2686599	TP12	None Supplied	0.24-0.35	Brown sand with gravel and stones.
2686600	TP13	None Supplied	0.25-0.38	Brown sand with gravel and stones.
2686601	TP14	None Supplied	0.70-0.80	Brown clay and sand with gravel.
2686602	TP15	None Supplied	0.70-0.80	Brown clay and sand with gravel.
2686603	TP15	None Supplied	2.30-2.40	Brown clay and sand with gravel.
2686604	TP17	None Supplied	0.10-0.25	Brown clay and sand with gravel.
2686605	TP18	None Supplied	0.30-0.40	Brown clay and sand with gravel.
2686606	TP19	None Supplied	0.15-0.25	Brown sand with gravel.
2716108	TP22	None Supplied	0.10-0.20	Brown loam and sand with gravel and brick.
2716109	TP20	None Supplied	0.30-0.40	Brown loam and sand with gravel and brick.
2716110	TP21	None Supplied	0.40-0.50	Brown loam and sand with gravel and vegetation.
2716111	TP24	None Supplied	0.25-0.35	Brown loam and sand with gravel and vegetation.
2716112	TP23	None Supplied	0.15-0.25	Brown loam and sand with gravel and vegetation.
2719082	TP20	None Supplied	1.80-1.90	Brown clay and sand with vegetation.

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Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
PRO (Waters)	Determination of hydrocarbons C6-C10 by headspace GC-MS. Accredited Matrices SW, PW. GW.	In-house method based on USEPA8260	L088-PL	W	ISO 17025
Thiocyanate in soil	Determination of thiocyanate in soil by extraction in water followed by acidification followed by addition of ferric nitrate followed by discrete analyser (spectrophotometer).	In-house method	L082-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025

Combined Report: Brookhurst Wood
Project / Site name: Brookhurst Wood

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPH Oils (Waters)	Determination of dichloromethane/hexane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
DRO (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

- Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

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Combined Report: Brookhurst WoodReport Number : 23-38289

Project / Site name: Brookhurst Wood

This deviation report indicates the sample and test deviations that apply to the samples submitted

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample II	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Nam	Test Ref	Test Deviation
BH01	None Supplied	W	2707495	ab	PRO (Waters)	L088-PL	b
BH02	None Supplied	W	2707496	ab	PRO (Waters)	L088-PL	b
BH03	None Supplied	W	2707497	ab	PRO (Waters)	L088-PL	b
BH04	None Supplied	W	2707498	ab	PRO (Waters)	L088-PL	b
BH05	None Supplied	W	2707499	ab	PRO (Waters)	L088-PL	b
BH06	None Supplied	W	2707500	ab	PRO (Waters)	L088-PL	b
BH07	None Supplied	W	2707501	ab	PRO (Waters)	L088-PL	b

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	18/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

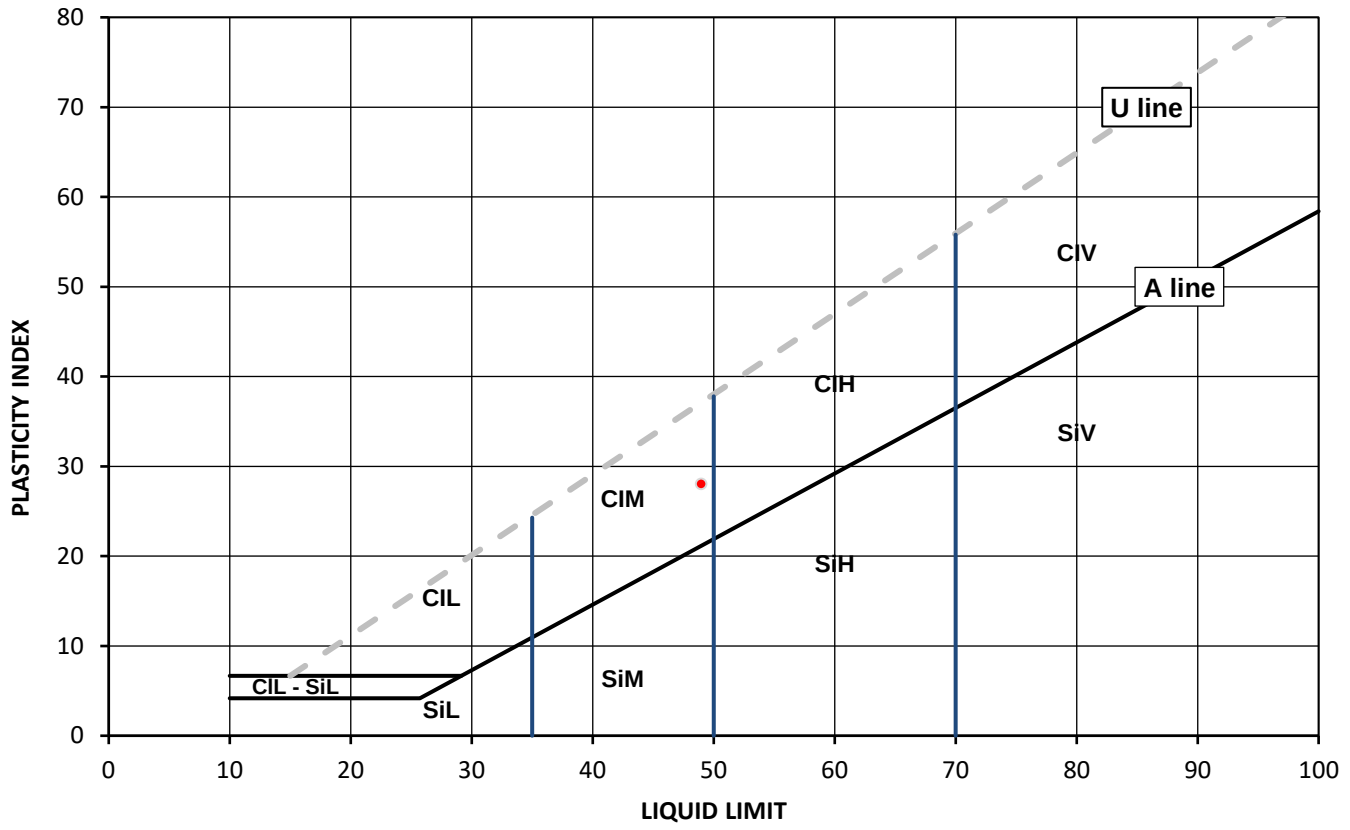
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687085	Depth Top [m]:	1.30
Hole No.:	TP01	Depth Base [m]:	1.40
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brownish grey gravelly CLAY		

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
22	49	21	28	70



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

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Signed: Katarzyna Koziel

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 12/06/2023

GF 232.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	18/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

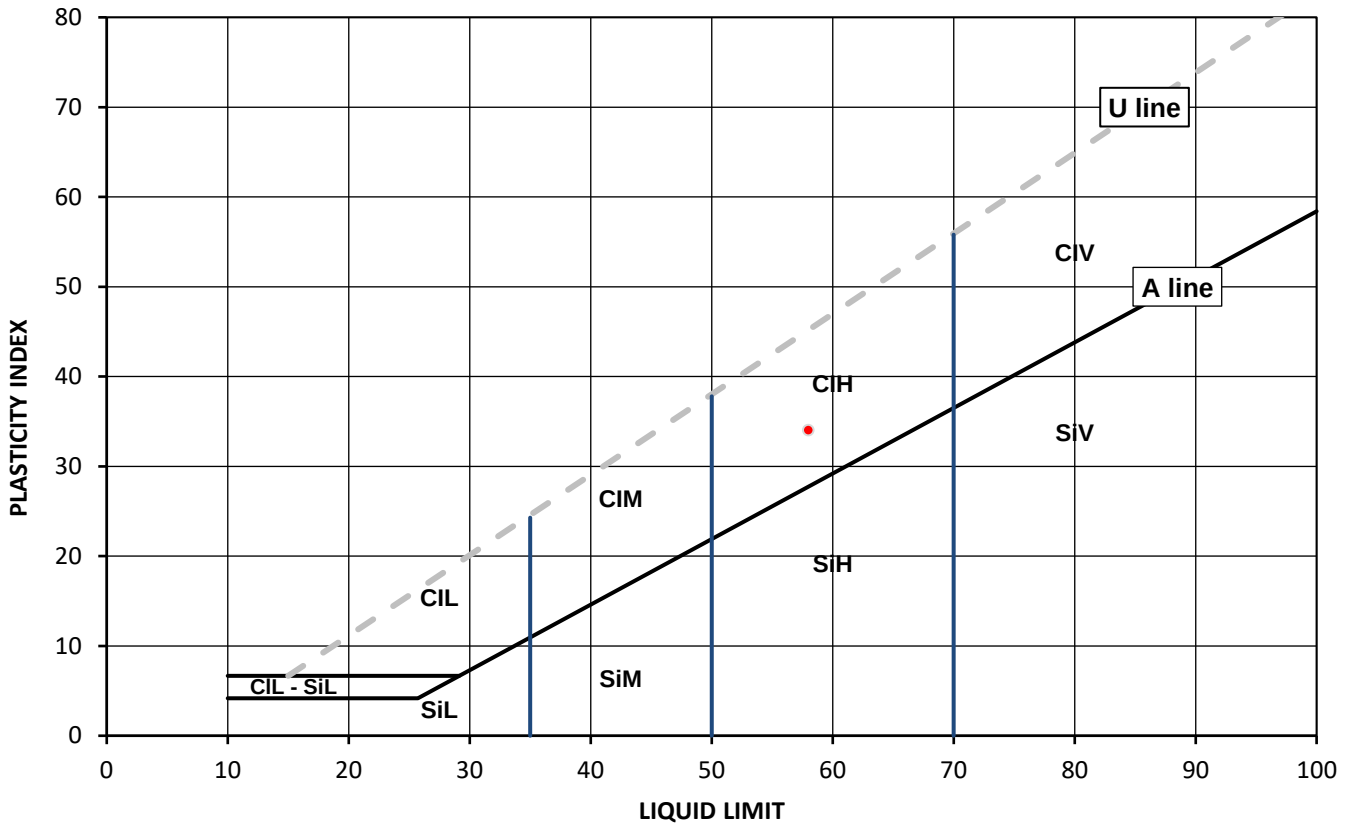
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687086	Depth Top [m]:	0.60
Hole No.:	TP03	Depth Base [m]:	0.70
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brownish grey sandy CLAY		

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
27	58	24	34	97



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

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DETERMINATION OF LIQUID AND PLASTIC LIMITS
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i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	18/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

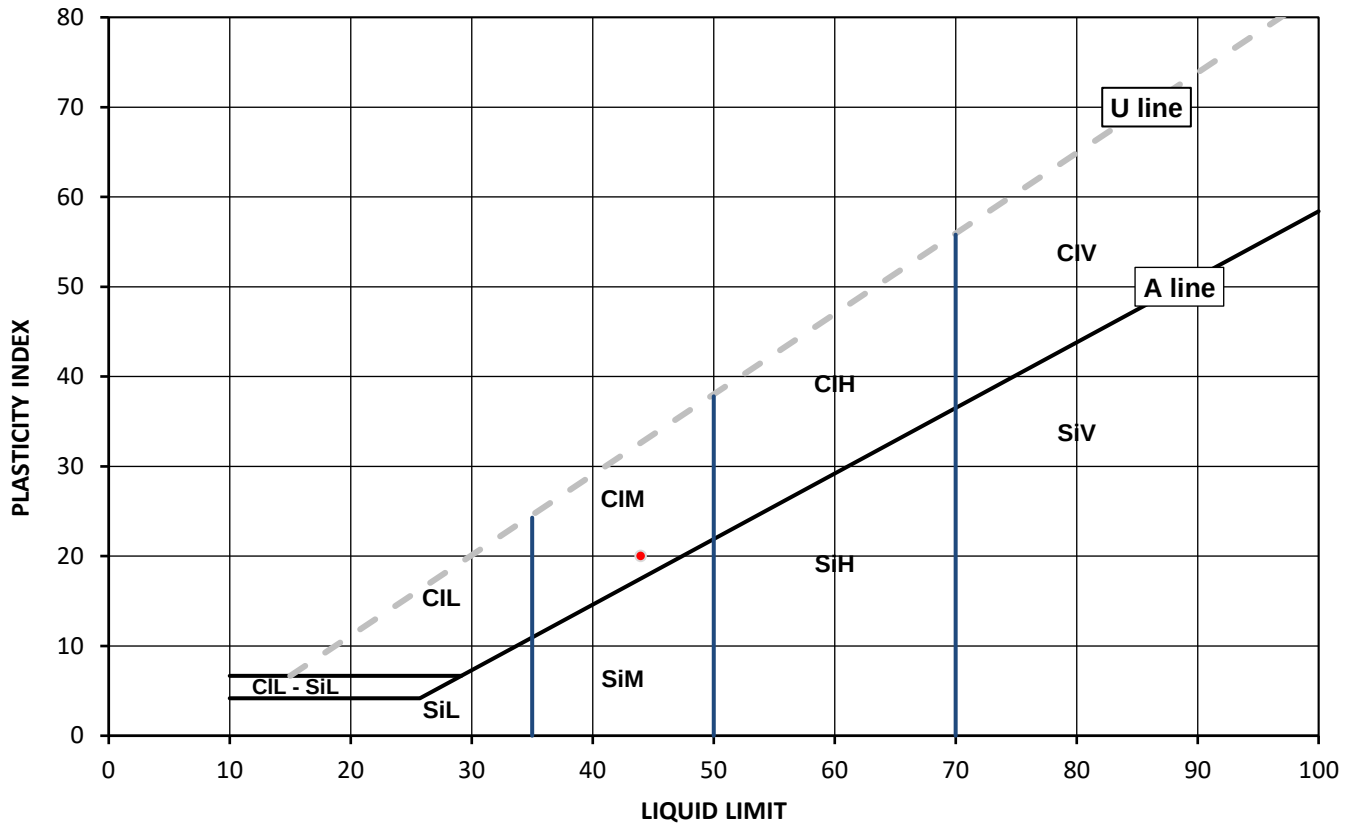
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687087	Depth Top [m]:	2.10
Hole No.:	TP04	Depth Base [m]:	2.20
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brownish grey sandy CLAY		

Sample Preparation: Tested after >425um removed by hand

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
25	44	24	20	71



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

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Northampton NN4 7EB

4041

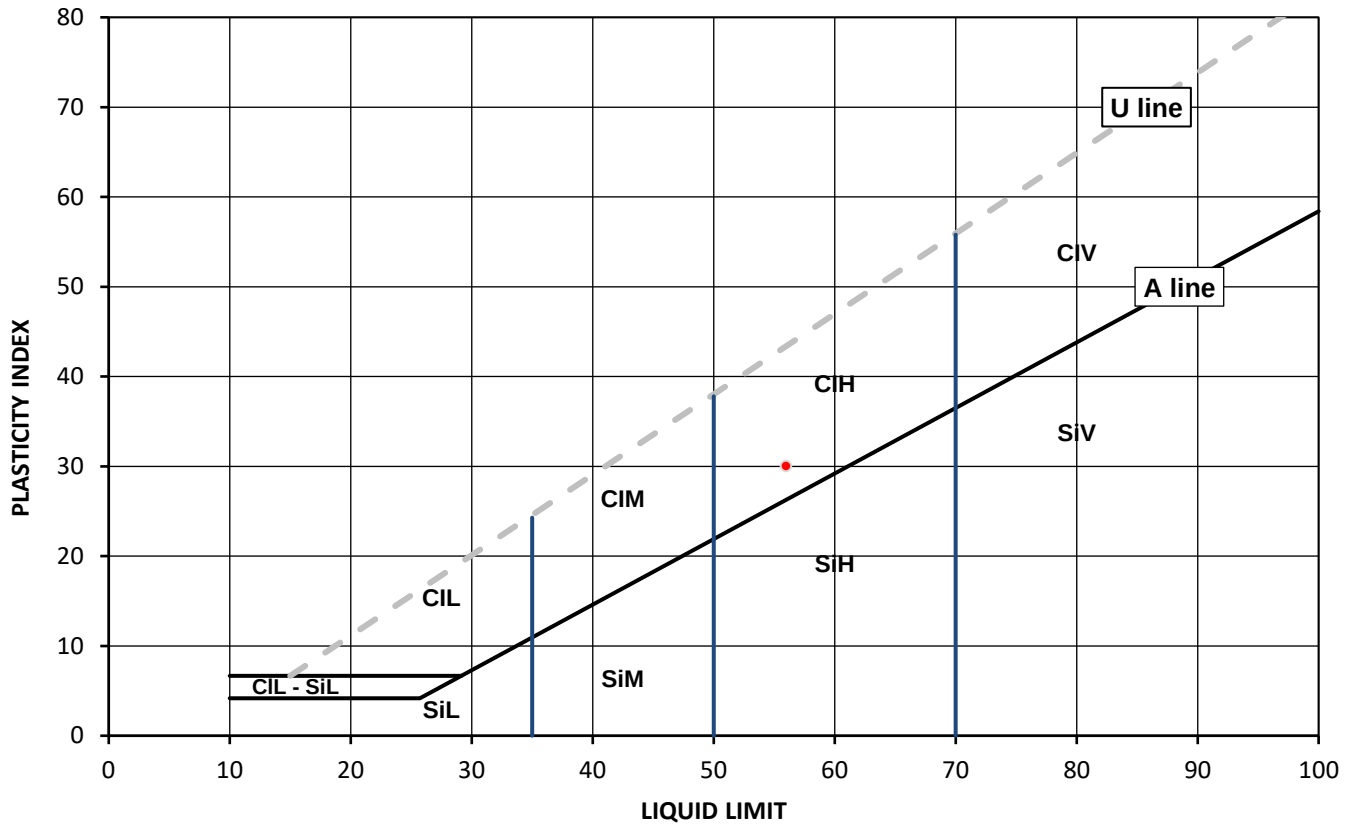
Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	19/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687088	Depth Top [m]:	2.50
Hole No.:	TP05	Depth Base [m]:	2.60
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Yellowish brown sandy GRAVEL		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
23	56	26	30	18



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

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DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

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Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	18/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

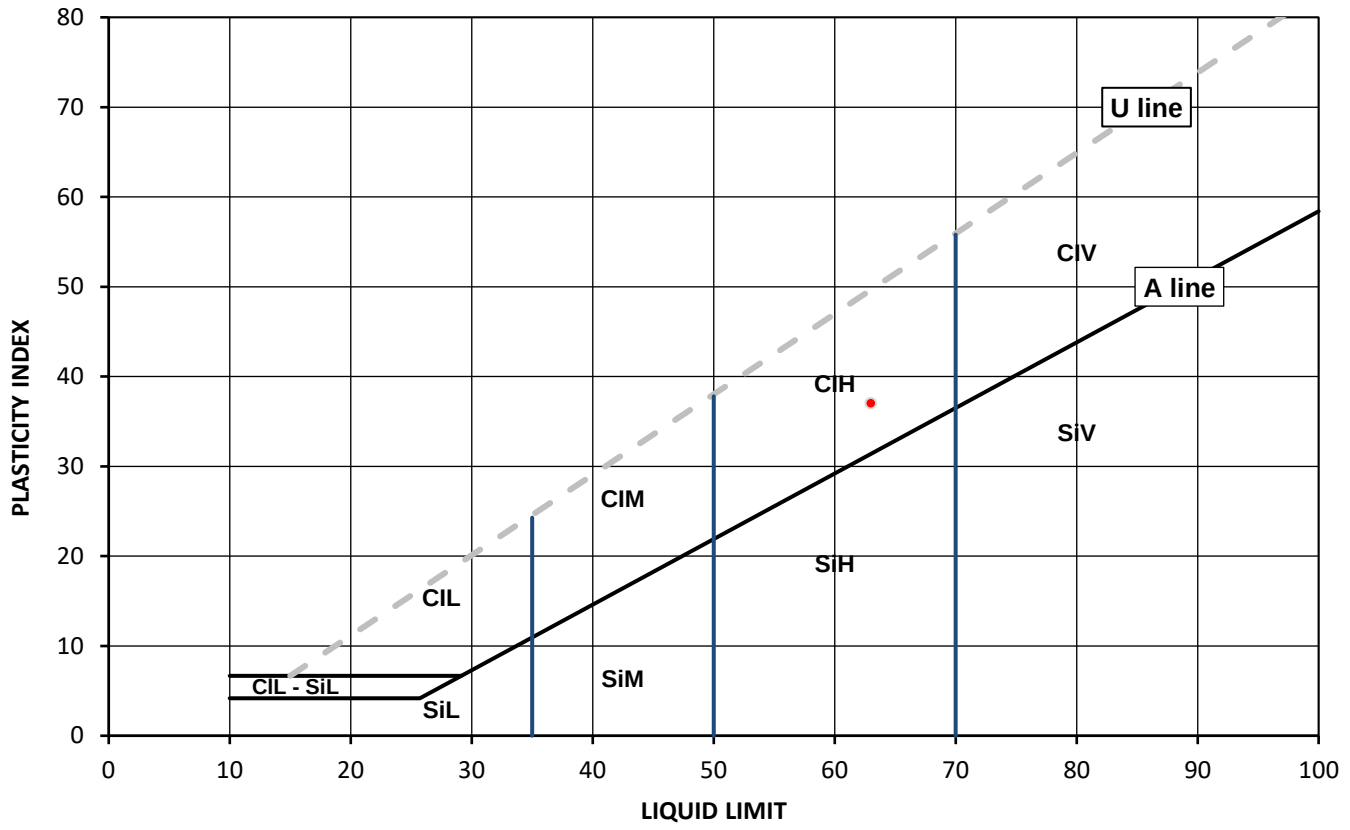
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687089	Depth Top [m]:	0.60
Hole No.:	TP06	Depth Base [m]:	0.70
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brownish grey CLAY		

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
25	63	26	37	97



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

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Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

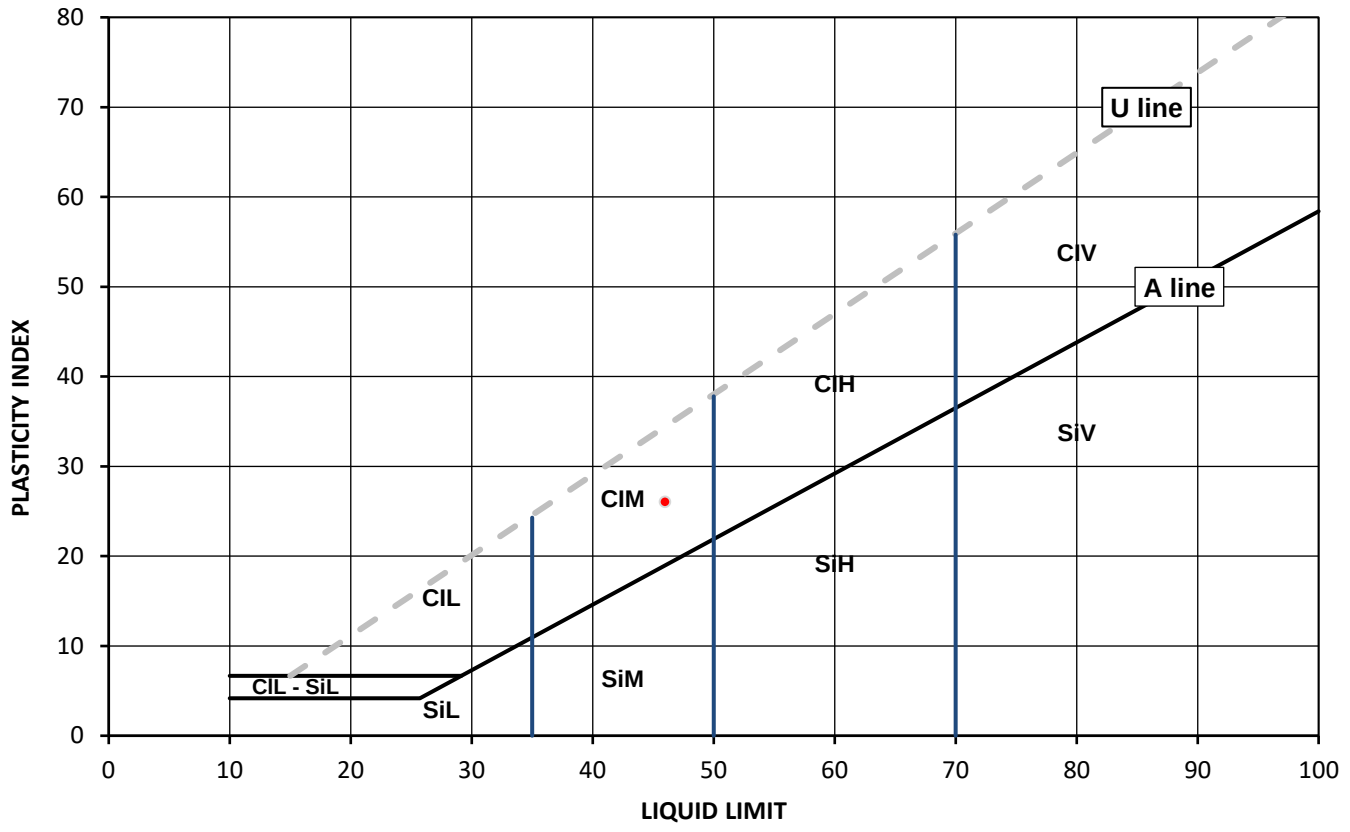
Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	17/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687090	Depth Top [m]:	2.20
Hole No.:	TP08	Depth Base [m]:	2.30
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brownish grey gravelly CLAY		
Sample Preparation:	Tested after >425um removed by hand		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
22	46	20	26	51



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

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Date Reported: 12/06/2023

GF 232.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	19/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

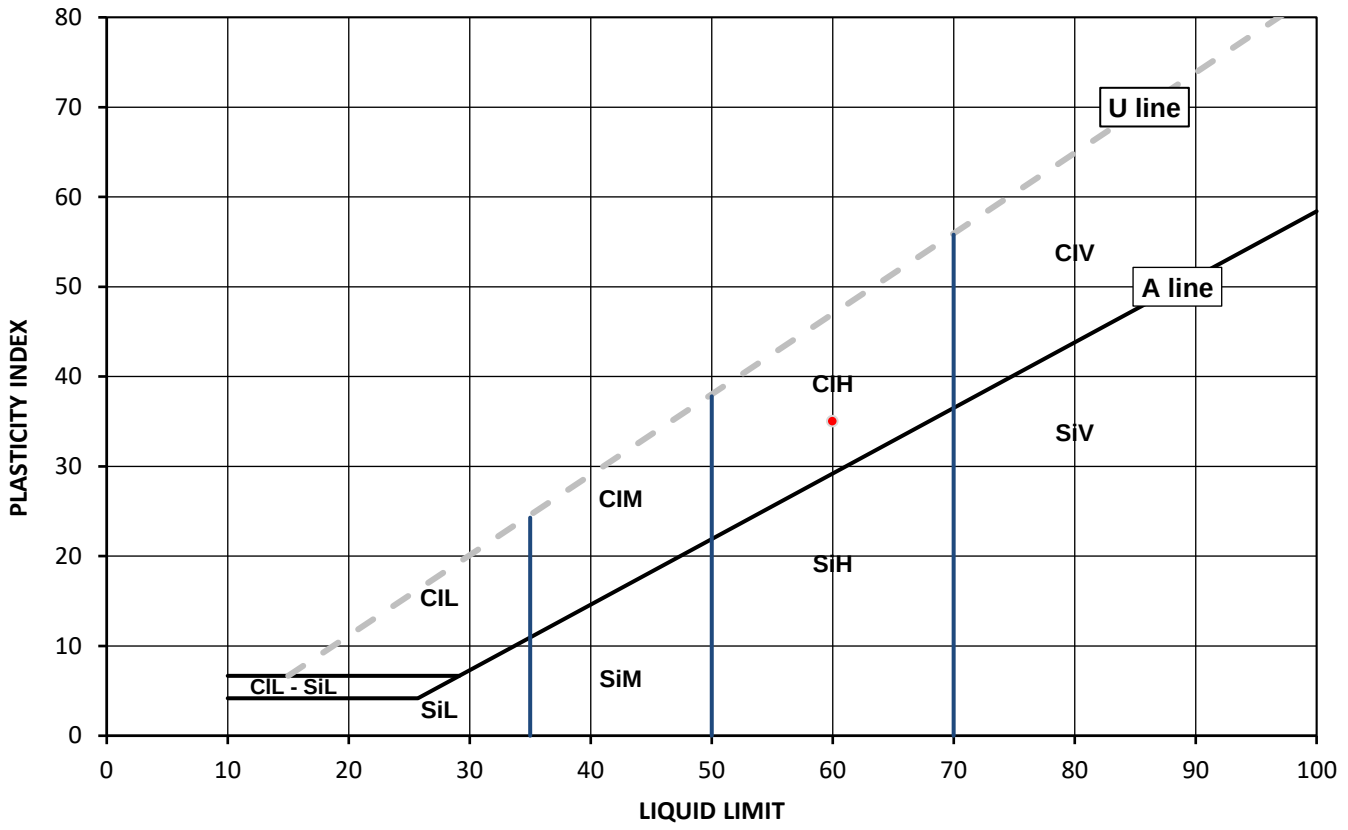
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687091	Depth Top [m]:	2.00
Hole No.:	TP10	Depth Base [m]:	2.10
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Greyish brown CLAY		

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
17	60	25	35	91



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

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Signed: Katarzyna Koziel

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 12/06/2023

GF 232.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	15/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

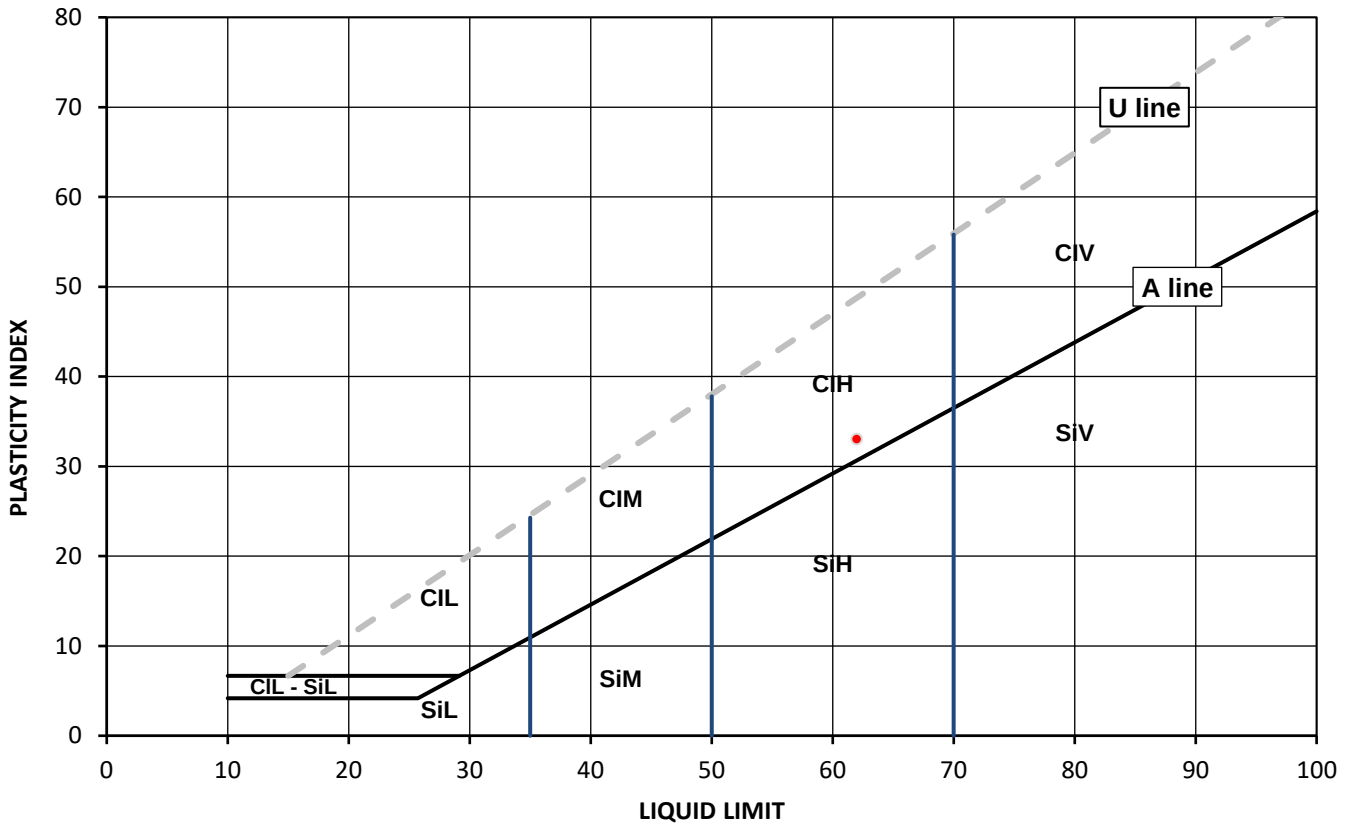
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687092	Depth Top [m]:	2.20
Hole No.:	TP13	Depth Base [m]:	2.30
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brownish grey CLAY		

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
20	62	29	33	96



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

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Date Reported: 12/06/2023

GF 232.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	17/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

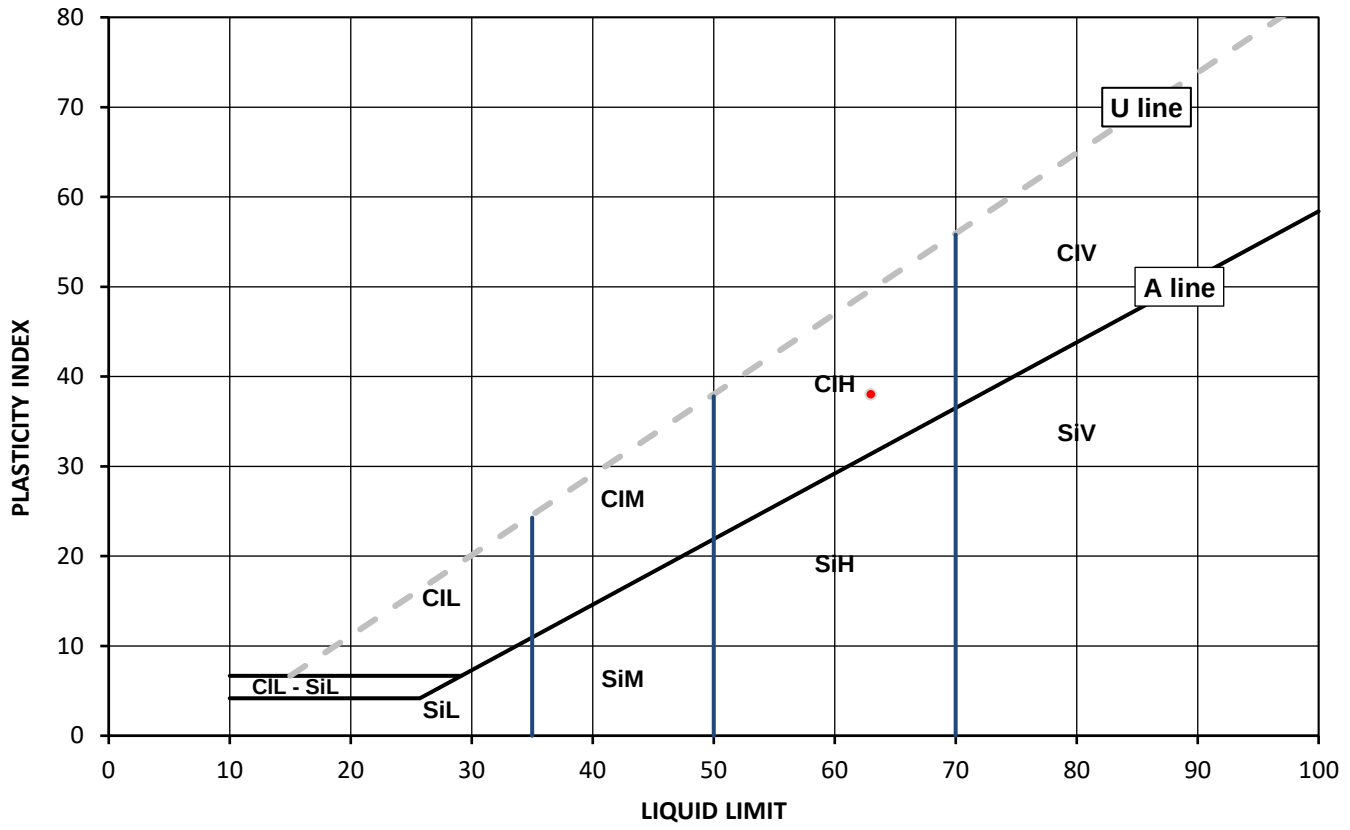
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687093	Depth Top [m]:	2.10
Hole No.:	TP14	Depth Base [m]:	2.20
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brownish grey CLAY		

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
25	63	25	38	98



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

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Date Reported: 12/06/2023

GF 232.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	17/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

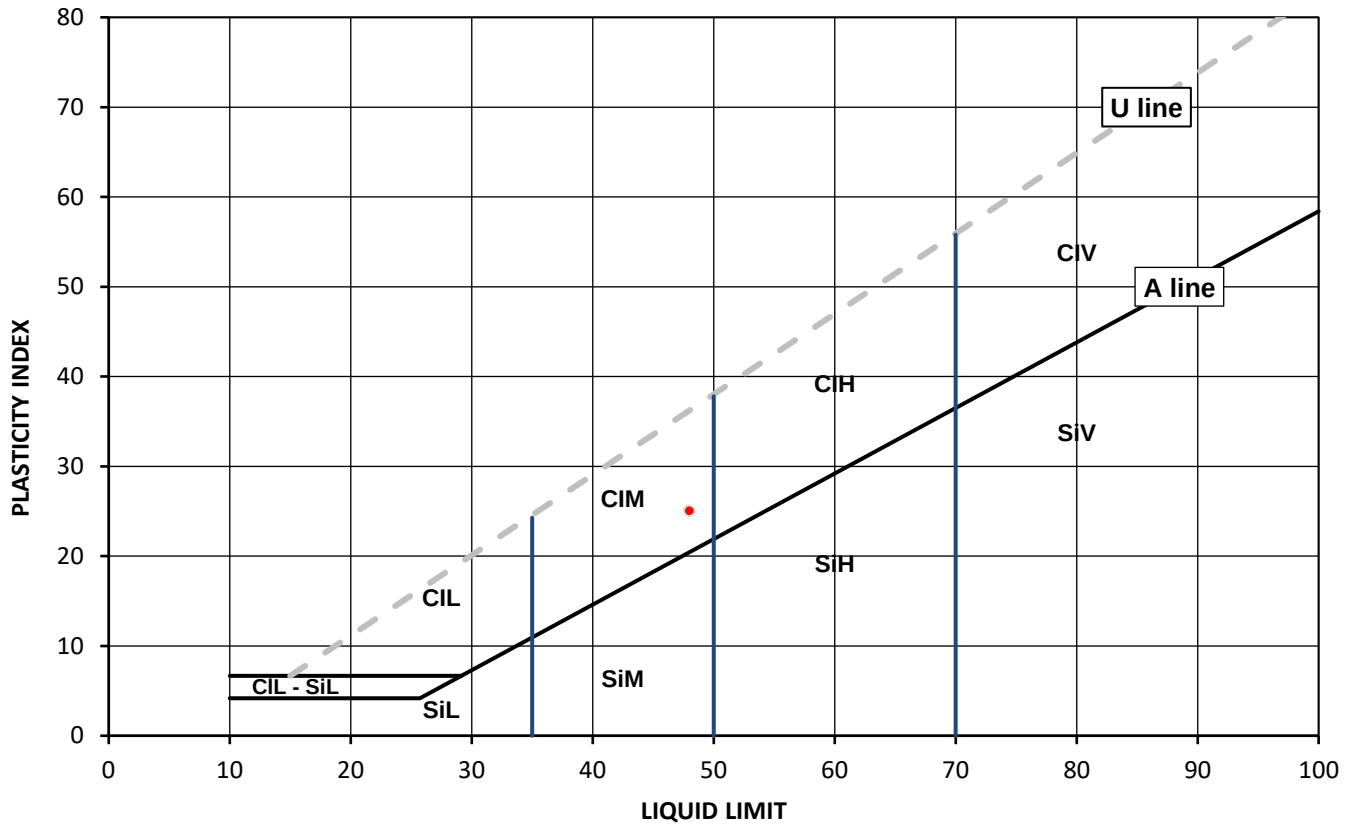
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687094	Depth Top [m]:	1.10
Hole No.:	TP17	Depth Base [m]:	1.20
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Greyish brown gravelly silty CLAY		

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
11	48	23	25	43



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

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Signed: Katarzyna Koziel

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 12/06/2023

GF 232.12

SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

Water Content by BS 1377-2:1990: Clause 3.2Atterberg by BS 1377-2: 1990: Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Swan Environmental Services

Client Address: Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB

Contact: Andrew Walton

Site Address: Brookhurst Wood

Client Reference: 4000760
Job Number: 23-35092-1
Date Sampled: 15/05 - 19/05/2023
Date Received: 19/05/2023
Date Tested: 31/05/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Water Content BS 1377-2 [W]	Water Content BS EN ISO 17892-1 [W]	Atterberg				Density			Total Porosity#		
		Reference	Depth Top	Depth Base	Type					% Passing 425um	WL	Wp	Ip	bulk	dry	PD			
			m	m				%	%	%	%	%	%	Mg/m3	Mg/m3	Mg/m3	%		
2687085	TP01	Not Given	1.30	1.40	B	Brownish grey gravelly CLAY	Atterberg 1 Point	22		70	49	21	28						
2687086	TP03	Not Given	0.60	0.70	B	Brownish grey sandy CLAY	Atterberg 1 Point	27		97	58	24	34						
2687087	TP04	Not Given	2.10	2.20	B	Brownish grey sandy CLAY	Atterberg 1 Point	25		71	44	24	20						
2687088	TP05	Not Given	2.50	2.60	B	Yellowish brown sandy GRAVEL	Atterberg 1 Point	23		18	56	26	30						
2687089	TP06	Not Given	0.60	0.70	B	Brownish grey CLAY	Atterberg 1 Point	25		97	63	26	37						
2687090	TP08	Not Given	2.20	2.30	B	Brownish grey gravelly CLAY	Atterberg 1 Point	22		51	46	20	26						
2687091	TP10	Not Given	2.00	2.10	B	Greyish brown CLAY	Atterberg 1 Point	17		91	60	25	35						
2687092	TP13	Not Given	2.20	2.30	B	Brownish grey CLAY	Atterberg 1 Point	20		96	62	29	33						
2687093	TP14	Not Given	2.10	2.20	B	Brownish grey CLAY	Atterberg 1 Point	25		98	63	25	38						
2687094	TP17	Not Given	1.10	1.20	B	Greyish brown gravelly silty CLAY	Atterberg 1 Point	11		43	48	23	25						

Note: # Non accredited; NP - Non plastic

Comments:

Signed:

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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Date Reported: 12/06/2023

GF 234.15

SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS 1377-2: 1990: Clause 3.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Swan Environmental Services

Client Address: Offices 24/25, Rear Walled Garden,
The Nostell Estate, Nostell,
Wakefield, WF4 1AB

Contact: Andrew Walton

Site Address: Brookhurst Wood

Client Reference: 4000760
Job Number: 23-35092-1
Date Sampled: 15/05 - 19/05/2023
Date Received: 19/05/2023
Date Tested: 31/05/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC	Sample preparation / Oven temperature at the time of testing			
		Reference	Depth Top m	Depth Base m	Type			%				
2687085	TP01	Not Given	1.30	1.40	B	Brownish grey gravelly CLAY		22	Sample was quartered, oven dried at 109 °C			
2687086	TP03	Not Given	0.60	0.70	B	Brownish grey sandy CLAY		27	Sample was quartered, oven dried at 107.2 °C			
2687087	TP04	Not Given	2.10	2.20	B	Brownish grey sandy CLAY		25	Sample was quartered, oven dried at 107.2 °C			
2687088	TP05	Not Given	2.50	2.60	B	Yellowish brown sandy GRAVEL		23	Sample was quartered, oven dried at 109 °C			
2687089	TP06	Not Given	0.60	0.70	B	Brownish grey CLAY		25	Sample was quartered, oven dried at 109 °C			
2687090	TP08	Not Given	2.20	2.30	B	Brownish grey gravelly CLAY		22	Sample was quartered, oven dried at 109 °C			
2687091	TP10	Not Given	2.00	2.10	B	Greyish brown CLAY		17	Sample was quartered, oven dried at 106.5 °C			
2687092	TP13	Not Given	2.20	2.30	B	Brownish grey CLAY		20	Sample was quartered, oven dried at 107.2 °C			
2687093	TP14	Not Given	2.10	2.20	B	Brownish grey CLAY		25	Sample was quartered, oven dried at 107.2 °C			
2687094	TP17	Not Given	1.10	1.20	B	Greyish brown gravelly silty CLAY		11	Sample was quartered, oven dried at 109 °C			

Comments:

Signed:

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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Date Reported: 12/06/2023

GF 099.16

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

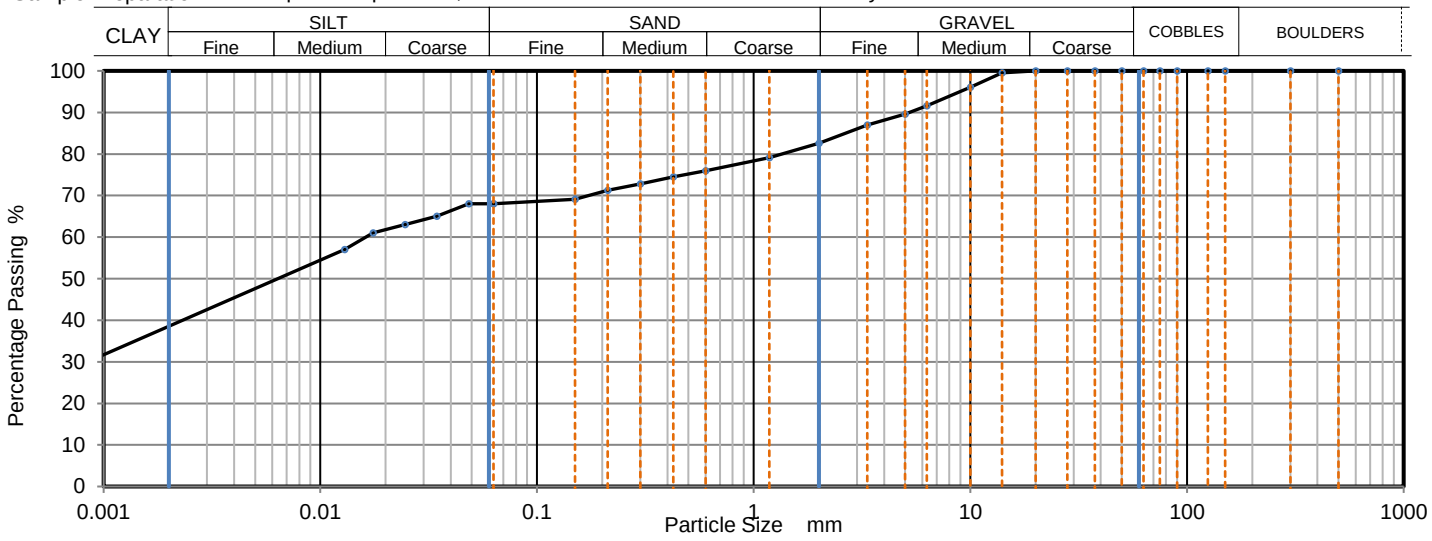
4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	18/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687085	Depth Top [m]:	1.30
Hole No.:	TP01	Depth Base [m]:	1.40
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brownish grey gravelly CLAY		
Sample Preparation:	Sample was quartered, oven dried at 109.0 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0630	68
300	100	0.0485	68
150	100	0.0345	65
125	100	0.0246	63
90	100	0.0175	61
75	100	0.0129	57
63	100	0.0008	30
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	96		
6.3	92		
5	90		
3.35	87	Particle density	(assumed)
2	83	2.65	Mg/m3
1.18	79		
0.6	76		
0.425	75		
0.3	73		
0.212	71		
0.15	69		
0.063	68		

Sample Proportions	% dry mass
Very coarse	0
Gravel	17
Sand	15
Silt	29
Clay	39

Grading Analysis		
D100	mm	20
D60	mm	0.0164
D30	mm	
D10	mm	
Uniformity Coefficient		> 19
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks:

Signed: Katarzyna Koziel

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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Date Reported: 12/06/2023

GF 100.22

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

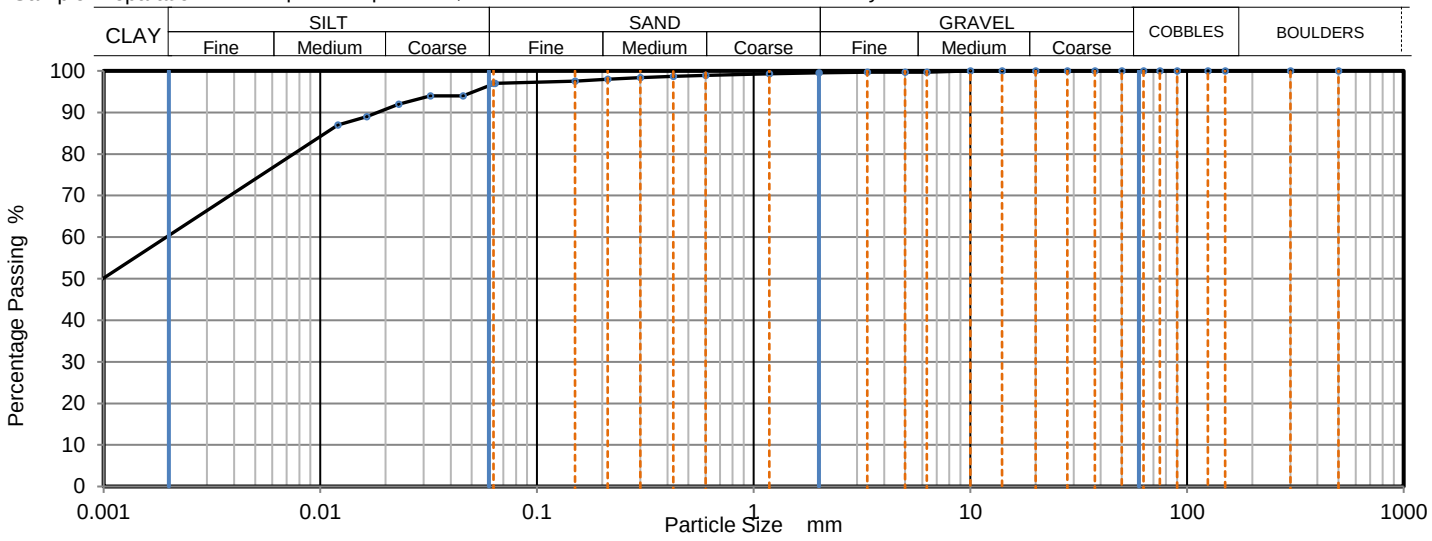
4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	18/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687086	Depth Top [m]:	0.60
Hole No.:	TP03	Depth Base [m]:	0.70
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brownish grey sandy CLAY		
Sample Preparation:	Sample was quartered, oven dried at 107.2 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0639	97
300	100	0.0456	94
150	100	0.0322	94
125	100	0.0230	92
90	100	0.0164	89
75	100	0.0120	87
63	100	0.0008	47
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100	Particle density	(assumed)
2	100	2.65	Mg/m3
1.18	99		
0.6	99		
0.425	99		
0.3	98		
0.212	98		
0.15	98		
0.063	97		

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	3
Silt	37
Clay	60

Grading Analysis		
D100	mm	10
D60	mm	0.00195
D30	mm	
D10	mm	
Uniformity Coefficient		> 2.4
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks:

Signed: Katarzyna Koziel

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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Date Reported: 12/06/2023

GF 100.22

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

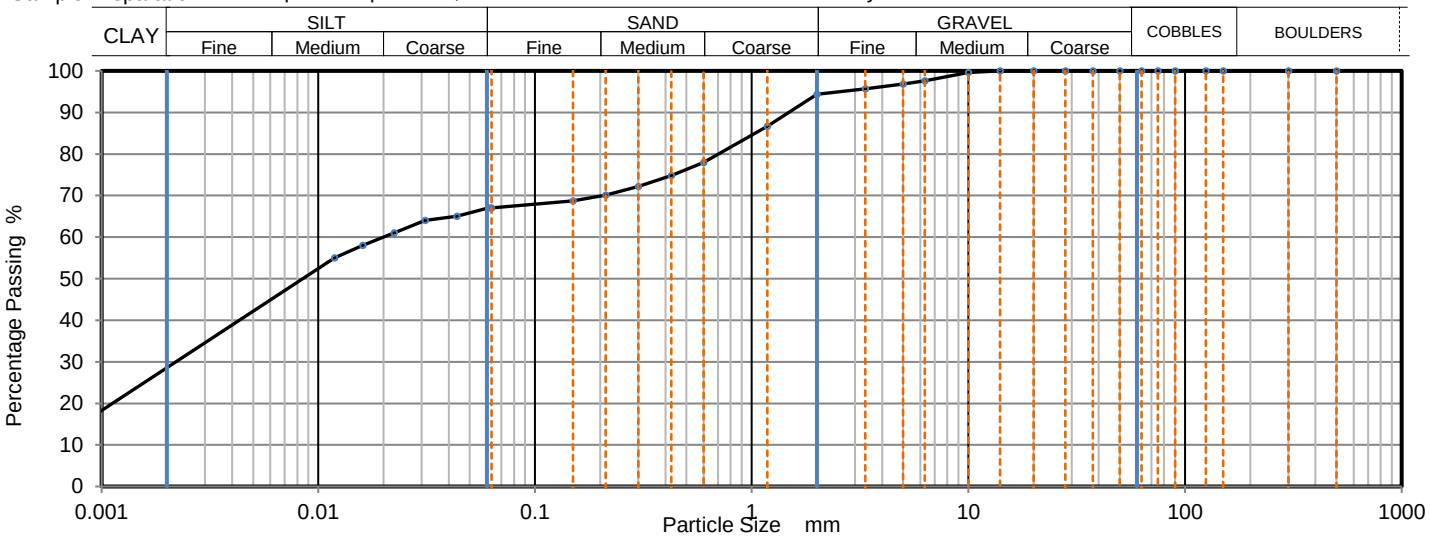
4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	18/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687087	Depth Top [m]:	2.10
Hole No.:	TP04	Depth Base [m]:	2.20
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brownish grey sandy CLAY		
Sample Preparation:	Sample was quartered, oven dried at 107.2 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0611	67
300	100	0.0436	65
150	100	0.0311	64
125	100	0.0223	61
90	100	0.0160	58
75	100	0.0119	55
63	100	0.0009	16
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	98		
5	97		
3.35	96	Particle density	(assumed)
2	94	2.65	Mg/m3
1.18	87		
0.6	78		
0.425	75		
0.3	72		
0.212	70		
0.15	69		
0.063	67		

