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