Sample Proportions	% dry mass
Very coarse	0
Gravel	6
Sand	28
Silt	38
Clay	28

Grading Analysis		
D100	mm	14
D60	mm	0.0206
D30	mm	0.00222
D10	mm	
Uniformity Coefficient		> 24
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks:

Signed: Katarzyna Koziel

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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Date Reported: 12/06/2023

GF 100.22

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

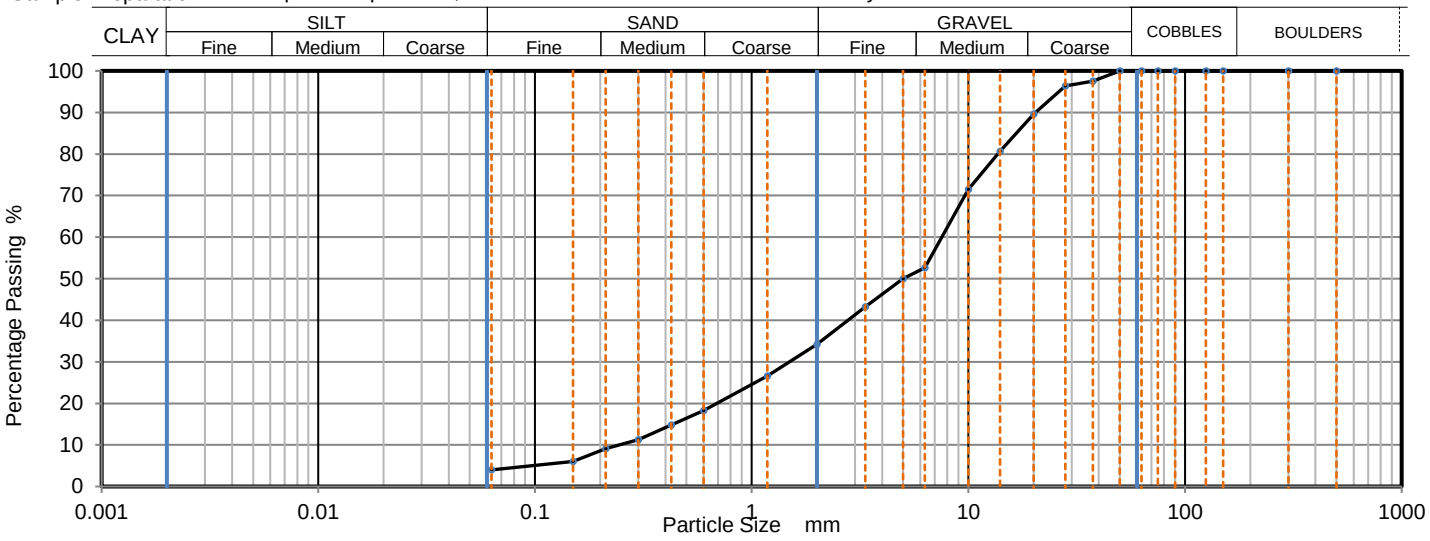
4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	19/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687088	Depth Top [m]:	2.50
Hole No.:	TP05	Depth Base [m]:	2.60
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Yellowish brown sandy GRAVEL		
Sample Preparation:	Sample was quartered, oven dried at 109.0 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	98		
28	96		
20	90		
14	81		
10	72		
6.3	53		
5	50		
3.35	43		
2	34		
1.18	27		
0.6	18		
0.425	15		
0.3	11		
0.212	9		
0.15	6		
0.063	4		

Sample Proportions	% dry mass
Very coarse	0
Gravel	66
Sand	30
Fines <0.063mm	4

Grading Analysis		
D100	mm	50
D60	mm	7.55
D30	mm	1.49
D10	mm	0.244
Uniformity Coefficient		31
Curvature Coefficient		1.2

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks:

Signed: Katarzyna Koziel

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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Date Reported: 12/06/2023

GF 100.22

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

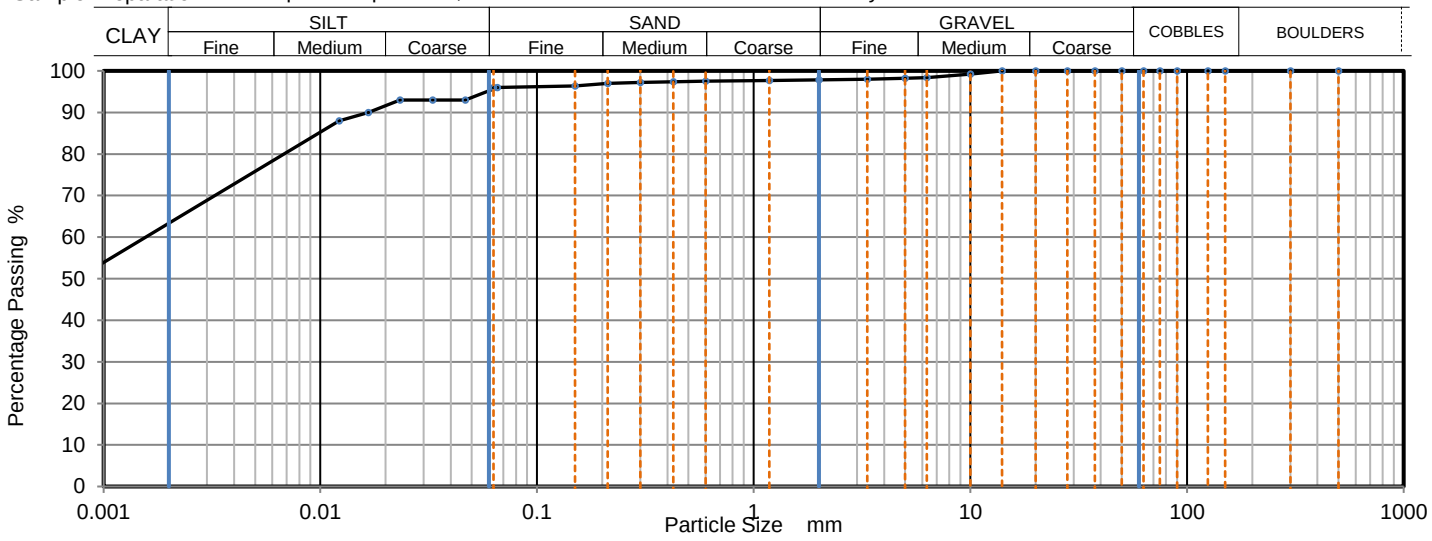
4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	18/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687089	Depth Top [m]:	0.60
Hole No.:	TP06	Depth Base [m]:	0.70
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brownish grey CLAY		
Sample Preparation:	Sample was quartered, oven dried at 109.0 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0655	96
300	100	0.0467	93
150	100	0.0330	93
125	100	0.0233	93
90	100	0.0166	90
75	100	0.0122	88
63	100	0.0008	51
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	98		
5	98		
3.35	98	Particle density	(assumed)
2	98	2.65	Mg/m3
1.18	98		
0.6	98		
0.425	97		
0.3	97		
0.212	97		
0.15	96		
0.063	96		

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	2
Silt	33
Clay	63

Grading Analysis		
D100	mm	14
D60	mm	0.00159
D30	mm	
D10	mm	
Uniformity Coefficient		> 2
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks:

Signed: Katarzyna Koziel

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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Date Reported: 12/06/2023

GF 100.22

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

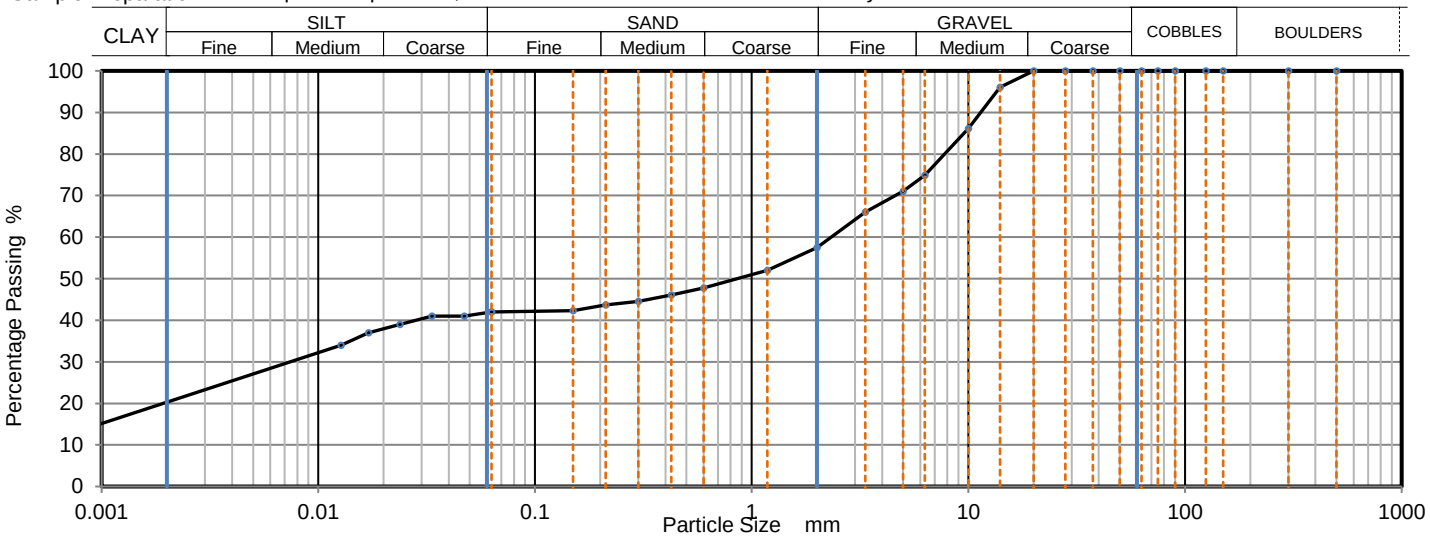
4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	17/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687090	Depth Top [m]:	2.20
Hole No.:	TP08	Depth Base [m]:	2.30
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brownish grey gravelly CLAY		
Sample Preparation:	Sample was quartered, oven dried at 109.0 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0630	42
300	100	0.0472	41
150	100	0.0334	41
125	100	0.0238	39
90	100	0.0171	37
75	100	0.0127	34
63	100	0.0009	14
50	100		
37.5	100		
28	100		
20	100		
14	96		
10	86		
6.3	75		
5	71		
3.35	66	Particle density	(assumed)
2	58	2.65	Mg/m3
1.18	52		
0.6	48		
0.425	46		
0.3	45		
0.212	44		
0.15	42		
0.063	42		

Sample Proportions	% dry mass
Very coarse	0
Gravel	42
Sand	16
Silt	22
Clay	20

Grading Analysis		
D100	mm	20
D60	mm	2.32
D30	mm	0.0077
D10	mm	
Uniformity Coefficient		> 2700
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks:

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Signed: Katarzyna Koziel

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 12/06/2023

GF 100.22

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

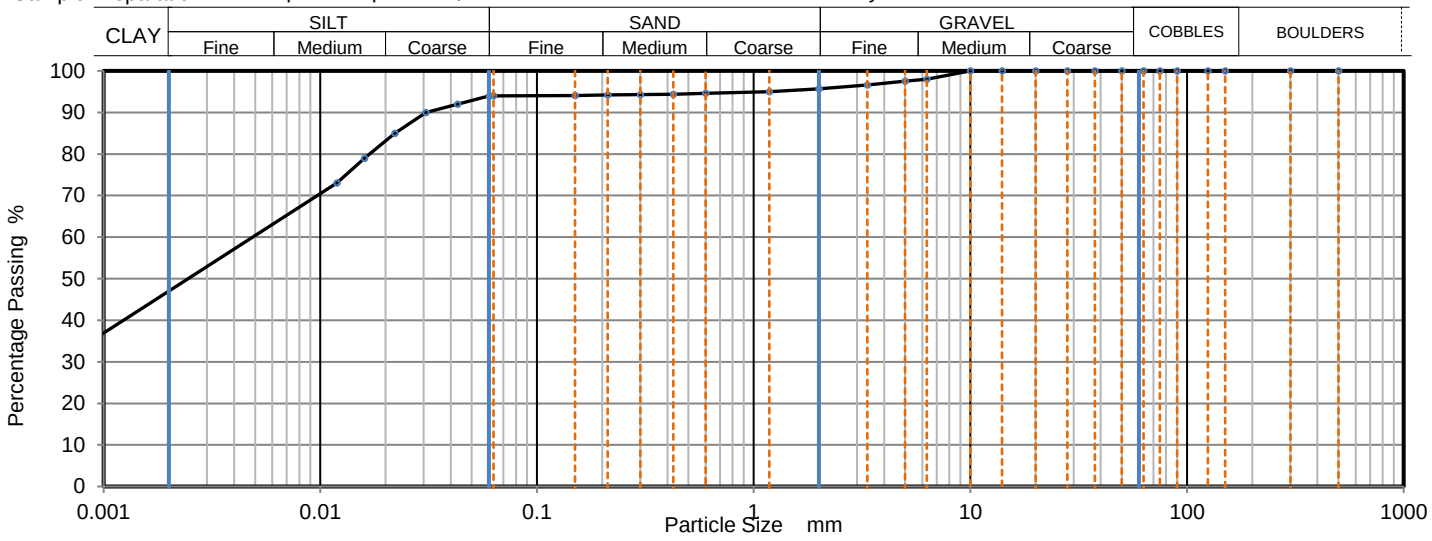
4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	19/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687091	Depth Top [m]:	2.00
Hole No.:	TP10	Depth Base [m]:	2.10
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Greyish brown CLAY		
Sample Preparation:	Sample was quartered, oven dried at 106.5 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0602	94
300	100	0.0430	92
150	100	0.0306	90
125	100	0.0220	85
90	100	0.0160	79
75	100	0.0119	73
63	100	0.0008	34
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	98		
5	98		
3.35	97	Particle density	(assumed)
2	96	2.65	Mg/m3
1.18	95		
0.6	95		
0.425	94		
0.3	94		
0.212	94		
0.15	94		
0.063	94		

Sample Proportions	% dry mass
Very coarse	0
Gravel	4
Sand	2
Silt	47
Clay	47

Grading Analysis		
D100	mm	10
D60	mm	0.00497
D30	mm	
D10	mm	
Uniformity Coefficient		> 6.1
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks:

Signed: Katarzyna Koziel

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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Date Reported: 12/06/2023

GF 100.22

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

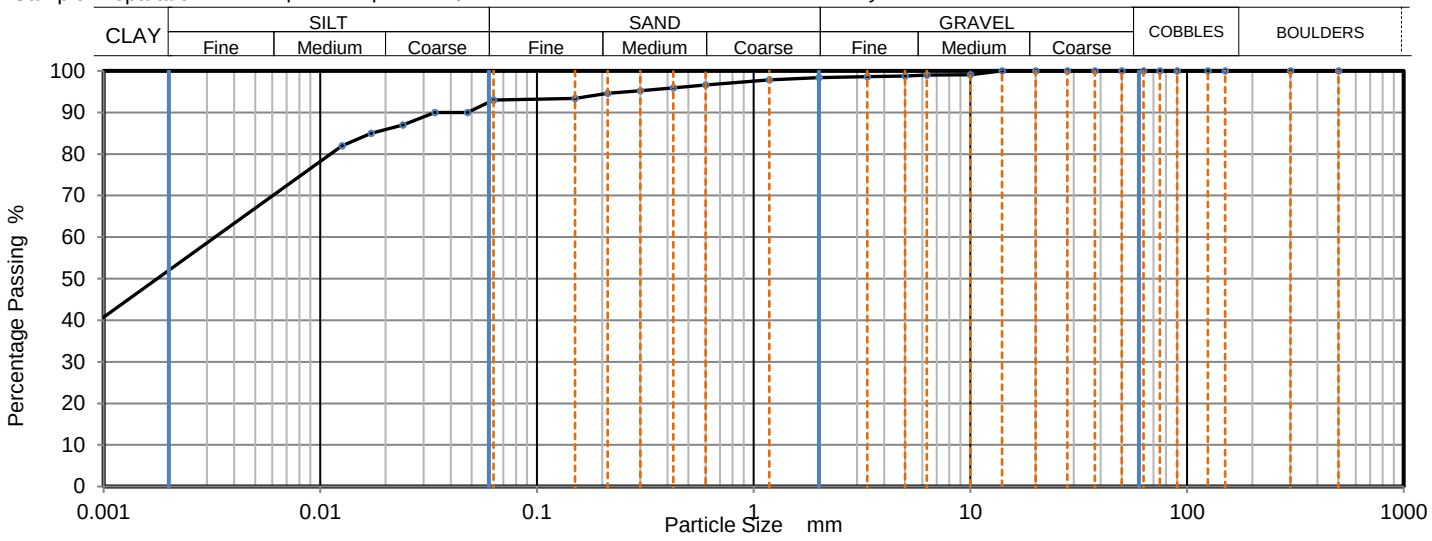
4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	15/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687092	Depth Top [m]:	2.20
Hole No.:	TP13	Depth Base [m]:	2.30
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brownish grey CLAY		
Sample Preparation:	Sample was quartered, oven dried at 107.2 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0630	93
300	100	0.0478	90
150	100	0.0338	90
125	100	0.0241	87
90	100	0.0171	85
75	100	0.0126	82
63	100	0.0008	38
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	99		
3.35	99	Particle density	(assumed)
2	98	2.65	Mg/m3
1.18	98		
0.6	97		
0.425	96		
0.3	95		
0.212	95		
0.15	93		
0.063	93		

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	6
Silt	40
Clay	52

Grading Analysis		
D100	mm	14
D60	mm	0.00327
D30	mm	
D10	mm	
Uniformity Coefficient		> 3.9
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks:

Signed:

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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Date Reported: 12/06/2023

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TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

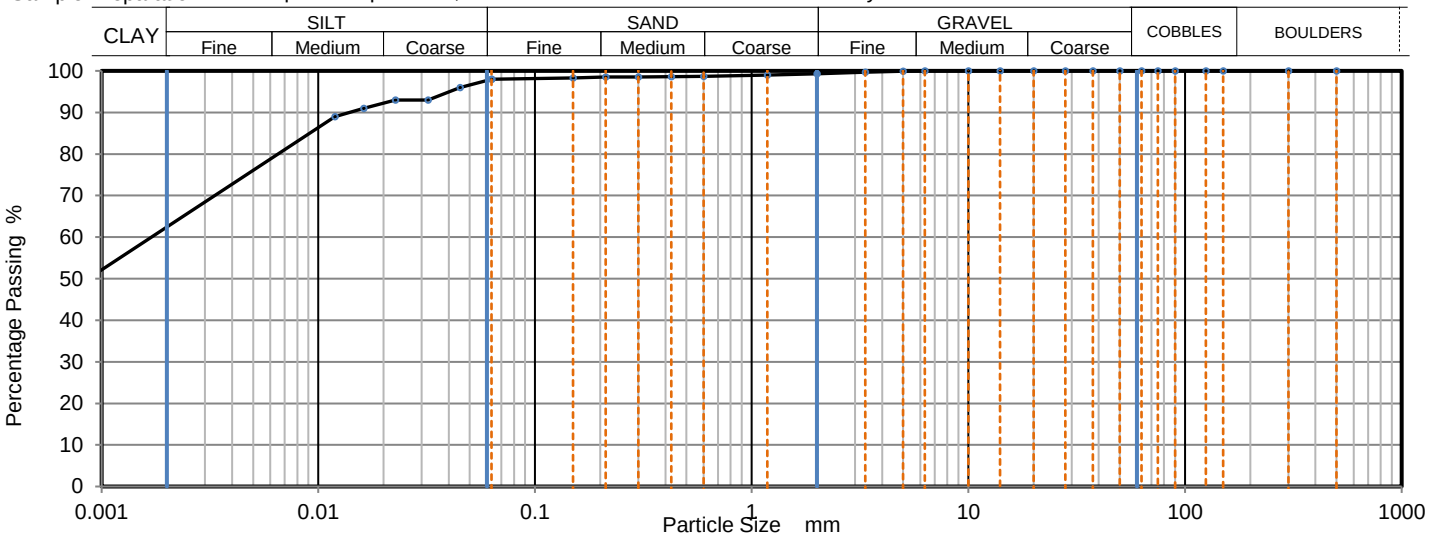
4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	17/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687093	Depth Top [m]:	2.10
Hole No.:	TP14	Depth Base [m]:	2.20
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brownish grey CLAY		
Sample Preparation:	Sample was quartered, oven dried at 107.2 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0632	98
300	100	0.0450	96
150	100	0.0321	93
125	100	0.0227	93
90	100	0.0162	91
75	100	0.0119	89
63	100	0.0008	49
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100	Particle density	(assumed)
2	99	2.65	Mg/m3
1.18	99		
0.6	99		
0.425	99		
0.3	99		
0.212	99		
0.15	98		
0.063	98		

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	1
Silt	36
Clay	62

Grading Analysis		
D100	mm	6.3
D60	mm	0.0017
D30	mm	
D10	mm	
Uniformity Coefficient		> 2.1
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks:

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Signed: Katarzyna Koziel

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 12/06/2023

GF 100.22

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

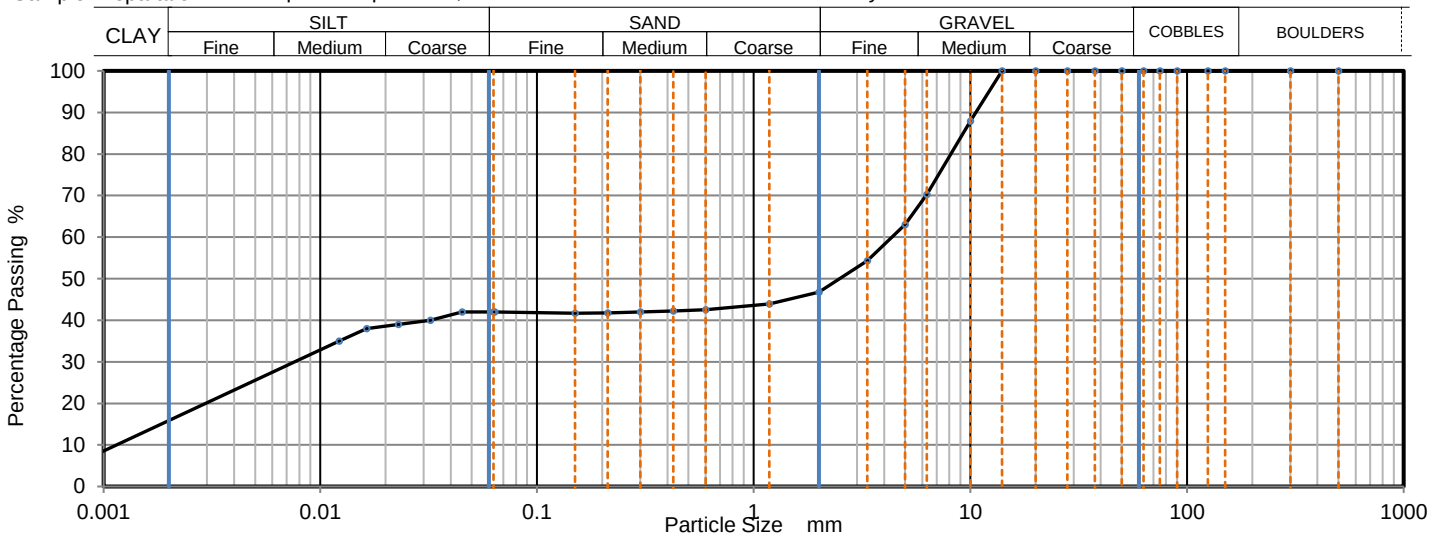
4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-35092-1
		Date Sampled:	17/05/2023
		Date Received:	19/05/2023
Contact:	Andrew Walton	Date Tested:	31/05/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2687094	Depth Top [m]:	1.10
Hole No.:	TP17	Depth Base [m]:	1.20
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Greyish brown gravelly silty CLAY		
Sample Preparation:	Sample was quartered, oven dried at 109.0 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0639	42
300	100	0.0452	42
150	100	0.0322	40
125	100	0.0229	39
90	100	0.0163	38
75	100	0.0122	35
63	100	0.0009	7
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	88		
6.3	70		
5	63		
3.35	54	Particle density	(assumed)
2	47	2.65	Mg/m3
1.18	44		
0.6	43		
0.425	42		
0.3	42		
0.212	42		
0.15	42		
0.063	42		

Sample Proportions	% dry mass
Very coarse	0
Gravel	53
Sand	5
Silt	26
Clay	16

Grading Analysis		
D100	mm	14
D60	mm	4.36
D30	mm	0.00778
D10	mm	0.00118
Uniformity Coefficient		3700
Curvature Coefficient		0.012

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks:

Signed: Katarzyna Koziel

Katarzyna Koziel
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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Date Reported: 12/06/2023

GF 100.22

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-40034-1
		Date Sampled:	15/06/2023
		Date Received:	16/06/2023
Contact:	Andrew Walton	Date Tested:	29/06/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

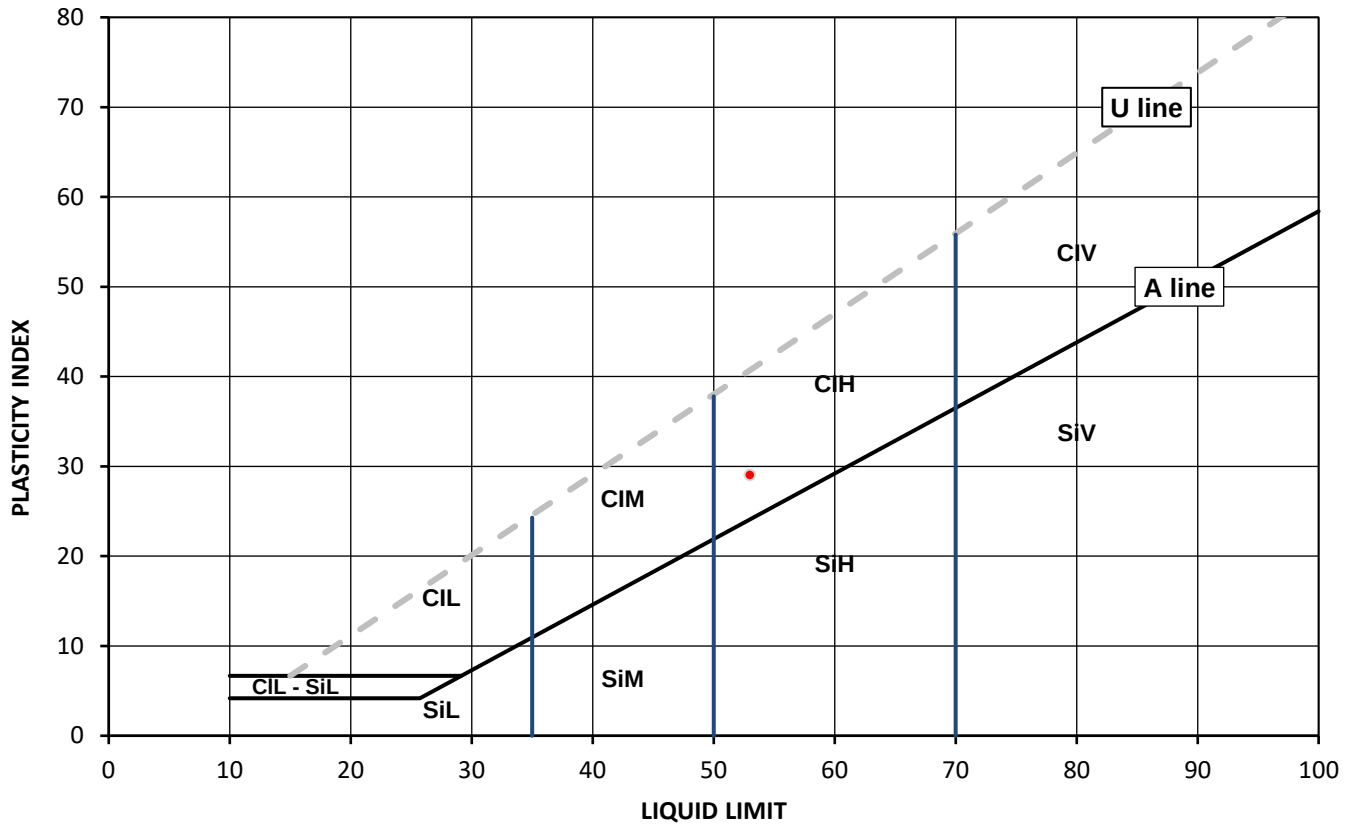
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2718636	Depth Top [m]:	2.10
Hole No.:	TP22	Depth Base [m]:	2.50
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Yellowish brown sandy CLAY		

Sample Preparation: Tested after >425 µm removed by hand

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
22	53	24	29	87



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Replaces Analytical Report Number 23-40034, issue no 1; Date Sampled amended

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 11/07/2023

GF 232.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

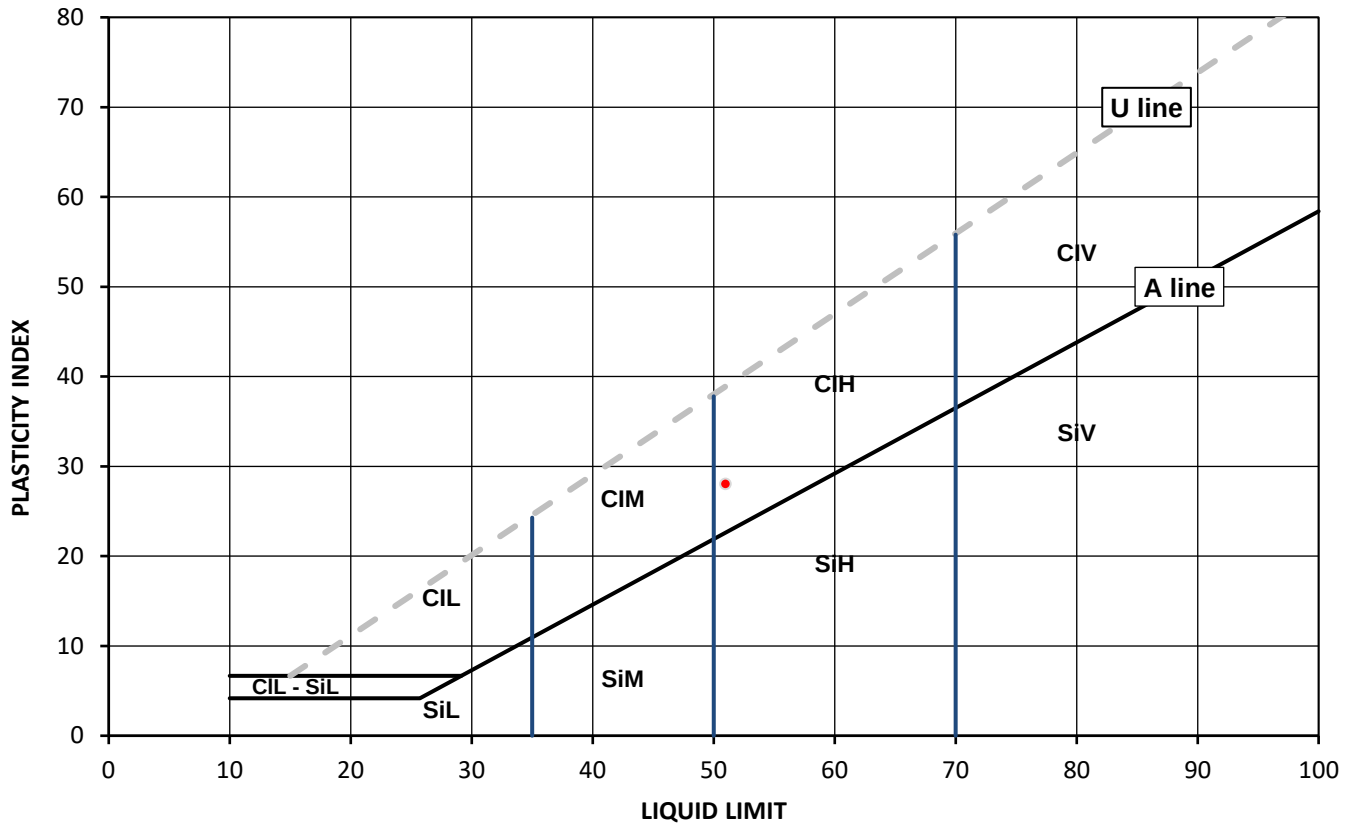
Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-40034-1
		Date Sampled:	15/06/2023
		Date Received:	16/06/2023
Contact:	Andrew Walton	Date Tested:	29/06/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2718637	Depth Top [m]:	1.80
Hole No.:	TP20	Depth Base [m]:	1.90
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brownish grey CLAY		
Sample Preparation:	Tested in natural condition		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
22	51	23	28	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Replaces Analytical Report Number 23-40034, issue no 1; Date Sampled amended

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Signed:
Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 11/07/2023

GF 232.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

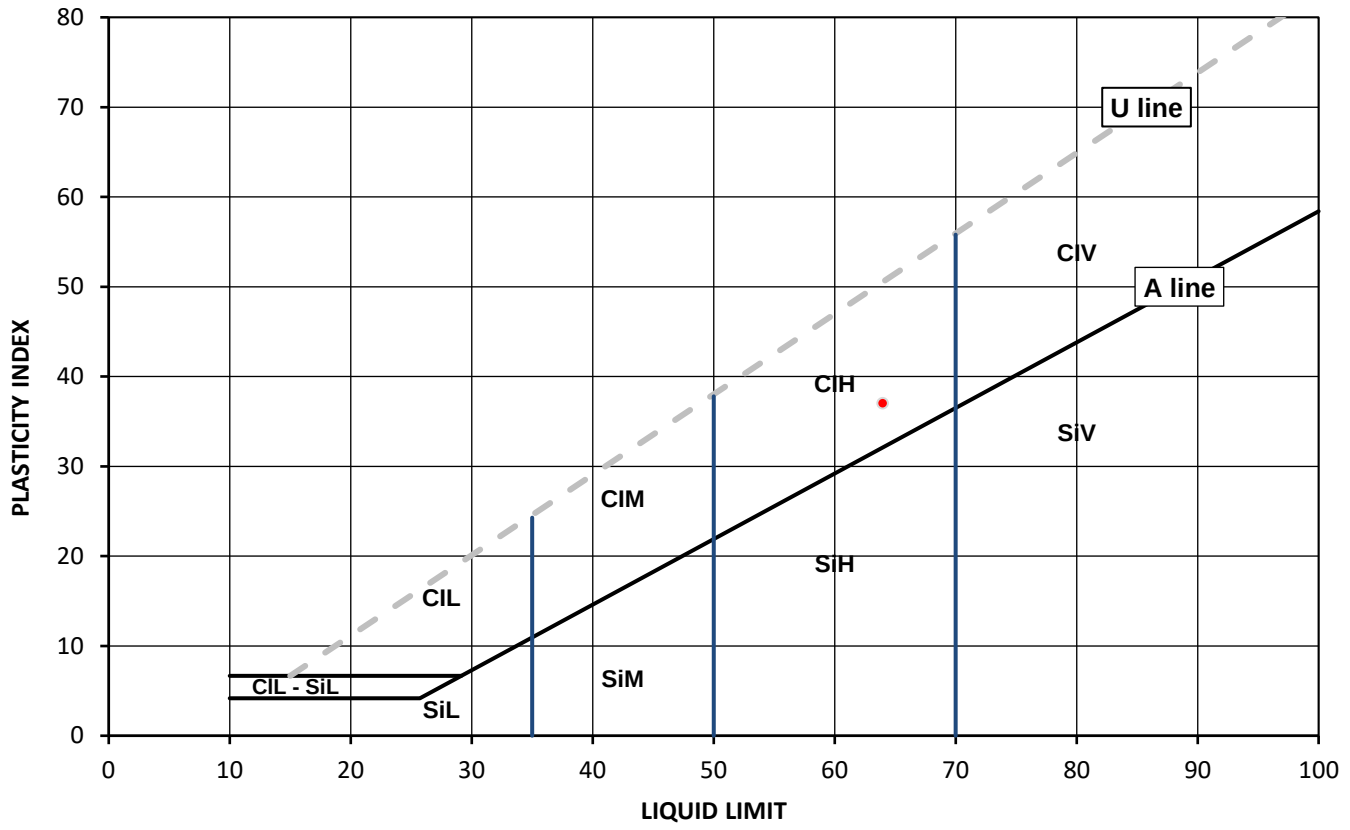
Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-40034-1
		Date Sampled:	15/06/2023
		Date Received:	16/06/2023
Contact:	Andrew Walton	Date Tested:	29/06/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2718638	Depth Top [m]:	2.00
Hole No.:	TP24	Depth Base [m]:	2.10
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brownish grey slightly organic CLAY		
Sample Preparation:	Tested in natural condition		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
19	64	27	37	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Replaces Analytical Report Number 23-40034, issue no 1; Date Sampled amended

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Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 11/07/2023

GF 232.12

SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

Water Content by BS 1377-2:1990: Clause 3.2Atterberg by BS 1377-2: 1990: Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Swan Environmental Services

Client Address: Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB

Contact: Andrew Walton

Site Address: Brookhurst Wood

Client Reference: 4000760
Job Number: 23-40034-1
Date Sampled: 15/06/2023
Date Received: 16/06/2023
Date Tested: 29/06/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Water Content BS 1377-2 [W]	Water Content BS EN ISO 17892-1 [W]	Atterberg				Density			Total Porosity#		
		Reference	Depth Top	Depth Base	Type					% Passing 425um	WL	Wp	Ip	bulk	dry	PD			
			m	m				%	%	%	%	%	%	Mg/m3	Mg/m3	Mg/m3	%		
2718636	TP22	Not Given	2.10	2.50	D	Yellowish brown sandy CLAY	Atterberg 1 Point	22		87	53	24	29						
2718637	TP20	Not Given	1.80	1.90	D	Brownish grey CLAY	Atterberg 1 Point	22		100	51	23	28						
2718638	TP24	Not Given	2.00	2.10	D	Brownish grey slightly organic CLAY	Atterberg 1 Point	19		100	64	27	37						

Note: # Non accredited; NP - Non plastic

Comments:

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Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 11/07/2023

GF 234.15

SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS 1377-2: 1990: Clause 3.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Swan Environmental Services

Client Address: Offices 24/25, Rear Walled Garden,
The Nostell Estate, Nostell,
Wakefield, WF4 1AB

Contact: Andrew Walton

Site Address: Brookhurst Wood

Client Reference: 4000760
Job Number: 23-40034-1
Date Sampled: 15/06/2023
Date Received: 16/06/2023
Date Tested: 29/06/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC	Sample preparation / Oven temperature at the time of testing			
		Reference	Depth Top m	Depth Base m	Type			%				
2718636	TP22	Not Given	2.10	2.50	D	Yellowish brown CLAY		22	Sample was whole tested, oven dried at 108.8 °C			
2718637	TP20	Not Given	1.80	1.90	D	Brownish grey CLAY		22	Sample was whole tested, oven dried at 106.4 °C			
2718638	TP24	Not Given	2.00	2.10	D	Brownish grey slightly organic CLAY		19	Sample was whole tested, oven dried at 106.4 °C			

Comments: Replaces Analytical Report Number 23-40034, issue no 1; Date Sampled amended

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Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 11/07/2023

GF 099.16

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

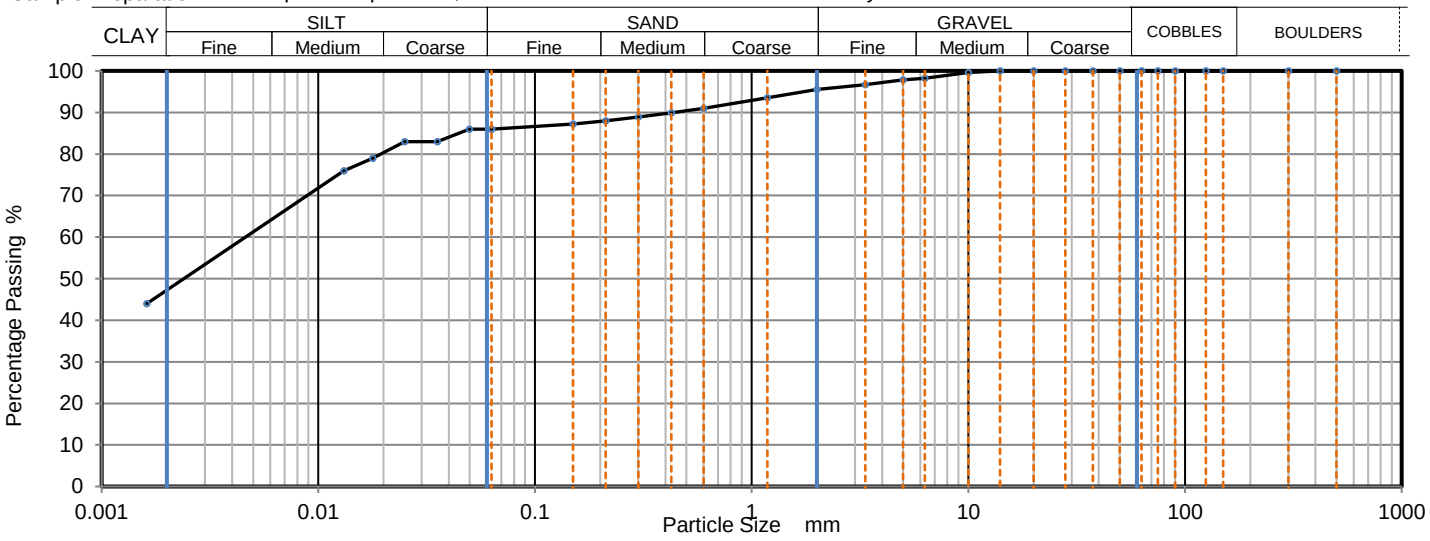
4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-40034-1
		Date Sampled:	15/06/2023
		Date Received:	16/06/2023
Contact:	Andrew Walton	Date Tested:	29/06/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2718636	Depth Top [m]:	2.10
Hole No.:	TP22	Depth Base [m]:	2.50
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Yellowish brown sandy CLAY		
Sample Preparation:	Sample was quartered, oven dried at 108.8 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0630	86
300	100	0.0498	86
150	100	0.0354	83
125	100	0.0250	83
90	100	0.0178	79
75	100	0.0131	76
63	100	0.0016	44
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	98		
5	98		
3.35	97	Particle density	(assumed)
2	96	2.65	Mg/m3
1.18	94		
0.6	91		
0.425	90		
0.3	89		
0.212	88		
0.15	87		
0.063	86		

Sample Proportions	% dry mass
Very coarse	0
Gravel	5
Sand	10
Silt	37
Clay	48

Grading Analysis		
D100	mm	14
D60	mm	0.00451
D30	mm	
D10	mm	
Uniformity Coefficient		> 2.8
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Replaces Analytical Report Number 23-40034, issue no 1; Date Sampled amended

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Signed: Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 11/07/2023

GF 100.22

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

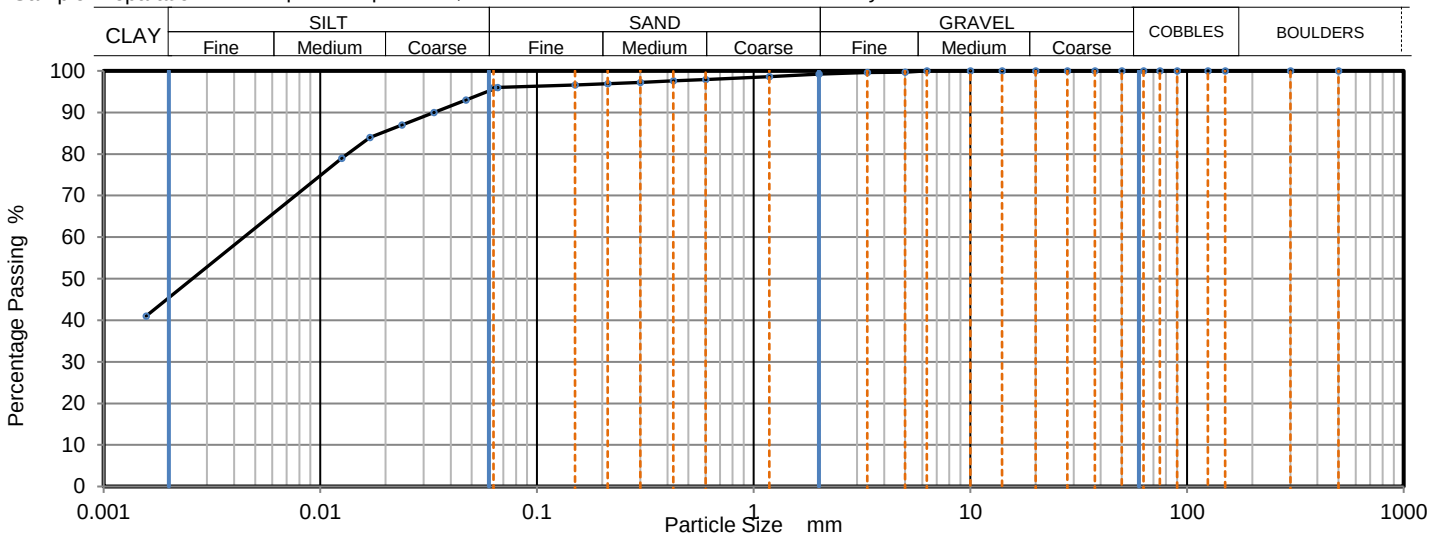
4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-40034-1
		Date Sampled:	15/06/2023
		Date Received:	16/06/2023
Contact:	Andrew Walton	Date Tested:	29/06/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2718637	Depth Top [m]:	1.80
Hole No.:	TP20	Depth Base [m]:	1.90
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brownish grey CLAY		
Sample Preparation:	Sample was quartered, oven dried at 106.4 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0659	96
300	100	0.0469	93
150	100	0.0334	90
125	100	0.0238	87
90	100	0.0169	84
75	100	0.0126	79
63	100	0.0016	41
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100	Particle density	(assumed)
2	99	2.65	Mg/m3
1.18	99		
0.6	98		
0.425	98		
0.3	97		
0.212	97		
0.15	97		
0.063	96		

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	3
Silt	51
Clay	45

Grading Analysis		
D100	mm	6.3
D60	mm	0.00451
D30	mm	
D10	mm	
Uniformity Coefficient		> 2.9
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Replaces Analytical Report Number 23-40034, issue no 1; Date Sampled amended

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Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 11/07/2023

GF 100.22

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

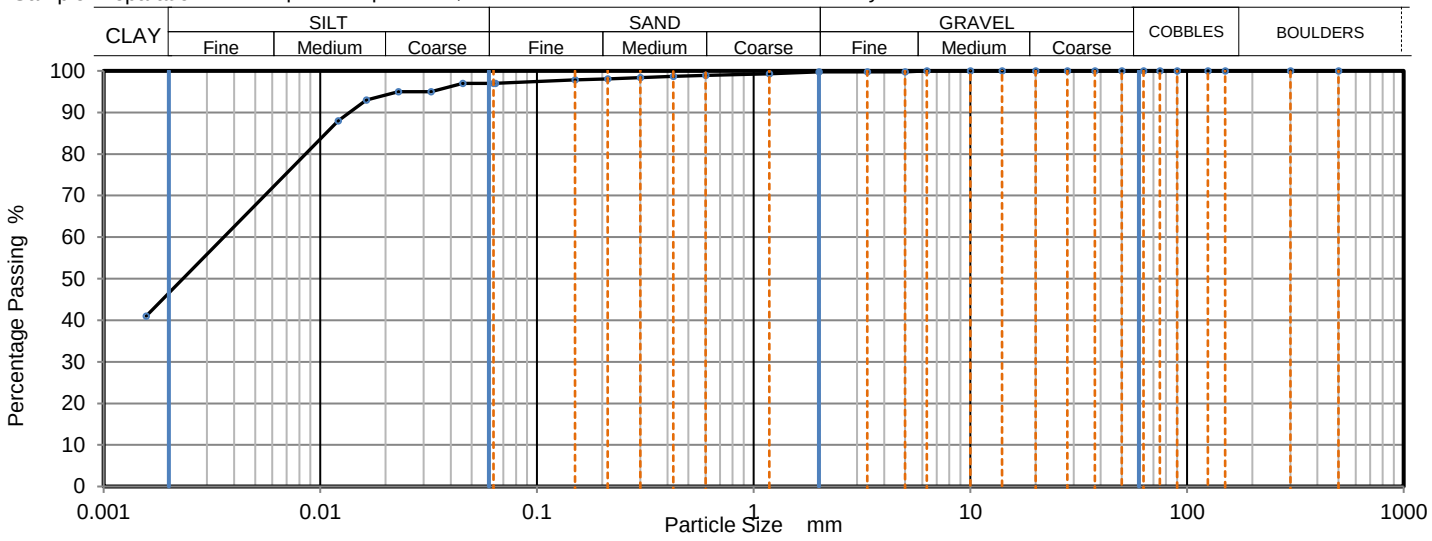
4041

Client:	Swan Environmental Services	Client Reference:	4000760
Client Address:	Offices 24/25, Rear Walled Garden, The Nostell Estate, Nostell, Wakefield, WF4 1AB	Job Number:	23-40034-1
		Date Sampled:	15/06/2023
		Date Received:	16/06/2023
Contact:	Andrew Walton	Date Tested:	29/06/2023
Site Address:	Brookhurst Wood	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2718638	Depth Top [m]:	2.00
Hole No.:	TP24	Depth Base [m]:	2.10
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brownish grey slightly organic CLAY		
Sample Preparation:	Sample was quartered, oven dried at 106.4 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0643	97
300	100	0.0454	97
150	100	0.0324	95
125	100	0.0229	95
90	100	0.0163	93
75	100	0.0121	88
63	100	0.0016	41
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100	Particle density	(assumed)
2	100	2.65	Mg/m3
1.18	99		
0.6	99		
0.425	99		
0.3	98		
0.212	98		
0.15	98		
0.063	97		

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	2
Silt	51
Clay	47

Grading Analysis		
D100	mm	6.3
D60	mm	0.00357
D30	mm	
D10	mm	
Uniformity Coefficient		> 2.3
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Replaces Analytical Report Number 23-40034, issue no 1; Date Sampled amended

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Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 11/07/2023

GF 100.22

APPENDIX D – GROUNDSURE DATA

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

unspecified

Order Details

Date: 23/06/2023

Your ref: EMS_876044_1083903

Our Ref: EMS-876044_1120920

Site Details

Location: 517105 134641

Area: 2.33 ha

Authority: Horsham District Council ↗

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

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	5	4	12	36	-
18 >	1.2 >	Historical tanks >	1	1	1	5	-
18 >	1.3 >	Historical energy features >	0	0	2	1	-
19	1.4	Historical petrol stations	0	0	0	0	-
19	1.5	Historical garages	0	0	0	0	-
19	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
20 >	2.1 >	Historical industrial land uses >	6	5	15	47	-
23 >	2.2 >	Historical tanks >	2	1	2	8	-
24 >	2.3 >	Historical energy features >	0	0	2	2	-
24	2.4	Historical petrol stations	0	0	0	0	-
25	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
26 >	3.1 >	Active or recent landfill >	0	1	1	0	-
27	3.2	Historical landfill (BGS records)	0	0	0	0	-
27 >	3.3 >	Historical landfill (LA/mapping records) >	1	0	1	1	-
28	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
28 >	3.5 >	Historical waste sites >	1	0	3	1	-
30 >	3.6 >	Licensed waste sites >	6	0	4	4	-
34 >	3.7 >	Waste exemptions >	0	0	0	4	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
35 >	4.1 >	Recent industrial land uses >	1	4	3	-	-
36	4.2	Current or recent petrol stations	0	0	0	0	-
36	4.3	Electricity cables	0	0	0	0	-
36	4.4	Gas pipelines	0	0	0	0	-
37	4.5	Sites determined as Contaminated Land	0	0	0	0	-

37 >	4.6 >	Control of Major Accident Hazards (COMAH) >	2	0	0	0	-
37	4.7	Regulated explosive sites	0	0	0	0	-
37 >	4.8 >	Hazardous substance storage/usage >	0	0	0	1	-
38	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
38 >	4.10 >	Licensed industrial activities (Part A(1)) >	0	44	20	7	-
50 >	4.11 >	Licensed pollutant release (Part A(2)/B) >	0	0	0	4	-
50	4.12	Radioactive Substance Authorisations	0	0	0	0	-
51 >	4.13 >	Licensed Discharges to controlled waters >	1	0	2	10	-
53	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
53	4.15	Pollutant release to public sewer	0	0	0	0	-
53	4.16	List 1 Dangerous Substances	0	0	0	0	-
53 >	4.17 >	List 2 Dangerous Substances >	0	0	0	1	-
54 >	4.18 >	Pollution Incidents (EA/NRW) >	0	2	7	6	-
55 >	4.19 >	Pollution inventory substances >	0	8	0	0	-
59 >	4.20 >	Pollution inventory waste transfers >	0	1	0	0	-
61	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
62 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
64 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
66 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
67	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
67	5.5	Groundwater vulnerability- local information	None (within 0m)				
68 >	5.6 >	Groundwater abstractions >	0	0	0	1	0
69 >	5.7 >	Surface water abstractions >	0	0	0	3	0
70	5.8	Potable abstractions	0	0	0	0	0
70	5.9	Source Protection Zones	0	0	0	0	-
70	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
71 >	6.1 >	Water Network (OS MasterMap) >	0	1	5	-	-

72 >	6.2 >	Surface water features >	0	1	5	-	-
72 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
73 >	6.4 >	WFD Surface water bodies >	0	1	0	-	-
73	6.5	WFD Groundwater bodies	0	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
74 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
75	7.2	Historical Flood Events	0	0	0	-	-
75	7.3	Flood Defences	0	0	0	-	-
75	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
75	7.5	Flood Storage Areas	0	0	0	-	-
76 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
77 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
78 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
80 >	9.1 >	Groundwater flooding >	Negligible (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
81 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	1	0
82	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
82	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
82	10.4	Special Protection Areas (SPA)	0	0	0	0	0
82	10.5	National Nature Reserves (NNR)	0	0	0	0	0
83 >	10.6 >	Local Nature Reserves (LNR) >	0	0	0	0	1
83 >	10.7 >	Designated Ancient Woodland >	0	0	3	9	44
85	10.8	Biosphere Reserves	0	0	0	0	0
86	10.9	Forest Parks	0	0	0	0	0
86	10.10	Marine Conservation Zones	0	0	0	0	0
86	10.11	Green Belt	0	0	0	0	0
86	10.12	Proposed Ramsar sites	0	0	0	0	0

86	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
87	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
87	10.15	Nitrate Sensitive Areas	0	0	0	0	0
87 >	10.16 >	Nitrate Vulnerable Zones >	1	0	0	0	1
88 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
89 >	10.18 >	SSSI Units >	0	0	0	1	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
90	11.1	World Heritage Sites	0	0	0	-	-
90	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
90	11.3	National Parks	0	0	0	-	-
90	11.4	Listed Buildings	0	0	0	-	-
91	11.5	Conservation Areas	0	0	0	-	-
91	11.6	Scheduled Ancient Monuments	0	0	0	-	-
91	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
92 >	12.1 >	Agricultural Land Classification >	Grade 4 (within 250m)				
93	12.2	Open Access Land	0	0	0	-	-
93	12.3	Tree Felling Licences	0	0	0	-	-
93	12.4	Environmental Stewardship Schemes	0	0	0	-	-
93	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
94 >	13.1 >	Priority Habitat Inventory >	0	3	16	-	-
95	13.2	Habitat Networks	0	0	0	-	-
95 >	13.3 >	Open Mosaic Habitat >	0	2	0	-	-
96	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
97 >	14.1 >	10k Availability >	Identified (within 500m)				
98	14.2	Artificial and made ground (10k)	0	0	0	0	-
99 >	14.3 >	Superficial geology (10k) >	0	0	1	1	-

100	14.4	Landslip (10k)	0	0	0	0	-
101 >	14.5 >	Bedrock geology (10k) >	3	0	0	16	-
102 >	14.6 >	Bedrock faults and other linear features (10k) >	0	0	1	4	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
104 >	15.1 >	50k Availability >	Identified (within 500m)				
105 >	15.2 >	Artificial and made ground (50k) >	1	0	0	0	-
106	15.3	Artificial ground permeability (50k)	0	0	-	-	-
107 >	15.4 >	Superficial geology (50k) >	0	0	1	0	-
108	15.5	Superficial permeability (50k)	None (within 50m)				
108	15.6	Landslip (50k)	0	0	0	0	-
108	15.7	Landslip permeability (50k)	None (within 50m)				
109 >	15.8 >	Bedrock geology (50k) >	2	1	0	7	-
110 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
110 >	15.10 >	Bedrock faults and other linear features (50k) >	0	0	1	3	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
112 >	16.1 >	BGS Boreholes >	0	1	9	-	-
Page	Section	Natural ground subsidence >					
114 >	17.1 >	Shrink swell clays >	Low (within 50m)				
115 >	17.2 >	Running sands >	Negligible (within 50m)				
116 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
117 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
118 >	17.5 >	Landslides >	Low (within 50m)				
120 >	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
122 >	18.1 >	BritPits >	0	0	5	1	-
124 >	18.2 >	Surface ground workings >	3	3	20	-	-
125	18.3	Underground workings	0	0	0	0	0
125	18.4	Underground mining extents	0	0	0	0	-
125 >	18.5 >	Historical Mineral Planning Areas >	1	0	0	1	-

126 >	18.6 >	Non-coal mining >	1	0	0	1	0
126	18.7	JPB mining areas	None (within 0m)				
126	18.8	The Coal Authority non-coal mining	0	0	0	0	-
127	18.9	Researched mining	0	0	0	0	-
127	18.10	Mining record office plans	0	0	0	0	-
127	18.11	BGS mine plans	0	0	0	0	-
127	18.12	Coal mining	None (within 0m)				
127	18.13	Brine areas	None (within 0m)				
128	18.14	Gypsum areas	None (within 0m)				
128	18.15	Tin mining	None (within 0m)				
128	18.16	Clay mining	None (within 0m)				
Page	Section	**Ground cavities and sinkholes** >	On site	0-50m	50-250m	250-500m	500-2000m
129	19.1	Natural cavities	0	0	0	0	-
130 >	19.2 >	Mining cavities >	0	0	0	0	1
130	19.3	Reported recent incidents	0	0	0	0	-
130	19.4	Historical incidents	0	0	0	0	-
131	19.5	National karst database	0	0	0	0	-
Page	Section	**Radon** >					
132 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	**Soil chemistry** >	On site	0-50m	50-250m	250-500m	500-2000m
134 >	21.1 >	BGS Estimated Background Soil Chemistry >	2	3	-	-	-
134	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
135	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
136	22.1	Underground railways (London)	0	0	0	-	-
136	22.2	Underground railways (Non-London)	0	0	0	-	-
137	22.3	Railway tunnels	0	0	0	-	-
137 >	22.4 >	Historical railway and tunnel features >	3	8	5	-	-
138	22.5	Royal Mail tunnels	0	0	0	-	-

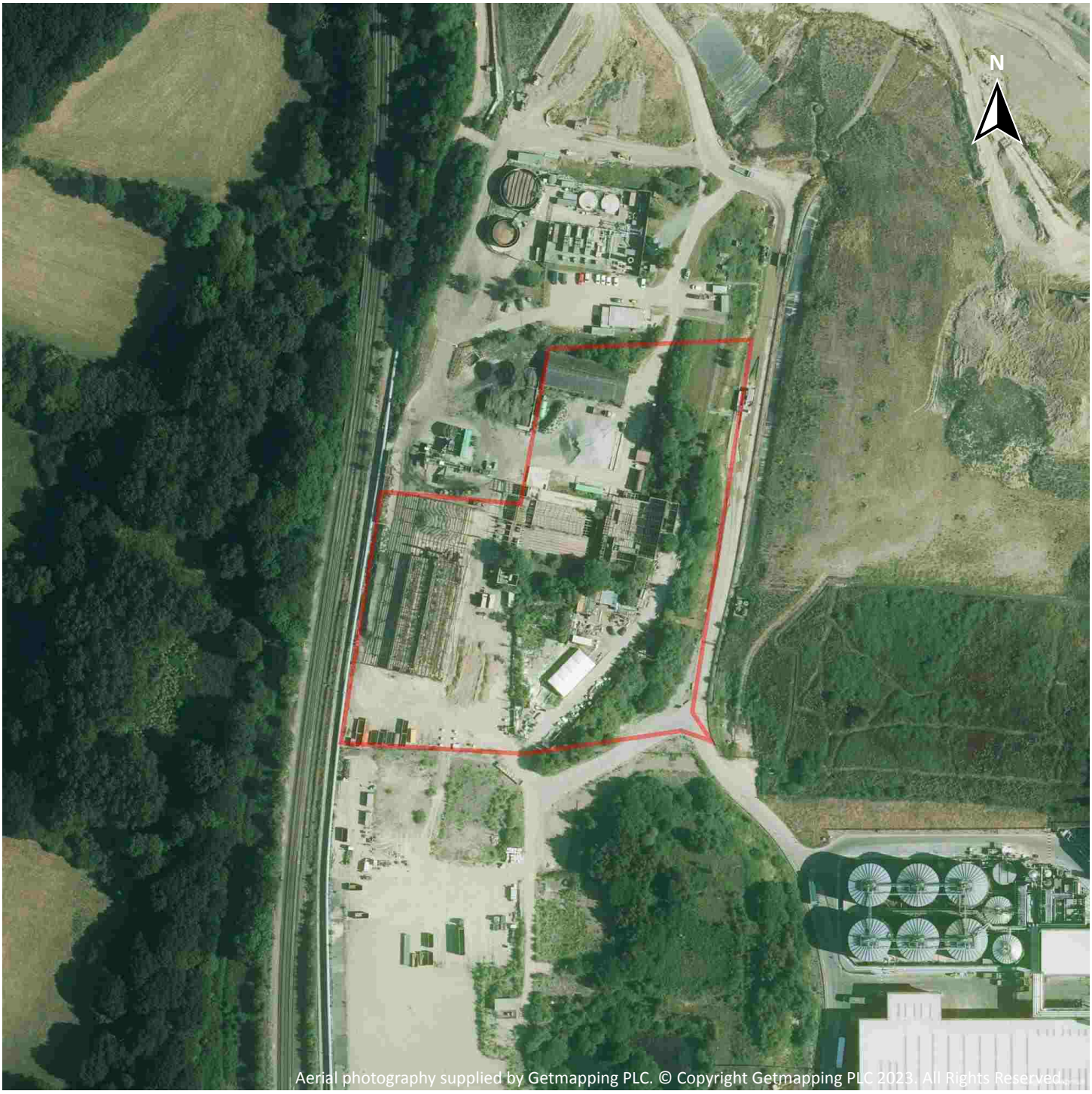
138	22.6	Historical railways	0	0	0	-	-
138 >	**22.7 >**	**Railways >**	0	5	0	-	-
138	22.8	Crossrail 1	0	0	0	0	-
139	22.9	Crossrail 2	0	0	0	0	-
139	22.10	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 24/04/2021

Site Area: 2.33ha

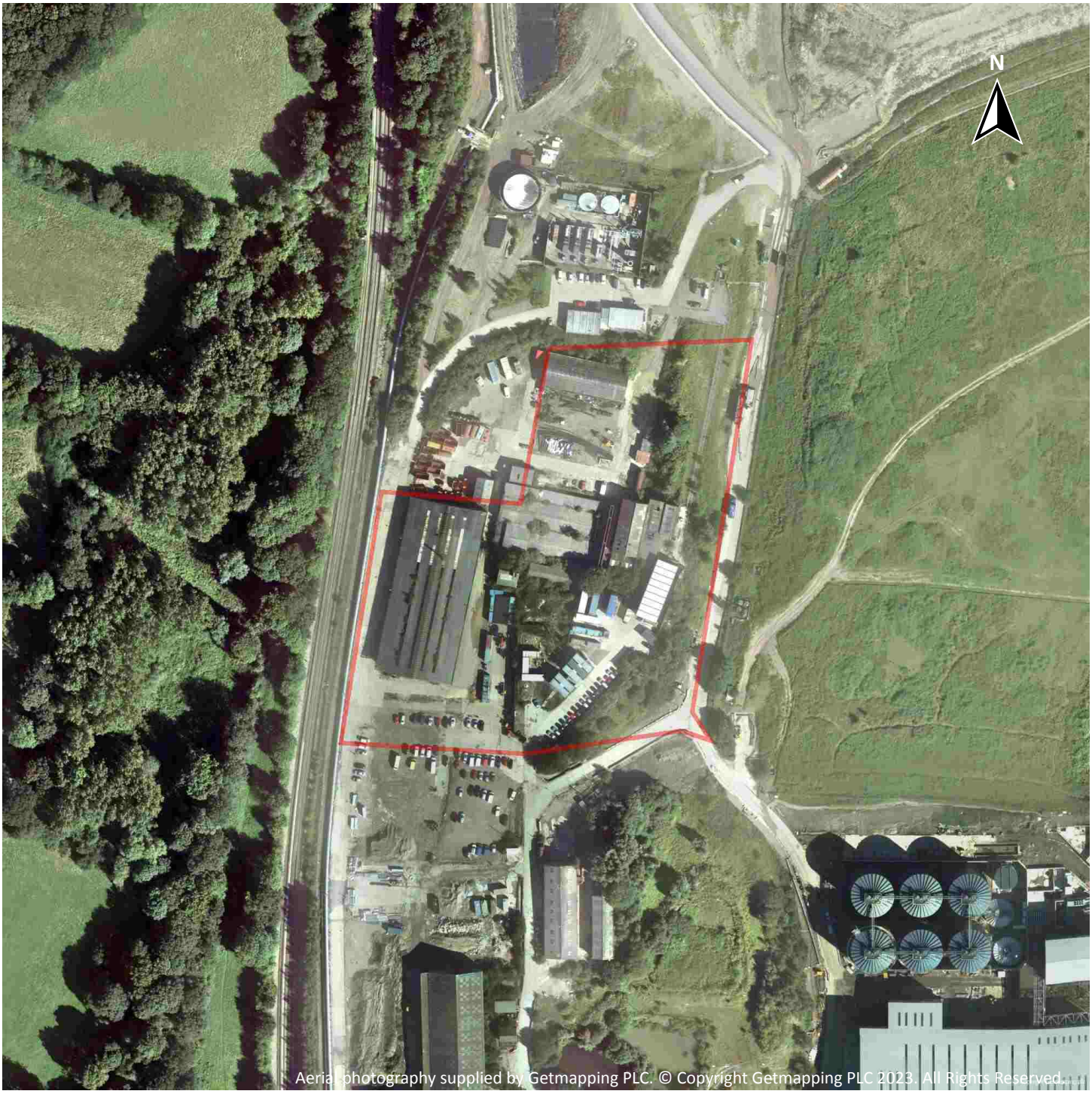
Recent site history - 2018 aerial photograph



Capture Date: 23/07/2018

Site Area: 2.33ha

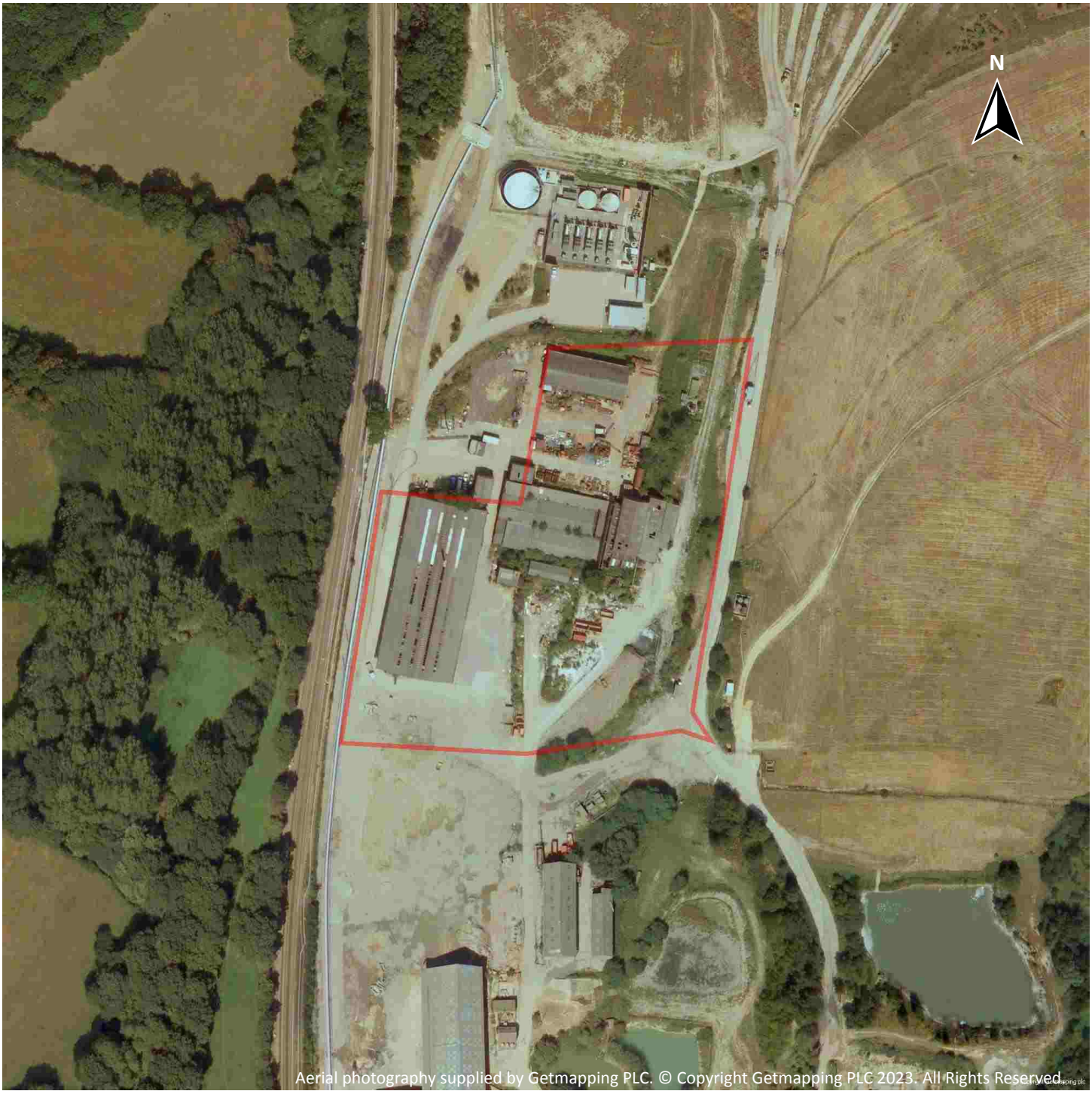
Recent site history - 2012 aerial photograph



Capture Date: 31/08/2012

Site Area: 2.33ha

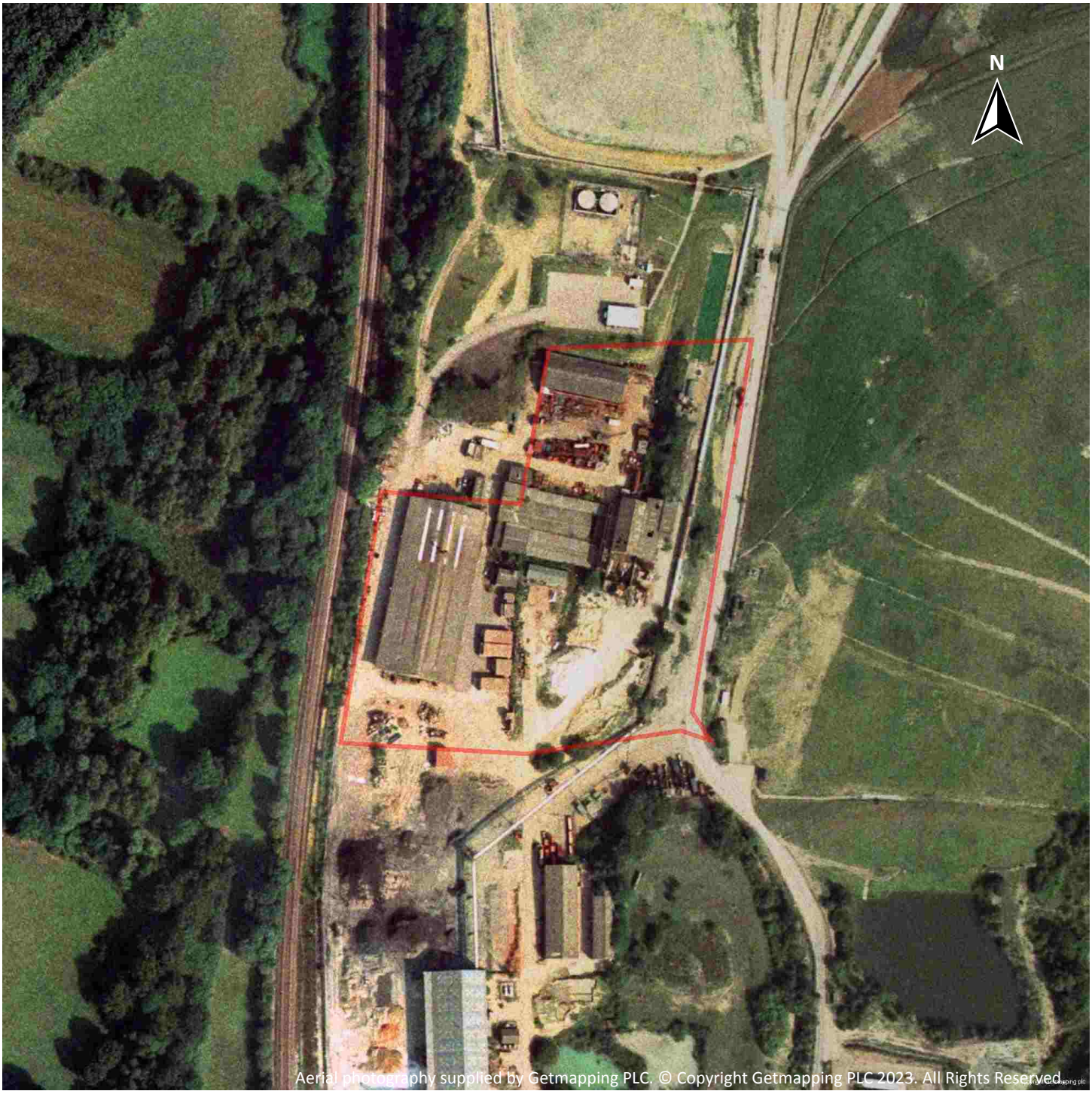
Recent site history - 2005 aerial photograph



Capture Date: 17/07/2005

Site Area: 2.33ha

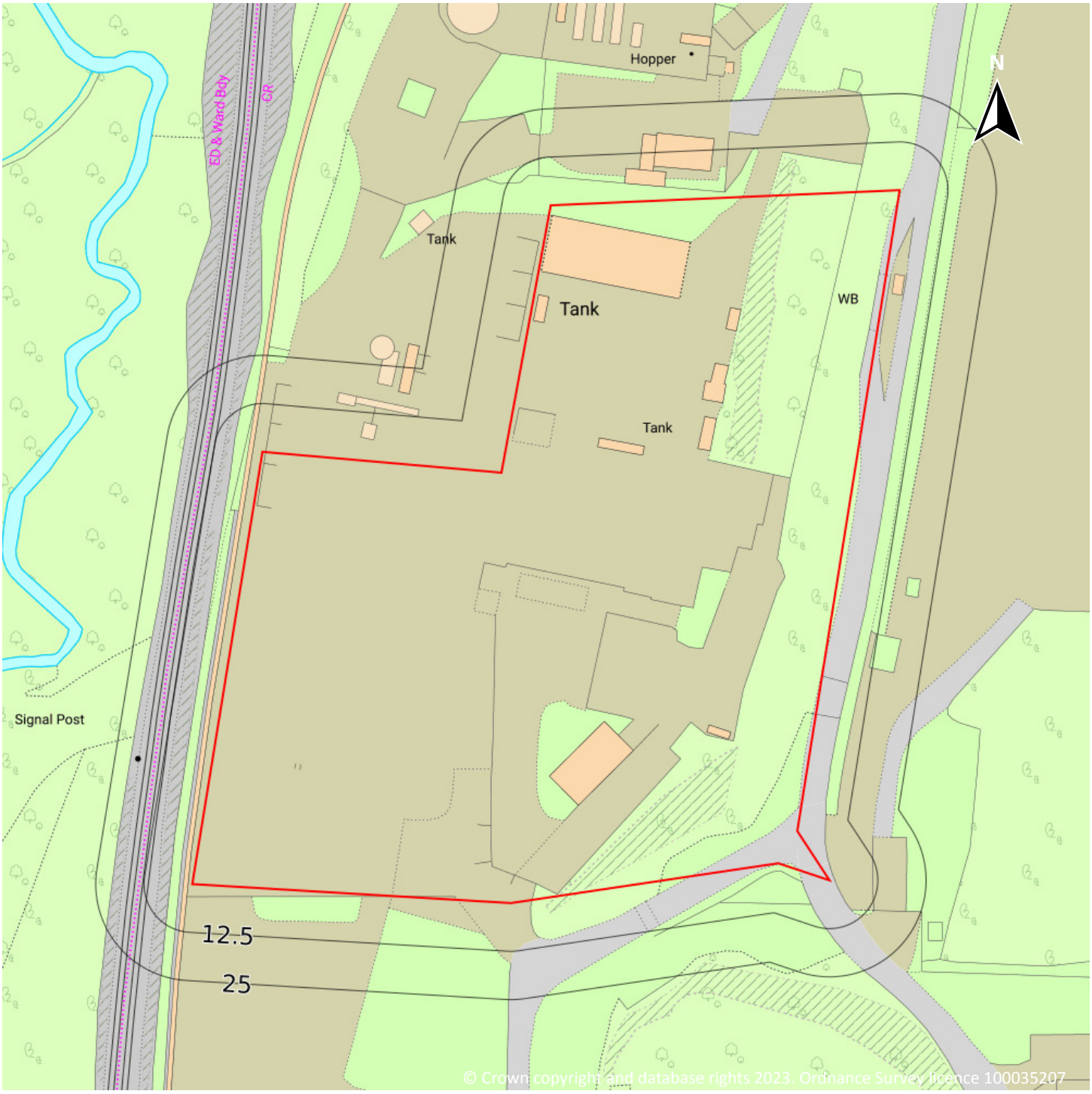
Recent site history - 1999 aerial photograph



Capture Date: 04/09/1999

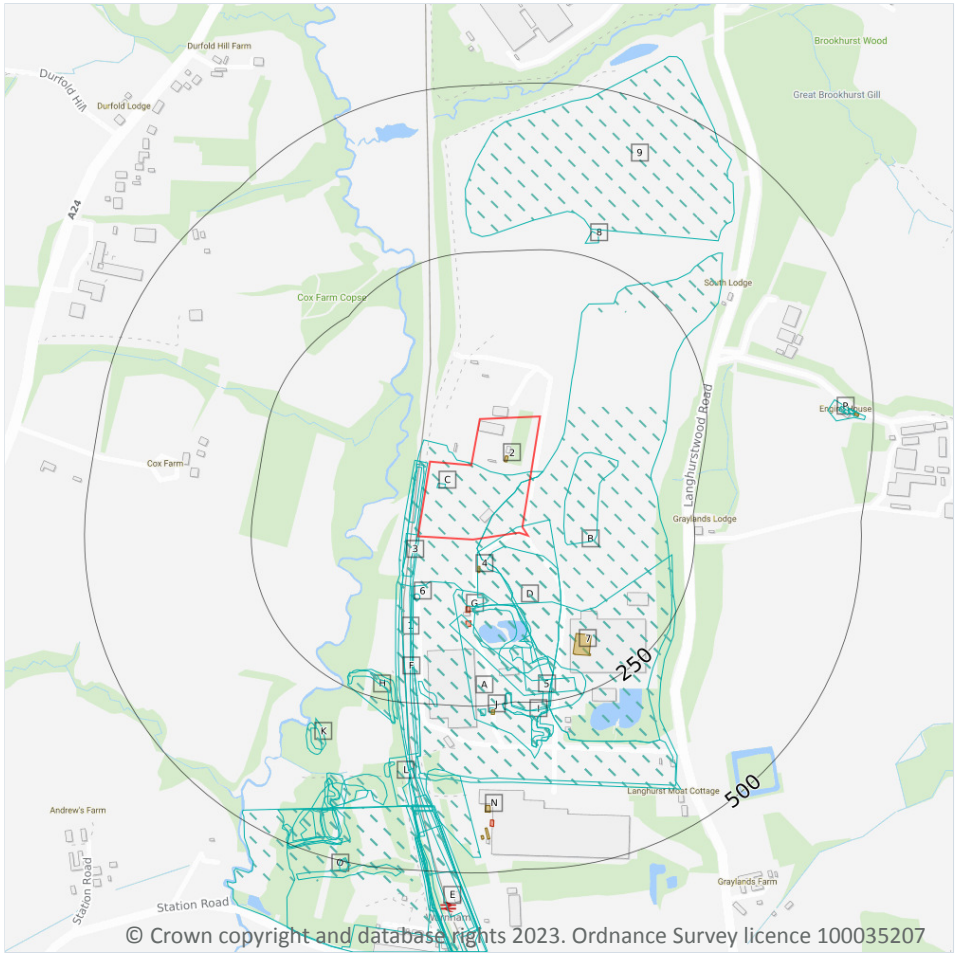
Site Area: 2.33ha

OS MasterMap site plan



Site Area: 2.33ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

1.1 Historical industrial land uses

Records within 500m	57

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

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

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Railway Sidings**	**1914**	**2235873**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Commercial/Industrial**	**1961**	**2130643**
B	**On site**	**Unspecified Quarry**	**1961**	**2144864**
C	**On site**	**Unspecified Kiln**	**1914**	**2157456**
D	**On site**	**Brick Works**	**1979 - 1992**	**2235519**
E	1m SW	Railway Sidings	1961	2174540
3	2m SW	Cuttings	1876	2129112
C	9m SW	Railway Sidings	1966	2202193
D	17m S	Unspecified Heap	1979 - 1992	2254020
B	55m SE	Clay Pit	1979 - 1992	2212844
5	67m SW	Brick Works	1914	2259829
F	76m SW	Cuttings	1876	2129113
A	76m S	Unspecified Pits	1914	2141630
6	86m SW	Unspecified Tank	1914	2153345
A	101m S	Unspecified Ground Workings	1961 - 1966	2265294
A	114m S	Tramway Sidings	1914	2151106
H	211m SW	Unspecified Pit	1914 - 1961	2198764
H	215m SW	Unspecified Ground Workings	1966	2132543
F	217m S	Unspecified Ground Workings	1914	2132544
I	235m S	Unspecified Ground Workings	1966	2132545
I	236m S	Unspecified Pit	1961	2124430
J	254m S	Unspecified Tank	1914	2153344
J	255m S	Engine Shed	1914	2146547
8	268m NE	Unspecified Ground Workings	1978 - 1989	2219345
9	273m N	Clay Pit	1978 - 1989	2251945
K	313m SW	Unspecified Heap	1914	2288680
K	322m SW	Unspecified Heap	1961 - 1966	2287872
L	331m S	Refuse Heap	1914	2254036
L	340m S	Refuse Heap	1966	2179767

ID	Location	Land use	Dates present	Group ID
E	347m S	Unspecified Heap	1979 - 1992	2204485
M	347m S	Railway Sidings	1966	2220042
L	364m S	Unspecified Heap	1979 - 1992	2282519
L	376m SW	Unspecified Pit	1914	2199486
L	385m S	Unspecified Pit	1895	2232722
L	386m SW	Unspecified Ground Workings	1961	2239221
E	386m S	Cuttings	1876	2177838
L	387m SW	Unspecified Ground Workings	1966	2285943
M	402m S	Railway Sidings	1932 - 1938	2268441
M	403m S	Railway Sidings	1896	2181590
M	404m S	Railway Sidings	1909	2230795
O	404m S	Sewage Works	1932	2142178
O	404m S	Brick Yard	1896	2163914
M	409m S	Cuttings	1876	2283472
L	427m SW	Unspecified Ground Workings	1932 - 1938	2237598
L	429m SW	Unspecified Heap	1909	2135725
M	431m S	Railway Sidings	1876	2286257
P	432m E	Engine House	1961	2267885
L	442m SW	Unspecified Ground Workings	1896	2273258
P	448m E	Engine House	1966	2235564
M	451m S	Railway Sidings	1966	2224878
P	455m E	Engine House	1914	2274651
P	462m E	Tank	1966	2140245
P	464m E	Unspecified Tank	1961	2153366
L	467m S	Unspecified Ground Workings	1909	2257298
P	470m E	Unspecified Tank	1914	2153365
O	494m S	Unspecified Pit	1896	2124431
O	494m S	Unspecified Ground Workings	1909 - 1938	2264006

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	8

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

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

ID	Location	Land use	Dates present	Group ID
2	**On site**	**Unspecified Tank**	**1974 - 1991**	**386135**
4	41m S	Unspecified Tank	1991	359676
7	164m SE	Tanks	1974 - 1991	384367
J	257m S	Unspecified Tank	1912	359666
N	399m S	Tanks	1974 - 1991	381224
N	433m S	Tanks	1974 - 1991	394606
N	444m S	Tanks	1974 - 1991	388407
P	471m E	Unspecified Tank	1912	359776

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	3

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
G	101m S	Electricity Substation	1991	241497
G	122m S	Electricity Substation	1974	241498
N	421m S	Electricity Substation	1974 - 1991	283904

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 tanks

Historical energy features

2.1 Historical industrial land uses

Records within 500m	73

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 20 >**

ID	Location	Land Use	Date	Group ID
1	**On site**	**Railway Sidings**	**1914**	**2235873**
A	**On site**	**Unspecified Quarry**	**1961**	**2144864**
B	**On site**	**Unspecified Kiln**	**1914**	**2157456**

ID	Location	Land Use	Date	Group ID
C	**On site**	**Brick Works**	**1992**	**2235519**
C	**On site**	**Brick Works**	**1979**	**2235519**
D	**On site**	**Unspecified Commercial/Industrial**	**1961**	**2130643**
F	1m SW	Railway Sidings	1961	2174540
2	2m SW	Cuttings	1876	2129112
B	9m SW	Railway Sidings	1966	2202193
C	17m S	Unspecified Heap	1992	2254020
C	17m S	Unspecified Heap	1979	2254020
A	55m SE	Clay Pit	1992	2212844
A	55m SE	Clay Pit	1979	2212844
4	67m SW	Brick Works	1914	2259829
G	76m SW	Cuttings	1876	2129113
D	76m S	Unspecified Pits	1914	2141630
5	86m SW	Unspecified Tank	1914	2153345
D	101m S	Unspecified Ground Workings	1966	2265294
D	105m S	Unspecified Ground Workings	1961	2265294
D	114m S	Tramway Sidings	1914	2151106
J	211m SW	Unspecified Pit	1914	2198764
J	215m SW	Unspecified Ground Workings	1966	2132543
G	217m S	Unspecified Ground Workings	1914	2132544
J	217m SW	Unspecified Pit	1961	2198764
K	235m S	Unspecified Ground Workings	1966	2132545
K	236m S	Unspecified Pit	1961	2124430
L	254m S	Unspecified Tank	1914	2153344
L	255m S	Engine Shed	1914	2146547
M	268m NE	Unspecified Ground Workings	1978	2219345
M	268m NE	Unspecified Ground Workings	1989	2219345
N	273m N	Clay Pit	1989	2251945

ID	Location	Land Use	Date	Group ID
N	273m N	Clay Pit	1978	2251945
O	313m SW	Unspecified Heap	1914	2288680
O	322m SW	Unspecified Heap	1966	2287872
O	324m SW	Unspecified Heap	1961	2287872
P	331m S	Refuse Heap	1914	2254036
P	340m S	Refuse Heap	1966	2179767
F	347m S	Unspecified Heap	1992	2204485
F	347m S	Unspecified Heap	1979	2204485
Q	347m S	Railway Sidings	1966	2220042
P	364m S	Unspecified Heap	1992	2282519
P	364m S	Unspecified Heap	1979	2282519
P	376m SW	Unspecified Pit	1914	2199486
P	385m S	Unspecified Pit	1895	2232722
P	386m SW	Unspecified Ground Workings	1961	2239221
F	386m S	Cuttings	1876	2177838
P	387m SW	Unspecified Ground Workings	1966	2285943
Q	402m S	Railway Sidings	1932	2268441
Q	403m S	Railway Sidings	1896	2181590
Q	404m S	Railway Sidings	1938	2268441
Q	404m S	Railway Sidings	1909	2230795
S	404m S	Sewage Works	1932	2142178
S	404m S	Brick Yard	1896	2163914
Q	409m S	Cuttings	1876	2283472
P	427m SW	Unspecified Ground Workings	1938	2237598
P	427m SW	Unspecified Ground Workings	1938	2237598
P	427m SW	Unspecified Ground Workings	1932	2237598
P	429m SW	Unspecified Heap	1909	2135725
Q	431m S	Railway Sidings	1876	2286257

ID	Location	Land Use	Date	Group ID
T	432m E	Engine House	1961	2267885
P	442m SW	Unspecified Ground Workings	1896	2273258
T	448m E	Engine House	1966	2235564
Q	451m S	Railway Sidings	1966	2224878
T	455m E	Engine House	1914	2274651
T	462m E	Tank	1966	2140245
T	464m E	Unspecified Tank	1961	2153366
P	467m S	Unspecified Ground Workings	1909	2257298
T	470m E	Unspecified Tank	1914	2153365
S	494m S	Unspecified Pit	1896	2124431
S	494m S	Unspecified Ground Workings	1938	2264006
S	494m S	Unspecified Ground Workings	1938	2264006
S	495m S	Unspecified Ground Workings	1932	2264006
S	495m S	Unspecified Ground Workings	1909	2264006

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**13**

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

Features are displayed on the Past land use - un-grouped map on **page 20 >**

ID	Location	Land Use	Date	Group ID
E	**On site**	**Unspecified Tank**	**1974**	**386135**
E	**On site**	**Unspecified Tank**	**1991**	**386135**
3	41m S	Unspecified Tank	1991	359676
I	164m SE	Tanks	1991	384367
I	165m SE	Tanks	1974	384367
L	257m S	Unspecified Tank	1912	359666

ID	Location	Land Use	Date	Group ID
R	399m S	Tanks	1991	381224
R	400m S	Tanks	1974	381224
R	433m S	Tanks	1991	394606
R	434m S	Tanks	1974	394606
R	444m S	Tanks	1991	388407
R	445m S	Tanks	1974	388407
T	471m E	Unspecified Tank	1912	359776

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**4**

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. 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 20 >**

ID	Location	Land Use	Date	Group ID
H	101m S	Electricity Substation	1991	241497
H	122m S	Electricity Substation	1974	241498
R	421m S	Electricity Substation	1991	283904
R	422m S	Electricity Substation	1974	283904

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	**0**

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

This data is sourced from Ordnance Survey / Groundsure.

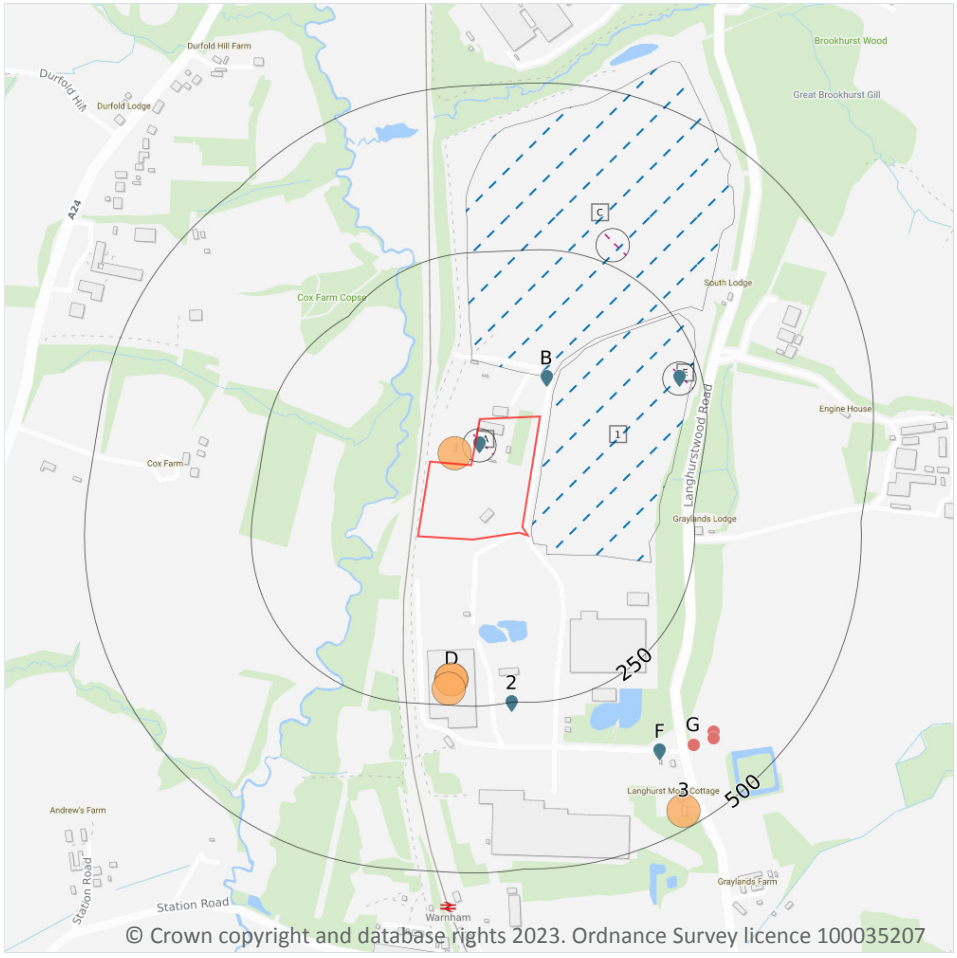
2.5 Historical garages

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



Site Outline

Search buffers in metres (m)

Active or recent landfill

Historical landfill (LA/OS)

Historical waste sites

Licensed waste sites

Waste exemptions

3.1 Active or recent landfill

Records within 500m	2

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

Features are displayed on the Waste and landfill map on **page 26 >**

ID	Location	Details	
1	5m SE	Operator: Biffa Waste Services Ltd Site Address: Brookhurst Wood Landfill Site, Langhurstwood Road, West Sussex, RH12 4QD	WML Number: 0 EPR Reference: - Landfill type: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Status: Effective IPPC Reference: - EPR Number: -

ID	Location	Details	
C	59m NE	Operator: Biffa Waste Services Ltd Site Address: Brookhurst Wood Landfill Site, Langhurstwood Road, West Sussex, RH12 4QD	WML Number: 0 EPR Reference: - Landfill type: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Status: Effective IPPC Reference: - EPR Number: -

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	**3**

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

Features are displayed on the Waste and landfill map on **page 26 >**

ID	Location	Site address	Source	Data type
A	**On site**	**Cleanaway Limited, Warnham Leachate Treatment Plant, Warham Brickworks, Laughurstwood Road, Warnham, West Sussex**	**Horsham District Council**	**Point**
E	192m NE	Warnham Brickworks, Langhurstwood Road, Warnham, West Sussex,	Horsham District Council	Point
C	254m NE	Waste Management Limited, Brookhurstwood Landfill Site, Warnham Brickworks, Langhurstwood Road, Warnham, West Sussex, RH12 4Q2	Horsham District Council	Point

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	0

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

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

3.5 Historical waste sites

Records within 500m	5

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

Features are displayed on the Waste and landfill map on **page 26 >**

ID	Location	Address	Further Details	Date
A	**On site**	**Site Address: Ld Near Brookhurst Wood Landfi, Langhurstwood Road, Horsham, West Sussex, RH12 4QD**	**Type of Site: Aggregate Treatment & Recycling Facility** **Planning application reference: WSCC/003/14/NH** **Description: Scheme comprises installation and operation of aggregate treatment and recycling facility.** **Data source: Historic Planning Application** **Data Type: Point**	**-**
D	186m S	Site Address: Britaniacrest Recycling Second, Langhurstwood Road, Horsham, West Sussex, RH12 4QD	Type of Site: Recycling & Renewable Energy Planning application reference: WSCC/015/18/NH Description: Scheme comprises construction of recycling, recovery and renewable energy facility and ancillary infrastructure. The associated works include sewer systems, landscaping, infrastructure, enabling works, cable laying and access roads. Data source: Historic Planning Application Data Type: Point	-

ID	Location	Address	Further Details	Date
D	186m S	Site Address: Britaniacrest Recycling Second, Langhurstwood Road, Horsham, West Sussex, RH12 4QD	Type of Site: Recycling & Renewable Energy Planning application reference: WSCC/015/18/NH Description: Scheme comprises construction of recycling, recovery and renewable energy facility and ancillary infrastructure. The associated works include sewer systems, landscaping, infrastructure, enabling works, cable laying and access roads. Data source: Historic Planning Application Data Type: Point	15/03/2018
D	200m S	Site Address: Brookhurst Wood Landfill Site, Langhurstwood Road, HORSHAM, West Sussex, RH12 4QD	Type of Site: Recycling Facilities & Visitor Centre Planning application reference: DC/06/2919 Description: Scheme comprises construction and operation of a materials recycling facility including offices and visitor centre, an anaerobic digestion plant and extension to landfill site. The associated works include access roads, sewer systems, infrastructure, ena bling and landscaping. Construction - block, brick walls; raised access floor; double glazed windows; fire, timber doors; air conditioned heating; black top surfacing, fencing, kerbing, planting, Tarmac surfacing, turfing/grass, white lining site works; access controls, bathroom, emergency lighting, energy from waste, fire alarm system, suspended ceilings fittings. An application (ref: DC/06/2919) for detailed planning permission was granted by Horsham D.C. Please see ID 10553068 for the Visitor Centre scheme Please note the addition of LTR as the Lifts Sub Contractor. Data source: Historic Planning Application Data Type: Point	14/06/2010
3	448m SE	Site Address: Former Wealden Brickworks Sit, Langhurstwood Road, Horsham, West Sussex, RH12 4QD	Type of Site: Waste Transfer Facility Planning application reference: WSCC/018/14/NH Description: Scheme comprises construction of Waste Transfer Facility to handle inert and non-inert waste with associated open air inert waste recycling operations, landscape improvements and vehicle parking. The associated works include sewer systems, landscaping, i nfrastructure, enabling works, cable laying and access roads. Data source: Historic Planning Application Data Type: Point	01/07/2014

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

3.6 Licensed waste sites

Records within 500m	14

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

Features are displayed on the Waste and landfill map on **page 26 >**

ID	Location	Details		
A	On site	Site Name: Warnham Leachate Treatment Plant Site Address: Warham Brickworks, Langhurstwood Road, Warnham, West Sussex, RH12 4QD Correspondence Address: -	Type of Site: Biological Treatment Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BIF002 EPR reference: EA/EPR/HP3694HP/S002 Operator: Biffa Waste Services Ltd Waste Management licence No: 19659 Annual Tonnage: 0	Issue Date: 10/04/1992 Effective Date: 12/01/2007 Modified: - Surrendered Date: 03/01/2008 Expiry Date: - Cancelled Date: - Status: Surrendered
A	On site	Site Name: Brookhurst Wood Aggregate Treatment & Recycling Facility Site Address: Brookhurst Wood Landfill Site, Langhurstwood Road, Warnham, West Sussex, RH12 4QD Correspondence Address: -	Type of Site: Physical Treatment Facility Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BIF104 EPR reference: EA/EPR/AB3700LS/V002 Operator: Biffa Waste Services Ltd Waste Management licence No: 400796 Annual Tonnage: 59999	Issue Date: 06/03/2014 Effective Date: - Modified: 27/05/2015 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified
A	On site	Site Name: Warnham Leachate Treatment Plant Site Address: Warham Brickworks, Langhurstwood Road, Warnham, West Sussex, RH12 4QD Correspondence Address: Cleanaway Limited, The Drive, Warley, Brentwood, Essex, CM13 3BE	Type of Site: Biological Treatment Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CLE001 EPR reference: - Operator: Cleanaway Ltd Waste Management licence No: 19659 Annual Tonnage: 18250	Issue Date: 10/04/1992 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued

ID	Location	Details		
A	**On site**	**Site Name: Warnham Leachate Treatment Plant** **Site Address: Warham Brickworks, Langhurstwood Road, Warnham, West Sussex, RH12 4QD** **Correspondence Address: -**	**Type of Site: Biological Treatment Facility** **Size: 25000 tonnes** **Environmental Permitting Regulations (Waste) Licence Number: BIF002** **EPR reference: HP3694HP/S002** **Operator: Biffa Waste Services Limited** **Waste Management licence No: 19659** **Annual Tonnage: 0**	**Issue Date: 10/04/1992** **Effective Date: 12/01/2007** **Modified: -** **Surrendered Date: 03/01/2008** **Expiry Date: -** **Cancelled Date: -** **Status: Surrendered**
A	**On site**	**Site Name: Brookhurst Wood Aggregate Treatment & Recycling Facility** **Site Address: Brookhurst Wood Landfill Site, Langhurstwood Road, Warnham, West Sussex, RH12 4QD** **Correspondence Address: -**	**Type of Site: Physical Treatment Facility** **Size: 25000 tonnes** **Environmental Permitting Regulations (Waste) Licence Number: BIF104** **EPR reference: EA/EPR/AB3700LS/V002** **Operator: Biffa Waste Services Limited** **Waste Management licence No: 400796** **Annual Tonnage: 59999**	**Issue Date: 06/03/2014** **Effective Date: -** **Modified: 27/05/2015** **Surrendered Date: -** **Expiry Date: -** **Cancelled Date: -** **Status: Modified**
A	**On site**	**Site Name: Brookhurst Wood Aggregate Treatment & Recycling Facility** **Site Address: Brookhurst Wood Landfill Site, Langhurstwood Road, Warnham, West Sussex, RH12 4QD** **Correspondence Address: -**	**Type of Site: Physical Treatment Facility** **Size: 25000 tonnes** **Environmental Permitting Regulations (Waste) Licence Number: BIF104** **EPR reference: EA/EPR/AB3700LS/V002** **Operator: Biffa Waste Services Ltd** **Waste Management licence No: 400796** **Annual Tonnage: 59999**	**Issue Date: 06/03/2014** **Effective Date: -** **Modified: 27/05/2015** **Surrendered Date: -** **Expiry Date: -** **Cancelled Date: -** **Status: Modified**
B	57m NE	Site Name: Brookhurst Wood Recycling And Waste Management Park Site Address: Land / Premises At, Langhurst Wood Road, Horsham, West Sussex, RH12 4QD Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BIF003 EPR reference: EA/EPR/VP3190VH/S002 Operator: Biffa Waste Services Ltd Waste Management licence No: 10160 Annual Tonnage: 0	Issue Date: 11/02/2009 Effective Date: - Modified: - Surrendered Date: 22/03/2011 Expiry Date: - Cancelled Date: - Status: Surrendered

ID	Location	Details		
B	57m NE	Site Name: Brookhurst Wood Recycling And Waste Management Park Site Address: Land / Premises At, Langhurst Wood Road, Horsham, West Sussex, RH12 4QD Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BIF003 EPR reference: EA/EPR/VP3190VH/S002 Operator: Biffa Waste Services Ltd Waste Management licence No: 10160 Annual Tonnage: 0	Issue Date: 11/02/2009 Effective Date: - Modified: - Surrendered Date: Mar 22 2011 12:00AM Expiry Date: - Cancelled Date: - Status: Surrendered
E	216m NE	Site Name: Warnham Landfill Site (Cleanaway Phase 2) Site Address: Warnham Brickworks, Langhurstwood Road, Warnham, West Sussex, RH12 4QD Correspondence Address: -	Type of Site: Co-Disposal Landfill Site Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BIF093 EPR reference: EA/EPR/EP3796LG/T001 Operator: Biffa Waste Services Ltd Waste Management licence No: 19660 Annual Tonnage: 24999	Issue Date: 03/03/1986 Effective Date: 28/10/2009 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: To PPC
E	216m NE	Site Name: Cleanaway Phase 2 Site Address: Warnham Brickworks, Langhurstwood Road, Warnham, West Sussex, RH12 4QD Correspondence Address: Cleanaway Limited, The Drive, Warley, Brentwood, Essex, CM13 3BE	Type of Site: Co-Disposal Landfill Site Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CLE002 EPR reference: - Operator: Cleanaway Ltd Waste Management licence No: 19660 Annual Tonnage: 24999	Issue Date: 03/03/1986 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Closure
2	251m S	Site Name: Former Wealden Brickworks W T S Site Address: Langhurst Wood Road, Horsham, West Sussex, RH12 4QD Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BRI304 EPR reference: EA/EPR/CB3308TD/A001 Operator: Britaniacrest Recycling Limited Waste Management licence No: 401997 Annual Tonnage: 199999	Issue Date: 03/02/2015 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued

ID	Location	Details		
F	379m SE	Site Name: Brookhurstwood Landfill Site Site Address: Brookhurstwood Landfill, Langhurstwood Road, Warnham, Horsham, West Sussex, RH12 4QD Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste Landfill Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WAS002 EPR reference: EA/EPR/CP3294HF/V002 Operator: Biffa Waste Management Ltd Waste Management licence No: 19678 Annual Tonnage: 1000000	Issue Date: 14/08/1992 Effective Date: - Modified: 03/04/2001 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: To PPC
F	379m SE	Site Name: Brookhurstwood Landfill Site Site Address: Brookhurstwood Landfill, Langhurstwood Road, Warnham, Horsham, West Sussex, RH12 4QD Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste Landfill Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: WAS002 EPR reference: EA/EPR/CP3294HF/V002 Operator: Biffa Waste Management Ltd Waste Management licence No: 19678 Annual Tonnage: 1000000	Issue Date: 14/08/1992 Effective Date: - Modified: 03/04/2001 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: To PPC
F	379m SE	Site Name: Brookhurstwood Landfill Site Site Address: Brookhurstwood Landfill, Langhurstwood Road, Warnham, Horsham, West Sussex, RH12 4QD Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste Landfill Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WAS002 EPR reference: EA/EPR/CP3294HF/V002 Operator: Waste Management Ltd Waste Management licence No: 19678 Annual Tonnage: 1000000	Issue Date: 14/08/1992 Effective Date: - Modified: 03/04/2001 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: To PPC

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

3.7 Waste exemptions

Records within 500m	4

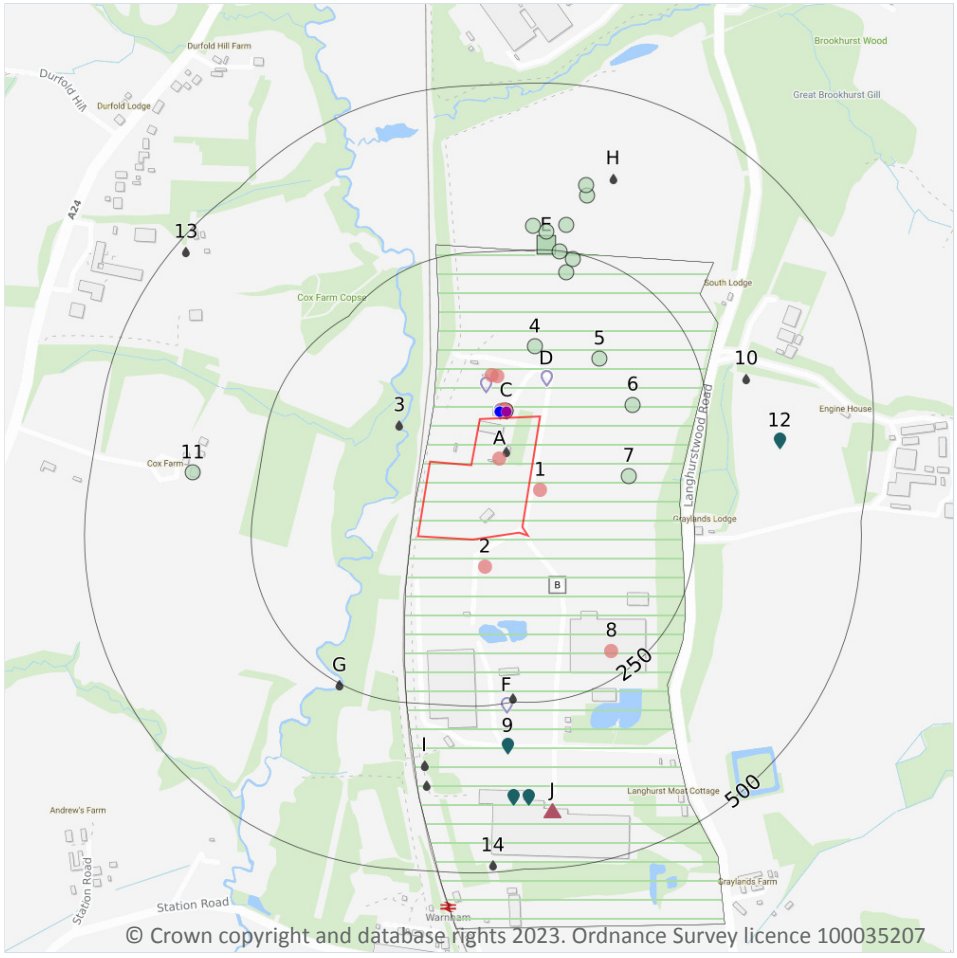
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 26 >**

ID	Location	Site	Reference	Category	Sub-Category	Description
G	400m SE	Broadbridge Heath farm Robin Hood Lane West Sussex RH12 3RR	EPR/LE5383YV/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
G	400m SE	Broadbridge Heath Farm Robin Hood Lane Warnham West Sussex RH12 3RR	EPR/WE5449KQ/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
G	404m SE	-	WEX227137	Storing waste exemption	On a Farm	Storage of sludge
G	412m SE	-	WEX304950	Storing waste exemption	On a farm	Storage of sludge

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

4 Current industrial land use



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Site Outline

Search buffers in metres (m)

- Recent industrial land uses
- Control of Major Accident Hazards
- Hazardous substance storage/usage
- Part A(1) industrial activities
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- List 2 Dangerous Substances
- Pollution Incidents (EA/NRW)
- Pollution inventory substances
- Pollution inventory waste transfers

4.1 Recent industrial land uses

Records within 250m	8

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 35 >**

ID	Location	Company	Address	Activity	Category
A	**On site**	**Tank**	**West Sussex, RH12**	**Tanks (Generic)**	**Industrial Features**
C	11m N	Broockhurst Wood - Landfill Gas (BEIS)	Horsham, -, -, West Sussex, RH12	Energy Production	Industrial Features

ID	Location	Company	Address	Activity	Category
C	13m N	Biffa Waste Services Ltd	Brookhurst Wood Landfill Site, Langhurst Wood Road, Horsham, West Sussex, RH12 4QD	Waste Storage, Processing and Disposal	Infrastructure and Facilities
1	17m E	Tank	West Sussex, RH12	Tanks (Generic)	Industrial Features
2	43m S	Tank	West Sussex, RH12	Tanks (Generic)	Industrial Features
C	64m N	Tank	West Sussex, RH12	Tanks (Generic)	Industrial Features
C	65m N	Tank	West Sussex, RH12	Tanks (Generic)	Industrial Features
8	213m SE	Brookhurst Wood (Waste AD) - Anaerobic Digestion (BEIS)	Horsham, -, -, West Sussex, RH12 4QD	Energy Production	Industrial Features

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	2

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

Features are displayed on the Current industrial land use map on **page 35 >**

ID	Location	Company	Address	Operational status	Tier
B	**On site**	**Redland Bricks Ltd**	**Redland Bricks Ltd, Warnham, Horsham**	**Historical NIHHS Site**	**-**
B	**On site**	**Redland Bricks Ltd**	**Redland Bricks Ltd, Warnham, Horsham**	**Historical COMAH Site**	**-**

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	1

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

Features are displayed on the Current industrial land use map on **page 35 >**

ID	Location	Details	
J	414m S	Application reference number: NH/119/92 Application status: Approved Application date: 18/09/1992 Address: Redland Bricks Ltd, Warnham Works, Langhurstwood Road, Horsham, West Sussex, England, RH12 4QD	Details: Deemed hazardous substance consent for storage of 600 tonnes of butane Site: Langhurstwood Rd Horsham Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	**0**

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m	**71**

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

Features are displayed on the Current industrial land use map on **page 35 >**

ID	Location	Details	
C	9m N	Operator: BIFFA WASTE SERVICES LIMITED Installation Name: Brookhurst Wood Anaerobic Digestion Facility Process: ASSOCIATED PROCESS Permit Number: RP3232UU Original Permit Number: RP3232UU	EPR Reference: EPR/RP3232UU Issue Date: 12/02/2014 Effective Date: 12/02/2014 Last date noted as effective: 25/05/2023 Status: Surrendered
C	9m N	Operator: BIFFA WASTE SERVICES LIMITED Installation Name: Brookhurst Wood Anaerobic Digestion Facility Process: COMBUSTION; ANY FUEL =>50MW Permit Number: RP3232UU Original Permit Number: RP3232UU	EPR Reference: EPR/RP3232UU Issue Date: 12/02/2014 Effective Date: 12/02/2014 Last date noted as effective: 25/05/2023 Status: Surrendered

ID	Location	Details	
C	9m N	Operator: BIFFA WASTE SERVICES LIMITED Installation Name: Brookhurst Wood Anaerobic Digestion Facility Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY PHYSICO-CHEMICAL TREATMENT Permit Number: RP3232UU Original Permit Number: RP3232UU	EPR Reference: EPR/RP3232UU Issue Date: 12/02/2014 Effective Date: 12/02/2014 Last date noted as effective: 25/05/2023 Status: Surrendered
C	9m N	Operator: BIFFA WASTE SERVICES LIMITED Installation Name: Brookhurst Wood Anaerobic Digestion Facility Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY BIOLOGICAL TREATMENT Permit Number: RP3232UU Original Permit Number: RP3232UU	EPR Reference: EPR/RP3232UU Issue Date: 12/02/2014 Effective Date: 12/02/2014 Last date noted as effective: 25/05/2023 Status: Surrendered
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURSTWOOD LANDFILL SITE Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: UP3031SP Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 27/09/2005 Effective Date: 11/10/2005 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Anaerobic Digestion Facility Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY PHYSICO-CHEMICAL TREATMENT Permit Number: VP3037EQ Original Permit Number: RP3232UU	EPR Reference: - Issue Date: - Effective Date: 12/02/2014 Last date noted as effective: 21/03/2023 Status: Surrender Effective
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Anaerobic Digestion Facility Process: COMBUSTION; ANY FUEL =>50MW Permit Number: VP3037EQ Original Permit Number: RP3232UU	EPR Reference: - Issue Date: - Effective Date: 12/02/2014 Last date noted as effective: 21/03/2023 Status: Surrender Effective
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Anaerobic Digestion Facility Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY BIOLOGICAL TREATMENT Permit Number: VP3037EQ Original Permit Number: RP3232UU	EPR Reference: - Issue Date: - Effective Date: 12/02/2014 Last date noted as effective: 21/03/2023 Status: Surrender Effective
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Anaerobic Digestion Facility Process: ASSOCIATED PROCESS Permit Number: VP3037EQ Original Permit Number: RP3232UU	EPR Reference: - Issue Date: - Effective Date: 12/02/2014 Last date noted as effective: 21/03/2023 Status: Surrender Effective

ID	Location	Details	
C	9m N	Operator: BIFFA WASTE SERVICES LTD Installation Name: BROOKHURST WOOD LANDFILL SITE Process: CREATED BY IED - DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: FP3735NS Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 01/07/2013 Status: EFFECTIVE
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: VP3634UY Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 09/06/2010 Effective Date: 09/06/2010 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Landfill Site - EPR/BV9896IY Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: XP3500BE Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 16/03/2021 Effective Date: 16/03/2021 Last date noted as effective: 21/03/2023 Status: Effective
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: COMBUSTION; WASTE DERIVED FUEL =>3MW BUT 50MW Permit Number: NP3837FK Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 18/01/2012 Effective Date: 18/01/2012 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: NP3837FK Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 18/01/2012 Effective Date: 18/01/2012 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Landfill Site Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: CP3032AN Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 14/09/2016 Effective Date: 14/09/2016 Last date noted as effective: 21/03/2023 Status: Superceded

ID	Location	Details	
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: FP3535CF Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 03/02/2012 Effective Date: 03/02/2012 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: ASSOCIATED PROCESS Permit Number: FP3735NS Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: VP3634UY Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 09/06/2010 Effective Date: 09/06/2010 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Landfill Site - EPR/BV9896IY Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: XP3500BE Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 16/03/2021 Effective Date: 16/03/2021 Last date noted as effective: 21/03/2023 Status: Effective
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Landfill Site Process: ASSOCIATED PROCESS Permit Number: CP3032AN Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 14/09/2016 Effective Date: 14/09/2016 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Landfill Site Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: CP3032AN Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 14/09/2016 Effective Date: 14/09/2016 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: COMBUSTION; WASTE DERIVED FUEL =>3MW BUT 50MW Permit Number: FP3535CF Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 03/02/2012 Effective Date: 03/02/2012 Last date noted as effective: 21/03/2023 Status: Superceded

ID	Location	Details	
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: FP3735NS Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Landfill Site - EPR/BV9896IY Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: GP3837YD Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 05/09/2017 Effective Date: 05/09/2017 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: NP3837FK Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 18/01/2012 Effective Date: 18/01/2012 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: TP3137TN Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 15/07/2010 Effective Date: 15/07/2010 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Landfill Site - EPR/BV9896IY Process: ASSOCIATED PROCESS Permit Number: XP3500BE Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 16/03/2021 Effective Date: 16/03/2021 Last date noted as effective: 21/03/2023 Status: Effective
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Landfill Site - EPR/BV9896IY Process: ASSOCIATED PROCESS Permit Number: GP3837YD Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 05/09/2017 Effective Date: 05/09/2017 Last date noted as effective: 21/03/2023 Status: Superceded

ID	Location	Details	
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Landfill Site - EPR/BV9896IY Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: GP3837YD Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 05/09/2017 Effective Date: 05/09/2017 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: ASSOCIATED PROCESS Permit Number: NP3837FK Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 18/01/2012 Effective Date: 18/01/2012 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY BIOLOGICAL TREATMENT Permit Number: NP3837FK Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 18/01/2012 Effective Date: 18/01/2012 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: ASSOCIATED PROCESS Permit Number: TP3137TN Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 15/07/2010 Effective Date: 15/07/2010 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: COMBUSTION; WASTE DERIVED FUEL =>3MW BUT 50MW Permit Number: TP3137TN Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 15/07/2010 Effective Date: 15/07/2010 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY BIOLOGICAL TREATMENT Permit Number: TP3137TN Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 15/07/2010 Effective Date: 15/07/2010 Last date noted as effective: 21/03/2023 Status: Superceded

ID	Location	Details	
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: TP3137TN Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 15/07/2010 Effective Date: 15/07/2010 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY BIOLOGICAL TREATMENT Permit Number: VP3634UY Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 09/06/2010 Effective Date: 09/06/2010 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: ASSOCIATED PROCESS Permit Number: VP3634UY Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 09/06/2010 Effective Date: 09/06/2010 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: COMBUSTION; WASTE DERIVED FUEL =>3MW BUT 50MW Permit Number: VP3634UY Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 09/06/2010 Effective Date: 09/06/2010 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: ASSOCIATED PROCESS Permit Number: FP3535CF Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 03/02/2012 Effective Date: 03/02/2012 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY BIOLOGICAL TREATMENT Permit Number: FP3535CF Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 03/02/2012 Effective Date: 03/02/2012 Last date noted as effective: 21/03/2023 Status: Superceded

ID	Location	Details	
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: FP3535CF Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 03/02/2012 Effective Date: 03/02/2012 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURST WOOD LANDFILL SITE Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: FP3735NS Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 21/03/2023 Status: Superceded
C	9m N	Operator: BIFFA WASTE SERVICES LIMITED Installation Name: Brookhurst Wood Landfill Site - EPR/BV9896IY Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: BV9896IY Original Permit Number: BV9896IY	EPR Reference: EPR/BV9896IY Issue Date: 16/03/2021 Effective Date: 16/03/2021 Last date noted as effective: 25/05/2023 Status: Effective
C	9m N	Operator: BIFFA WASTE SERVICES LIMITED Installation Name: Brookhurst Wood Landfill Site - EPR/BV9896IY Process: ASSOCIATED PROCESS Permit Number: BV9896IY Original Permit Number: BV9896IY	EPR Reference: EPR/BV9896IY Issue Date: 16/03/2021 Effective Date: 16/03/2021 Last date noted as effective: 25/05/2023 Status: Effective
C	50m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood MBT Facility - EPR/HP3238GW Process: ASSOCIATED PROCESS Permit Number: MP3701LD Original Permit Number: HP3238GW	EPR Reference: - Issue Date: 03/11/2022 Effective Date: 07/11/2022 Last date noted as effective: 21/03/2023 Status: Effective
C	50m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood MBT Facility - EPR/HP3238GW Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: MP3701LD Original Permit Number: HP3238GW	EPR Reference: - Issue Date: 03/11/2022 Effective Date: 07/11/2022 Last date noted as effective: 21/03/2023 Status: Effective

ID	Location	Details	
C	50m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood MBT Facility - EPR/HP3238GW Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Permit Number: MP3701LD Original Permit Number: HP3238GW	EPR Reference: - Issue Date: 03/11/2022 Effective Date: 07/11/2022 Last date noted as effective: 21/03/2023 Status: Effective
C	50m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood MBT Facility - EPR/HP3238GW Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Permit Number: BP3835EE Original Permit Number: HP3238GW	EPR Reference: - Issue Date: 19/12/2013 Effective Date: 19/12/2013 Last date noted as effective: 21/03/2023 Status: Superceded
C	50m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood MBT Facility - EPR/HP3238GW Process: ASSOCIATED PROCESS Permit Number: BP3835EE Original Permit Number: HP3238GW	EPR Reference: - Issue Date: 19/12/2013 Effective Date: 19/12/2013 Last date noted as effective: 21/03/2023 Status: Superceded
C	50m N	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood MBT Facility - EPR/HP3238GW Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: BP3835EE Original Permit Number: HP3238GW	EPR Reference: - Issue Date: 19/12/2013 Effective Date: 19/12/2013 Last date noted as effective: 21/03/2023 Status: Superceded
C	50m N	Operator: BIFFA WASTE SERVICES LIMITED Installation Name: Brookhurst Wood MBT Facility - EPR/HP3238GW Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: HP3238GW Original Permit Number: HP3238GW	EPR Reference: EPR/HP3238GW Issue Date: 07/11/2022 Effective Date: 07/11/2022 Last date noted as effective: 25/05/2023 Status: Effective
C	50m N	Operator: BIFFA WASTE SERVICES LIMITED Installation Name: Brookhurst Wood MBT Facility - EPR/HP3238GW Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Permit Number: HP3238GW Original Permit Number: HP3238GW	EPR Reference: EPR/HP3238GW Issue Date: 07/11/2022 Effective Date: 07/11/2022 Last date noted as effective: 25/05/2023 Status: Effective

ID	Location	Details	
C	50m N	Operator: BIFFA WASTE SERVICES LIMITED Installation Name: Brookhurst Wood MBT Facility - EPR/HP3238GW Process: ASSOCIATED PROCESS Permit Number: HP3238GW Original Permit Number: HP3238GW	EPR Reference: EPR/HP3238GW Issue Date: 07/11/2022 Effective Date: 07/11/2022 Last date noted as effective: 25/05/2023 Status: Effective
D	57m NE	Operator: BIFFA WASTE SERVICES LTD Installation Name: BROOKHURST WOOD WASTE RECYCLING & MANAGEMENT PARK FACILITY EPR/HP3238GW/V002 Process: CREATED BY IED - DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: BP3738NM Original Permit Number: HP3238GW	EPR Reference: - Issue Date: 28/05/2013 Effective Date: 28/05/2013 Last date noted as effective: 01/07/2013 Status: EFFECTIVE
D	57m NE	Operator: BIFFA WASTE SERVICES LTD Installation Name: BROOKHURST WOOD WASTE RECYCLING & MANAGEMENT PARK FACILITY EPR/HP3238GW/V002 Process: CREATED BY IED - DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Permit Number: BP3738NM Original Permit Number: HP3238GW	EPR Reference: - Issue Date: 28/05/2013 Effective Date: 28/05/2013 Last date noted as effective: 01/07/2013 Status: EFFECTIVE
D	57m NE	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Waste Recycling & Management Park Facility EPR/HP3238GW/V002 Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY BIOLOGICAL TREATMENT Permit Number: BP3337CG Original Permit Number: HP3238GW	EPR Reference: - Issue Date: 20/12/2012 Effective Date: 20/12/2012 Last date noted as effective: 21/03/2023 Status: Superceded
D	57m NE	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Waste Recycling & Management Park Facility EPR/HP3238GW/V002 Process: ASSOCIATED PROCESS Permit Number: BP3738NM Original Permit Number: HP3238GW	EPR Reference: - Issue Date: 28/05/2013 Effective Date: 28/05/2013 Last date noted as effective: 21/03/2023 Status: Superceded
D	57m NE	Operator: Biffa Waste Service Limited Installation Name: Brookhurst Wood MBT Facility Process: COMBUSTION; WASTE OIL =>3MW BUT 50MW Permit Number: HP3238GW Original Permit Number: HP3238GW	EPR Reference: EA/EPR/HP3238GW/A001 Issue Date: 05/07/2010 Effective Date: 05/07/2010 Last date noted as effective: 21/03/2023 Status: Superceded

ID	Location	Details	
D	57m NE	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Waste Recycling & Management Park Facility EPR/HP3238GW/V002 Process: COMBUSTION; WASTE OIL =>3MW BUT 50MW Permit Number: BP3337CG Original Permit Number: HP3238GW	EPR Reference: - Issue Date: 20/12/2012 Effective Date: 20/12/2012 Last date noted as effective: 21/03/2023 Status: Superceded
D	57m NE	Operator: Biffa Waste Service Limited Installation Name: Brookhurst Wood MBT Facility Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY BIOLOGICAL TREATMENT Permit Number: HP3238GW Original Permit Number: HP3238GW	EPR Reference: EA/EPR/HP3238GW/A001 Issue Date: 05/07/2010 Effective Date: 05/07/2010 Last date noted as effective: 21/03/2023 Status: Superceded
D	57m NE	Operator: Biffa Waste Service Limited Installation Name: Brookhurst Wood MBT Facility Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY PHYSICO-CHEMICAL TREATMENT Permit Number: HP3238GW Original Permit Number: HP3238GW	EPR Reference: EA/EPR/HP3238GW/A001 Issue Date: 05/07/2010 Effective Date: 05/07/2010 Last date noted as effective: 21/03/2023 Status: Superceded
D	57m NE	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Waste Recycling & Management Park Facility EPR/HP3238GW/V002 Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Permit Number: BP3738NM Original Permit Number: HP3238GW	EPR Reference: - Issue Date: 28/05/2013 Effective Date: 28/05/2013 Last date noted as effective: 21/03/2023 Status: Superceded
D	57m NE	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Waste Recycling & Management Park Facility EPR/HP3238GW/V002 Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY PHYSICO-CHEMICAL TREATMENT Permit Number: BP3337CG Original Permit Number: HP3238GW	EPR Reference: - Issue Date: 20/12/2012 Effective Date: 20/12/2012 Last date noted as effective: 21/03/2023 Status: Superceded
D	57m NE	Operator: Biffa Waste Services Ltd Installation Name: Brookhurst Wood Waste Recycling & Management Park Facility EPR/HP3238GW/V002 Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: BP3738NM Original Permit Number: HP3238GW	EPR Reference: - Issue Date: 28/05/2013 Effective Date: 28/05/2013 Last date noted as effective: 21/03/2023 Status: Superceded

ID	Location	Details	
F	253m S	Operator: Britaniacrest Recycling Limited Installation Name: Wealden Works 3Rs Facility - EPR/CB3308TD Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: HP3700SD Original Permit Number: HP3700SD	EPR Reference: - Issue Date: 16/11/2022 Effective Date: 16/11/2022 Last date noted as effective: 21/03/2023 Status: Effective
F	253m S	Operator: BRITANIACREST RECYCLING LIMITED Installation Name: Wealden Works 3Rs Facility - EPR/CB3308TD Process: COINCINERATION OF HAZARDOUS WASTE Permit Number: CB3308TD Original Permit Number: HP3700SD	EPR Reference: EPR/CB3308TD Issue Date: 16/11/2022 Effective Date: 16/11/2022 Last date noted as effective: 25/05/2023 Status: Effective
E	256m N	Operator: BIFFA WASTE SERVICES LIMITED Installation Name: Brookhurst Wood Landfill Site - EPR/BV9896IY Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: BV9896IY Original Permit Number: BV9896IY	EPR Reference: EPR/BV9896IY Issue Date: 16/03/2021 Effective Date: 16/03/2021 Last date noted as effective: 25/05/2023 Status: Effective
E	256m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURSTWOOD LANDFILL SITE Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: AP3236LF Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 04/06/2008 Effective Date: 04/06/2008 Last date noted as effective: 21/03/2023 Status: Superceded
E	256m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURSTWOOD LANDFILL SITE Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: BP3137KF Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 12/02/2010 Effective Date: 25/02/2010 Last date noted as effective: 21/03/2023 Status: Superceded
E	256m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURSTWOOD LANDFILL SITE Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: BP3739GQ Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 30/09/2008 Effective Date: 30/09/2008 Last date noted as effective: 21/03/2023 Status: Superceded
E	256m N	Operator: Biffa Waste Services Ltd Installation Name: BROOKHURSTWOOD LANDFILL SITE Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: PP3235KQ Original Permit Number: BV9896IY	EPR Reference: - Issue Date: 04/03/2010 Effective Date: 04/03/2010 Last date noted as effective: 21/03/2023 Status: Superceded

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

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

Records within 500m	4

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

Features are displayed on the Current industrial land use map on **page 35 >**

ID	Location	Address	Details	
9	313m S	Ambion Bricks (Redland), Warnham Works, Langhurstwood Road, RH12 4QF	Process: Manufacture of Clay Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
12	360m E	Greens Accident Repairs, The Transport Depot, Langhustwood Road, Horsham, West Sussex, RH12 4QD	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
J	391m S	Wienerberger Ltd, Warnham Brickworks, Langhurst Wood Road, Horsham, West Sussex, RH12 4QD	Process: Manufacture of Clay Status: Current Permit Permit Type: Part A2	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
J	392m S	Wienerberger Ltd, Warnham Brickworks, Langhurstwood Rd, RH12 4QF	Process: Manufacture of Clay Status: Historical Permit Permit Type: Part A2	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m	13

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 35 >**

ID	Location	Address	Details	
A	**On site**	**WARNHAM LEACHATES, WARNHAM LANDFILL, TREATED TIP LEACHATE**	**Effluent Type: TRADE DISCHARGES - UNSPECIFIED** **Permit Number: P01716** **Permit Version: 1** **Receiving Water: -**	**Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995)** **Issue date: 01/09/1988** **Effective Date: 01/09/1988** **Revocation Date: 10/12/2007**
3	71m NW	LANGHURSTWOOD RANGE, LANGHURSTWOOD RANGE, LANGHURSTWOOD ROAD, WARNHAM WEST SUSSEX	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: N01586 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 11/10/1978 Effective Date: 11/10/1978 Revocation Date: -
F	244m S	WEALDEN SOUTH WORKS, WEALDEN SOUTH WORKS, LANGHURSTWOOD ROAD, HORSHAM, WEST SUSSEX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: P04022 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 13/12/1991 Effective Date: 13/12/1991 Revocation Date: -
G	252m SW	WARNHAM BRICK WORKS, WARNHAM BRICK WORKS, WEST SUSSEX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: S01144 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 29/03/1962 Effective Date: 29/03/1962 Revocation Date: 01/07/1991
G	252m SW	WARNHAM BRICK WORKS, WARNHAM BRICK WORKS, WEST SUSSEX	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: S01144 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 29/03/1962 Effective Date: 29/03/1962 Revocation Date: 01/07/1991
10	314m E	REDLAND TECHNOLOGY, REDLAND TECHNOLOGY, GRAYLANDS, LANGHURSTWOOD ROAD, HORSHAM, WEST SUSSEX, RH12 4QG	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: P03886 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 22/10/1991 Effective Date: 22/10/1991 Revocation Date: -

ID	Location	Address	Details	
I	342m S	BROOKHURST WOOD MRMC, WASTE TREATMENT FACILITY, LANGHURSTWOOD ROAD, HORSHAM, WEST SUSSEX, RH12 4QD	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: EPRBB3399EE Permit Version: 1 Receiving Water: TRIBUTARY OF BOLDINGS BROOK	Status: NEW ISSUED UNDER EPR 2010 Issue date: 02/02/2015 Effective Date: 02/02/2015 Revocation Date: 13/07/2020
I	342m S	BROOKHURST WOOD MRMC, WASTE TREATMENT FACILITY, LANGHURSTWOOD ROAD, HORSHAM, WEST SUSSEX, RH12 4QD	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: EPRBB3399EE Permit Version: 2 Receiving Water: TRIBUTARY OF BOLDINGS BROOK	Status: NEW ISSUED UNDER EPR 2010 Issue date: 14/07/2020 Effective Date: 14/07/2020 Revocation Date: -
I	342m S	BROOKHURST WOOD MRMC, WASTE TREATMENT FACILITY, LANGHURSTWOOD ROAD, HORSHAM, WEST SUSSEX, RH12 4QD	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: EPRBB3399EE Permit Version: 2 Receiving Water: TRIBUTARY OF BOLDINGS BROOK	Status: NEW ISSUED UNDER EPR 2010 Issue date: 14/07/2020 Effective Date: 14/07/2020 Revocation Date: -
I	372m S	HOLBROOK WORKS, HORSHAM, HOLBROOK WORKS, LANGHURSTWOOD ROAD, HORSHAM, WEST SUSSEX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: P04098 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 12/02/1992 Effective Date: 12/02/1992 Revocation Date: 27/04/2007
H	373m NE	BROOKHURST WOOD LANDFILL SITE, BROOKHURST WOOD LANDFILL SITE, LANGHURSTWOOD ROAD, HORSHAM, WEST SUSSEX	Effluent Type: TRADE DISCHARGES - MINERAL WORKINGS Permit Number: P04191 Permit Version: 1 Receiving Water: FRESHWATER STREAM OR RIVER	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 03/08/1992 Effective Date: 03/08/1992 Revocation Date: 21/03/1996
13	482m NW	TYLDEN HOUSE (ORCHARD LODGE), TYLDEN HOUSE (ORCHARD LODGE), DORKING ROAD, WARNHAM, HORSHAM, WEST SUSSEX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: P09703 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 10/08/2001 Effective Date: 10/08/2001 Revocation Date: 17/03/2010
14	489m S	TRANSPORT WORKSHOP, TRANSPORT WORKSHOP, LANGHURSTWOOD ROAD, HORSHAM, WEST SUSSEX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: P04046 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 02/01/1992 Effective Date: 02/01/1992 Revocation Date: 31/03/1997

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	1

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.

Features are displayed on the Current industrial land use map on **page 35 >**

ID	Location	Name	Status	Receiving Water	Authorised Substances
E	257m N	Brookhurst Wood Landfill Site, Warnham, West Susse	Not Active	-	Iron, pH

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	15

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 35 >**

ID	Location	Details	
C	11m N	Incident Date: 11/06/2001 Incident Identification: 8627 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Atmospheric Pollutant or Effect	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
C	11m N	Incident Date: 11/06/2001 Incident Identification: 8627 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Atmospheric Pollutant or Effect	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
4	105m N	Incident Date: 27/09/2002 Incident Identification: 111080 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Effects on Humans	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
5	124m NE	Incident Date: 18/06/2001 Incident Identification: 10016 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Sulphide Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
6	140m NE	Incident Date: 25/06/2001 Incident Identification: 11200 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
7	145m E	Incident Date: 17/06/2001 Incident Identification: 9785 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Sulphide Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
E	220m N	Incident Date: 08/06/2001 Incident Identification: 8196 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Sulphide Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
E	241m N	Incident Date: 15/08/2002 Incident Identification: 100707 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Landfill Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

ID	Location	Details	
E	248m N	Incident Date: 21/06/2001 Incident Identification: 10513 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Effects on Humans	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
E	276m N	Incident Date: 02/08/2001 Incident Identification: 21294 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Landfill Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
E	285m N	Incident Date: 01/08/2001 Incident Identification: 21207 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Landfill Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
E	289m N	Incident Date: 16/06/2001 Incident Identification: 9708 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Sulphide Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
H	338m N	Incident Date: 09/09/2002 Incident Identification: 106588 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Landfill Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
11	348m W	Incident Date: 18/12/2002 Incident Identification: 126547 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Landfill Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
H	353m N	Incident Date: 07/08/2002 Incident Identification: 98127 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Landfill Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

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

4.19 Pollution inventory substances

Records within 500m	**8**

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.

Features are displayed on the Current industrial land use map on **page 35 >**

ID: C, Location: 9m N, Permit: HP3238GW
Operator: Biffa Waste Services Ltd
Activity: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT
Address: Brookhurst Wood, MBT Facility, Brookhurst Wood Recycling And Waste Management Park, Langhurstwood Road, Horsham, West Sussex RH12 4QD
Sector: Biowaste Treatment, Sub-sector: Biowaste Treatment
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Sulphur oxides (SO2 and SO3) as SO2	100000kg	Below Reporting Threshold
Air	Carbon dioxide	10000000kg	Below Reporting Threshold
Air	Methane	10000kg	Below Reporting Threshold
Air	Nitrogen oxides (NO and NO2) as NO2	100000kg	Below Reporting Threshold

ID: C, Location: 9m N, Permit: BV9896IY
Operator: Biffa Waste Services Ltd
Activity: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE
Address: Brookhurst Wood Landfill Site Langhurstwood Road West Sussex RH12 4QD
Sector: Landfill, Sub-sector: Non Hazardous Landfill
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Methane	10000kg	624000kg

ID: C, Location: 9m N, Permit: BV9896IY
Operator: Biffa Waste Services Ltd
Activity: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE
Address: Brookhurst Wood Landfill Site Langhurstwood Road West Sussex RH12 4QD
Sector: Landfill, Sub-sector: Non Hazardous Landfill
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Carbon monoxide	100000kg	130000kg

ID: C, Location: 9m N, Permit: BV9896IY
Operator: Biffa Waste Services Ltd
Activity: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE
Address: Brookhurst Wood Landfill Site Langhurstwood Road West Sussex RH12 4QD
Sector Landfill, Sub-sector: Non Hazardous Landfill
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Methyl chloroform (1,1,1-Trichloroethane)	10kg	10.7kg

ID: C, Location: 9m N, Permit: BV9896IY
Operator: Biffa Waste Services Ltd
Activity: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE
Address: Brookhurst Wood Landfill Site Langhurstwood Road West Sussex RH12 4QD
Sector Landfill, Sub-sector: Non Hazardous Landfill
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Carbon Dioxide From Qualifying Renewable Fuel Sources	0kg	34300000kg
Air	Carbon dioxide	10000000kg	34300000kg

ID: C, Location: 9m N, Permit: BV9896IY
Operator: Biffa Waste Services Ltd
Activity: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE
Address: Brookhurst Wood Landfill Site Langhurstwood Road West Sussex RH12 4QD
Sector Landfill, Sub-sector: Non Hazardous Landfill
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Ethylene dichloride (1,2-Dichloroethane)	1000kg	Below Reporting Threshold
Wastewater	Nickel	20kg	Below Reporting Threshold
Wastewater	Zinc	100kg	Below Reporting Threshold
Air	Trichlorobenzene - all isomers	1kg	Below Reporting Threshold
Air	Sulphur oxides (SO2 and SO3) as SO2	100000kg	Below Reporting Threshold
Wastewater	Di(2-ethylhexyl)phthalate (DEHP)	0.1kg	Below Reporting Threshold
Wastewater	Chlorides - as Cl	2000000kg	Below Reporting Threshold

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Wastewater	Cyanides - as CN	50kg	Below Reporting Threshold
Wastewater	Fluorides - as F	2000kg	Below Reporting Threshold
Wastewater	Halogenated organic compounds - as AOX	1000kg	Below Reporting Threshold
Wastewater	Organotin compounds - as Sn	5kg	Below Reporting Threshold
Wastewater	Phenols - total as C	20kg	Below Reporting Threshold
Wastewater	Phosphorus - as total P	5000kg	Below Reporting Threshold
Air	Tetrachloroethane (1,1,2,2-Tetrachloroethane)	10kg	Below Reporting Threshold
Air	Perfluorocarbons (PFCs)	10kg	Below Reporting Threshold
Air	Benzene	1000kg	Below Reporting Threshold
Air	Butadiene (1,3-Butadiene)	100kg	Below Reporting Threshold
Air	Trichloroethylene	1000kg	Below Reporting Threshold
Air	Tetrachloroethylene (PER)	100kg	Below Reporting Threshold
Air	Vinyl chloride	1000kg	Below Reporting Threshold
Wastewater	Arsenic	5kg	Below Reporting Threshold
Wastewater	Chromium	20kg	Below Reporting Threshold
Wastewater	Copper	20kg	Below Reporting Threshold
Wastewater	Lead	20kg	Below Reporting Threshold
Air	Non-methane volatile organic compounds (NMVOCs)	10000kg	Below Reporting Threshold
Wastewater	Ethyl benzene	10kg	Below Reporting Threshold
Air	Dichloromethane (DCM) (Methylene chloride)	1000kg	Below Reporting Threshold
Air	Hexachlorocyclohexane (HCH) -all isomers	1kg	Below Reporting Threshold
Air	Carbon tetrachloride (Tetrachloromethane)	10kg	Below Reporting Threshold
Air	Particulate matter - PM10	1000kg	Below Reporting Threshold
Air	Dioxins and furans (PCDDs/PCDFs) - as ITEQ	1e-5kg	Below Reporting Threshold
Air	Hydrofluorocarbons (HFCs)	100kg	Below Reporting Threshold
Air	Halons	1kg	Below Reporting Threshold
Air	Benzo(a)pyrene	1kg	Below Reporting Threshold
Air	Chloroform (Trichloromethane)	100kg	Below Reporting Threshold

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Wastewater	Naphthalene	1kg	Below Reporting Threshold
Wastewater	Pentachlorophenol (PCP)	0.05kg	Below Reporting Threshold
Wastewater	Toluene	10kg	Below Reporting Threshold
Wastewater	Xylene - all isomers	10kg	Below Reporting Threshold

ID: C, Location: 9m N, Permit: BV9896IY
Operator: Biffa Waste Services Ltd
Activity: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE
Address: Brookhurst Wood Landfill Site Langhurstwood Road West Sussex RH12 4QD
Sector Landfill, Sub-sector: Non Hazardous Landfill
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Hydrochlorofluorocarbons (HCFCs)	1kg	12.1kg

ID: C, Location: 9m N, Permit: BV9896IY
Operator: Biffa Waste Services Ltd
Activity: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE
Address: Brookhurst Wood Landfill Site Langhurstwood Road West Sussex RH12 4QD
Sector Landfill, Sub-sector: Non Hazardous Landfill
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Chlorofluorocarbons (CFCs)	1kg	13.7kg

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

4.20 Pollution inventory waste transfers

Records within 500m	**1**

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.

Features are displayed on the Current industrial land use map on **page 35 >**

ID: C, Location: 9m N, Permit: HP3238GW
Operator: Biffa Waste Services Ltd
Activity: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT
Address: Brookhurst Wood, MBT Facility, Brookhurst Wood Recycling And Waste Management Park, Langhurstwood Road, Horsham, West Sussex RH12 4QD
Sector: Biowaste Treatment, Sub-sector: Biowaste Treatment
Releases:

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D8	Biological treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12	6376.91	absolute value	19 06 03	liquor from anaerobic treatment of municipal waste	No
R10	Land treatment resulting in benefit to agriculture or ecological improvement	13808.1	absolute value	19 06 04	digestate from anaerobic treatment of municipal waste	No
R4	Recycling/reclamation of metals and metal compounds	2297.36	absolute value	19 12 02	ferrous metal	No
R4	Recycling/reclamation of metals and metal compounds	481.8	absolute value	19 12 03	non-ferrous metal	No
R5	Recycling/reclamation of other inorganic materials	3060.94	absolute value	19 12 09	minerals (for example sand, stones)	No
D5	Specially engineered landfill (eg placement into lined discrete cells which are capped and isolated from one another and the environment, etc)	38.04	absolute value	19 12 09	minerals (for example sand, stones)	No
D5	Specially engineered landfill (eg placement into lined discrete cells which are capped and isolated from one another and the environment, etc)	1943.88	absolute value	19 12 10	combustible waste (refuse derived fuel)	No
R1	Use principally as a fuel or other means to generate energy	11550.73	absolute value	19 12 10	combustible waste (refuse derived fuel)	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	104614.38	absolute value	19 12 10	combustible waste (refuse derived fuel)	No

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R5	Recycling/reclamation of other inorganic materials	3024.4	absolute value	19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	No
D5	Specially engineered landfill (eg placement into lined discrete cells which are capped and isolated from one another and the environment, etc)	18680.94	absolute value	19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	No
R1	Use principally as a fuel or other means to generate energy	17989.66	absolute value	19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	No

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

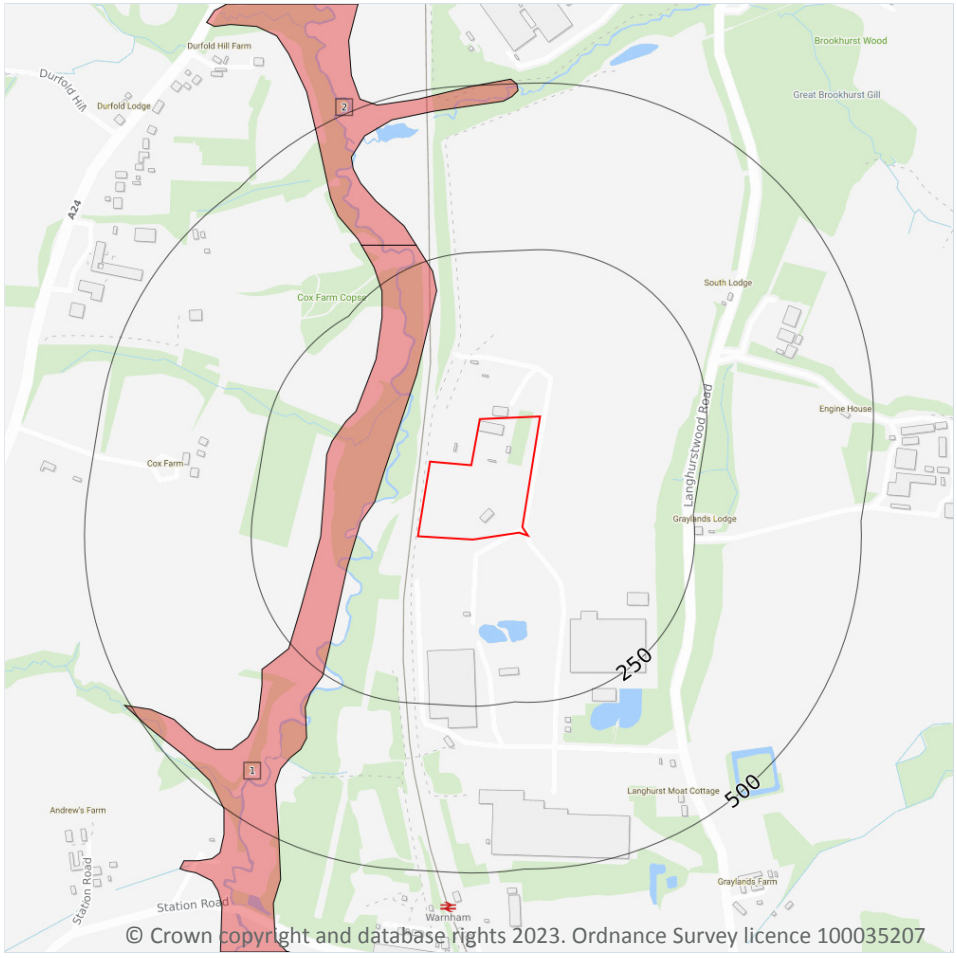
4.21 Pollution inventory radioactive waste

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

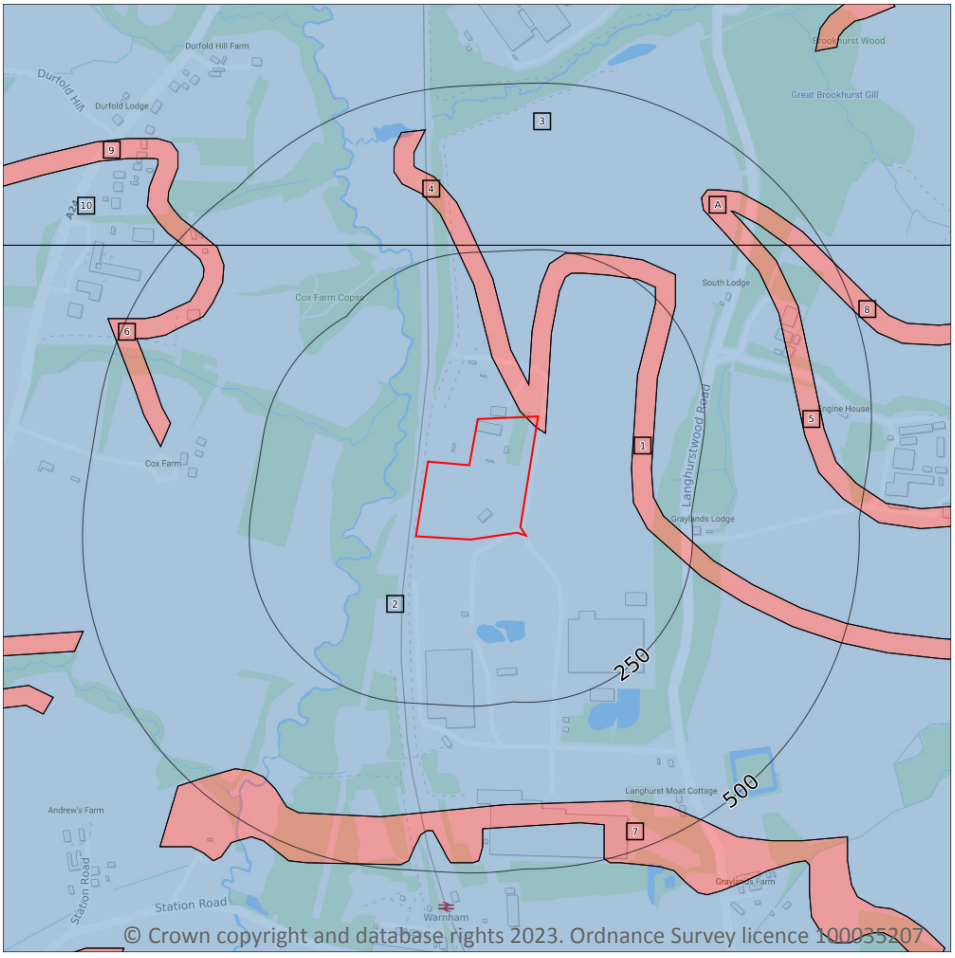
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on page 62 >

ID	Location	Designation	Description
1	61m 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
2	278m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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

Bedrock aquifer



Site Outline

Search buffers in metres (m)

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

5.2 Bedrock aquifer

Records within 500m	12

Aquifer status of groundwater held within bedrock geology.

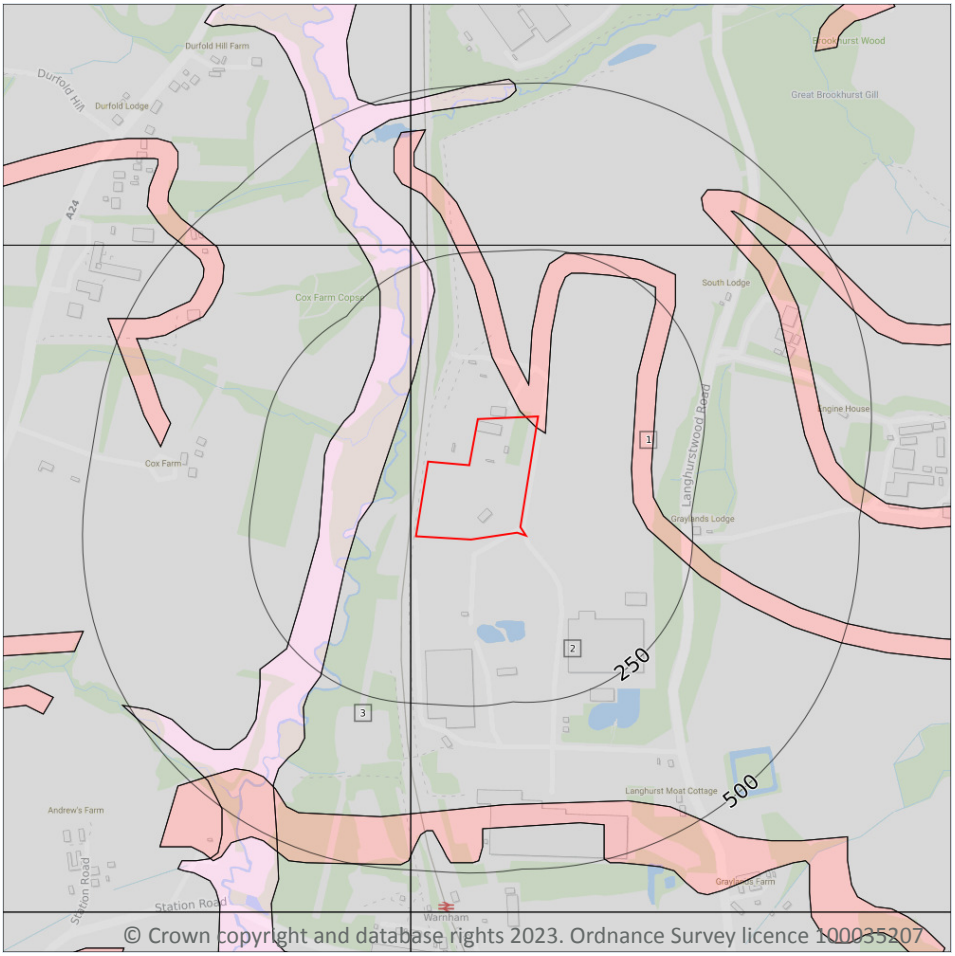
Features are displayed on the Bedrock aquifer map on **page 64 >**

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	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

ID	Location	Designation	Description
3	257m N	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
4	261m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
5	385m E	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
6	390m 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
A	392m 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
7	401m S	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
A	422m NE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
8	454m 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
9	456m NW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
10	490m NW	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

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

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

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

Bedrock vulnerability

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

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	3

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

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

Features are displayed on the Groundwater vulnerability map on **page 66 >**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Low Infiltration value: 40-70% Dilution value: 300-550mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
2	**On site**	**Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Low Infiltration value: 40-70% Dilution value: 300-550mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Well connected fractures**
3	7m SW	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: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0

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

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

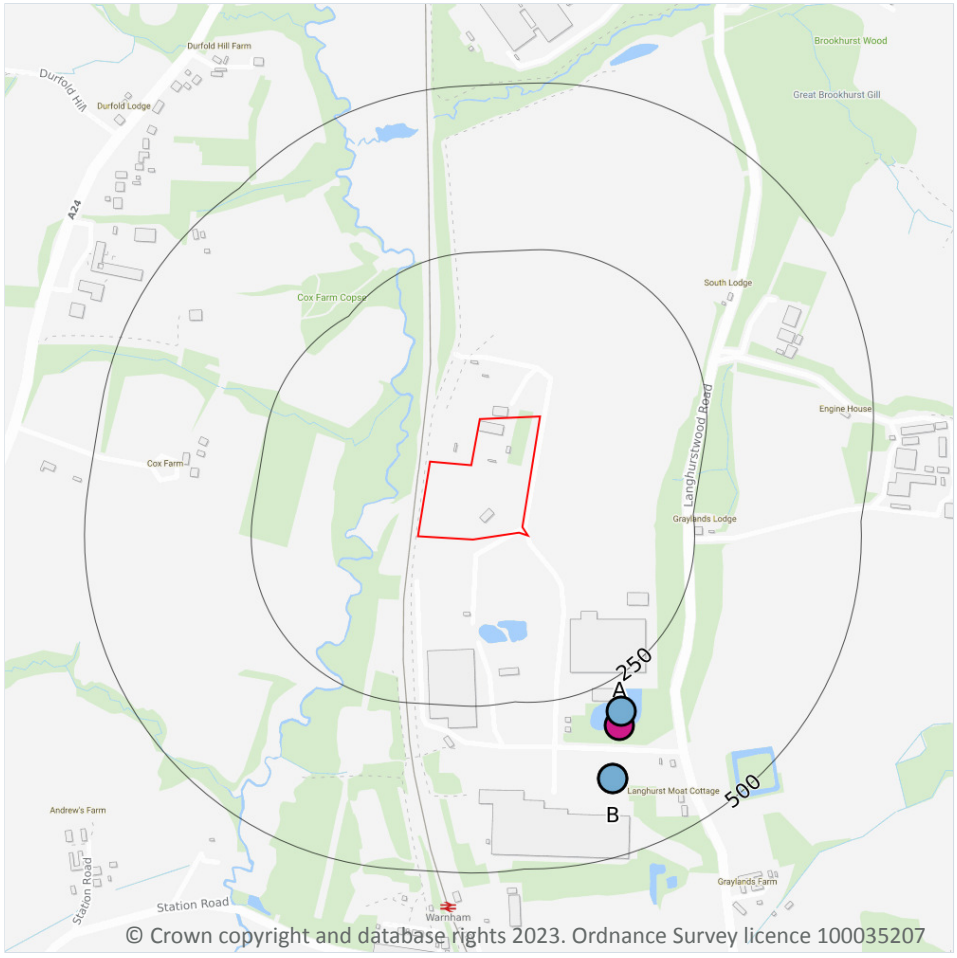
5.5 Groundwater vulnerability- local information

Records on site	0

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

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

Abstractions and Source Protection Zones



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 68 >**

ID	Location	Details	
A	315m SE	Status: Historical Licence No: 25/088 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Southern Region Groundwater Point: WARNHAM BRICKWORKS Data Type: Point Name: Ambion Brick Co Ltd Easting: 517310 Northing: 134280	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 13/10/1997 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m **3**

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 68 >**

ID	Location	Details	
A	298m SE	Status: Active Licence No: 25/088 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Southern Region Surface Waters Point: POND AT WARNHAM BRICKWORKS Data Type: Point Name: Wienerberger Limited Easting: 517312 Northing: 134301	Annual Volume (m^3): 60000 Max Daily Volume (m^3): 400 Original Application No: NPS/WR/026556 Original Start Date: 25/05/1994 Expiry Date: - Issue No: 104 Version Start Date: 16/04/2019 Version End Date: -
B	386m SE	Status: Historical Licence No: 25/088 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Southern Region Surface Waters Point: WARNHAM BRICKWORKS Data Type: Point Name: Wienerberger Limited Easting: 517300 Northing: 134200	Annual Volume (m^3): 18000 Max Daily Volume (m^3): 400 Original Application No: - Original Start Date: - Expiry Date: - Issue No: 103 Version Start Date: 31/03/2014 Version End Date: -

ID	Location	Details	
B	386m SE	Status: Historical Licence No: 25/088 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Southern Region Surface Waters Point: POND AT WARNHAM BRICKWORKS Data Type: Point Name: Wienerberger Limited Easting: 517300 Northing: 134200	Annual Volume (m^3): 18000 Max Daily Volume (m^3): 400 Original Application No: - Original Start Date: 25/05/1994 Expiry Date: - Issue No: 103 Version Start Date: 01/04/2016 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.

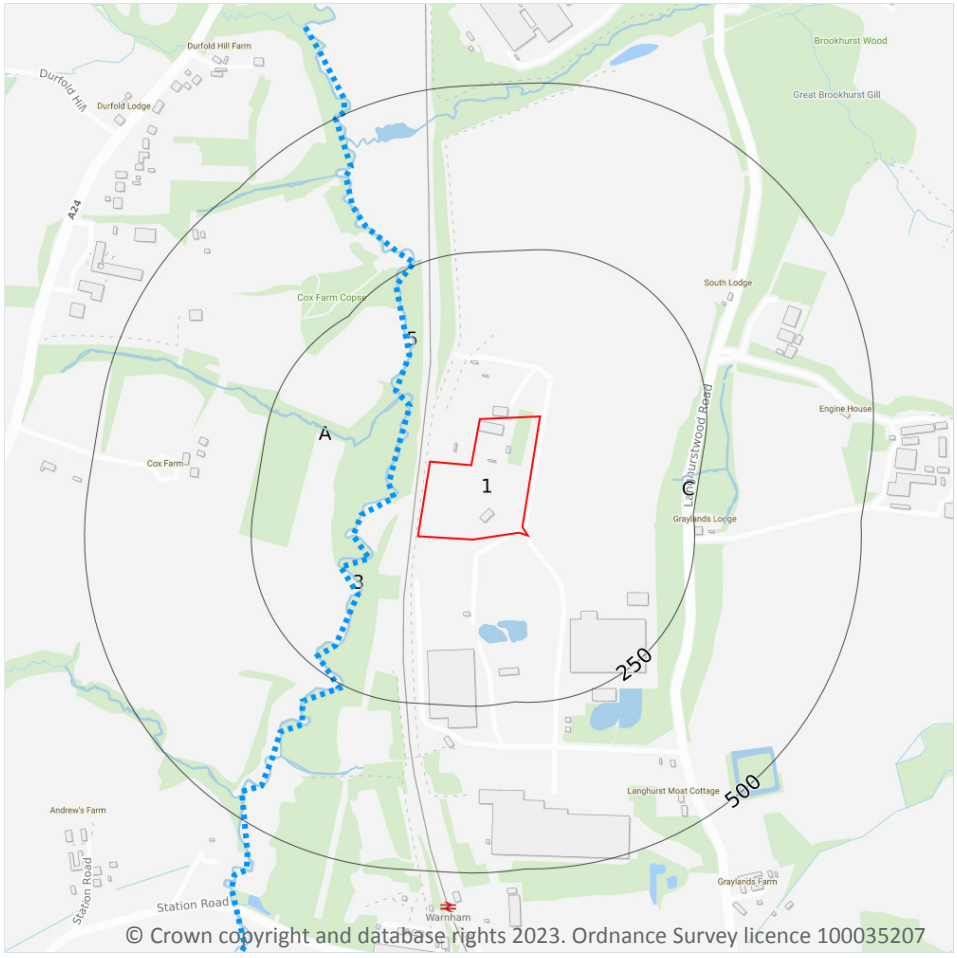
5.10 Source Protection Zones (confined aquifer)

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	6

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 71 >**

ID	Location	Type of water feature	Ground level	Permanence	Name
3	40m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Boldings Brook

ID	Location	Type of water feature	Ground level	Permanence	Name
A	99m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
5	109m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Boldings Brook
C	211m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	227m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	247m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	**6**

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

Features are displayed on the Hydrology map on **page 71 >**

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 71 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	**On site**	**River**	**Boldings Brook**	**GB107041012910**	**Arun Upper**	**Arun and Western Streams**

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

6.4 WFD Surface water bodies

Records identified	1

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

Features are displayed on the Hydrology map on **page 71 >**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
4	45m W	River	Boldings Brook	GB107041012910 ↗	Poor	Fail	Poor	2019

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

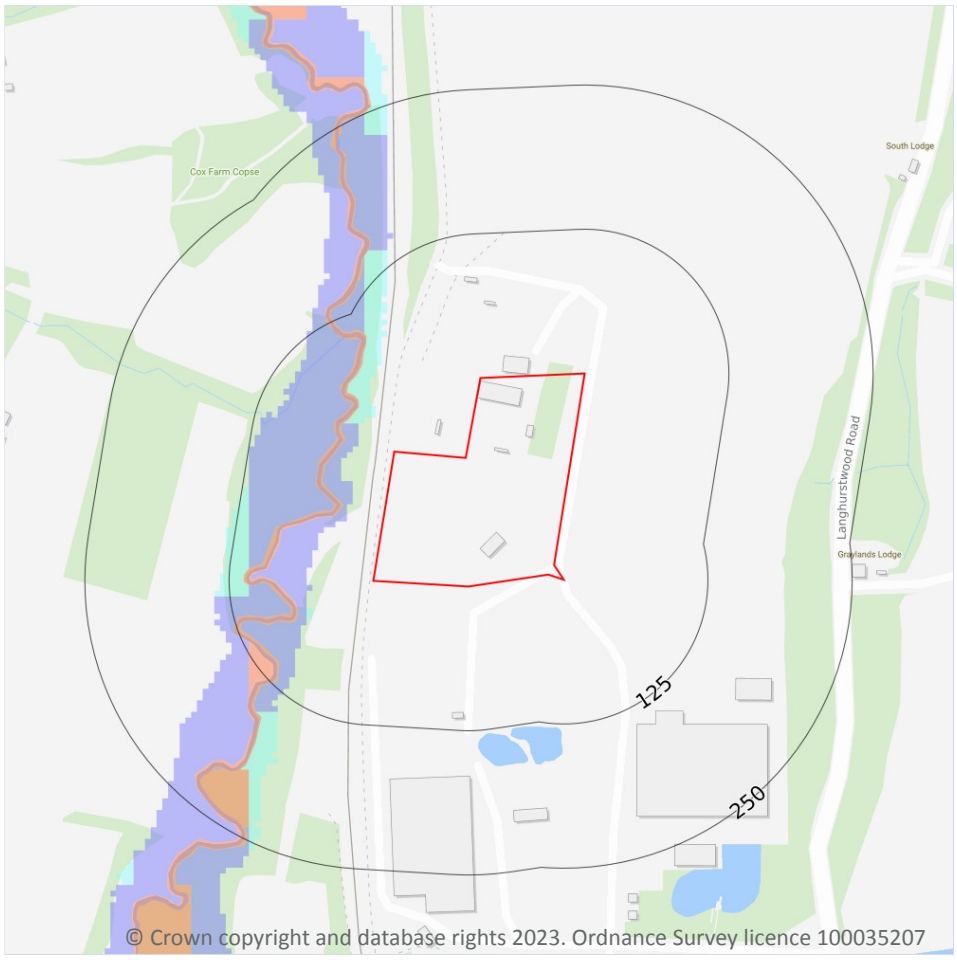
6.5 WFD Groundwater bodies

Records on site	0

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

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

7 River and coastal flooding



Site Outline

Search buffers in metres (m)

River and coastal flooding:

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

7.1 Risk of flooding from rivers and the sea

Records within 50m	4

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

Features are displayed on the River and coastal flooding map on **page 74 >**

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

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

7.2 Historical Flood Events

Records within 250m	**0**

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

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

7.3 Flood Defences

Records within 250m	**0**

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	**0**

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

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

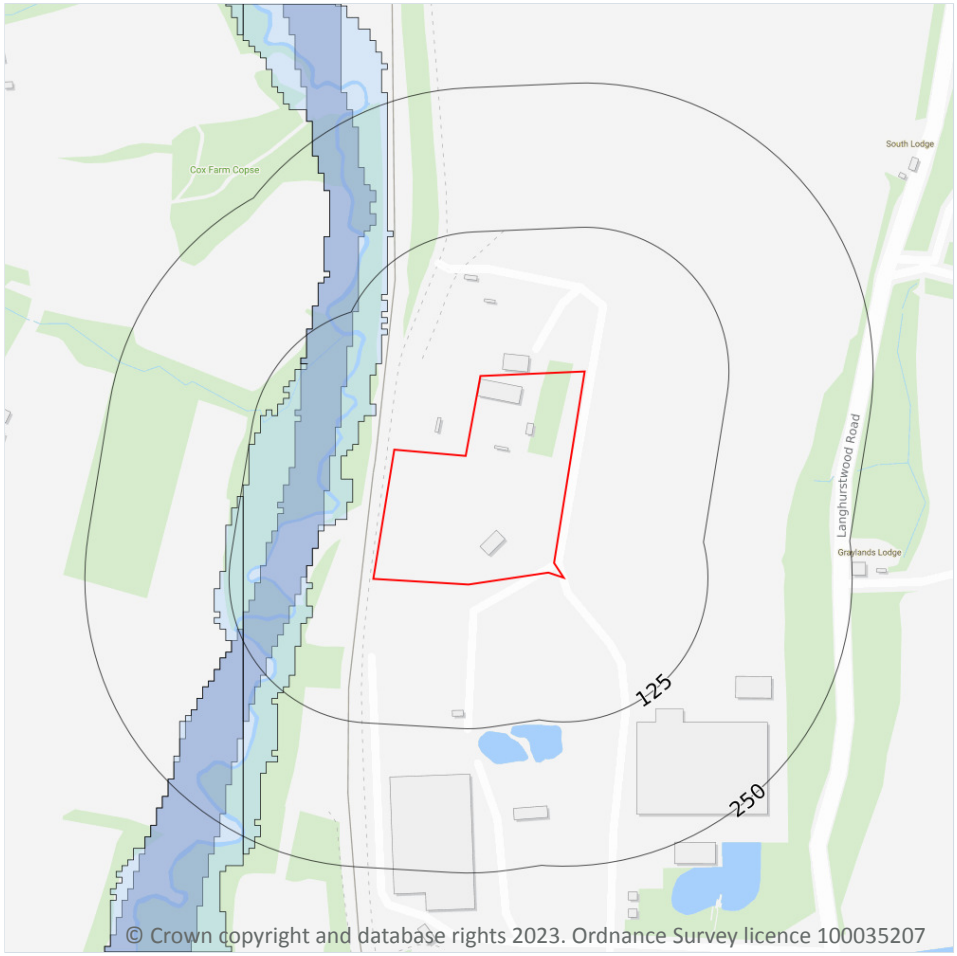
7.5 Flood Storage Areas

Records within 250m	**0**

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

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

River and coastal flooding - Flood Zones



Site Outline

Search buffers in metres (m)

Flood zone 2

Flood zone 3

7.6 Flood Zone 2

Records within 50m	1

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

Features are displayed on the River and coastal flooding map on **page 74 >**

Location	Type
28m W	Zone 2 - (Fluvial /Tidal Models)

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

7.7 Flood Zone 3

Records within 50m	1

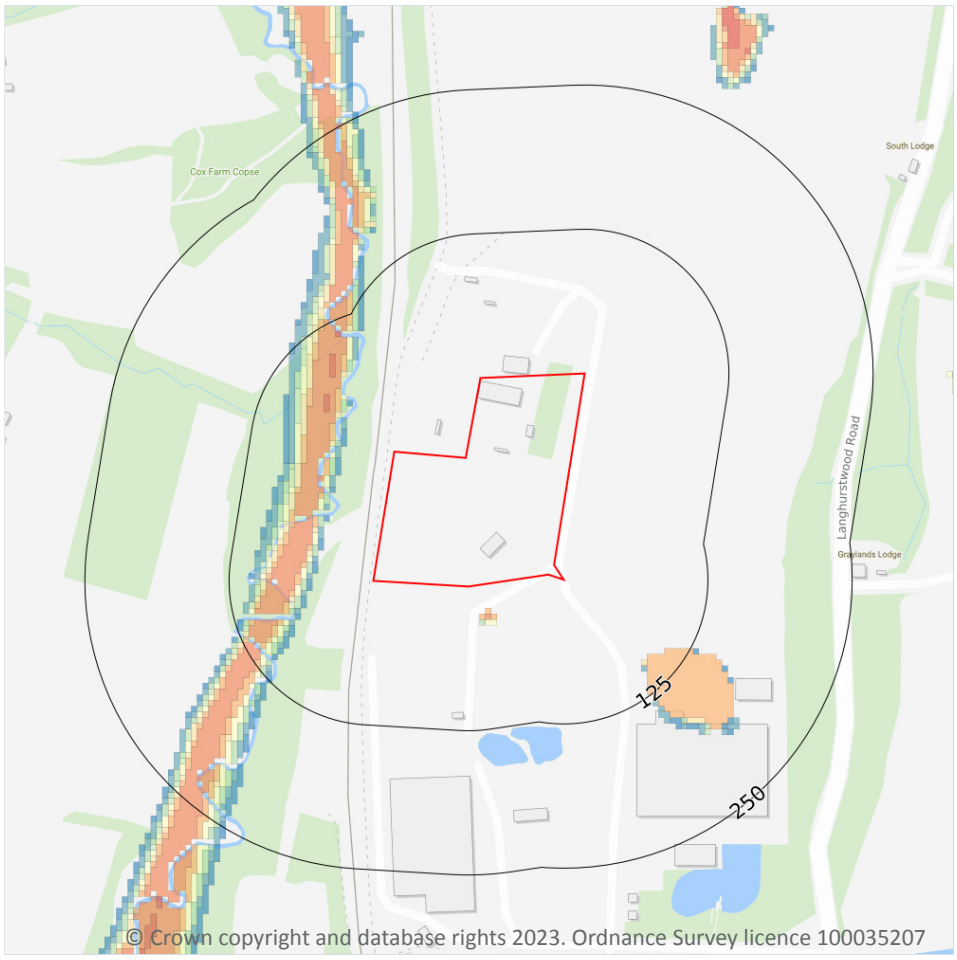
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 74 >**

Location	Type
50m W	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	**Negligible**
Highest risk within 50m	**1 in 30 year, 0.3m - 1.0m**

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

Features are displayed on the Surface water flooding map on **page 78 >**

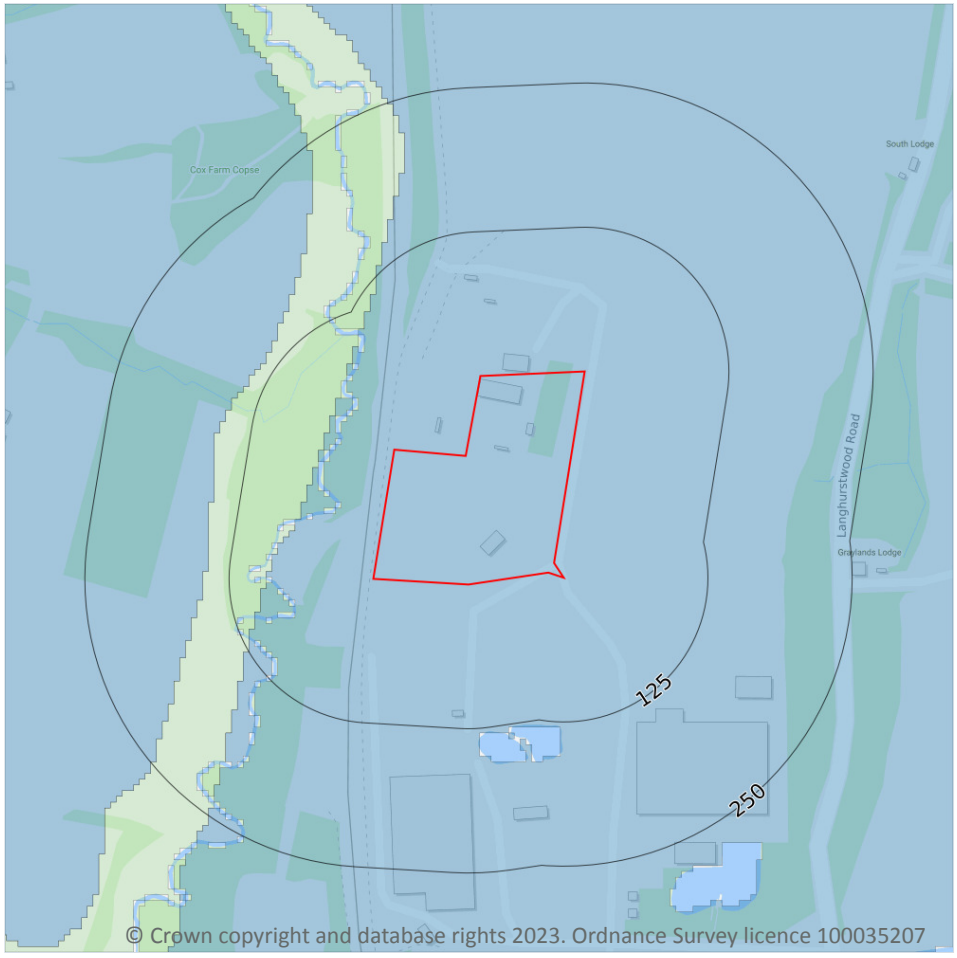
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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

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

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

High

Moderate - High

Moderate

Low

Negligible

9.1 Groundwater flooding

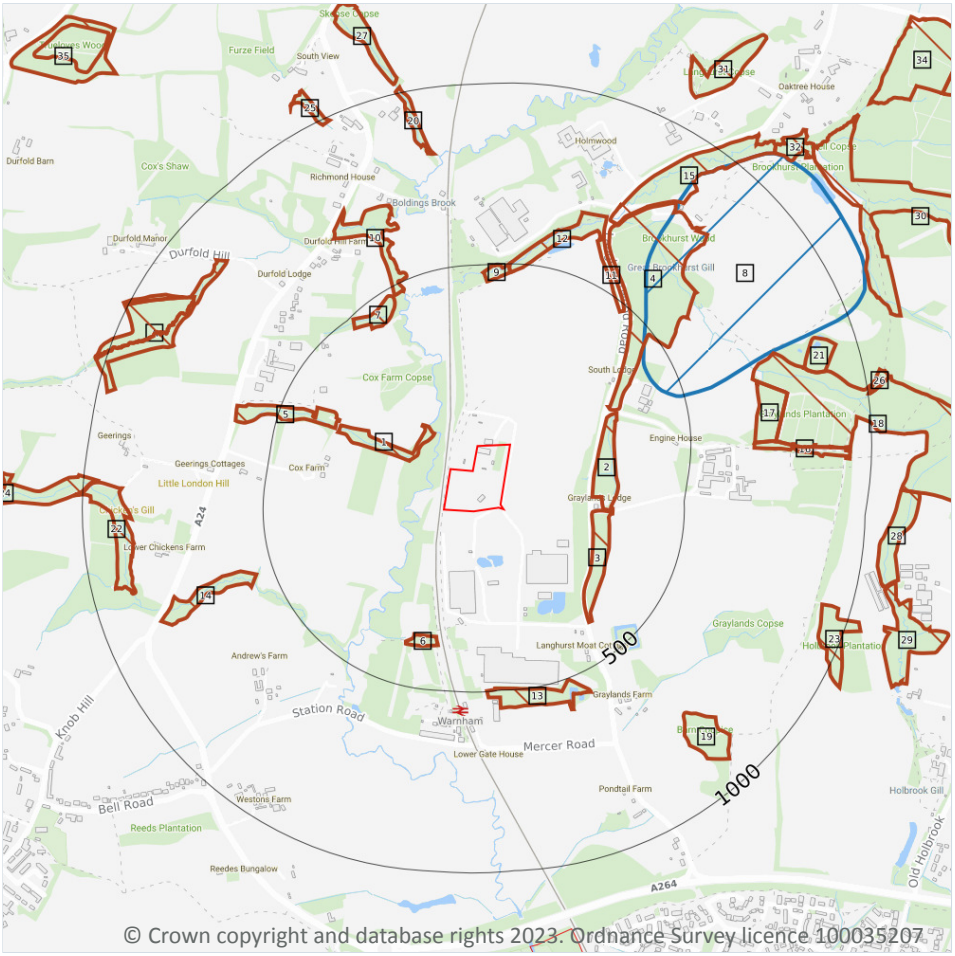
Highest risk on site	**Negligible**
Highest risk within 50m	**Negligible**

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

Features are displayed on the Groundwater flooding map on **page 80 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



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Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Local Nature Reserves (LNR)

Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	1

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

Features are displayed on the Environmental designations map on **page 81 >**

ID	Location	Name	Data source
8	428m NE	Warnham	Natural England

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m	0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	1

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 81 >**

ID	Location	Name	Data source
33	1175m S	Warnham	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m	56

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 81 >**

ID	Location	Name	Woodland Type
1	99m NW	Unknown	Ancient & Semi-Natural Woodland
2	243m E	Unknown	Ancient & Semi-Natural Woodland
3	245m E	Unknown	Ancient & Semi-Natural Woodland
4	291m NE	Unknown	Ancient & Semi-Natural Woodland
5	335m NW	Unknown	Ancient & Semi-Natural Woodland
6	352m S	Unknown	Ancient & Semi-Natural Woodland
7	424m NW	Unknown	Ancient & Semi-Natural Woodland
9	454m N	Unknown	Ancient & Semi-Natural Woodland
10	474m N	Unknown	Ancient & Semi-Natural Woodland
11	476m NE	Unknown	Ancient & Semi-Natural Woodland
12	477m N	Unknown	Ancient & Semi-Natural Woodland
13	493m S	Unknown	Ancient & Semi-Natural Woodland

ID	Location	Name	Woodland Type
14	548m SW	Unknown	Ancient & Semi-Natural Woodland
15	675m NE	Unknown	Ancient & Semi-Natural Woodland
16	676m E	Unknown	Ancient & Semi-Natural Woodland
17	677m E	Unknown	Ancient Replanted Woodland
18	694m E	Unknown	Ancient & Semi-Natural Woodland
19	754m SE	Unknown	Ancient & Semi-Natural Woodland
20	817m N	Unknown	Ancient & Semi-Natural Woodland
A	837m NW	Unknown	Ancient & Semi-Natural Woodland
21	838m E	Unknown	Ancient & Semi-Natural Woodland
A	844m NW	Unknown	Ancient & Semi-Natural Woodland
22	862m W	Unknown	Ancient & Semi-Natural Woodland
A	878m NW	Unknown	Ancient & Semi-Natural Woodland
23	920m E	Unknown	Ancient & Semi-Natural Woodland
24	959m W	Unknown	Ancient & Semi-Natural Woodland
25	985m NW	Unknown	Ancient & Semi-Natural Woodland
26	1002m E	Unknown	Ancient & Semi-Natural Woodland
27	1027m N	Unknown	Ancient & Semi-Natural Woodland
28	1044m E	Unknown	Ancient & Semi-Natural Woodland
29	1078m E	Unknown	Ancient & Semi-Natural Woodland
30	1086m NE	Unknown	Ancient & Semi-Natural Woodland
31	1088m NE	Langhurst Copse	Ancient & Semi-Natural Woodland
32	1089m NE	Unknown	Ancient & Semi-Natural Woodland
34	1370m NE	Unknown	Ancient & Semi-Natural Woodland
35	1432m NW	Unknown	Ancient & Semi-Natural Woodland
-	1506m E	Unknown	Ancient & Semi-Natural Woodland
37	1541m NE	Unknown	Ancient Replanted Woodland
-	1545m E	Unknown	Ancient & Semi-Natural Woodland
-	1571m E	Furzefield Copse	Ancient & Semi-Natural Woodland

ID	Location	Name	Woodland Type
-	1571m E	Unknown	Ancient & Semi-Natural Woodland
-	1577m SE	North Heath Copse	Ancient & Semi-Natural Woodland
-	1650m NE	Upper Rapeland Wood	Ancient Replanted Woodland
-	1700m E	Unknown	Ancient & Semi-Natural Woodland
-	1714m NE	Unknown	Ancient & Semi-Natural Woodland
-	1729m W	Unknown	Ancient Replanted Woodland
-	1747m S	Unknown	Ancient & Semi-Natural Woodland
-	1767m NW	Unknown	Ancient & Semi-Natural Woodland
-	1777m E	Hurst Wood	Ancient & Semi-Natural Woodland
-	1780m SW	Unknown	Ancient & Semi-Natural Woodland
-	1828m NW	Unknown	Ancient & Semi-Natural Woodland
-	1850m E	Holming Wood	Ancient & Semi-Natural Woodland
-	1872m N	Tickfold Gill	Ancient & Semi-Natural Woodland
-	1917m E	Hurst Wood	Ancient Replanted Woodland
-	1934m N	Unknown	Ancient & Semi-Natural Woodland
-	1957m W	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

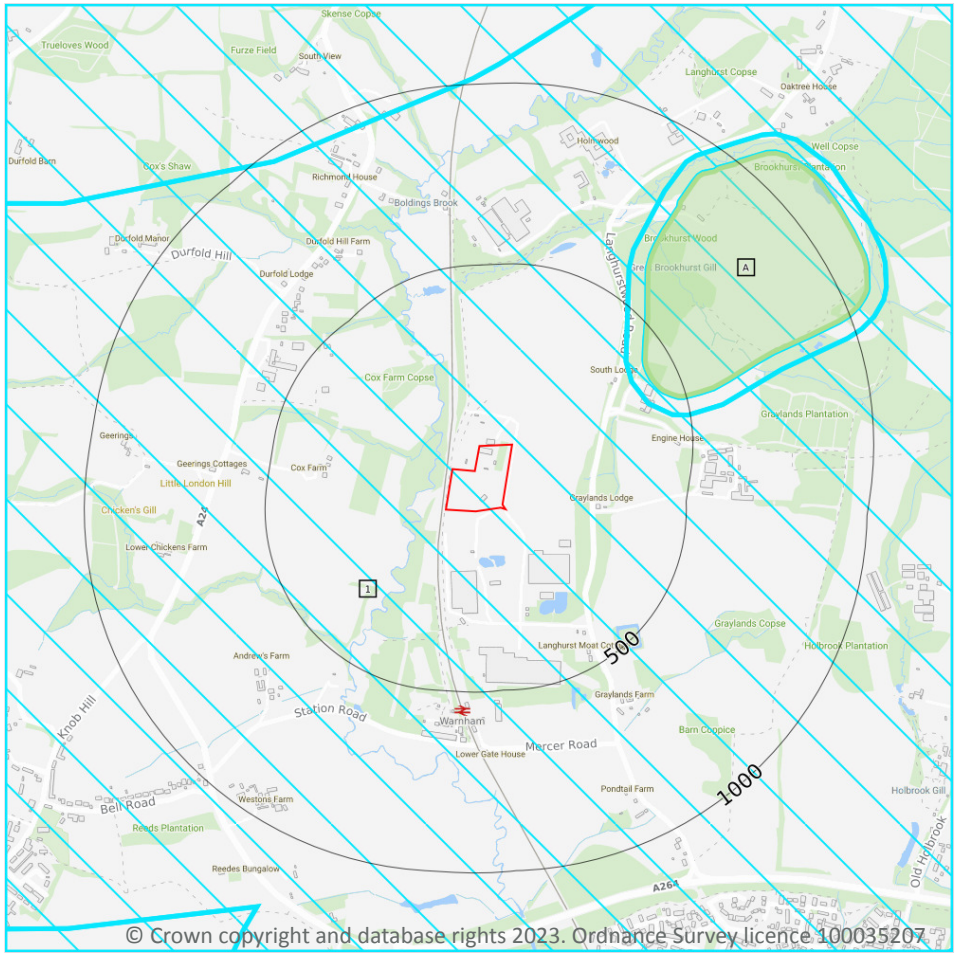
Records within 2000m	2

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

Location	Name	Type	NVZ ID	Status
On site	**River Arun (u/s Pallingham) NVZ**	**Surface Water**	**523**	**Existing**
1239m N	River Arun (u/s Pallingham) NVZ	Surface Water	523	Existing

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

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

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

10.17 SSSI Impact Risk Zones

Records on site	1

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

Features are displayed on the SSSI Impact Zones and Units map on **page 88 >**

ID	Location	Type of developments requiring consultation
1	On site	**Infrastructure - Airports, helipads and other aviation proposals.** **Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t.** **Notes: Sussex north water supply zone. all new development that requires a public water supply requires an hra to assess the impacts of groundwater abstraction on arun valley spa/sac/ramsar. lpas to refer to natural england's statement and advice note.**

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	**1**

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

Features are displayed on the SSSI Impact Zones and Units map on **page 88 >**

ID: A
Location: 428m NE
SSSI name: Warnham
Unit name: Whole Site
Broad habitat: Earth Heritage
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
EA - Wealden	Favourable	03/11/2011

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

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

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

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

11.3 National Parks

Records within 250m	0

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

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

11.4 Listed Buildings

Records within 250m	0

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

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

11.5 Conservation Areas

Records within 250m	0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m	0

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

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

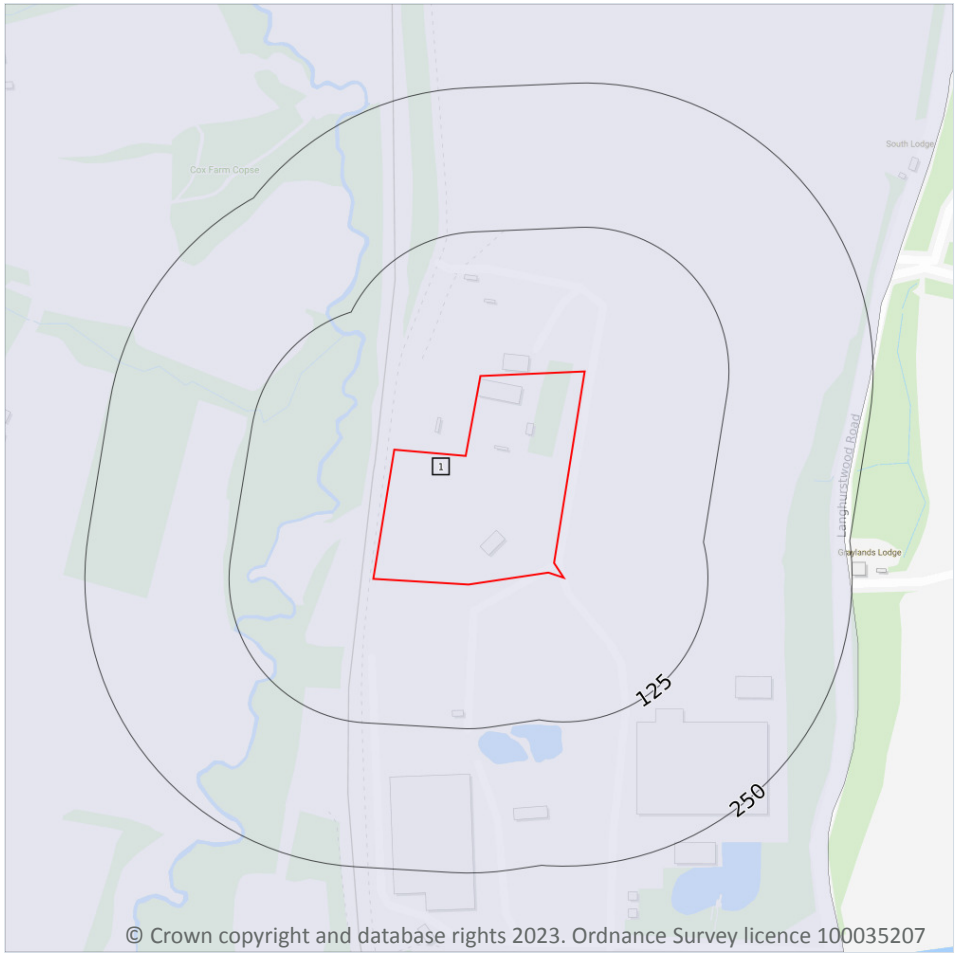
11.7 Registered Parks and Gardens

Records within 250m	0

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

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

12 Agricultural designations



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

12.1 Agricultural Land Classification

Records within 250m	1

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 92 >**

ID	Location	Classification	Description
1	On site	Grade 4	**Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.**

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

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

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

12.3 Tree Felling Licences

Records within 250m	0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

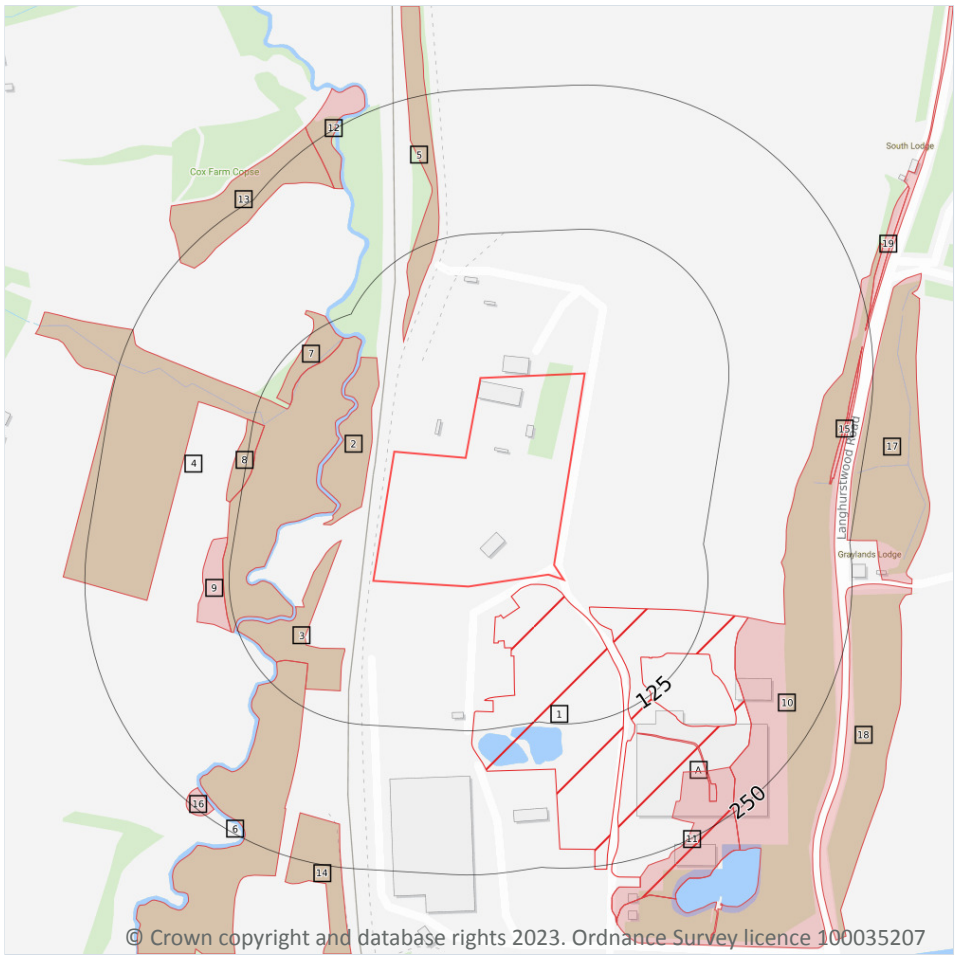
12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations



Site Outline

Search buffers in metres (m)

Priority Habitat Inventory
Open Mosaic Habitat
Limestone Pavement Orders

Habitat Networks

Primary Habitat
Restorable Habitat
Associated Habitats
Habitat Restoration-Creation
Network Enhancement Zone 1
Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m	19

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

Features are displayed on the Habitat designations map on **page 94 >**

ID	Location	Main Habitat	Other habitats
2	20m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	33m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	42m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
5	74m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

ID	Location	Main Habitat	Other habitats
6	91m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	99m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
8	115m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
9	130m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	147m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
10	158m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
11	196m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
12	203m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
13	208m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
14	211m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
15	225m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
16	235m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
17	243m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
18	245m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
19	247m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	**0**

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	**2**

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.

Features are displayed on the Habitat designations map on **page 94 >**

ID	Location	Site reference	Identification confidence	Primary source	Secondary source	Tertiary source
1	6m SE	NLUD Ref: 382500161	Low	National Land Use Database - Previously Developed Land	UK Perspectives Aerial Photography	-
A	33m SE	NLUD Ref: 382500161	Low	National Land Use Database - Previously Developed Land	UK Perspectives Aerial Photography	-

This data is sourced from Natural England.

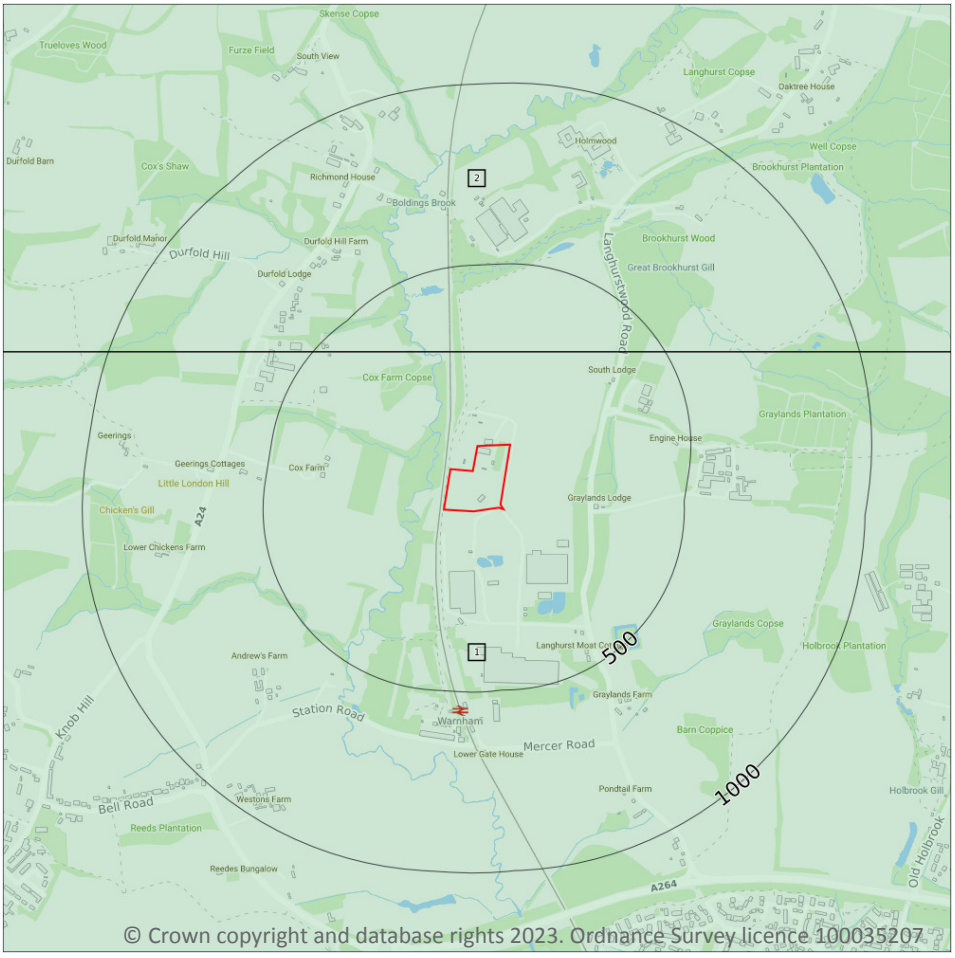
13.4 Limestone Pavement Orders

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 97 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**TQ13SE**
2	257m N	No coverage	Full	Full	Full	TQ13NE

This data is sourced from the British Geological Survey.

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

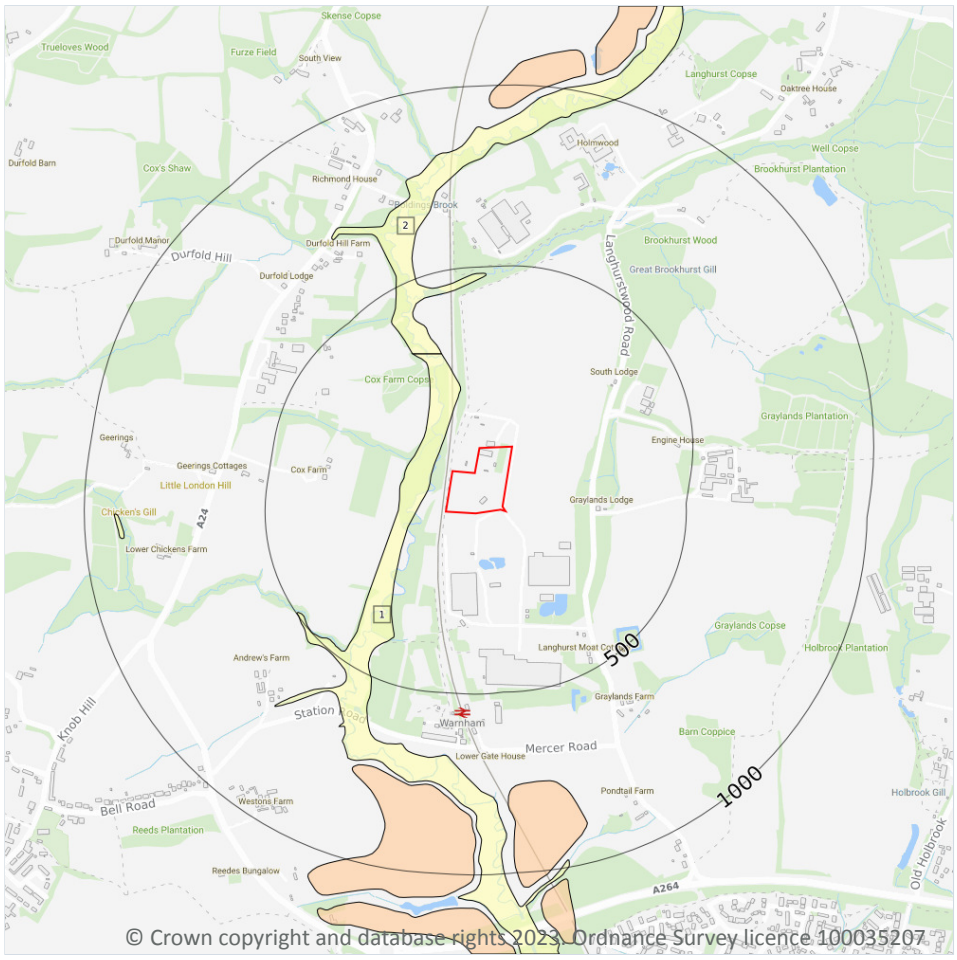
14.2 Artificial and made ground (10k)

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 99 >**

ID	Location	LEX Code	Description	Rock description
1	54m W	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
2	281m N	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel

This data is sourced from the British Geological Survey.

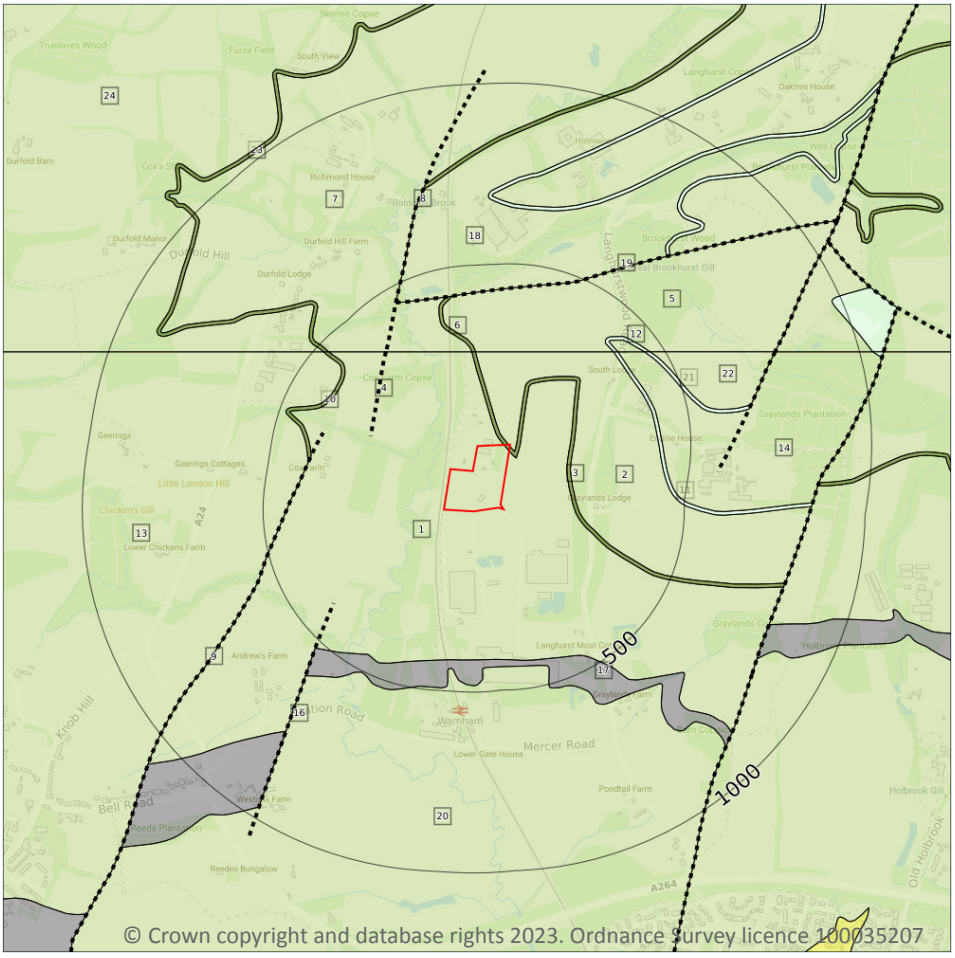
14.4 Landslip (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m **19**

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 101 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**WC-MDST**	**Weald Clay Formation - Mudstone**	**Barremian Age - Hauterivian Age**
2	**On site**	**WC-MDST**	**Weald Clay Formation - Mudstone**	**Barremian Age - Hauterivian Age**
3	**On site**	**WC-LMST**	**Weald Clay Formation - Limestone**	**Barremian Age - Hauterivian Age**
5	257m N	WC-MDST	Weald Clay Formation - Mudstone	Barremian Age - Hauterivian Age

ID	Location	LEX Code	Description	Rock age
6	261m N	WC-LMST	Weald Clay Formation - Limestone	Barremian Age - Hauterivian Age
7	261m N	WC-MDST	Weald Clay Formation - Mudstone	Barremian Age - Hauterivian Age
10	379m NW	WC-LMST	Weald Clay Formation - Limestone	Barremian Age - Hauterivian Age
11	381m NE	WC-SDST	Weald Clay Formation - Sandstone	Barremian Age - Hauterivian Age
12	384m NE	WC-SDST	Weald Clay Formation - Sandstone	Barremian Age - Hauterivian Age
13	389m NW	WC-MDST	Weald Clay Formation - Mudstone	Barremian Age - Hauterivian Age
14	391m NE	WC-MDST	Weald Clay Formation - Mudstone	Barremian Age - Hauterivian Age
15	393m NE	WC-MDST	Weald Clay Formation - Mudstone	Barremian Age - Hauterivian Age
17	411m S	HST-CALSST	Horsham Stone Member - Calcareous Sandstone	Hauterivian Age
18	421m N	WC-MDST	Weald Clay Formation - Mudstone	Barremian Age - Hauterivian Age
20	433m S	WC-MDST	Weald Clay Formation - Mudstone	Barremian Age - Hauterivian Age
21	452m NE	WC-SDST	Weald Clay Formation - Sandstone	Barremian Age - Hauterivian Age
22	464m NE	WC-MDST	Weald Clay Formation - Mudstone	Barremian Age - Hauterivian Age
23	468m NW	WC-LMST	Weald Clay Formation - Limestone	Barremian Age - Hauterivian Age
24	478m NW	WC-MDST	Weald Clay Formation - Mudstone	Barremian Age - Hauterivian Age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	**5**

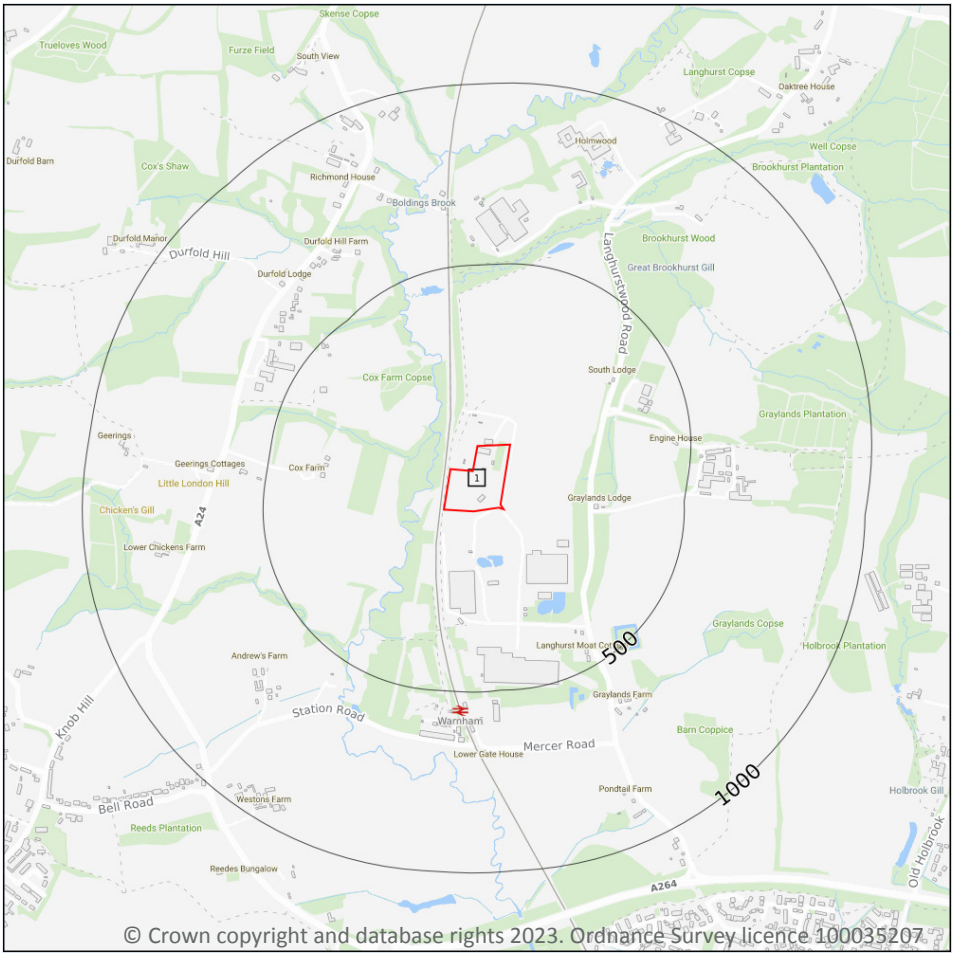
Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 101 >**

ID	Location	Category	Description
4	239m NW	FAULT	Normal fault, inferred; crossmarks on downthrow side
8	363m NW	FAULT	Normal fault, inferred; crossmarks on downthrow side
9	366m W	FAULT	Normal fault, inferred; crossmarks on downthrow side
16	400m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side
19	421m N	FAULT	Normal fault, inferred; crossmarks on downthrow side

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

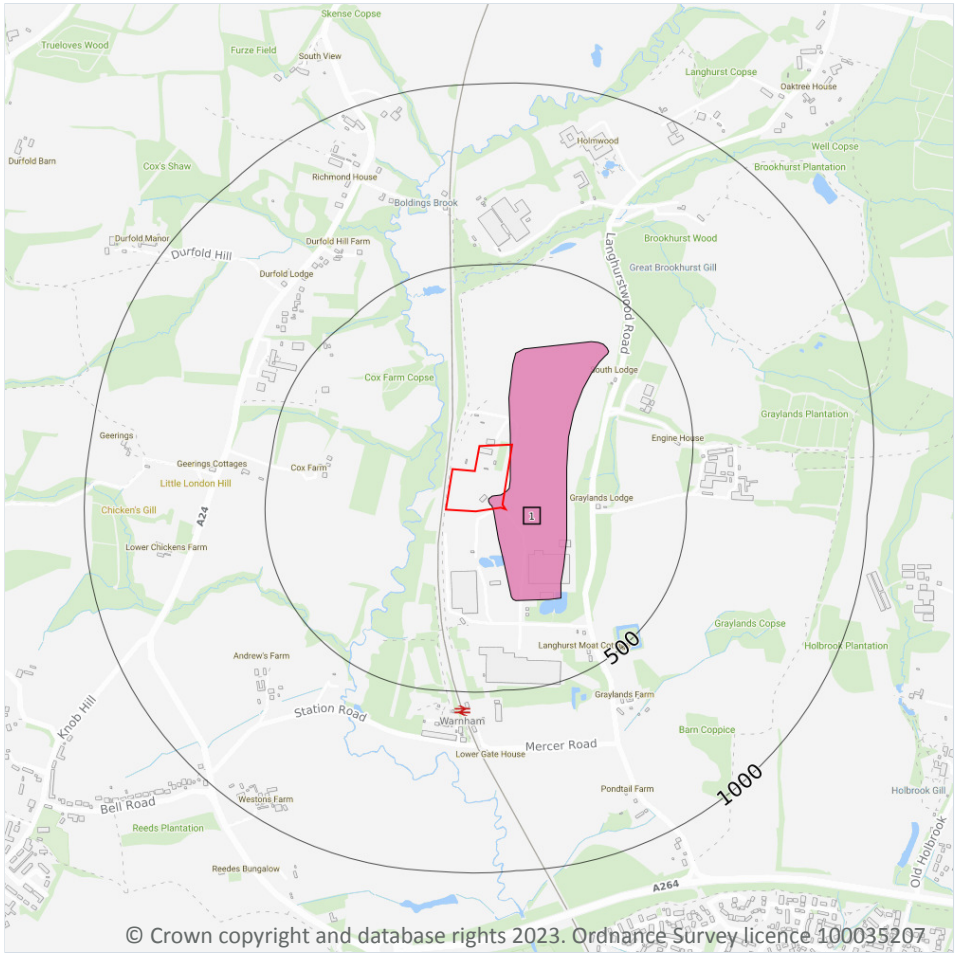
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 104 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW302_horsham_v4**

This data is sourced from the British Geological Survey.

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



Site Outline

Search buffers in metres (m)

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

15.2 Artificial and made ground (50k)

Records within 500m	1

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

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 105 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**WGR-VOID**	**WORKED GROUND (UNDIVIDED)**	**VOID**

This data is sourced from the British Geological Survey.

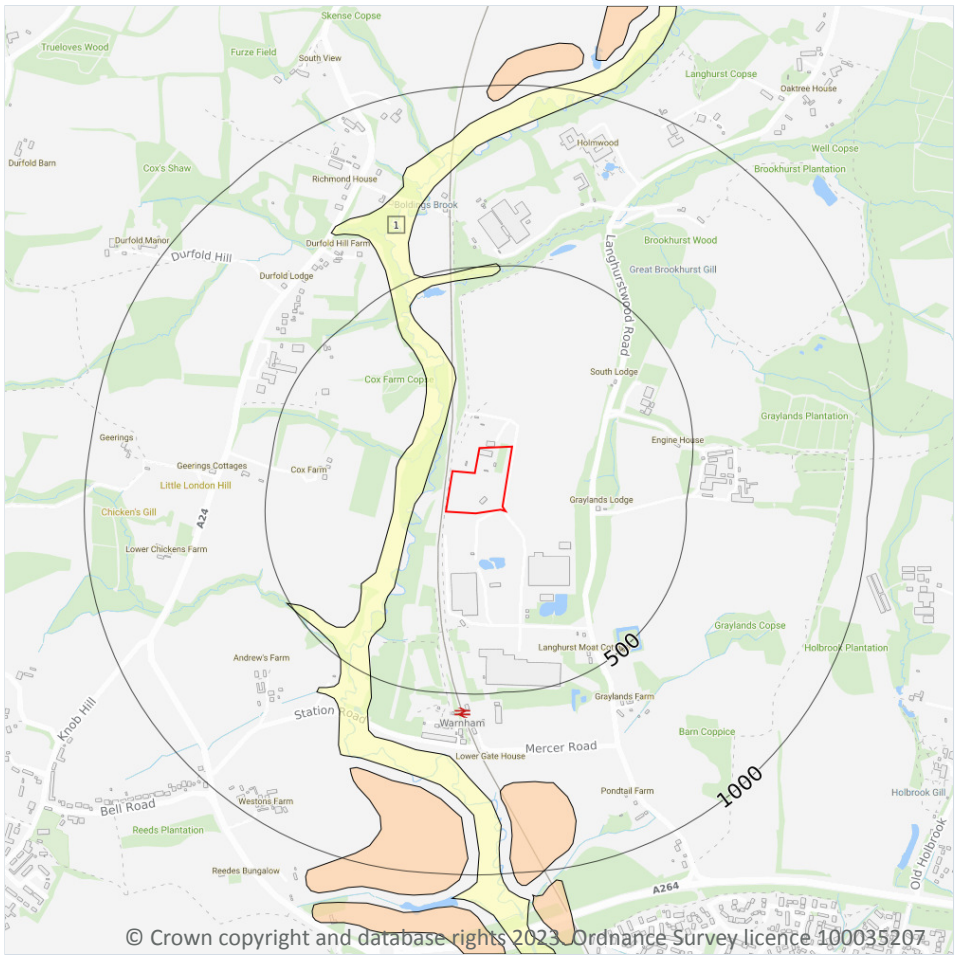
15.3 Artificial ground permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m	1

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 107 >**

ID	Location	LEX Code	Description	Rock description
1	61m W	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

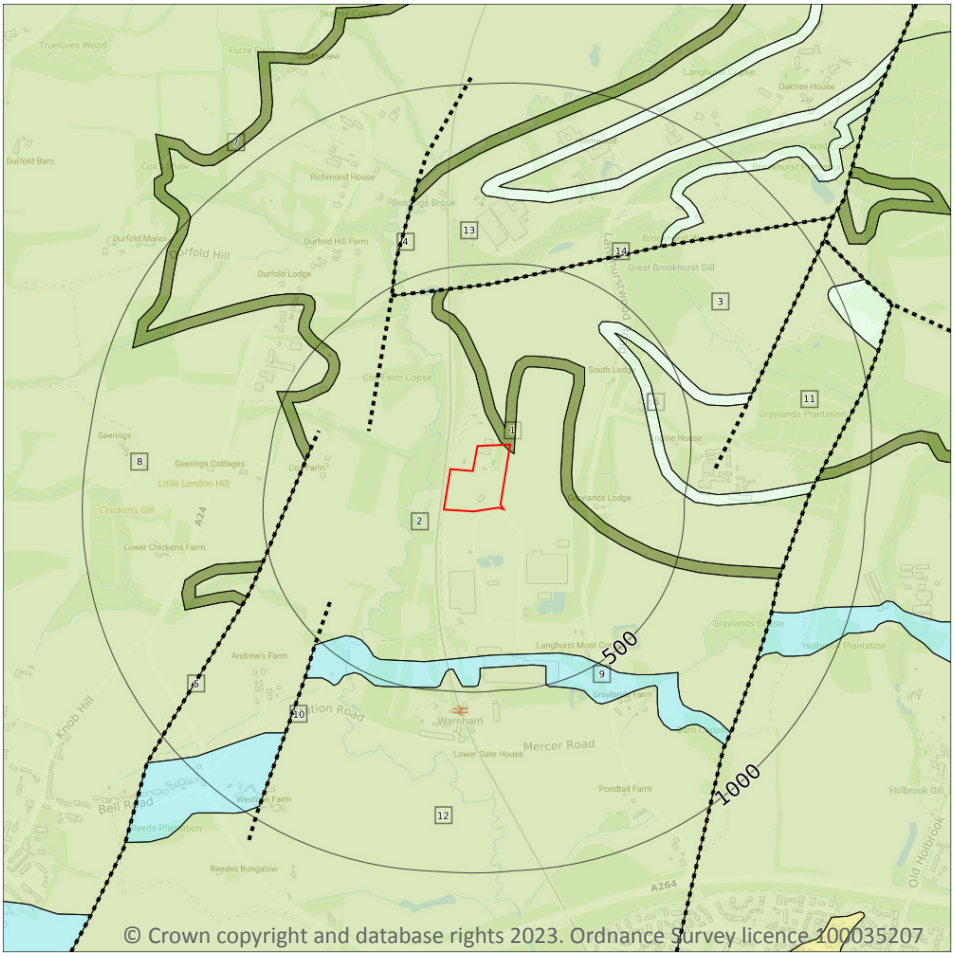
15.7 Landslip permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m	10

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 109 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**WC-LMST**	**WEALD CLAY FORMATION - LIMESTONE**	**HAUTERIVIAN**
2	**On site**	**WC-MDST**	**WEALD CLAY FORMATION - MUDSTONE**	**HAUTERIVIAN**
3	48m NE	WC-MDST	WEALD CLAY FORMATION - MUDSTONE	HAUTERIVIAN
6	385m E	WC-SDST	WEALD CLAY FORMATION - SANDSTONE	HAUTERIVIAN

ID	Location	LEX Code	Description	Rock age
7	390m W	WC-LMST	WEALD CLAY FORMATION - LIMESTONE	HAUTERIVIAN
8	399m W	WC-MDST	WEALD CLAY FORMATION - MUDSTONE	HAUTERIVIAN
9	401m S	HST-SDST	HORSHAM STONE MEMBER - SANDSTONE	HAUTERIVIAN
11	416m E	WC-MDST	WEALD CLAY FORMATION - MUDSTONE	HAUTERIVIAN
12	434m S	WC-MDST	WEALD CLAY FORMATION - MUDSTONE	HAUTERIVIAN
13	440m N	WC-MDST	WEALD CLAY FORMATION - MUDSTONE	HAUTERIVIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m **2**

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**High**	**High**
On site	**Fracture**	**Low**	**Very Low**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m **4**

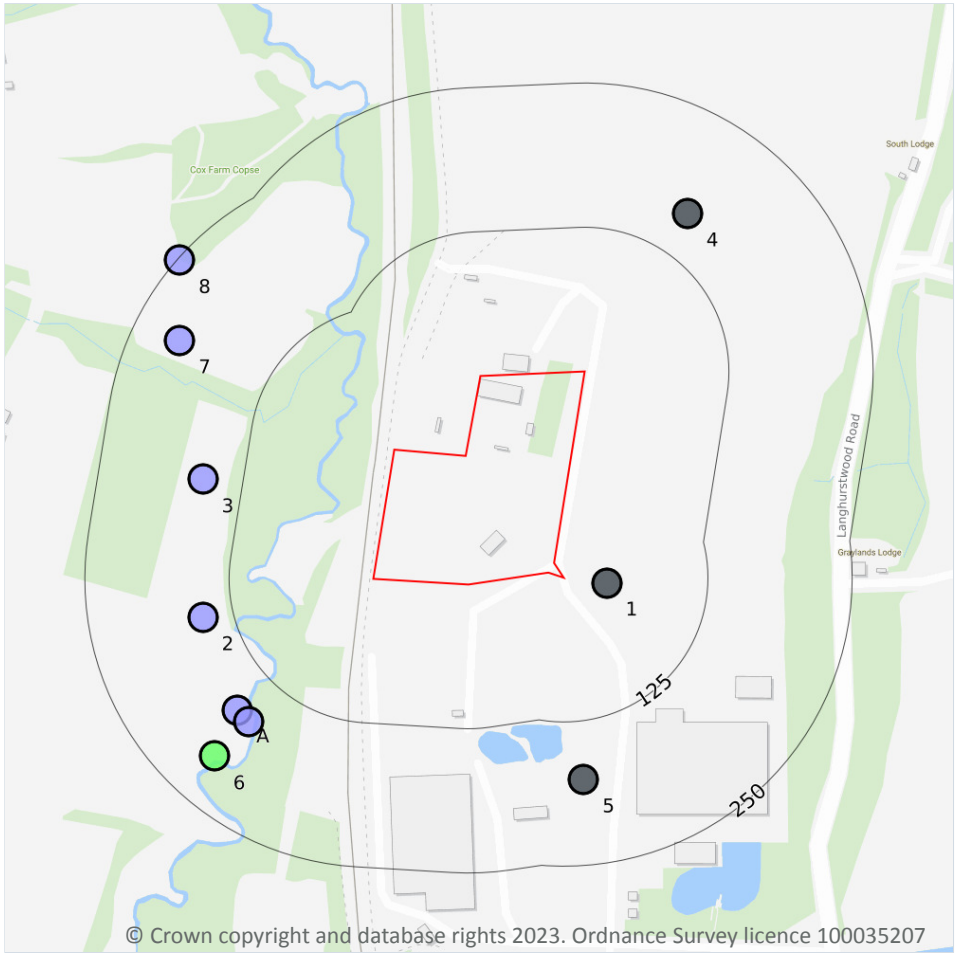
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 109 >**

ID	Location	Category	Description
4	249m NW	FAULT	Fault, inferred, displacement unknown
5	379m W	FAULT	Fault, inferred, displacement unknown
10	403m SW	FAULT	Fault, inferred, displacement unknown
14	441m N	FAULT	Fault, inferred, displacement unknown

This data is sourced from the British Geological Survey.

16 Boreholes



Site Outline

Search buffers in metres (m)

Confidential

0 - 10m

10 - 30m

30m+

Unknown

16.1 BGS Boreholes

Records within 250m	10

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

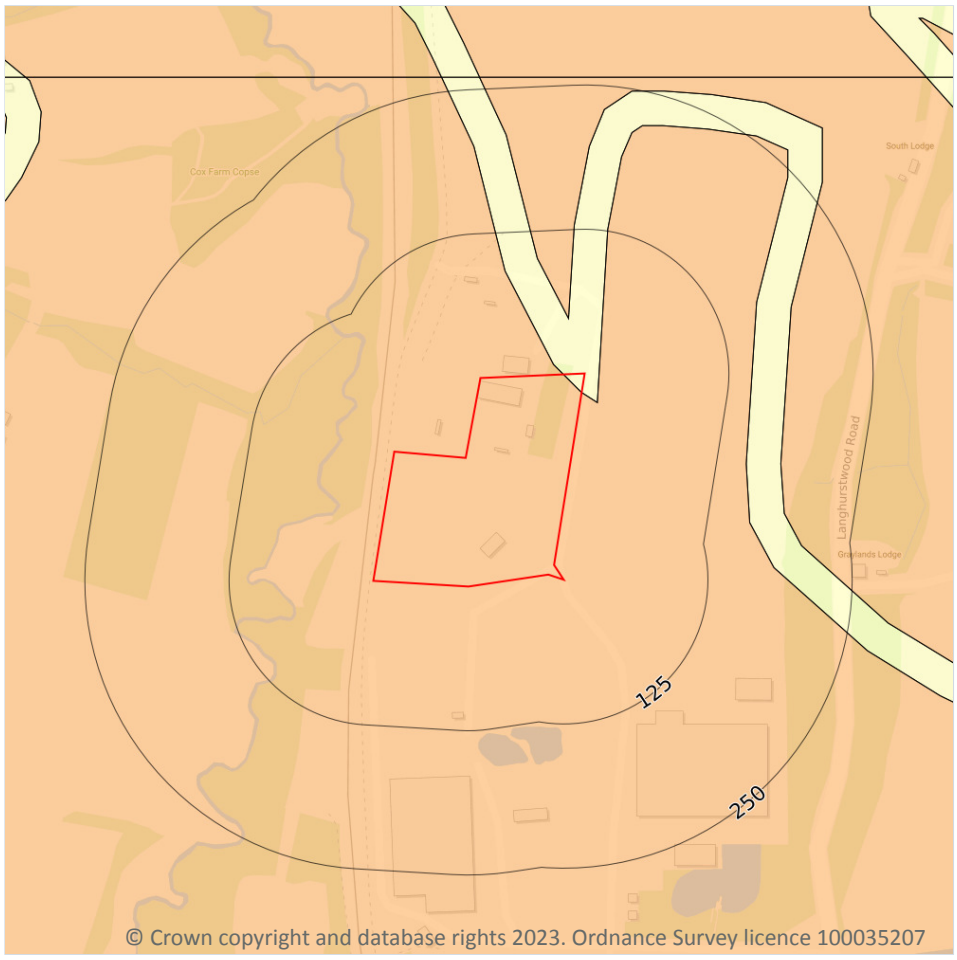
Features are displayed on the Boreholes map on **page 112 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	37m SE	517210 134560	SUSSEX & DORKING BRICK C0 WARNHAM W/C	-	Y	N/A
2	152m SW	516860 134530	A24 LONDON-WORTHINGHAM WARNHAM IMP 14	2.46	N	578556 ↗

ID	Location	Grid reference	Name	Length	Confidential	Web link
3	160m W	516860 134650	A24 LONDON-WORTHINGHAM WARNHAM IMP 13	1.5	N	578555 ↗
4	163m NE	517280 134880	SUSSEX & DORKING BRICK C0 WARNHAM W/A	-	Y	N/A
A	164m SW	516890 134450	A24 LONDON-WORTHINGHAM WARNHAM IMP 15	9.0	N	578557 ↗
A	164m SW	516900 134440	A24 LONDON-WORTHINGHAM WARNHAM IMP 16	9.0	N	578558 ↗
5	175m S	517190 134390	SUSSEX & DORKING BRICK C0 WARNHAM W/E	-	Y	N/A
6	206m SW	516870 134410	A24 LONDON-WORTHINGHAM WARNHAM IMP 17	16.0	N	578559 ↗
7	209m NW	516840 134770	A24 LONDON-WORTHINGHAM WARNHAM IMP 12	1.4	N	578554 ↗
8	248m NW	516840 134840	A24 LONDON-WORTHINGHAM WARNHAM IMP 11	1.2	N	578553 ↗

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	2

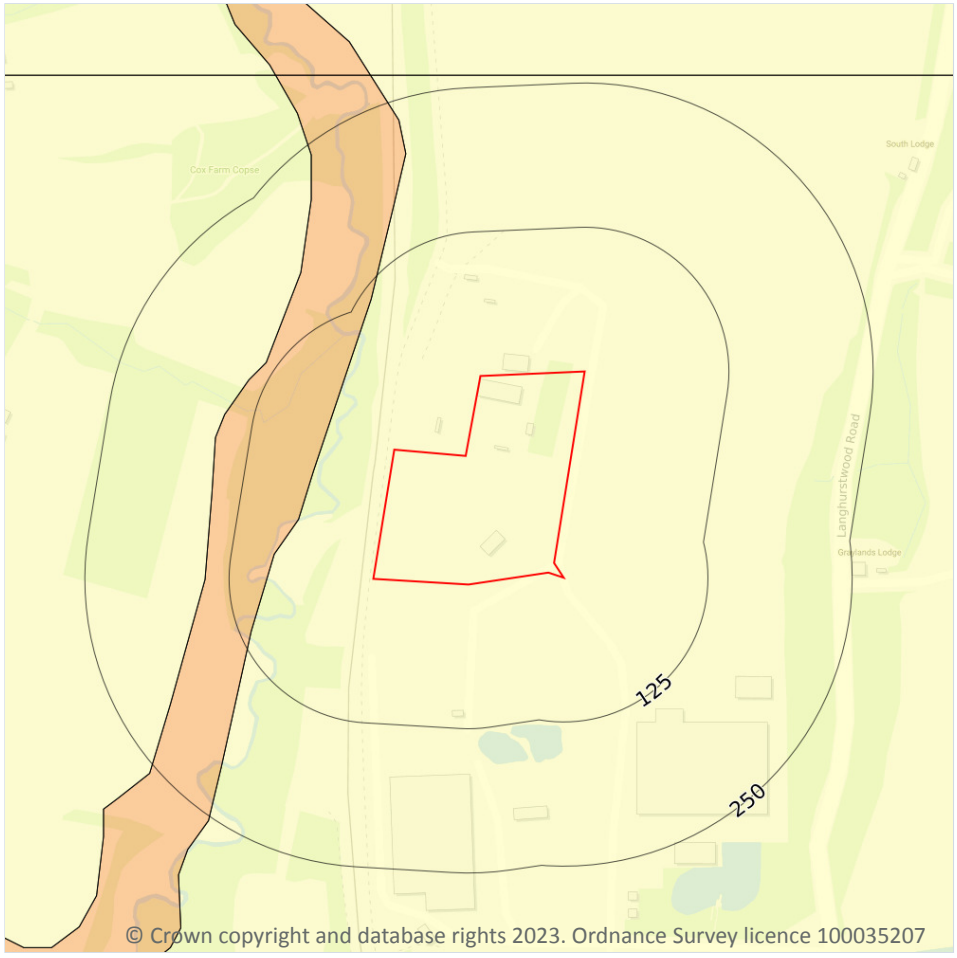
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 114 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	1

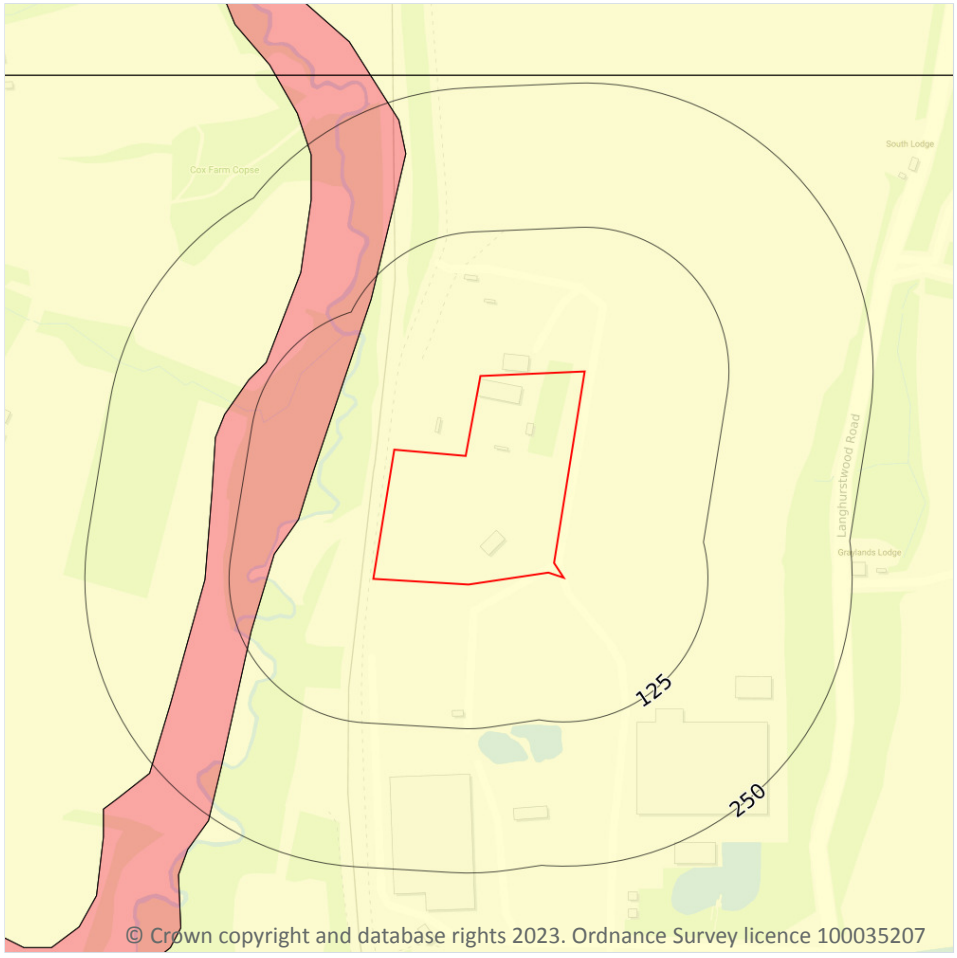
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 115 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	1

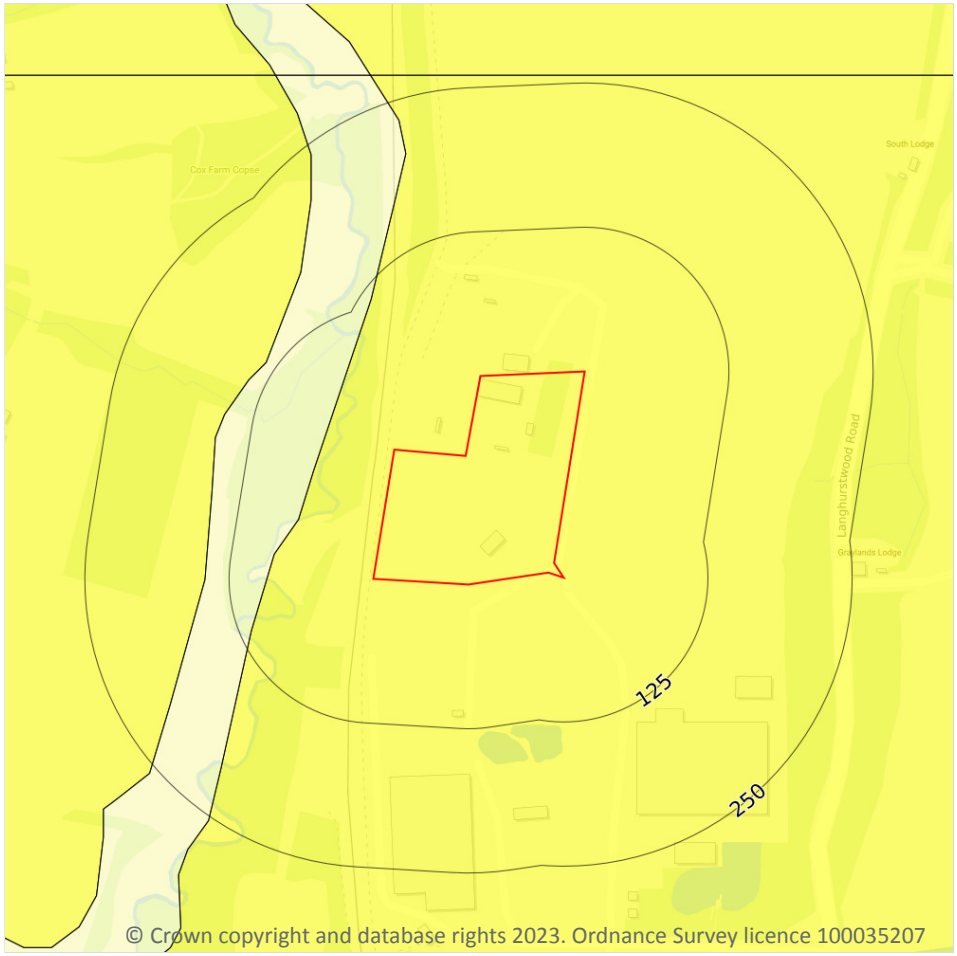
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 116 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	1

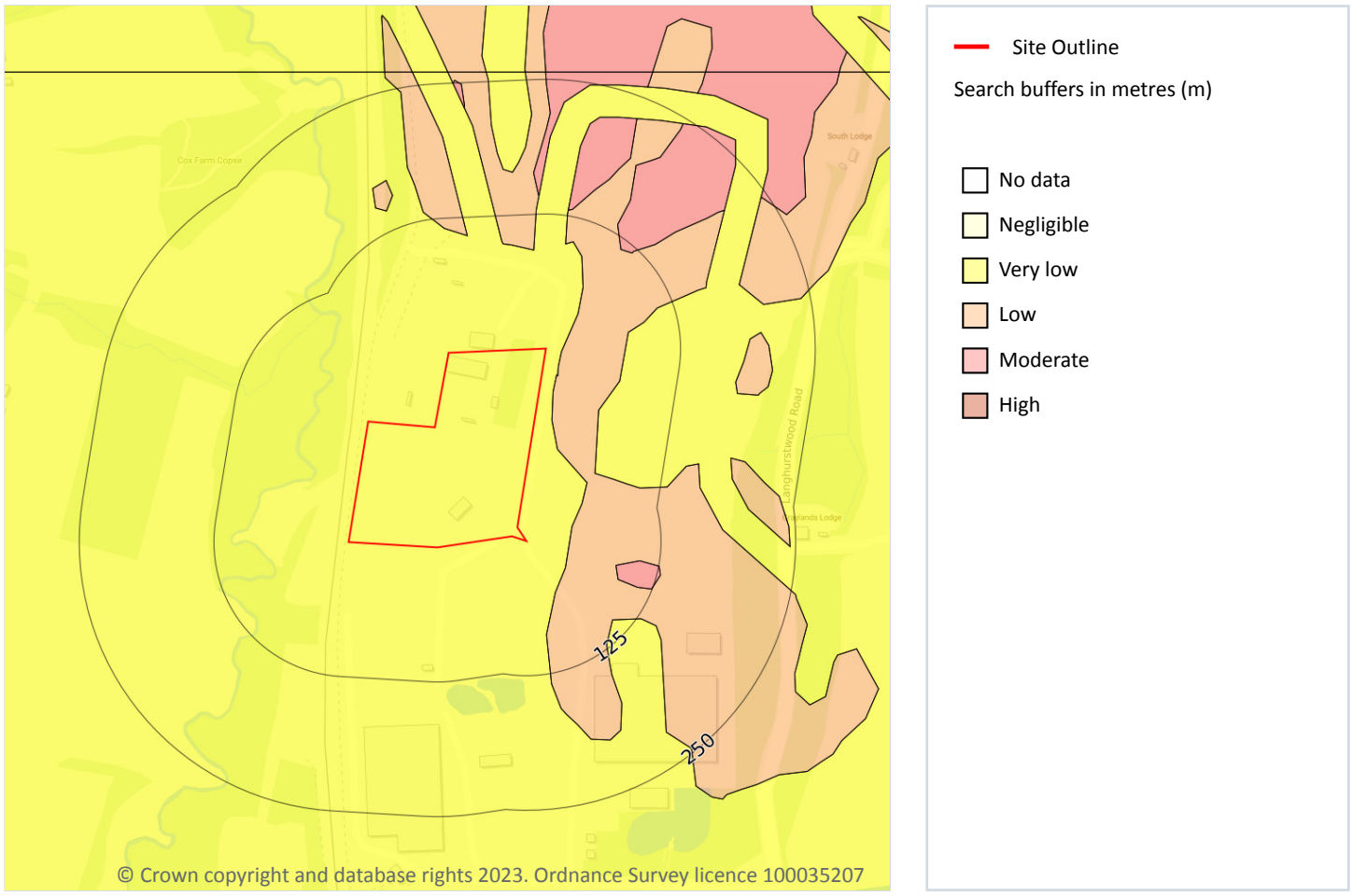
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 117 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



17.5 Landslides

Records within 50m	2

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

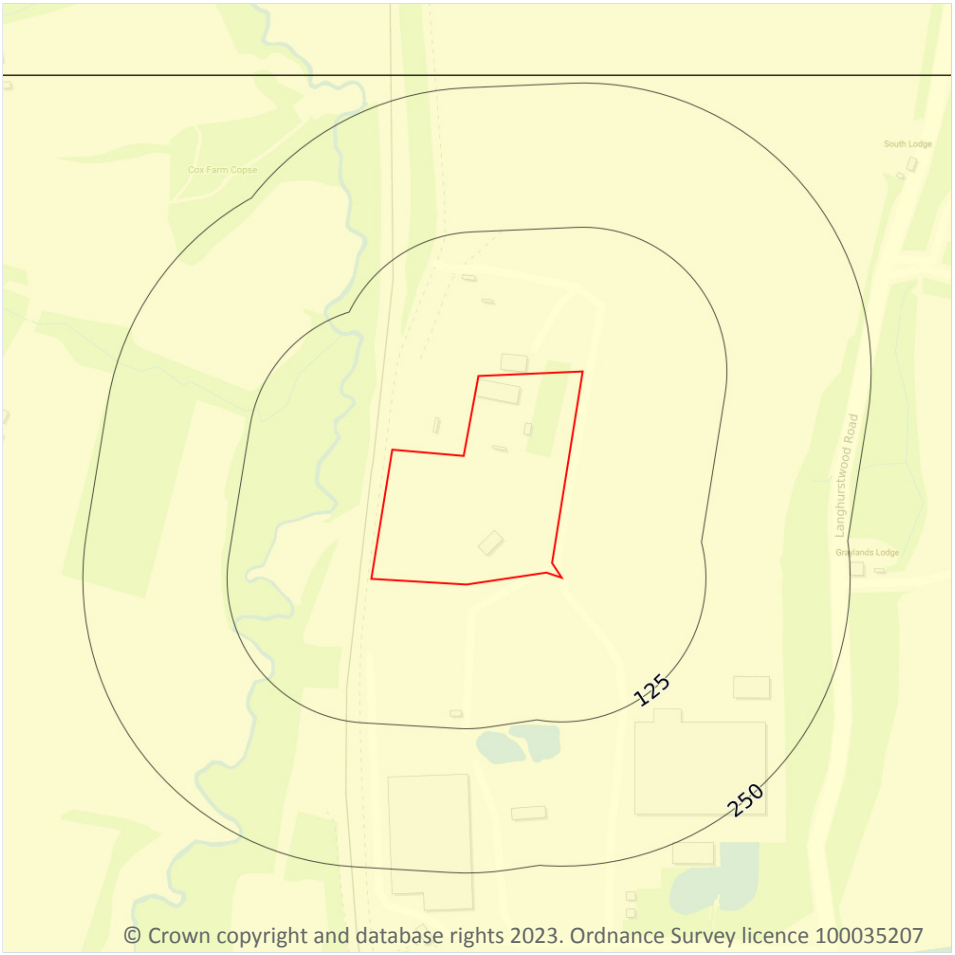
Features are displayed on the Natural ground subsidence - Landslides map on **page 118 >**

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

Location	Hazard rating	Details
13m NE	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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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

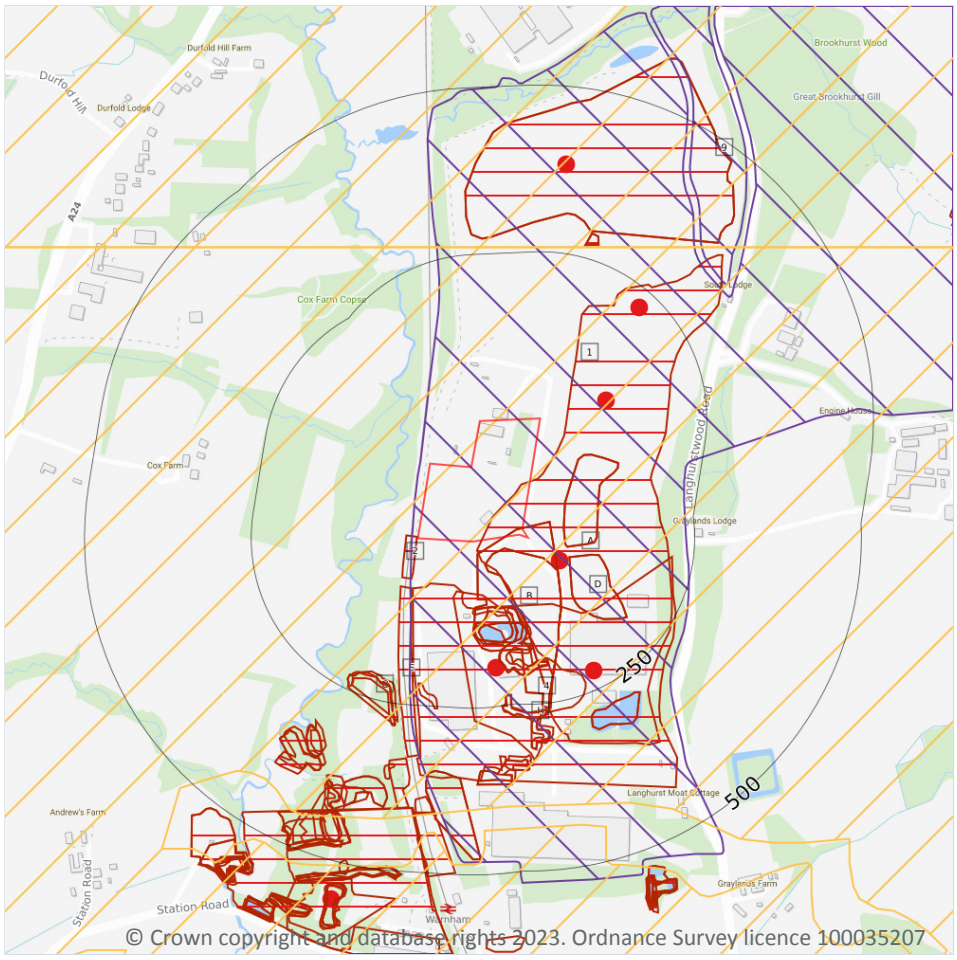
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 120 >**

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	6

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.

Features are displayed on the Mining and ground workings map on **page 122 >**

ID	Location	Details	Description
3	58m SE	Name: Warnham Stock Brick Works Address: Warnham, HORSHAM, West Sussex Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
5	102m NE	Name: Warnham Brick Works Address: Warnham, HORSHAM, West Sussex Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
F	191m S	Name: Warnham Brick Works Address: Warnham, HORSHAM, West Sussex Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
6	222m SE	Name: Warnham Brick Works Address: Warnham, HORSHAM, West Sussex Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
7	223m NE	Name: Warnham Brick Works Address: Warnham, HORSHAM, West Sussex Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
10	383m N	Name: Warnham Brickworks Address: HORSHAM, West Sussex Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	26

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

Features are displayed on the Mining and ground workings map on **page 122 >**

ID	Location	Land Use	Year of mapping	Mapping scale
A	**On site**	**Unspecified Quarry**	**1961**	**1:10560**
B	**On site**	**Brick Works**	**1992**	**1:10000**
B	**On site**	**Brick Works**	**1979**	**1:10000**
2	2m SW	Cuttings	1876	1:10560
B	17m S	Unspecified Heap	1992	1:10000
B	17m S	Unspecified Heap	1979	1:10000
A	55m SE	Clay Pit	1992	1:10000
A	55m SE	Clay Pit	1979	1:10000
4	67m SW	Brick Works	1914	1:10560
D	69m SE	Pond	1992	1:10000
D	69m SE	Pond	1979	1:10000
E	76m SW	Cuttings	1876	1:10560
F	76m S	Unspecified Pits	1914	1:10560
F	101m S	Unspecified Ground Workings	1966	1:10560
F	101m S	Pond	1961	1:10560
F	105m S	Unspecified Ground Workings	1961	1:10560
F	107m S	Pond	1966	1:10560
F	124m S	Pond	1914	1:10560
F	127m S	Ponds	1992	1:10000
F	127m S	Ponds	1979	1:10000
G	211m SW	Unspecified Pit	1914	1:10560
G	215m SW	Unspecified Ground Workings	1966	1:10560
E	217m S	Unspecified Ground Workings	1914	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
G	217m SW	Unspecified Pit	1961	1:10560
H	235m S	Unspecified Ground Workings	1966	1:10560
H	236m S	Unspecified Pit	1961	1:10560

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	2

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

Features are displayed on the Mining and ground workings map on **page 122 >**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
1	**On site**	**Sussex Brick,Warnham Stock Brickworks**	**Brick clay**	**Surface mineral working**	**Valid**	**17/12/47**
9	342m NE	Sussex Brick	Clay	Surface mineral working	Valid	Not available

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	2

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

Features are displayed on the Mining and ground workings map on **page 122 >**

ID	Location	Name	Commodity	Class	Likelihood
C	**On site**	**Not available**	**Iron Ore**	**B**	**Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.**
8	257m N	Not available	Iron Ore	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site	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

Site Outline

Search buffers in metres (m)

- Natural cavities (Area)
- Natural cavities (Point)
- Mining cavities
- Reported recent incidents
- Historical incidents
- BGS karst database (Point)
- BGS karst database (Line)
- BGS karst database (Area)

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	1

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.

Features are displayed on the Ground cavities and sinkholes map on **page 129 >**

ID	Location	Mine Address	Mineral	Data source	Publisher
1	609m SE	Warnham, West Sussex	Magnatite, Marcasite, Siderite, Ironstone	'The Iron Industry of the Weald'	Leicester University Press

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m	0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m	0

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

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

This data is sourced from Groundsure.

19.5 National karst database

Records within 500m	0

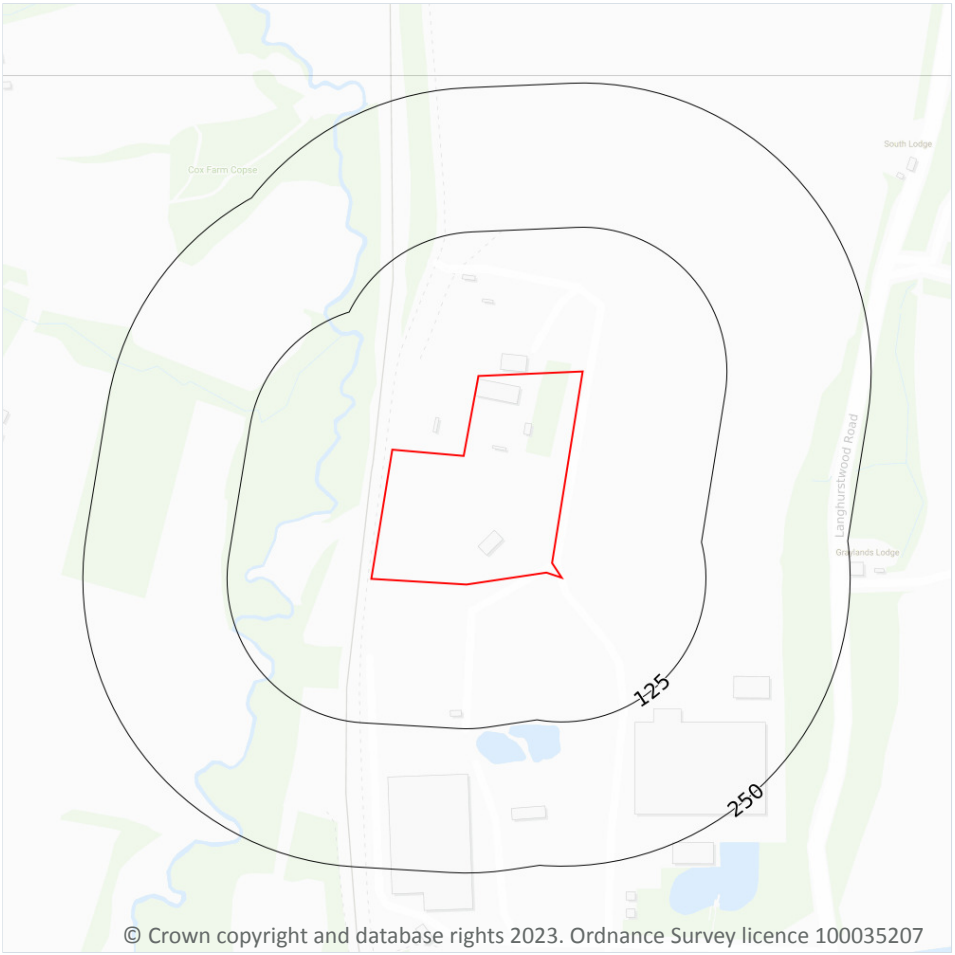
This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

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

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

This data is sourced from the British Geological Survey.

20 Radon



Site Outline

Search buffers in metres (m)

Greater than 30%

Between 10% and 30%

Between 5% and 10%

Between 3% and 5%

Between 1% and 3%

Less than 1%

20.1 Radon

Records on site	1

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

Features are displayed on the Radon map on **page 132 >**

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	5

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	**25 - 35 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
On site	**25 - 35 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
8m SW	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
8m SW	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
48m NE	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

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

This data is sourced from the British Geological Survey.

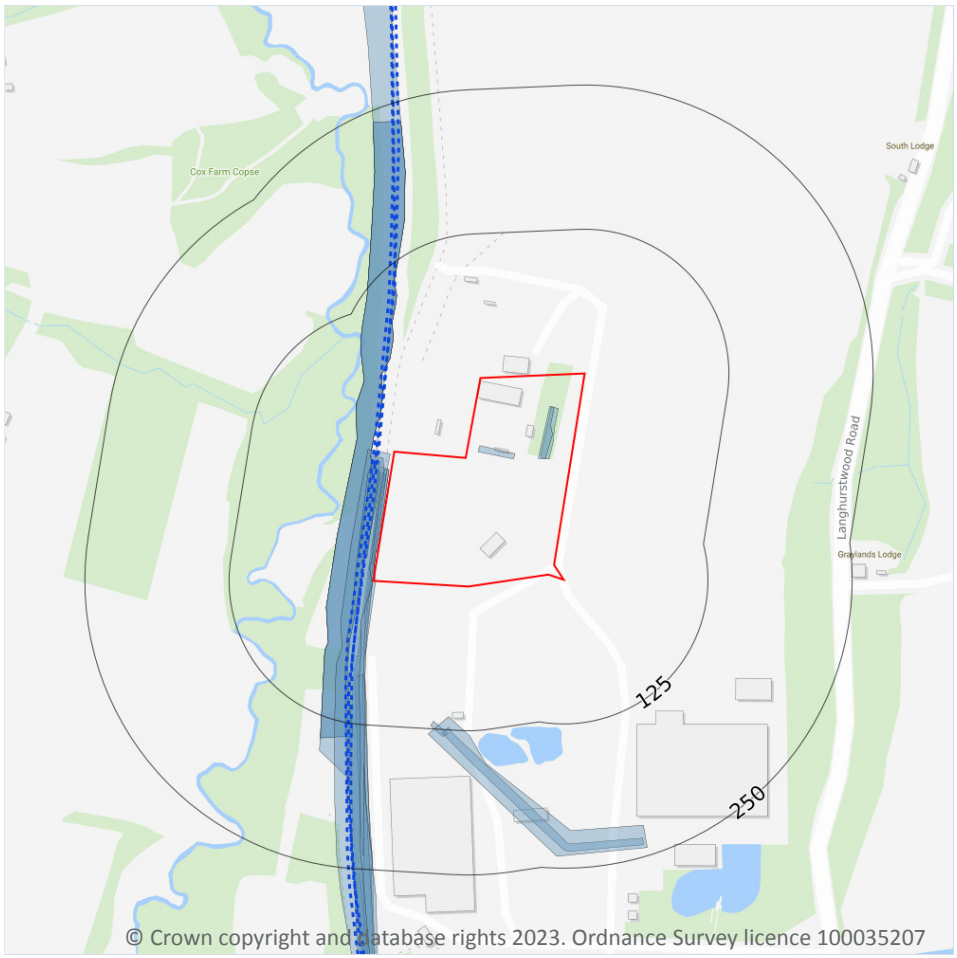
21.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

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

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects



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

22.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m	16

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

Features are displayed on the Railway infrastructure and projects map on **page 136 >**

Location	Land Use	Year of mapping	Mapping scale
On site	**Railway Sidings**	**1974**	**2500**
On site	**Railway Sidings**	**1991**	**2500**
On site	**Railway Sidings**	**1914**	**10560**
1m SW	Railway Sidings	1991	2500
1m SW	Railway Sidings	1974	2500
1m SW	Railway Sidings	1961	10560
2m SW	Railway Sidings	1912	2500
9m W	Railway	1909	-
9m W	Railway	1895	-
9m W	Railway	1875	-
9m SW	Railway Sidings	1966	10560
82m SW	Railway Sidings	1993	2500
114m S	Tramway Sidings	1914	10560
118m S	Railway	1909	-
123m S	Tramway Sidings	1912	2500
160m SW	Railway Sidings	1991	2500

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	5

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

Features are displayed on the Railway infrastructure and projects map on **page 136 >**

Location	Name	Type
10m SW	Sutton and Mole Valley Line	rail
11m SW	Not given	Multi Track
15m W	Not given	Multi Track
15m W	Not given	Multi Track
15m SW	Sutton and Mole Valley Line	rail

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

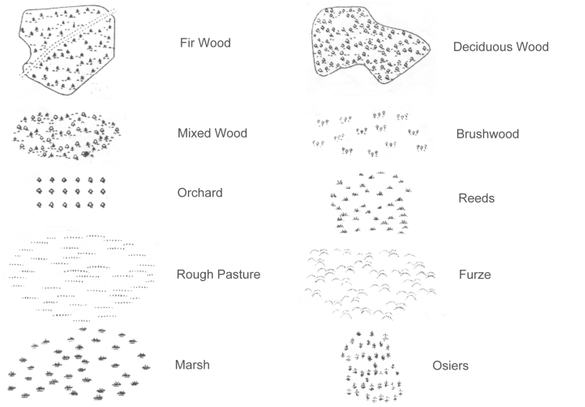
Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference ↗.

Terms and conditions

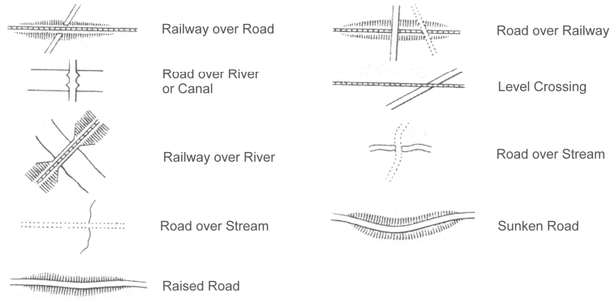
Groundsure's Terms and Conditions can be accessed at this link: https://www.groundsure.com/terms-and-conditions-april-2023/ ↗.

County Series 1:10,560 scale

VEGETATION

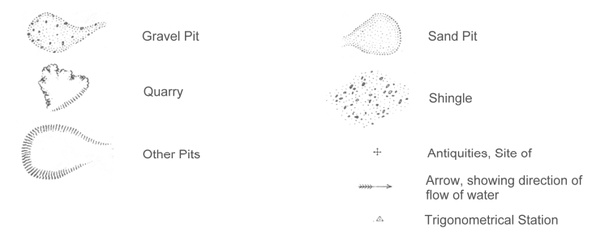


ROADS



RAILWAYS

GENERAL FEATURES



BOUNDARIES

National Grid 1:10,000 scale

HEIGHTS (METRES)

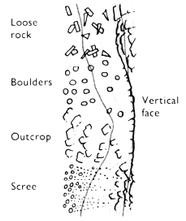
Values are given in metres above mean sea level at Newlyn.

Surface heights determined by: ground survey ▪ 163m; air survey ▪

Bench marks and their values are shown on large scale maps, and bench mark lists containing fuller and possibly later levelling information are obtainable from the Director General, Ordnance Survey.

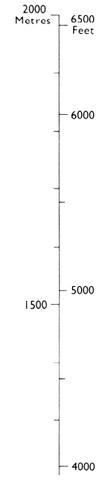
Contours are at 5 metres vertical interval.

ROCK FEATURES



CONVERSION SCALE

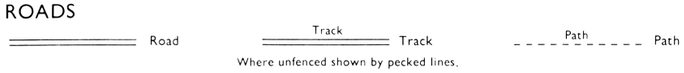
Metres - Feet



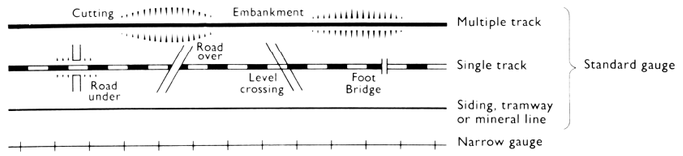
ABBREVIATIONS

BP,BS	Boundary Post or Stone	PO	Post Office
Ch	Church	PC	Public Convenience
CH	Club House	PH	Public House
F Sta	Fire Station	S	Stone
FB	Foot Bridge	Spr	Spring
Fn	Fountain	TCB	Telephone Call Box
GP	Guide Post	TCP	Telephone Call Post
MP,MS	Mile Post or Stone	TH	Town Hall
P	Pole or Post	W	Well
Pol Sta	Police Station	Y	Youth hostel

ROADS



RAILWAYS



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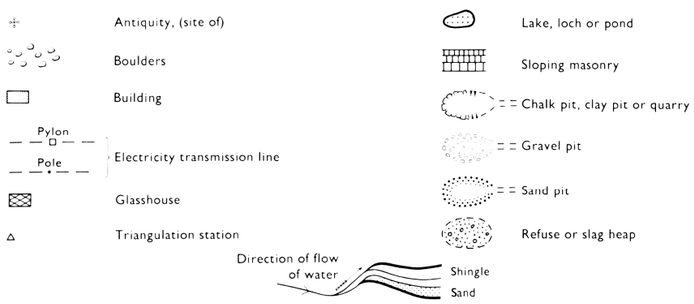
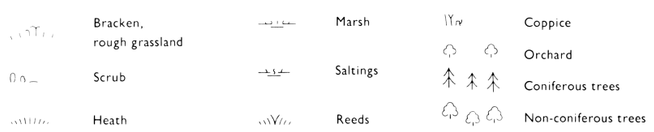


VEGETATION



In some areas bracken ( ) and rough grassland ( ) are shown separately.

GroundSure

Historical Map Pack Legend

County Series & National Grid

1:10,560 scale

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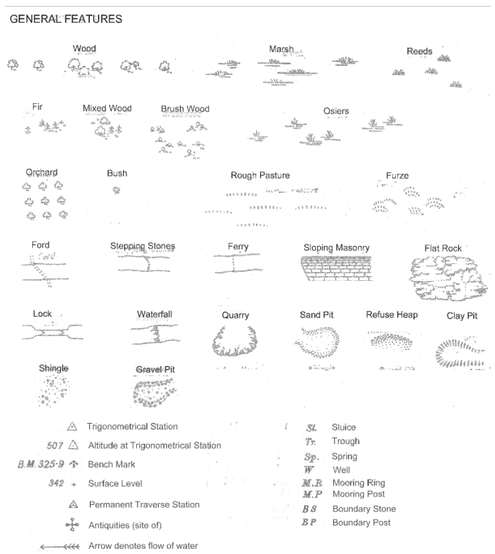
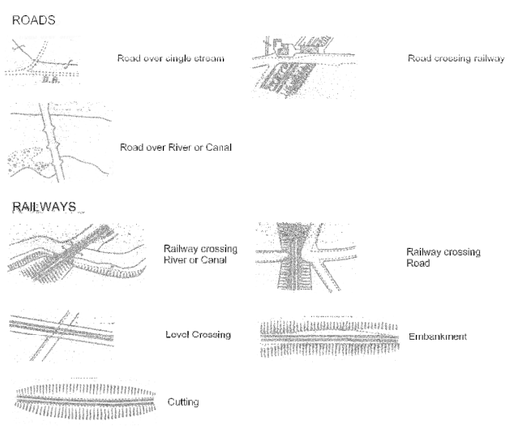
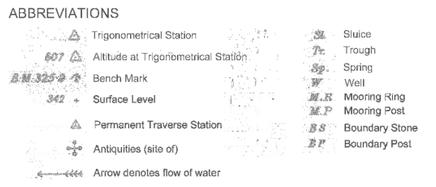
groundsureinsight@groundsure.com
www.groundsure.com

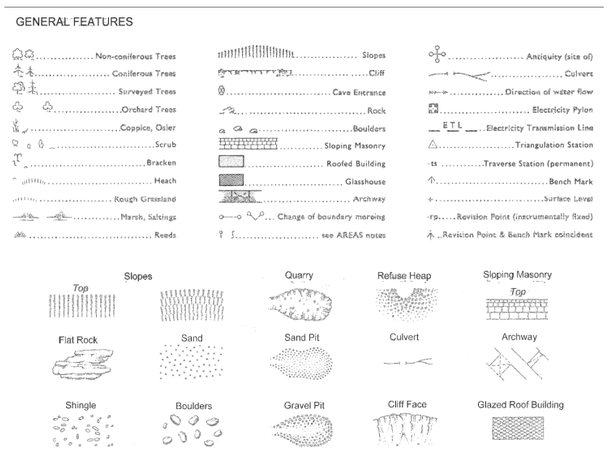
County Series 1:2,500 scale

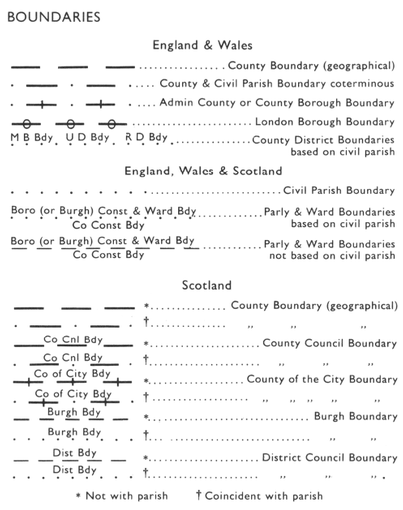


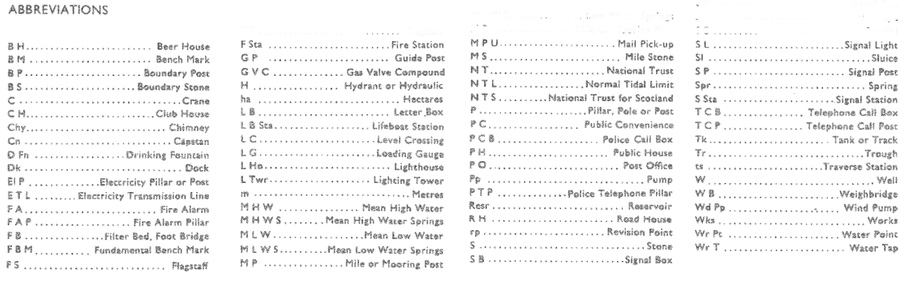




National Grid 1:2,500 / 1:1,250 scale







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Historical Map Pack Legend

County Series

1:1,250 scale

~

County Series & National Grid

1:2,500 scale

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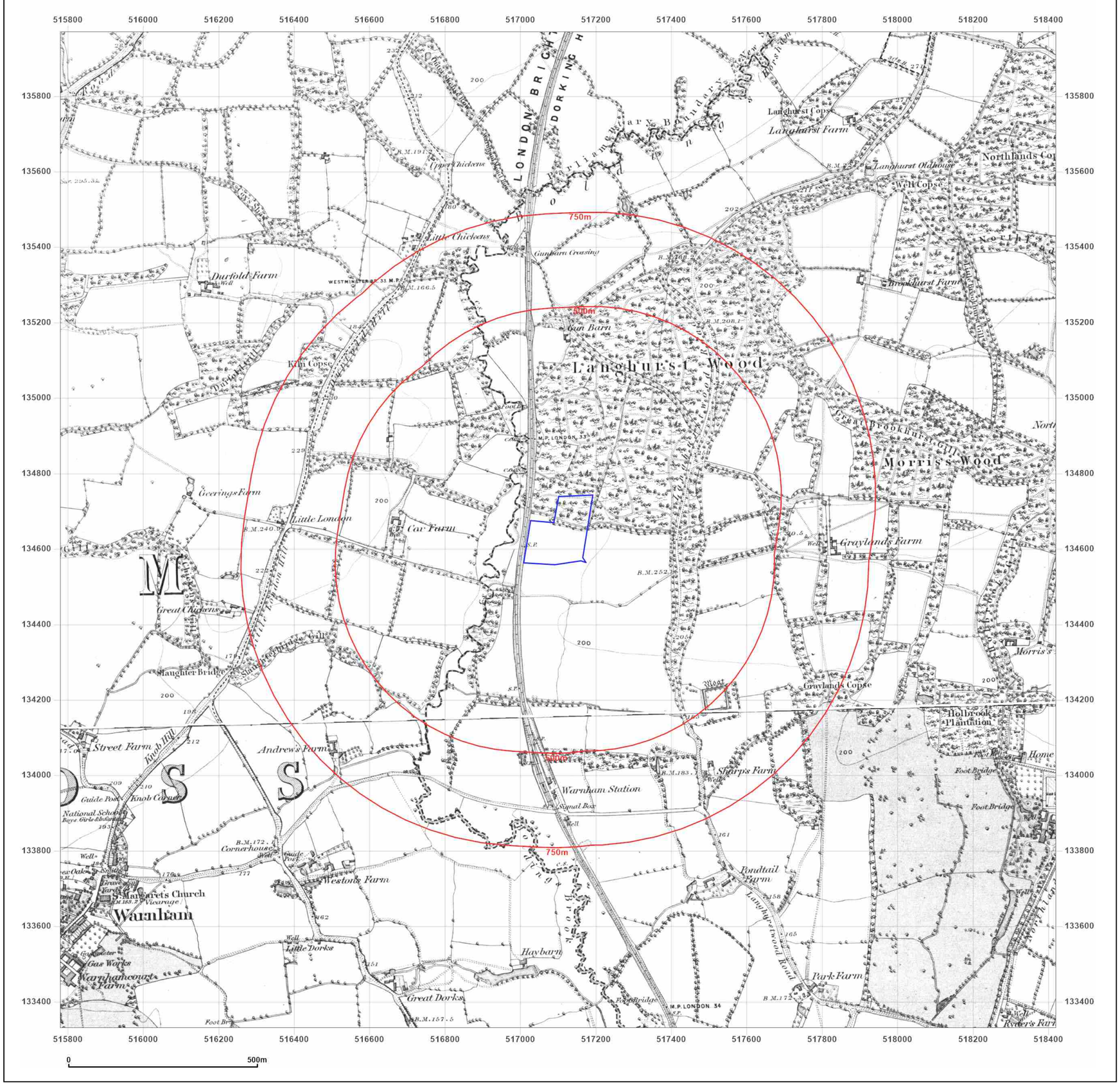


EMAPSITE™

Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: County Series

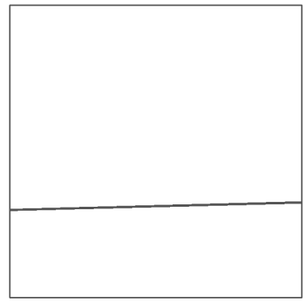
Map date: **1876**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1876
Revised 1876
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1876
Revised 1876
Edition N/A
Copyright N/A
Levelled N/A

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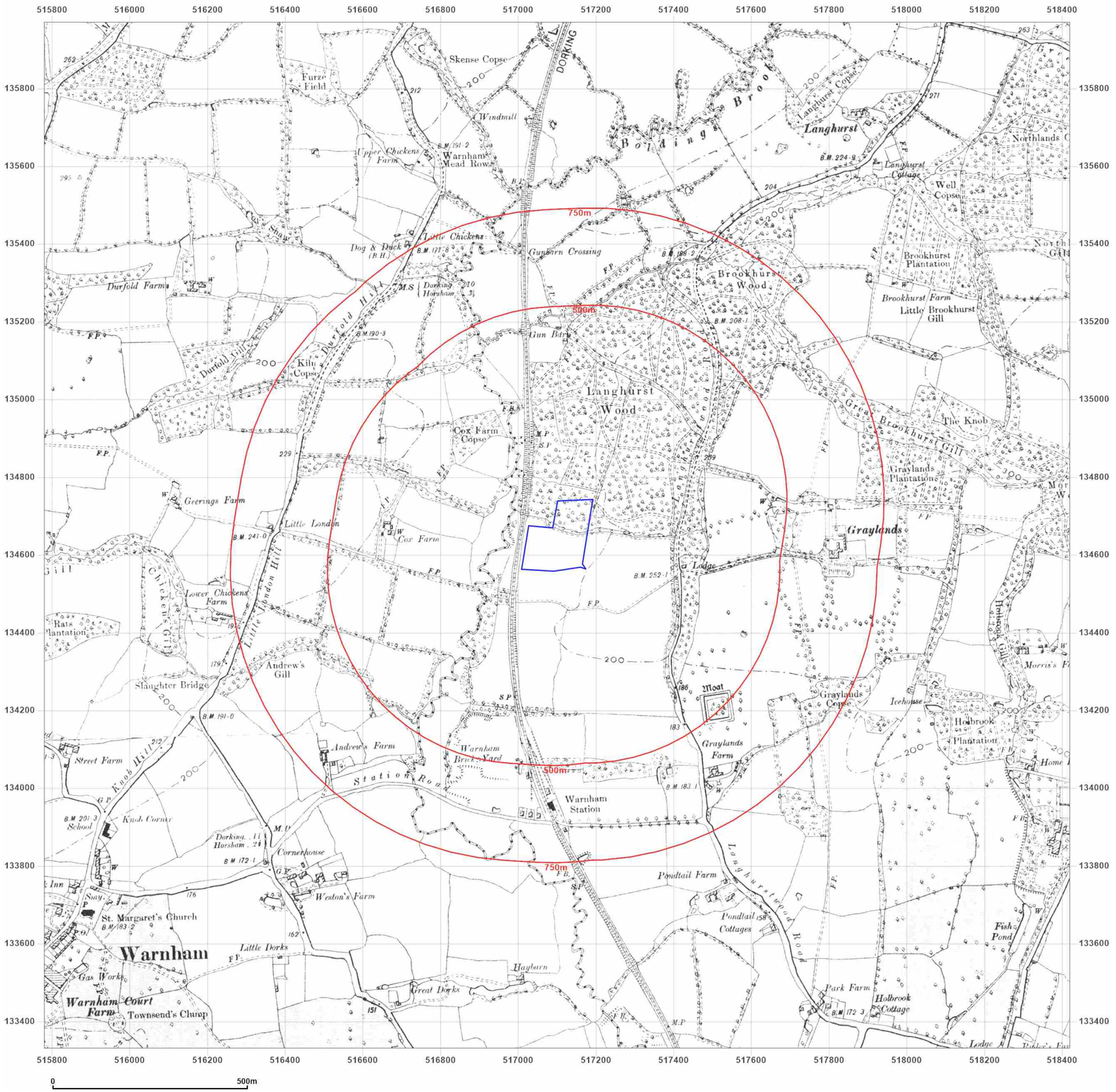

EMAPSITE™

Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: County Series

Map date: **1895-1896**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1875
Revised 1895
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1876
Revised 1896
Edition N/A
Copyright N/A
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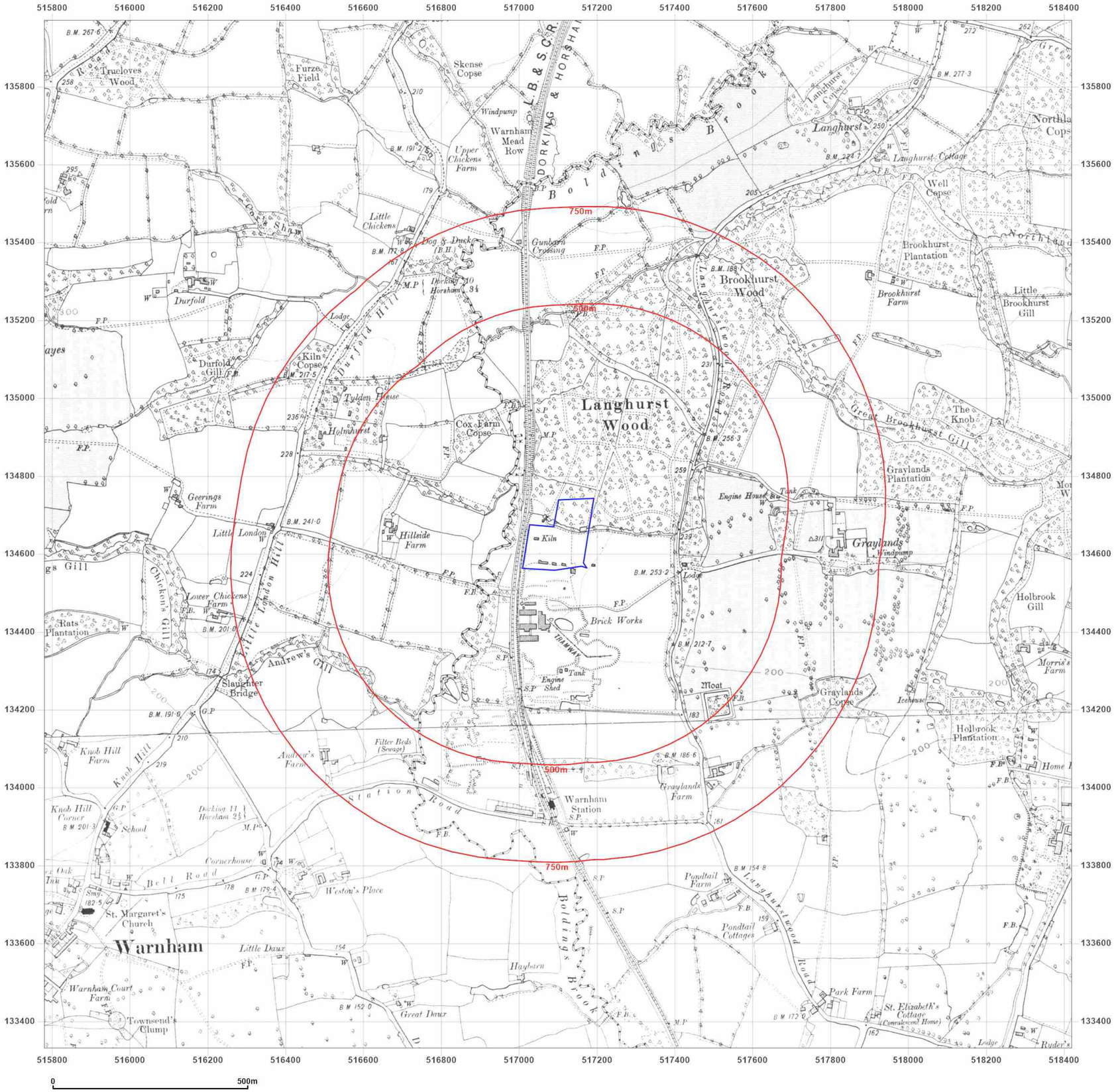

EMAPSITE™

Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: County Series

Map date: **1909-1914**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1874
Revised 1914
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1874
Revised 1909
Edition N/A
Copyright N/A
Levelled N/A

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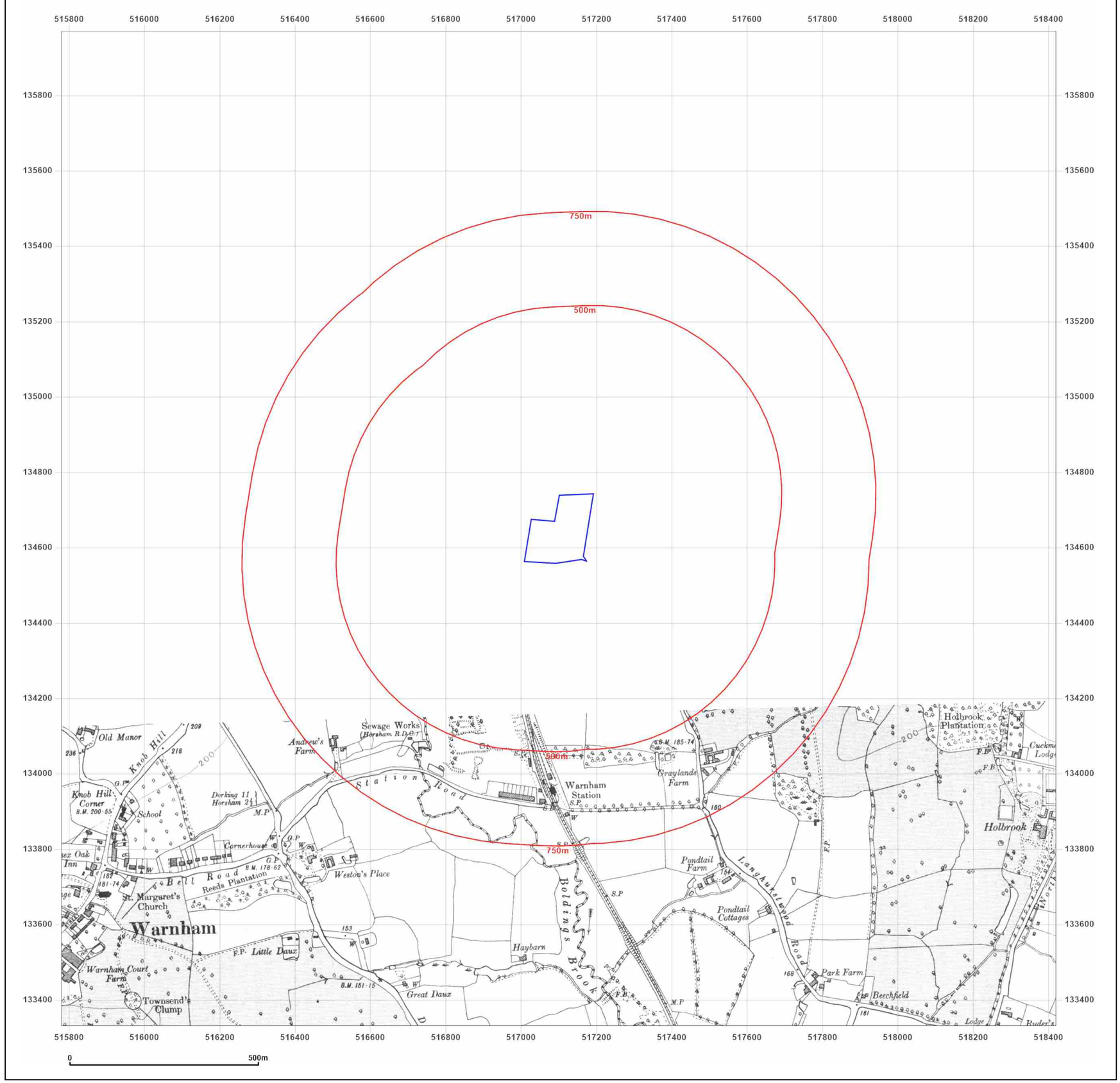

EMAPSITE™

Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: County Series

Map date: **1932**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1874
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

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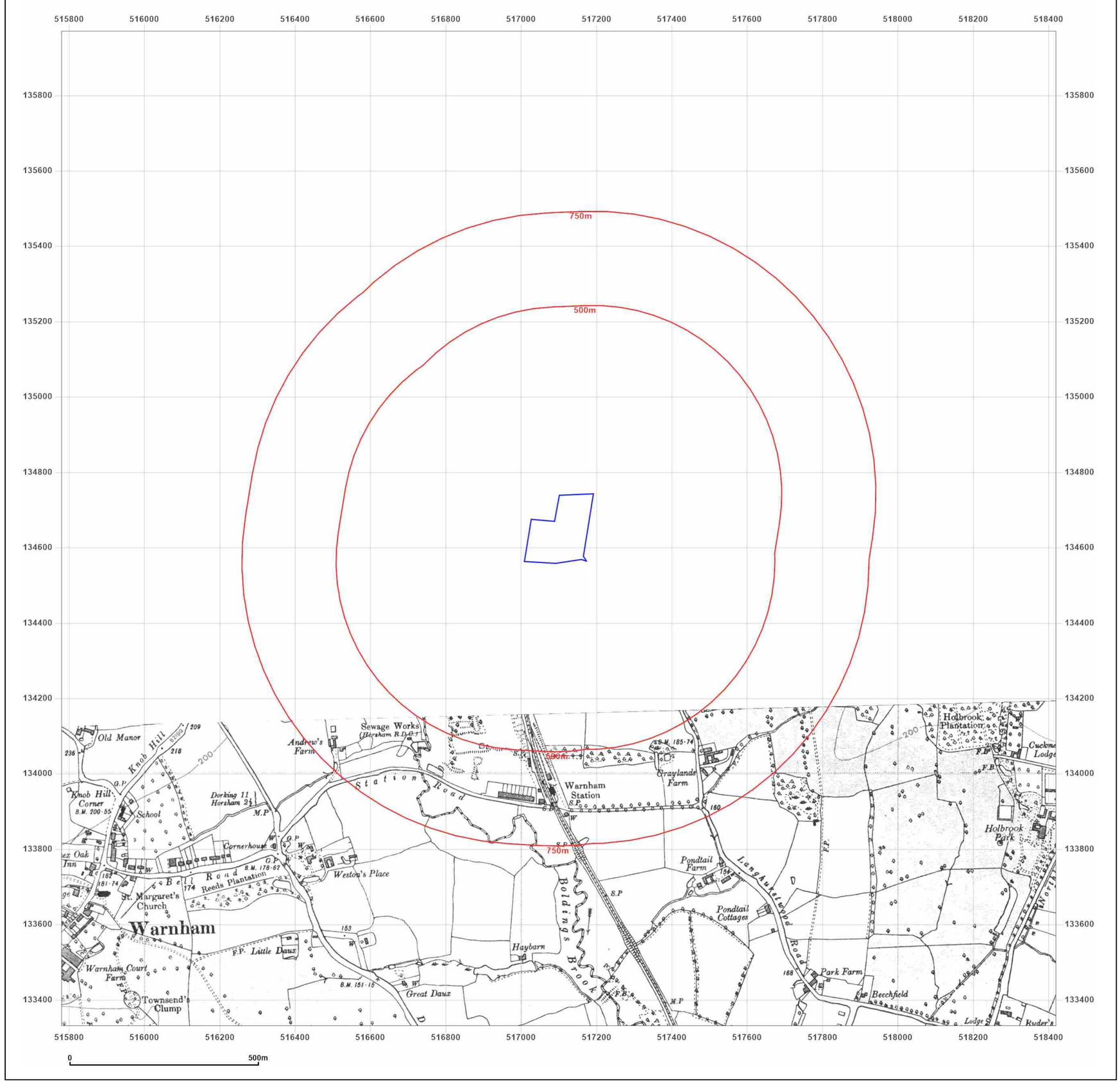

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Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1874
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A

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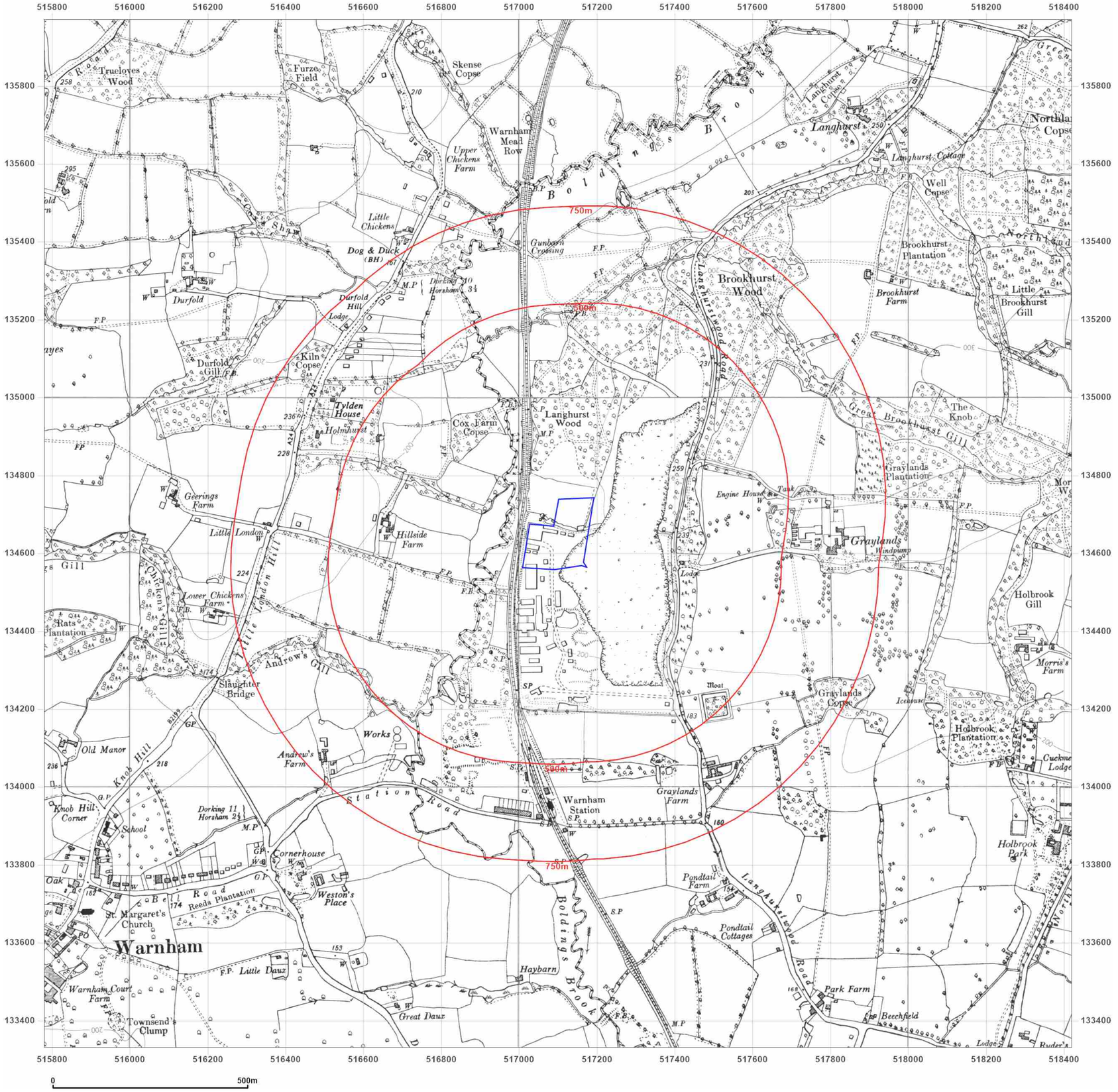

EMAPSITE™

Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: Provisional

Map date: **1961**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1955
Revised 1961
Edition N/A
Copyright N/A
Levelled N/A

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

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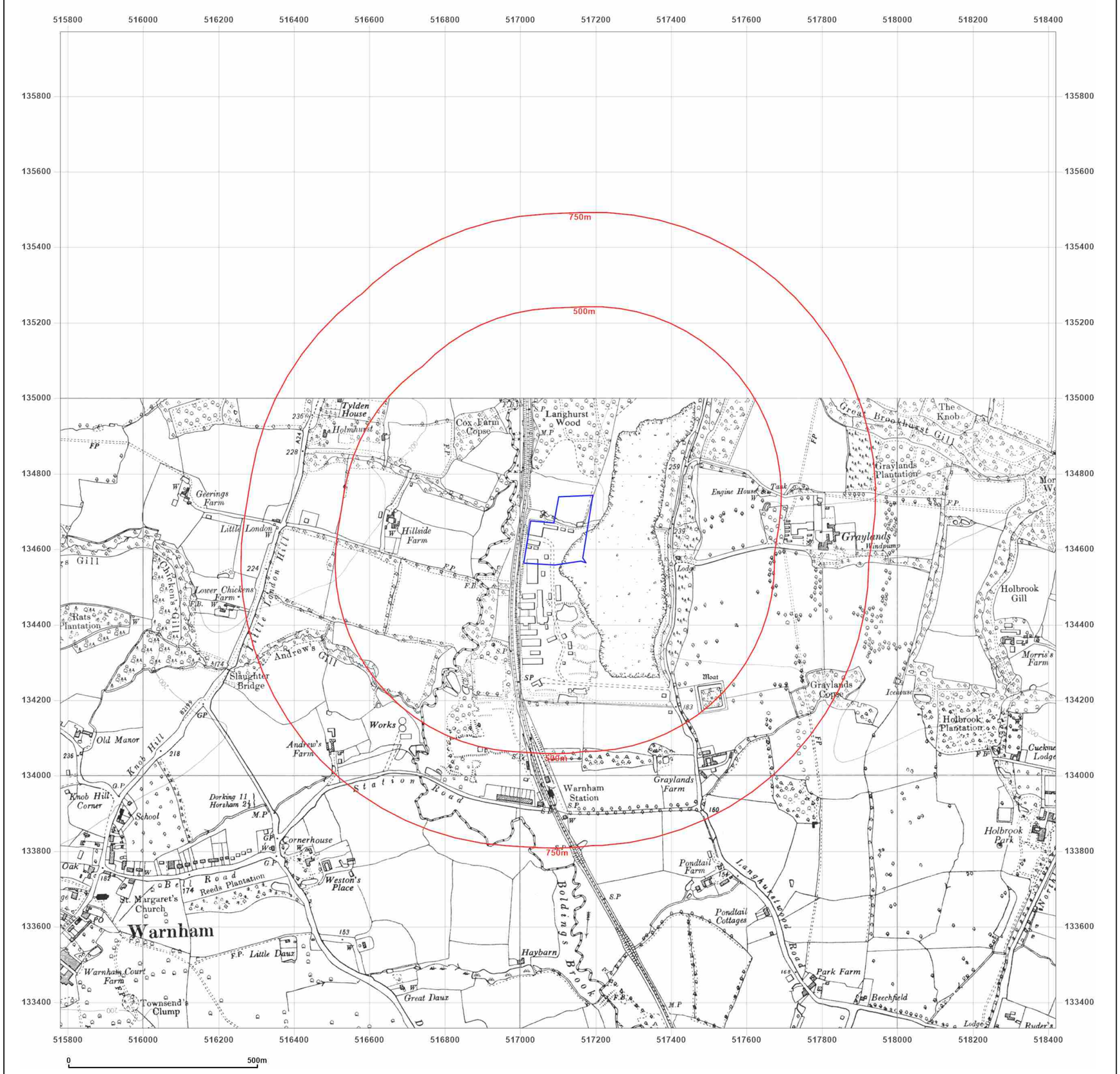

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Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: Provisional

Map date: **1966**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed N/A
Revised 1966
Edition N/A
Copyright 1961
Levelled N/A

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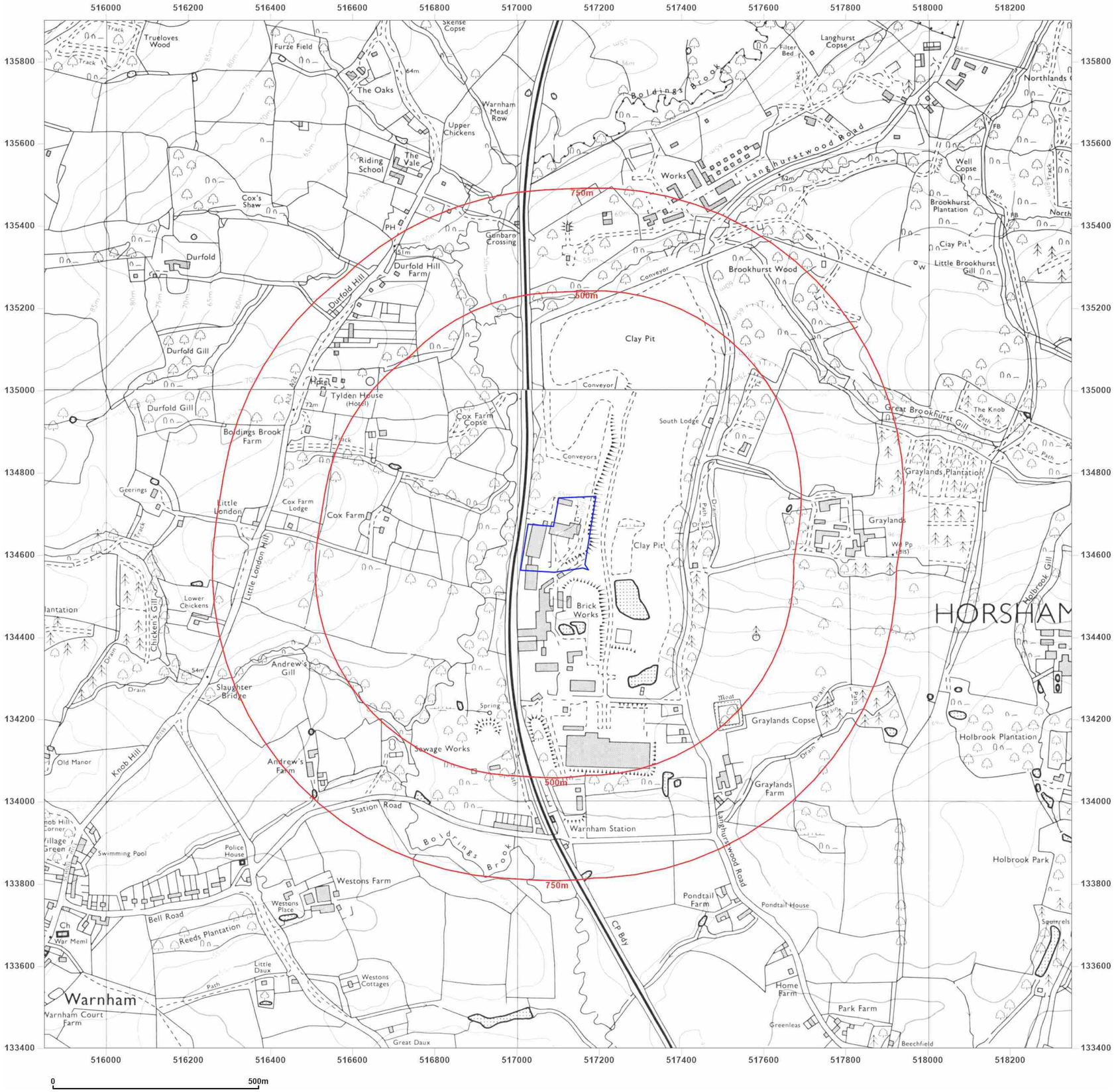

EMAPSITE™

Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: National Grid

Map date: **1978-1979**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1974
Revised 1978
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1979
Revised 1979
Edition N/A
Copyright N/A
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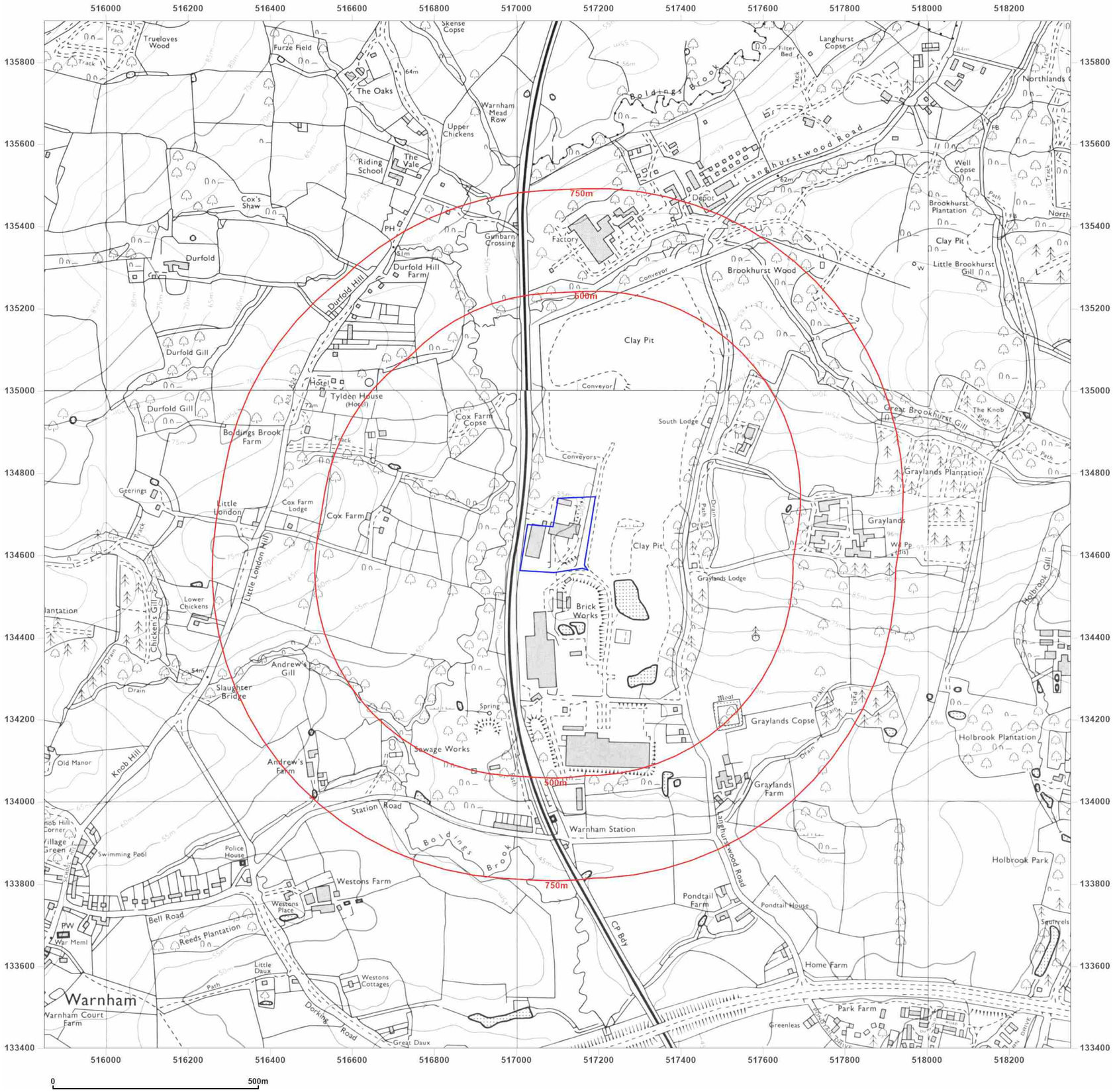

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Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: National Grid

Map date: **1989-1992**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

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

Surveyed 1991
Revised 1992
Edition N/A
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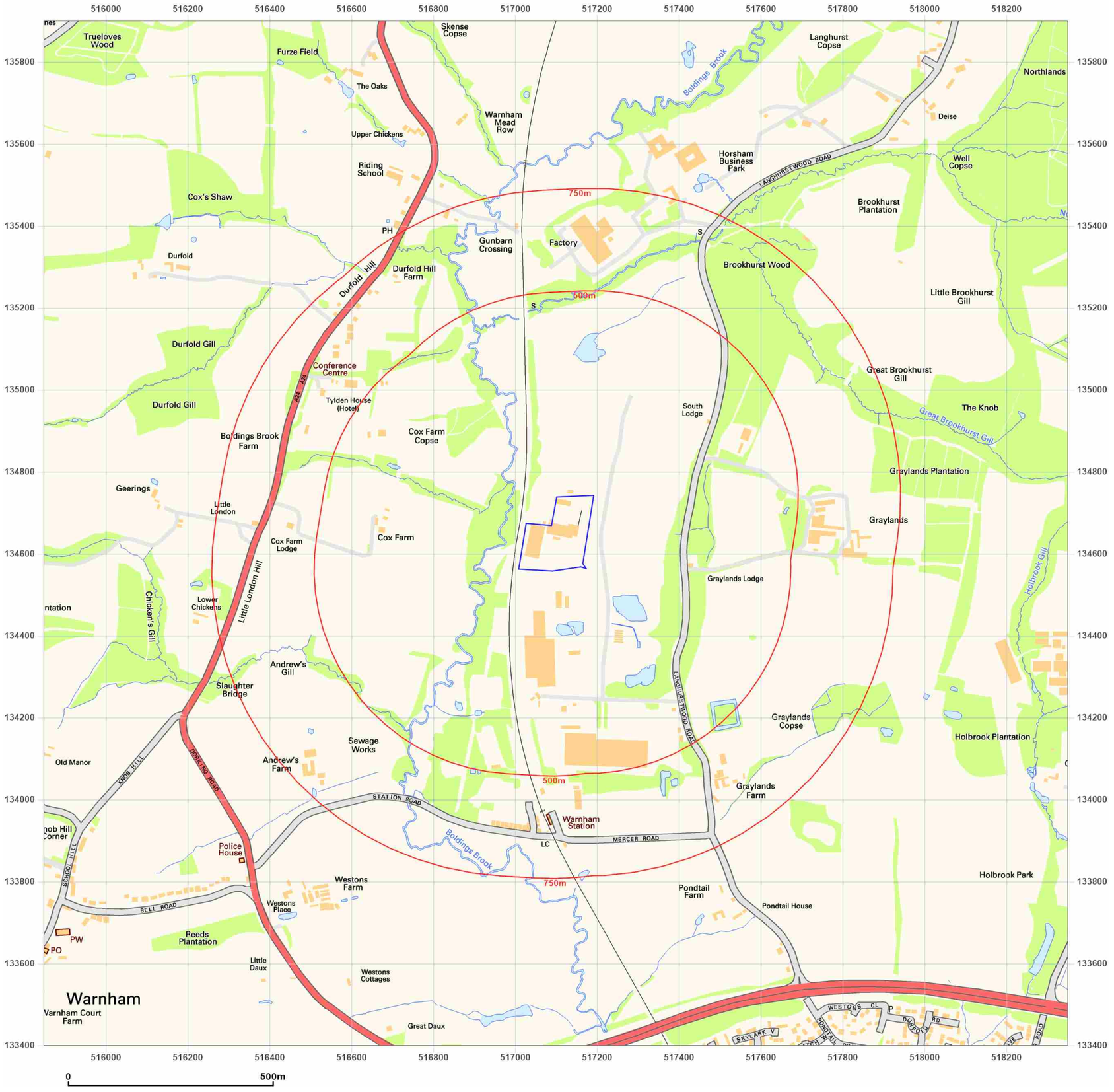

EMAPSITE™

Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

N
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2001

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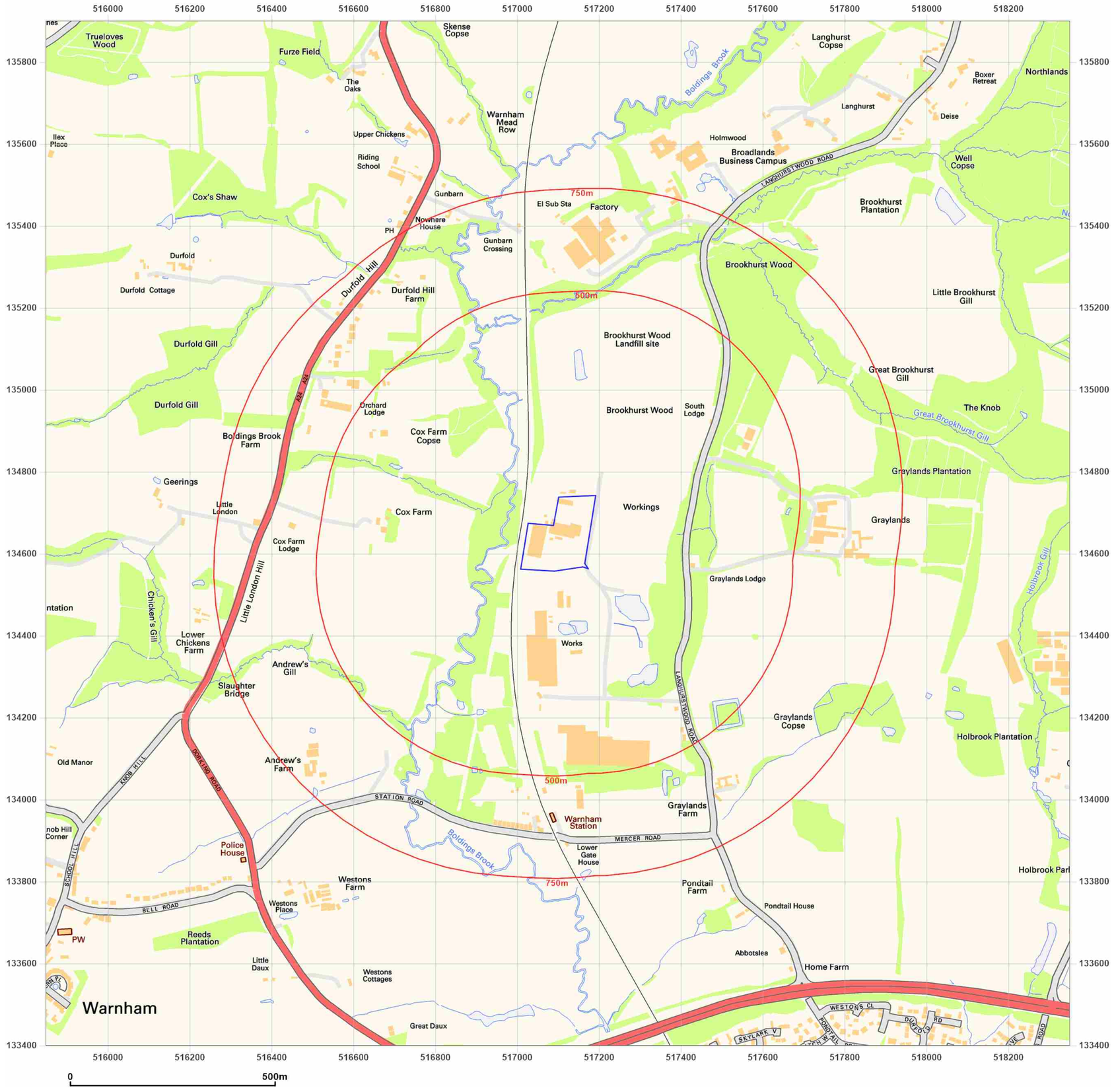

EMAPSITE™

Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

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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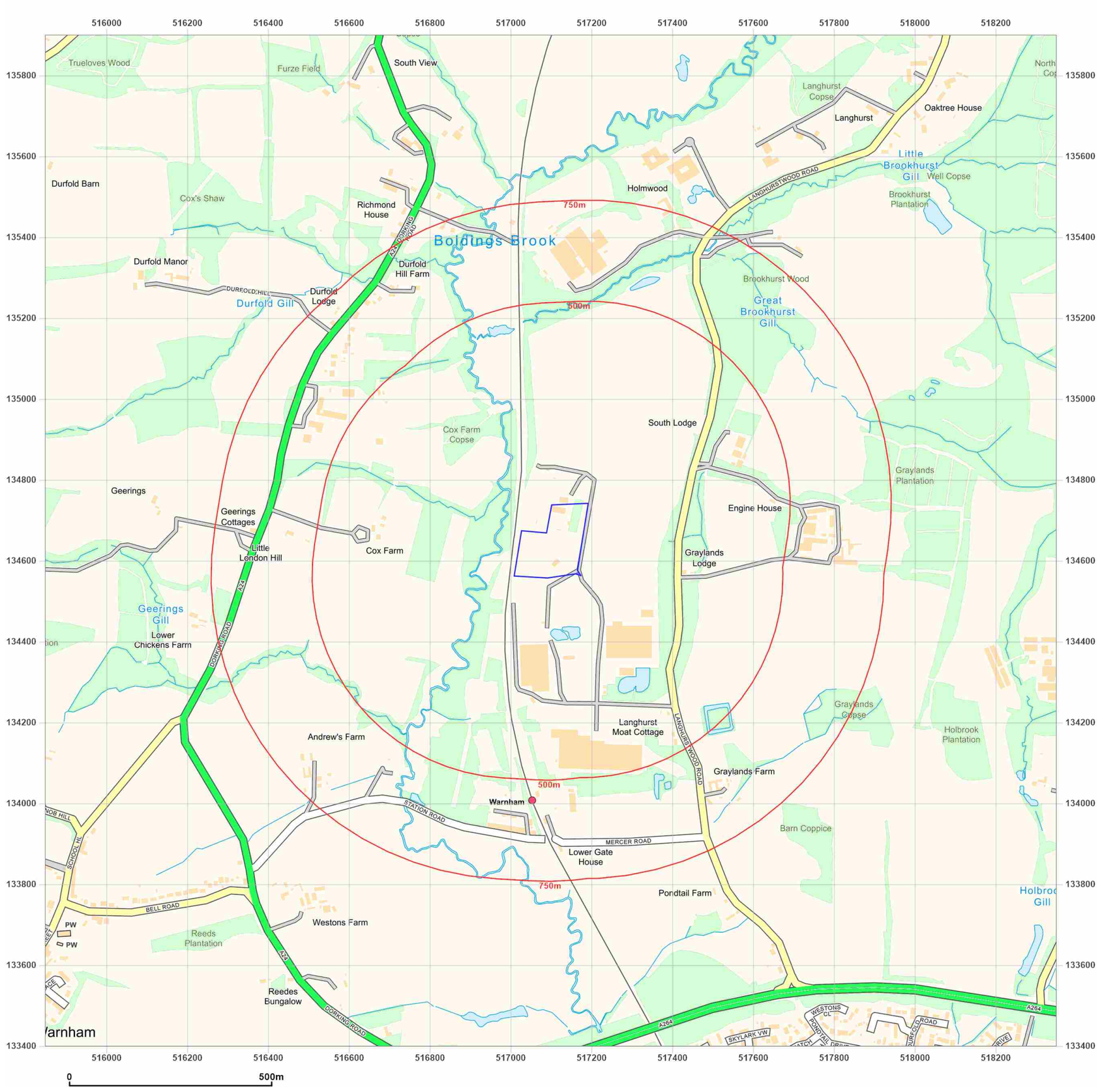

EMAPSITE™

Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: National Grid

Map date: **2023**

Scale: 1:10,000

Printed at: 1:10,000

N
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2023

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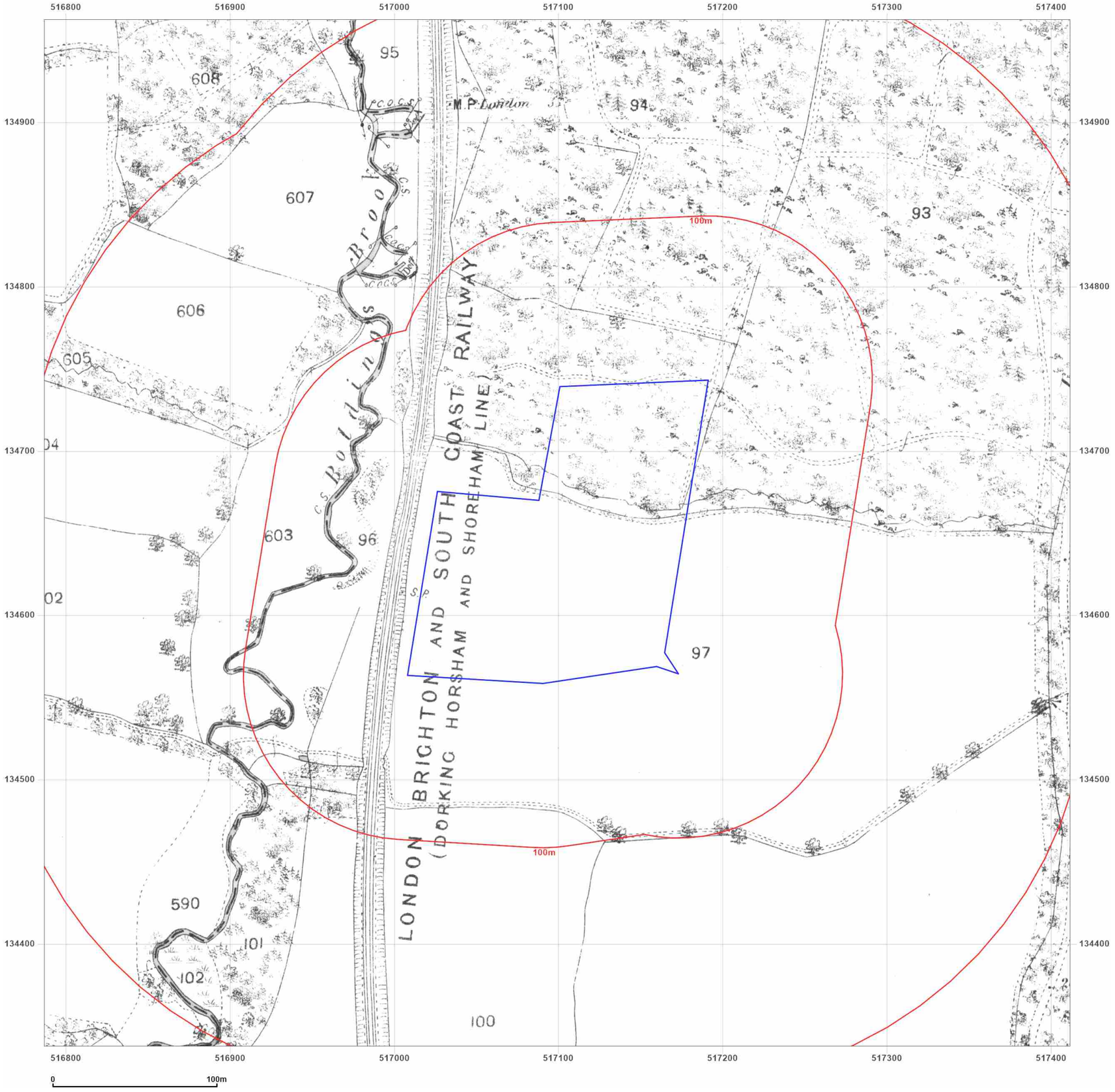

EMAPSITE™

Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: County Series

Map date: **1878**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1878
Revised 1878
Edition N/A
Copyright N/A
Levelled N/A

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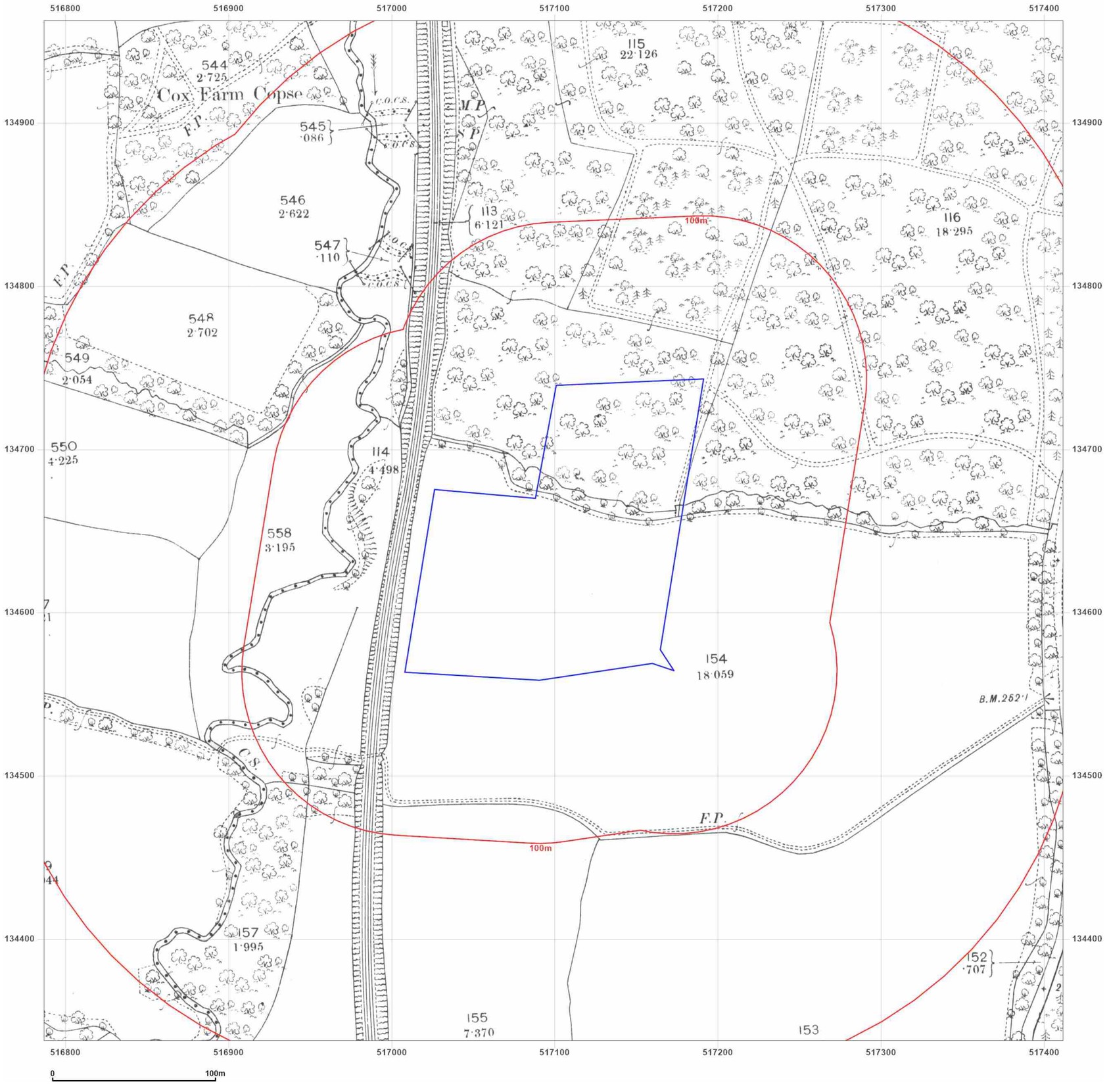

EMAPSITE™

Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: County Series

Map date: **1897**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1897
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

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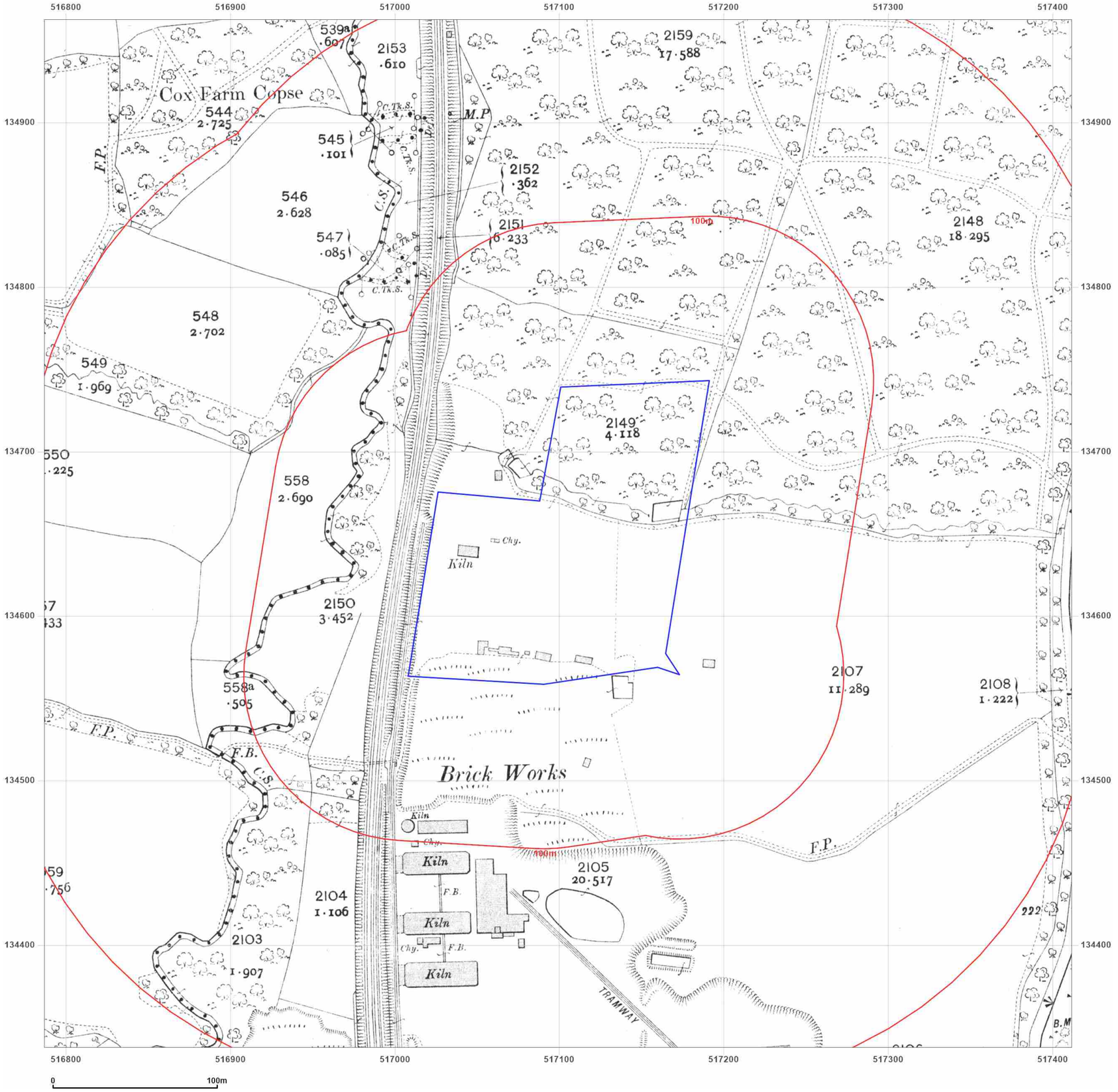

EMAPSITE™

Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: County Series

Map date: **1912**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1912
Revised 1912
Edition N/A
Copyright N/A
Levelled N/A

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Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: National Grid

Map date: **1976**

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

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

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Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: National Grid

Map date: **1976**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1974
Revised 1974
Edition N/A
Copyright 1976
Levelled 1973

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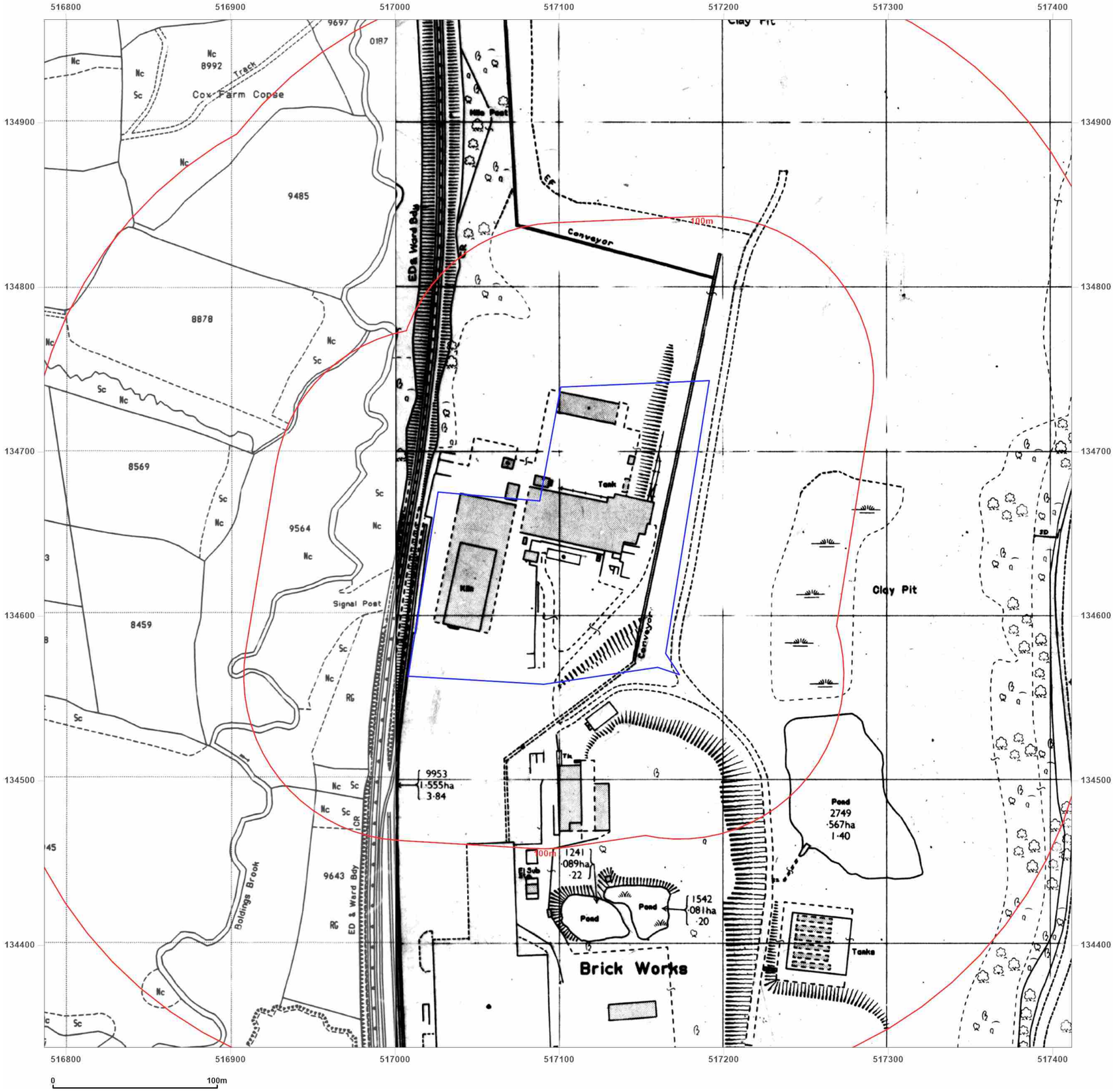

EMAPSITE™

Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: National Grid

Map date: **1991-1993**

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

Surveyed 1973
Revised 1991
Edition N/A
Copyright 1991
Levelled 1973

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

EMAPSITE™

Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
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EMAPSITE™

Site Details:

unspecified

Client Ref: EMS_876044_1083903
Report Ref: EMS-876044_1120919
Grid Ref: 517099, 134650

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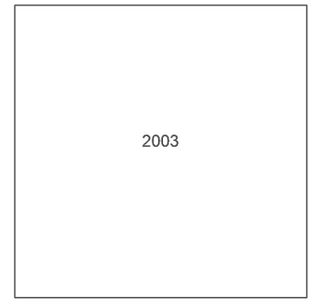

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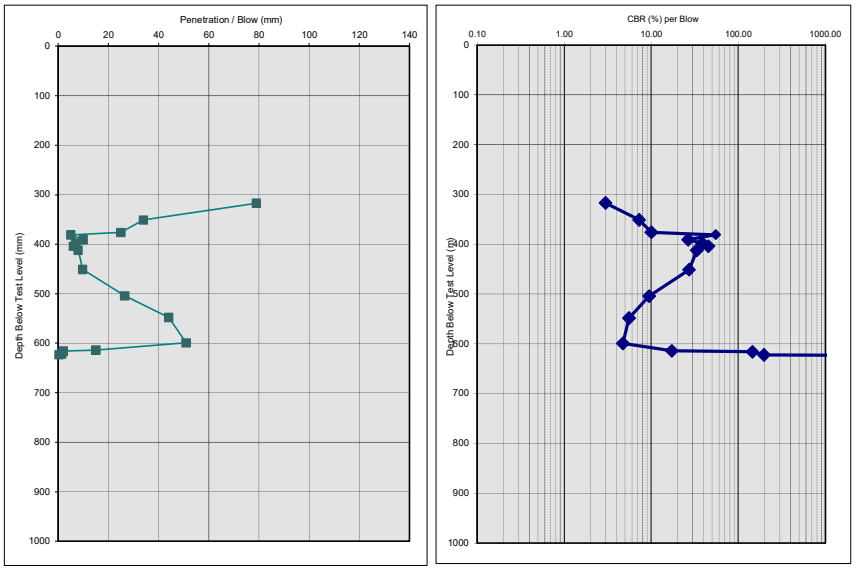
APPENDIX E – DCP GRAPHS

DYNAMIC CONE PENETROMETER TEST - CBR RELATIONSHIP

Project Number	4000760
Project Ref	Brookhurst Wood
Tested by	Swan Environmental Services
Client	Biffa Waste Services

Test Location	TP01
Project Reference	Brookhurst Wood
Client	Biffa
Date of Test	18/05/2023
Material at test surface	
Test Start Depth	
Formation notes	
Hammer Weight	8 kg
Falling Height	575mm
Standard Cone	20mm diameter, 60 degree apex angle
Test Procedure & Specification:	TRL DCP technical notes 2004 BS1377 1990: Soils for civil engineering purposes
DCP / CBR Relationship:	Log_{10} (CBR) = 2.480 - 1.057 x Log_{10} (penetration / mm) (after TRL Road Note 8)

Remarks



Measured Depth (mm)	Depth below test level (mm)	Blows	Penetration per blow (mm) (mm)	Log 10 CBR per blow (%)	CBR per blow (%)
238	238	0			
317	317	1	79	0.47	2.98
351	351	2	34	0.86	7.26
376	376	3	25	1.00	10.05
381	381	4	5	1.74	55.10
391	391	5	10	1.42	26.49
398	398	6	7	1.59	38.61
404	404	7	6	1.66	45.45
412	412	8	8	1.53	33.53
451	451	12	9.75	1.43	27.20
504	504	14	26.5	0.98	9.45
548	548	15	44	0.74	5.53
599	599	16	51	0.68	4.73
614	614	17	15	1.24	17.25
616	616	18	2	2.16	145.15
622	622	22	1.5	2.29	196.73
623	623	26	0.25	3.12	1307.31

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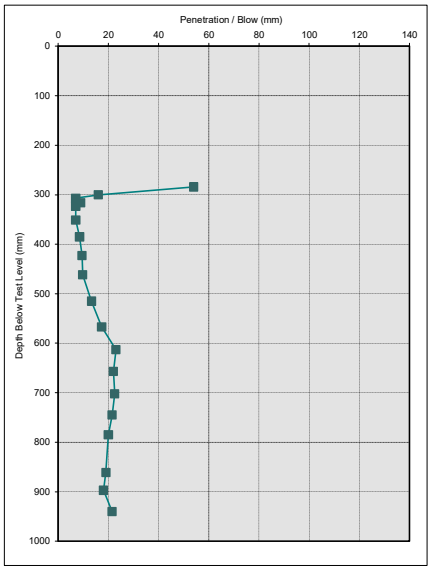
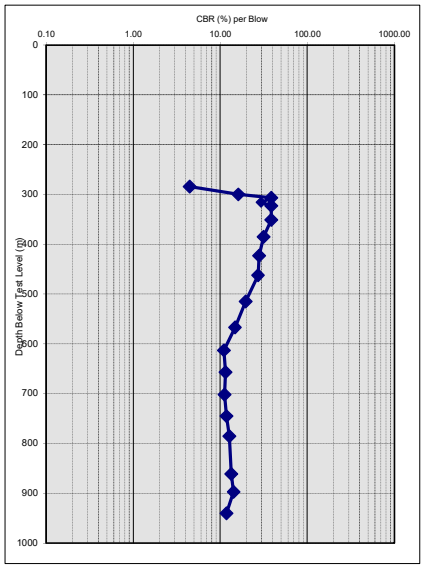
DYNAMIC CONE PENETROMETER TEST - CBR RELATIONSHIP

Project Number	4000760
Project Ref	Brookhurst Wood
Tested by	Swan Environmental Services
Client	Biffa Waste Services

Test Location	TP02
Project Reference	Brookhurst Wood
Client	Biffa
Date of Test	19/05/2023
Material at test surface	
Test Start Depth	
Formation notes	
Hammer Weight	8 kg
Falling Height	575mm
Standard Cone	20mm diameter, 60 degree apex angle
Test Procedure & Specification:	TRL DCP technical notes 2004 BS1377 1990: Soils for civil engineering purposes
DCP / CBR Relationship:	Log_{10} (CBR) = 2.480 - 1.057 x Log_{10} (penetration / mm) (after TRL Road Note 8)

Remarks





Measured Depth (mm)	Depth below test level (mm)	Blows	Penetration per blow (mm) (mm)	Log 10 CBR per blow (%)	CBR per blow (%)
230	230	0			
284	284	1	54	0.65	4.46
300	300	2	16	1.21	16.12
307	307	3	7	1.59	38.61
316	316	4	9	1.47	29.61
323	323	5	7	1.59	38.61
351	351	9	7	1.59	38.61
385	385	13	8.5	1.50	31.45
423	423	17	9.5	1.45	27.96
462	462	21	9.75	1.43	27.20
515	515	25	13.25	1.29	19.67
567	567	28	17.33333333	1.17	14.81
613	613	30	23	1.04	10.98
657	657	32	22	1.06	11.51
702	702	34	22.5	1.05	11.24
745	745	36	21.5	1.07	11.79
785	785	38	20	1.10	12.73
861	861	42	19	1.13	13.44
897	897	44	18	1.15	14.23
940	940	46	21.5	1.07	11.79

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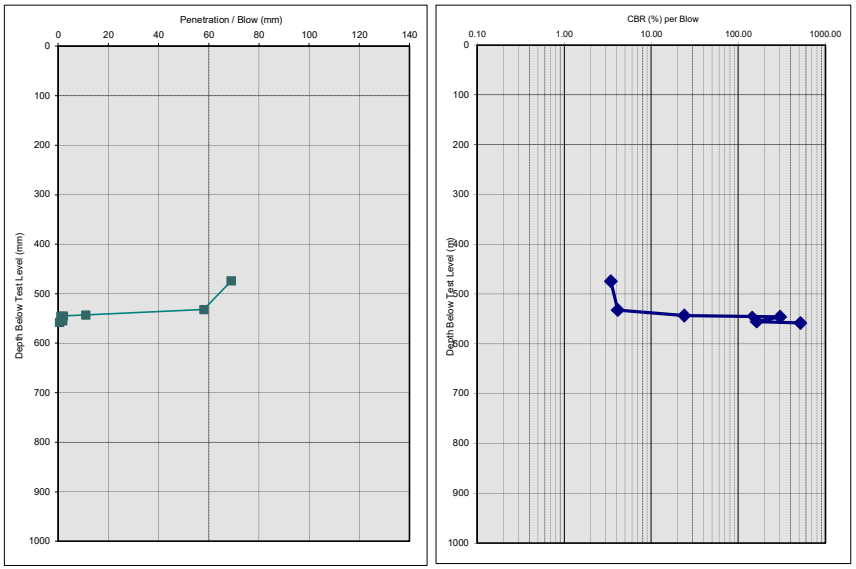
DYNAMIC CONE PENETROMETER TEST - CBR RELATIONSHIP

Project Number	4000760
Project Ref	Brookhurst Wood
Tested by	Swan Environmental Services
Client	Biffa Waste Services

Test Location	TP03
Project Reference	Brookhurst Wood
Client	Biffa
Date of Test	18/05/2023
Material at test surface	
Test Start Depth	
Formation notes	
Hammer Weight	8 kg
Falling Height	575mm
Standard Cone	20mm diameter, 60 degree apex angle
Test Procedure & Specification:	TRL DCP technical notes 2004 BS1377 1990: Soils for civil engineering purposes
DCP / CBR Relationship:	Log_{10} (CBR) = 2.480 - 1.057 x Log_{10} (penetration / mm) (after TRL Road Note 8)

Remarks



Measured Depth (mm)	Depth below test level (mm)	Blows	Penetration per blow (mm) (mm)	Log 10 CBR per blow (%)	CBR per blow (%)
405	405	0			
474	474	1	69	0.54	3.44
532	532	2	58	0.62	4.13
543	543	3	11	1.38	23.95
545	545	4	2	2.16	145.15
546	546	5	1	2.48	302.00
555	555	10	1.8	2.21	162.25
558	558	15	0.6	2.71	518.20

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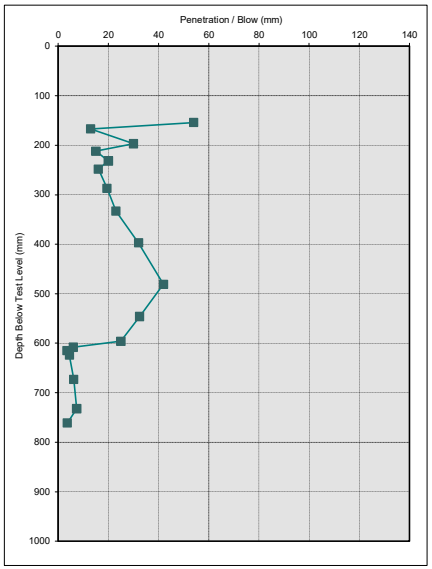
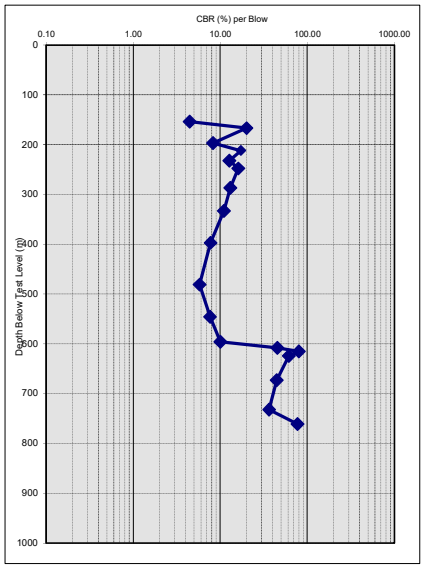
DYNAMIC CONE PENETROMETER TEST - CBR RELATIONSHIP

Project Number	4000760
Project Ref	Brookhurst Wood
Tested by	Swan Environmental Services
Client	Biffa Waste Services

Test Location	TP04
Project Reference	Brookhurst Wood
Client	Biffa
Date of Test	18/05/2023
Material at test surface	
Test Start Depth	
Formation notes	
Hammer Weight	8 kg
Falling Height	575mm
Standard Cone	20mm diameter, 60 degree apex angle
Test Procedure & Specification:	TRL DCP technical notes 2004 BS1377 1990: Soils for civil engineering purposes
DCP / CBR Relationship:	Log_{10} (CBR) = 2.480 - 1.057 x Log_{10} (penetration / mm) (after TRL Road Note 8)

Remarks





Measured Depth (mm)	Depth below test level (mm)	Blows	Penetration per blow (mm) (mm)	Log 10 CBR per blow (%)	CBR per blow (%)
100	100	0			
154	154	1	54	0.65	4.46
167	167	2	13	1.30	20.07
197	197	3	30	0.92	8.29
212	212	4	15	1.24	17.25
232	232	5	20	1.10	12.73
248	248	6	16	1.21	16.12
287	287	8	19.5	1.12	13.07
333	333	10	23	1.04	10.98
397	397	12	32	0.89	7.75
481	481	14	42	0.76	5.81
546	546	16	32.5	0.88	7.62
596	596	18	25	1.00	10.05
608	608	20	6	1.66	45.45
615	615	22	3.5	1.90	80.34
624	624	24	4.5	1.79	61.60
673	673	32	6.125	1.65	44.47
732	732	40	7.375	1.56	36.54
761	761	48	3.625	1.89	77.41

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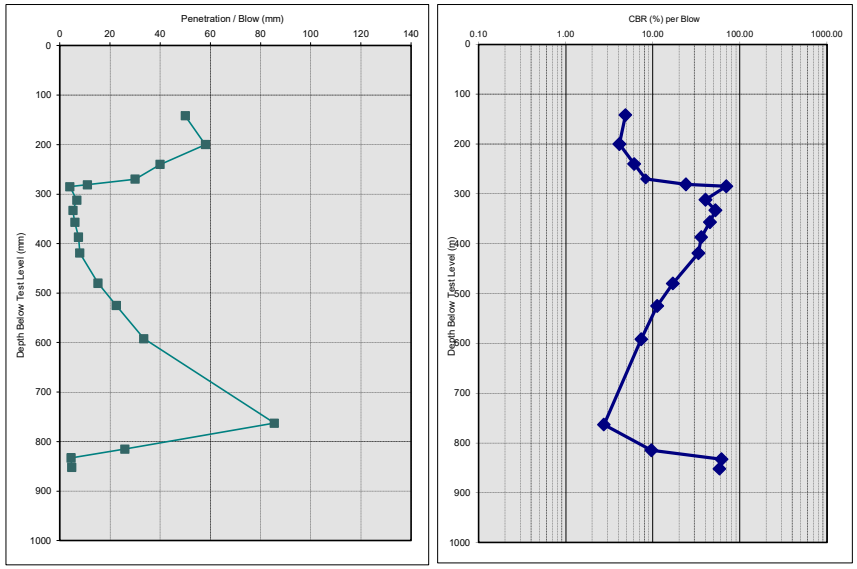
DYNAMIC CONE PENETROMETER TEST - CBR RELATIONSHIP

Project Number	4000760
Project Ref	Brookhurst Wood
Tested by	Swan Environmental Services
Client	Biffa Waste Services

Test Location	TP05
Project Reference	Brookhurst Wood
Client	Biffa
Date of Test	19/05/2023
Material at test surface	
Test Start Depth	
Formation notes	
Hammer Weight	8 kg
Falling Height	575mm
Standard Cone	20mm diameter, 60 degree apex angle
Test Procedure & Specification:	TRL DCP technical notes 2004 BS1377 1990: Soils for civil engineering purposes
DCP / CBR Relationship:	Log_{10} (CBR) = 2.480 - 1.057 x Log_{10} (penetration / mm) (after TRL Road Note 8)

Remarks



Measured Depth (mm)	Depth below test level (mm)	Blows	Penetration per blow (mm) (mm)	Log 10 CBR per blow (%)	CBR per blow (%)
92	92	0			
142	142	1	50	0.68	4.83
200	200	2	58	0.62	4.13
240	240	3	40	0.79	6.12
270	270	4	30	0.92	8.29
281	281	5	11	1.38	23.95
285	285	6	4	1.84	69.76
312	312	10	6.75	1.60	40.13
333	333	14	5.25	1.72	52.33
357	357	18	6	1.66	45.45
387	387	22	7.5	1.56	35.90
419	419	26	8	1.53	33.53
480	480	30	15.25	1.23	16.95
525	525	32	22.5	1.05	11.24
592	592	34	33.5	0.87	7.38
763	763	36	85.5	0.44	2.74
815	815	38	26	0.98	9.65
833	833	42	4.5	1.79	61.60
852	852	46	4.75	1.76	58.17

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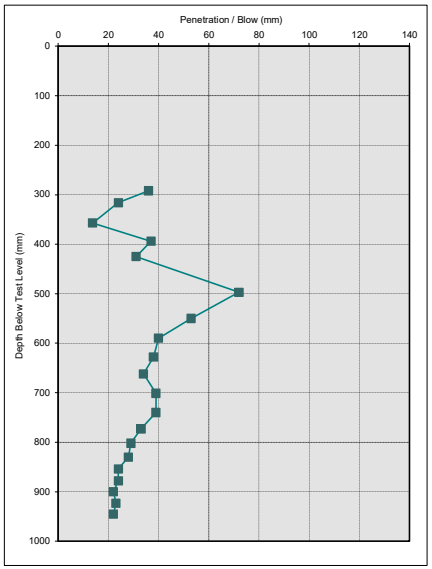
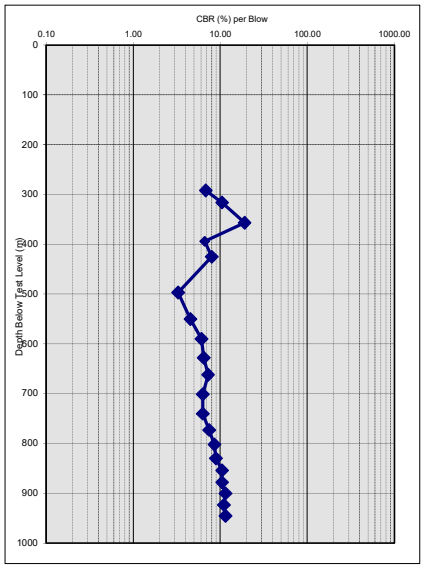
DYNAMIC CONE PENETROMETER TEST - CBR RELATIONSHIP

Project Number	4000760
Project Ref	Brookhurst Wood
Tested by	Swan Environmental Services
Client	Biffa Waste Services

Test Location	TP06
Project Reference	Brookhurst Wood
Client	Biffa
Date of Test	18/05/2023
Material at test surface	
Test Start Depth	
Formation notes	
Hammer Weight	8 kg
Falling Height	575mm
Standard Cone	20mm diameter, 60 degree apex angle
Test Procedure & Specification:	TRL DCP technical notes 2004 BS1377 1990: Soils for civil engineering purposes
DCP / CBR Relationship:	Log_{10} (CBR) = 2.480 - 1.057 x Log_{10} (penetration / mm) (after TRL Road Note 8)

Remarks





Measured Depth (mm)	Depth below test level (mm)	Blows	Penetration per blow (mm) (mm)	Log 10 CBR per blow (%)	CBR per blow (%)
256	256	0			
292	292	1	36	0.83	6.84
316	316	2	24	1.02	10.50
357	357	5	13.66666667	1.28	19.04
394	394	6	37	0.82	6.64
425	425	7	31	0.90	8.01
497	497	8	72	0.52	3.29
550	550	9	53	0.66	4.54
590	590	10	40	0.79	6.12
628	628	11	38	0.81	6.46
662	662	12	34	0.86	7.26
701	701	13	39	0.80	6.28
740	740	14	39	0.80	6.28
773	773	15	33	0.87	7.50
802	802	16	29	0.93	8.59
830	830	17	28	0.95	8.92
854	854	18	24	1.02	10.50
878	878	19	24	1.02	10.50
900	900	20	22	1.06	11.51
923	923	21	23	1.04	10.98
945	945	22	22	1.06	11.51

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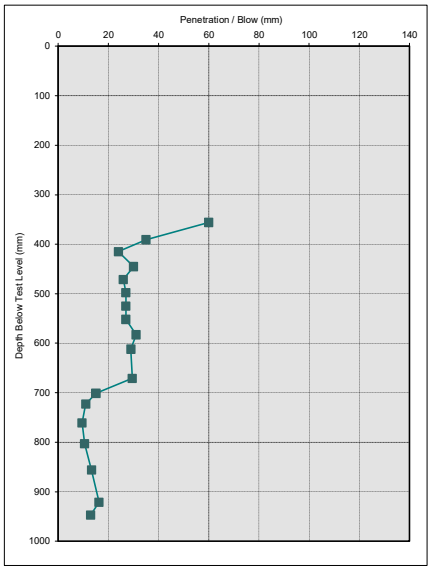
DYNAMIC CONE PENETROMETER TEST - CBR RELATIONSHIP

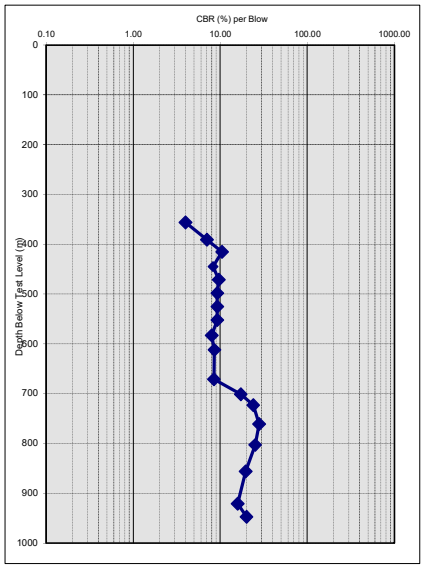
Project Number	4000760
Project Ref	Brookhurst Wood
Tested by	Swan Environmental Services
Client	Biffa Waste Services

Test Location	TP07
Project Reference	Brookhurst Wood
Client	Biffa
Date of Test	18/05/2023
Material at test surface	
Test Start Depth	0.2mbgl
Formation notes	
Hammer Weight	8 kg
Falling Height	575mm
Standard Cone	20mm diameter, 60 degree apex angle
Test Procedure & Specification:	TRL DCP technical notes 2004 BS1377 1990: Soils for civil engineering purposes
DCP / CBR Relationship:	Log_{10} (CBR) = 2.480 - 1.057 x Log_{10} (penetration / mm) (after TRL Road Note 8)

Remarks

Test started 0.2mbgl





Measured Depth (mm)	Depth below test level (mm)	Blows	Penetration per blow (mm) (mm)	Log 10 CBR per blow (%)	CBR per blow (%)
296	296	0			
356	356	1	60	0.60	3.99
391	391	2	35	0.85	7.05
415	415	3	24	1.02	10.50
445	445	4	30	0.92	8.29
471	471	5	26	0.98	9.65
498	498	6	27	0.97	9.27
525	525	7	27	0.97	9.27
552	552	8	27	0.97	9.27
583	583	9	31	0.90	8.01
612	612	10	29	0.93	8.59
671	671	12	29.5	0.93	8.44
701	701	14	15	1.24	17.25
723	723	16	11	1.38	23.95
761	761	20	9.5	1.45	27.96
803	803	24	10.5	1.40	25.15
856	856	28	13.25	1.29	19.67
921	921	32	16.25	1.20	15.85
947	947	34	13	1.30	20.07

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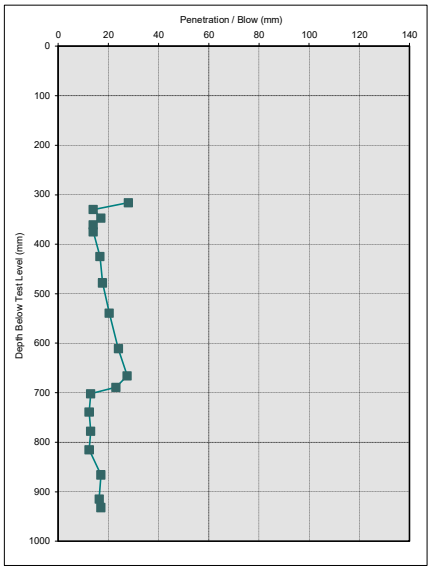
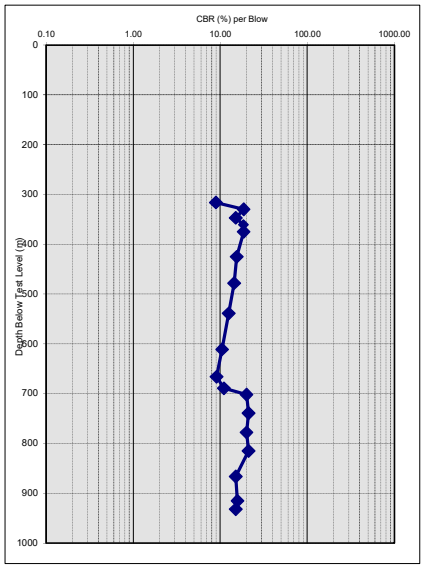
DYNAMIC CONE PENETROMETER TEST - CBR RELATIONSHIP

Project Number	4000760
Project Ref	Brookhurst Wood
Tested by	Swan Environmental Services
Client	Biffa Waste Services

Test Location	TP09
Project Reference	Brookhurst Wood
Client	Biffa
Date of Test	18/05/2023
Material at test surface	
Test Start Depth	
Formation notes	
Hammer Weight	8 kg
Falling Height	575mm
Standard Cone	20mm diameter, 60 degree apex angle
Test Procedure & Specification:	TRL DCP technical notes 2004 BS1377 1990: Soils for civil engineering purposes
DCP / CBR Relationship:	Log_{10} (CBR) = 2.480 - 1.057 x Log_{10} (penetration / mm) (after TRL Road Note 8)

Remarks





Measured Depth (mm)	Depth below test level (mm)	Blows	Penetration per blow (mm) (mm)	Log 10 CBR per blow (%)	CBR per blow (%)
288	288	0			
316	316	1	28	0.95	8.92
330	330	2	14	1.27	18.56
347	347	3	17	1.18	15.12
361	361	4	14	1.27	18.56
375	375	5	14	1.27	18.56
425	425	8	16.66666667	1.19	15.43
478	478	11	17.66666667	1.16	14.51
539	539	14	20.33333333	1.10	12.51
611	611	17	24	1.02	10.50
666	666	19	27.5	0.96	9.09
689	689	20	23	1.04	10.98
702	702	21	13	1.30	20.07
739	739	24	12.33333333	1.33	21.22
778	778	27	13	1.30	20.07
815	815	30	12.33333333	1.33	21.22
866	866	33	17	1.18	15.12
915	915	36	16.33333333	1.20	15.77
932	932	37	17	1.18	15.12

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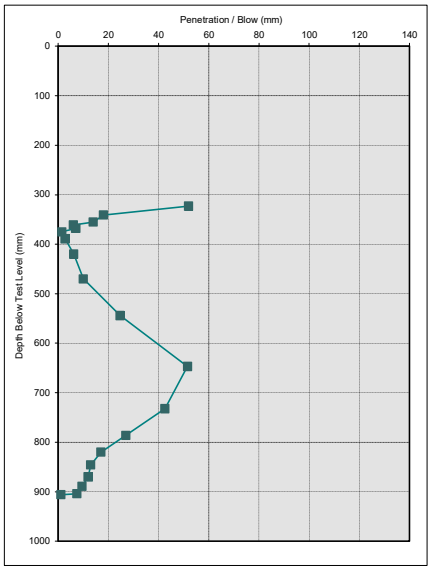
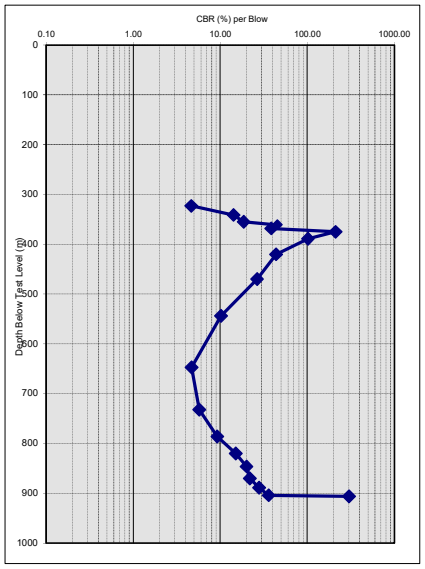
DYNAMIC CONE PENETROMETER TEST - CBR RELATIONSHIP

Project Number	4000760
Project Ref	Brookhurst Wood
Tested by	Swan Environmental Services
Client	Biffa Waste Services

Test Location	TP11
Project Reference	Brookhurst Wood
Client	Biffa
Date of Test	19/05/2023
Material at test surface	
Test Start Depth	
Formation notes	
Hammer Weight	8 kg
Falling Height	575mm
Standard Cone	20mm diameter, 60 degree apex angle
Test Procedure & Specification:	TRL DCP technical notes 2004 BS1377 1990: Soils for civil engineering purposes
DCP / CBR Relationship:	Log_{10} (CBR) = 2.480 - 1.057 x Log_{10} (penetration / mm) (after TRL Road Note 8)

Remarks





Measured Depth (mm)	Depth below test level (mm)	Blows	Penetration per blow (mm) (mm)	Log 10 CBR per blow (%)	CBR per blow (%)
271	271	0			
323	323	1	52	0.67	4.64
341	341	2	18	1.15	14.23
355	355	3	14	1.27	18.56
361	361	4	6	1.66	45.45
368	368	5	7	1.59	38.61
375	375	10	1.4	2.33	211.61
389	389	15	2.8	2.01	101.71
420	420	20	6.2	1.64	43.90
470	470	25	10	1.42	26.49
544	544	28	24.66666667	1.01	10.20
647	647	30	51.5	0.67	4.68
732	732	32	42.5	0.76	5.74
786	786	34	27	0.97	9.27
820	820	36	17	1.18	15.12
846	846	38	13	1.30	20.07
870	870	40	12	1.34	21.84
889	889	42	9.5	1.45	27.96
904	904	44	7.5	1.56	35.90
906	906	46	1	2.48	302.00

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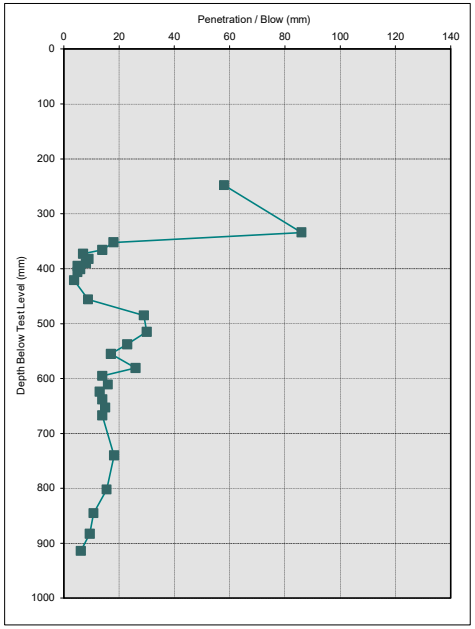
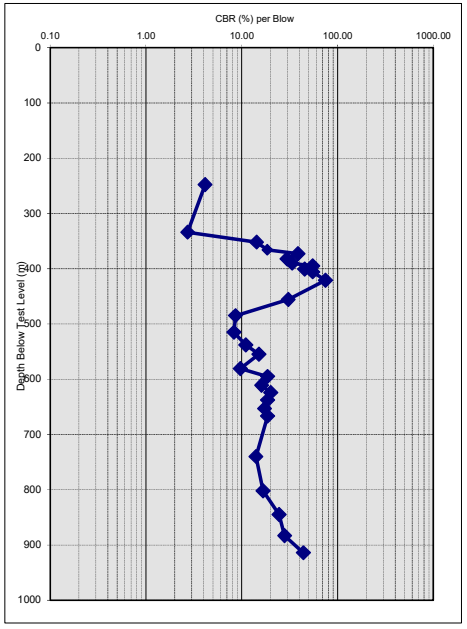
DYNAMIC CONE PENETROMETER TEST - CBR RELATIONSHIP

Project Number	4000760
Proiect Ref	Brookhurst Wood
Tested by	Swan Environmental Services
Client	Biffa Waste Services

Test Location	TP18
Project Reference	Brookhurst Wood
Client	Biffa
Date of Test	18/05/2023
Material at test surface	
Test Start Depth	
Formation notes	
Hammer Weight	8 kg
Falling Height	575mm
Standard Cone	20mm diameter, 60 degree apex angle
Test Procedure & Specification:	TRL DCP technical notes 2004 BS1377 1990: Soils for civil engineering purposes
DCP / CBR Relationship:	Log_{10} (CBR) = 2.480 - 1.057 x Log_{10} (penetration / mm) (after TRL Road Note 8)

Remarks





Measured Depth (mm)	Depth below test level (mm)	Blows	Penetration per blow (mm) (mm)	Log 10 CBR per blow (%)	CBR per blow (%)
190	190	0			
248	248	1	58	0.62	4.13
334	334	2	86	0.44	2.72
352	352	3	18	1.15	14.23
366	366	4	14	1.27	18.56
373	373	5	7	1.59	38.61
382	382	6	9	1.47	29.61
390	390	7	8	1.53	33.53
395	395	8	5	1.74	55.10
401	401	9	6	1.66	45.45
406	406	10	5	1.74	55.10
421	421	14	3.75	1.87	74.69
456	456	18	8.75	1.48	30.50
485	485	19	29	0.93	8.59
515	515	20	30	0.92	8.29
538	538	21	23	1.04	10.98
555	555	22	17	1.18	15.12
581	581	23	26	0.98	9.65
595	595	24	14	1.27	18.56
611	611	25	16	1.21	16.12
624	624	26	13	1.30	20.07
638	638	27	14	1.27	18.56
653	653	28	15	1.24	17.25
667	667	29	14	1.27	18.56
740	740	33	18.25	1.15	14.02
802	802	37	15.5	1.22	16.67
845	845	41	10.75	1.39	24.54
883	883	45	9.5	1.45	27.96
914	914	50	6.2	1.64	43.90

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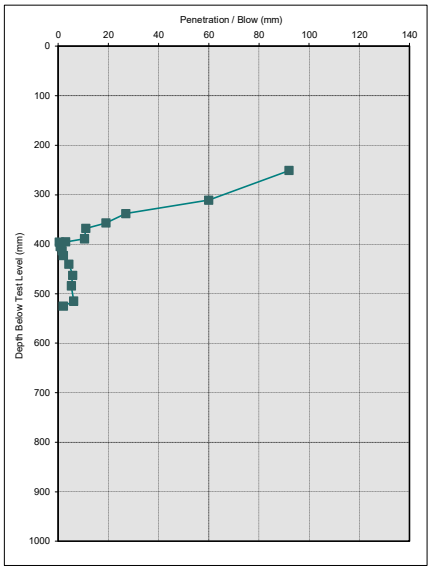
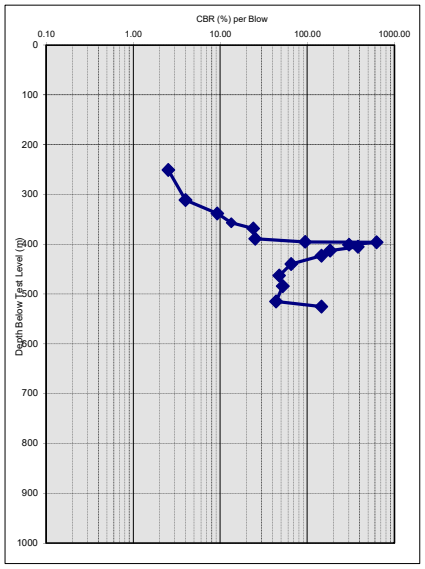
DYNAMIC CONE PENETROMETER TEST - CBR RELATIONSHIP

Project Number	4000760
Project Ref	Brookhurst Wood
Tested by	Swan Environmental Services
Client	Biffa Waste Services

Test Location	TP20
Project Reference	Brookhurst Wood
Client	Biffa
Date of Test	15/06/2023
Material at test surface	
Test Start Depth	
Formation notes	
Hammer Weight	8 kg
Falling Height	575mm
Standard Cone	20mm diameter, 60 degree apex angle
Test Procedure & Specification:	TRL DCP technical notes 2004 BS1377 1990: Soils for civil engineering purposes
DCP / CBR Relationship:	Log_{10} (CBR) = 2.480 - 1.057 x Log_{10} (penetration / mm) (after TRL Road Note 8)

Remarks





Measured Depth (mm)	Depth below test level (mm)	Blows	Penetration per blow (mm) (mm)	Log 10 CBR per blow (%)	CBR per blow (%)
159	159	0			
251	251	1	92	0.40	2.54
311	311	2	60	0.60	3.99
338	338	3	27	0.97	9.27
357	357	4	19	1.13	13.44
368	368	5	11	1.38	23.95
389	389	7	10.5	1.40	25.15
395	395	9	3	1.98	94.55
396	396	11	0.5	2.80	628.33
401	401	16	1	2.48	302.00
405	405	21	0.8	2.58	382.33
413	413	26	1.6	2.26	183.76
423	423	31	2	2.16	145.15
440	440	35	4.25	1.82	65.43
463	463	39	5.75	1.68	47.54
484	484	43	5.25	1.72	52.33
515	515	48	6.2	1.64	43.90
525	525	53	2	2.16	145.15

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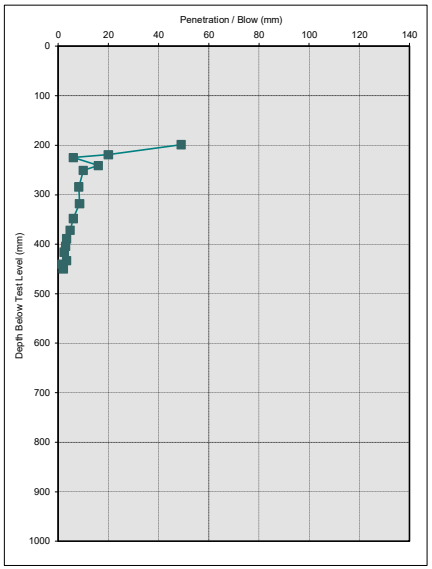
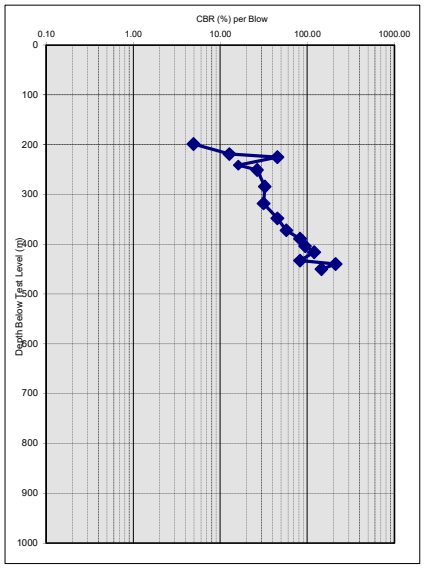
DYNAMIC CONE PENETROMETER TEST - CBR RELATIONSHIP

Project Number	4000760
Project Ref	Brookhurst Wood
Tested by	Swan Environmental Services
Client	Biffa Waste Services

Test Location	TP21
Project Reference	Brookhurst Wood
Client	Biffa
Date of Test	15/06/2023
Material at test surface	
Test Start Depth	
Formation notes	
Hammer Weight	8 kg
Falling Height	575mm
Standard Cone	20mm diameter, 60 degree apex angle
Test Procedure & Specification:	TRL DCP technical notes 2004 BS1377 1990: Soils for civil engineering purposes
DCP / CBR Relationship:	Log_{10} (CBR) = 2.480 - 1.057 x Log_{10} (penetration / mm) (after TRL Road Note 8)

Remarks





Measured Depth (mm)	Depth below test level (mm)	Blows	Penetration per blow (mm) (mm)	Log 10 CBR per blow (%)	CBR per blow (%)
150	150	0			
199	199	1	49	0.69	4.94
219	219	2	20	1.10	12.73
225	225	3	6	1.66	45.45
241	241	4	16	1.21	16.12
251	251	5	10	1.42	26.49
284	284	9	8.25	1.51	32.46
318	318	13	8.5	1.50	31.45
348	348	18	6	1.66	45.45
372	372	23	4.8	1.76	57.53
389	389	28	3.4	1.92	82.84
404	404	33	3	1.98	94.55
416	416	38	2.4	2.08	119.71
433	433	43	3.4	1.92	82.84
440	440	48	1.4	2.33	211.61
450	450	53	2	2.16	145.15

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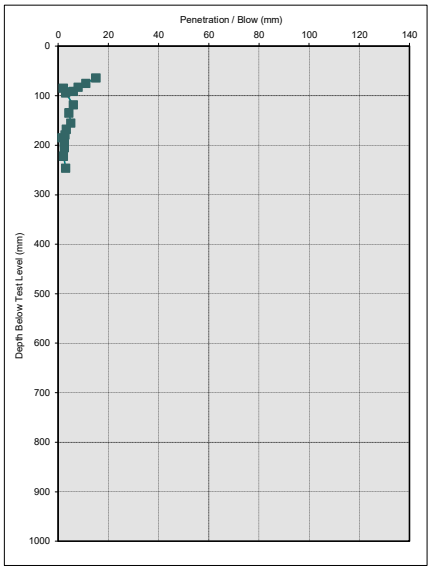
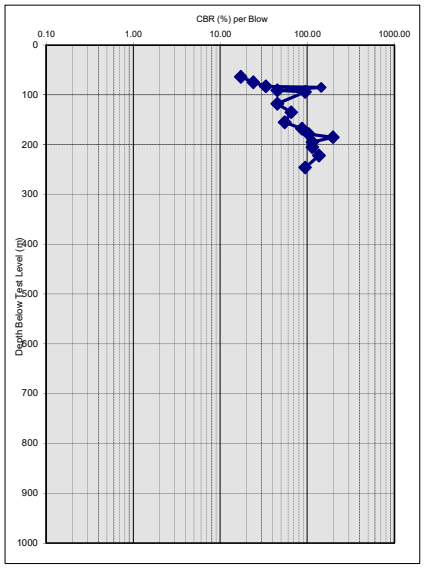
DYNAMIC CONE PENETROMETER TEST - CBR RELATIONSHIP

Project Number	4000760
Project Ref	Brookhurst Wood
Tested by	Swan Environmental Services
Client	Biffa Waste Services

Test Location	TP22
Project Reference	Brookhurst Wood
Client	Biffa
Date of Test	15/06/2023
Material at test surface	
Test Start Depth	
Formation notes	
Hammer Weight	8 kg
Falling Height	575mm
Standard Cone	20mm diameter, 60 degree apex angle
Test Procedure & Specification:	TRL DCP technical notes 2004
	BS1377 1990: Soils for civil engineering purposes
DCP / CBR Relationship:	Log_{10} (CBR) = 2.480 - 1.057 x Log_{10} (penetration / mm)
	(after TRL Road Note 8)

Remarks





Measured Depth (mm)	Depth below test level (mm)	Blows	Penetration per blow (mm) (mm)	Log 10 CBR per blow (%)	CBR per blow (%)
49	49	0			
64	64	1	15	1.24	17.25
75	75	2	11	1.38	23.95
83	83	3	8	1.53	33.53
85	85	4	2	2.16	145.15
91	91	5	6	1.66	45.45
94	94	6	3	1.98	94.55
118	118	10	6	1.66	45.45
135	135	14	4.25	1.82	65.43
155	155	18	5	1.74	55.10
168	168	22	3.25	1.94	86.88
179	179	26	2.75	2.02	103.66
185	185	30	1.5	2.29	196.73
195	195	34	2.5	2.06	114.65
205	205	38	2.5	2.06	114.65
222	222	46	2.125	2.13	136.14
246	246	54	3	1.98	94.55

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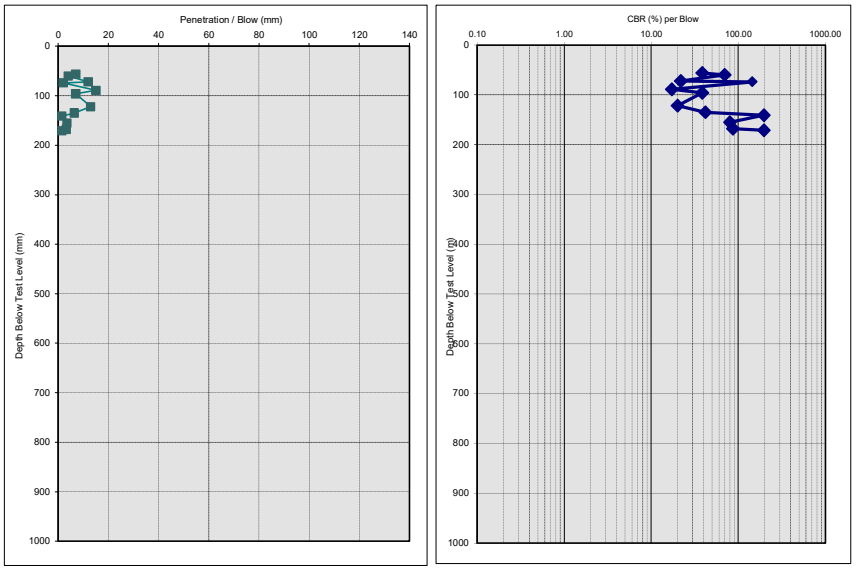
DYNAMIC CONE PENETROMETER TEST - CBR RELATIONSHIP

Project Number	4000760
Project Ref	Brookhurst Wood
Tested by	Swan Environmental Services
Client	Biffa Waste Services

Test Location	TP23
Project Reference	Brookhurst Wood
Client	Biffa
Date of Test	15/06/2023
Material at test surface	
Test Start Depth	
Formation notes	
Hammer Weight	8 kg
Falling Height	575mm
Standard Cone	20mm diameter, 60 degree apex angle
Test Procedure & Specification:	TRL DCP technical notes 2004 BS1377 1990: Soils for civil engineering purposes
DCP / CBR Relationship:	Log_{10} (CBR) = 2.480 - 1.057 x Log_{10} (penetration / mm) (after TRL Road Note 8)

Remarks



Measured Depth (mm)	Depth below test level (mm)	Blows	Penetration per blow (mm) (mm)	Log 10 CBR per blow (%)	CBR per blow (%)
49	49	0			
56	56	1	7	1.59	38.61
60	60	2	4	1.84	69.76
72	72	3	12	1.34	21.84
74	74	4	2	2.16	145.15
89	89	5	15	1.24	17.25
96	96	6	7	1.59	38.61
122	122	8	13	1.30	20.07
135	135	10	6.5	1.62	41.76
141	141	14	1.5	2.29	196.73
155	155	18	3.5	1.90	80.34
168	168	22	3.25	1.94	86.88
171	171	24	1.5	2.29	196.73

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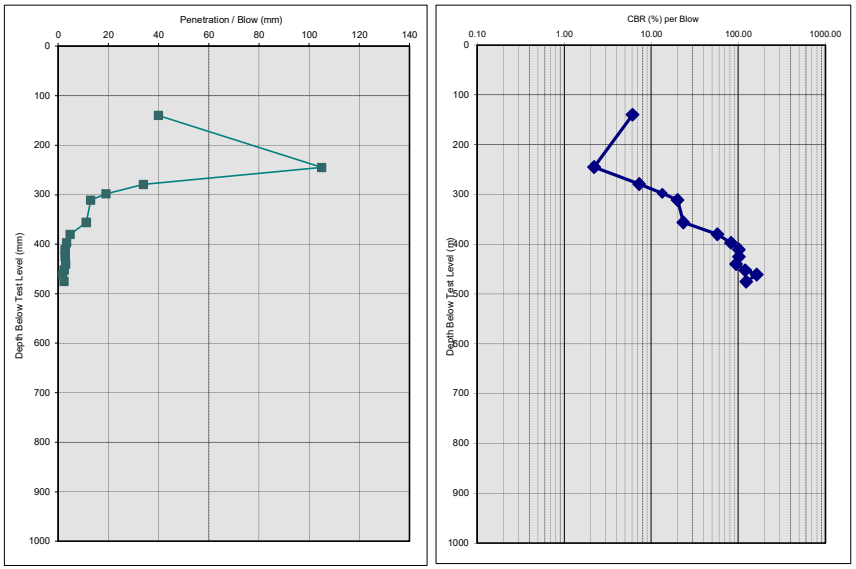
DYNAMIC CONE PENETROMETER TEST - CBR RELATIONSHIP

Project Number	4000760
Project Ref	Brookhurst Wood
Tested by	Swan Environmental Services
Client	Biffa Waste Services

Test Location	TP24
Project Reference	Brookhurst Wood
Client	Biffa
Date of Test	15/06/2023
Material at test surface	
Test Start Depth	
Formation notes	
Hammer Weight	8 kg
Falling Height	575mm
Standard Cone	20mm diameter, 60 degree apex angle
Test Procedure & Specification:	TRL DCP technical notes 2004 BS1377 1990: Soils for civil engineering purposes
DCP / CBR Relationship:	Log_{10} (CBR) = 2.480 - 1.057 x Log_{10} (penetration / mm) (after TRL Road Note 8)

Remarks



Measured Depth (mm)	Depth below test level (mm)	Blows	Penetration per blow (mm) (mm)	Log 10 CBR per blow (%)	CBR per blow (%)
100	100	0			
140	140	1	40	0.79	6.12
245	245	2	105	0.34	2.21
279	279	3	34	0.86	7.26
298	298	4	19	1.13	13.44
311	311	5	13	1.30	20.07
356	356	9	11.25	1.37	23.38
380	380	14	4.8	1.76	57.53
397	397	19	3.4	1.92	82.84
411	411	24	2.8	2.01	101.71
425	425	29	2.8	2.01	101.71
440	440	34	3	1.98	94.55
452	452	39	2.4	2.08	119.71
461	461	44	1.8	2.21	162.25
475	475	50	2.333333333	2.09	123.32

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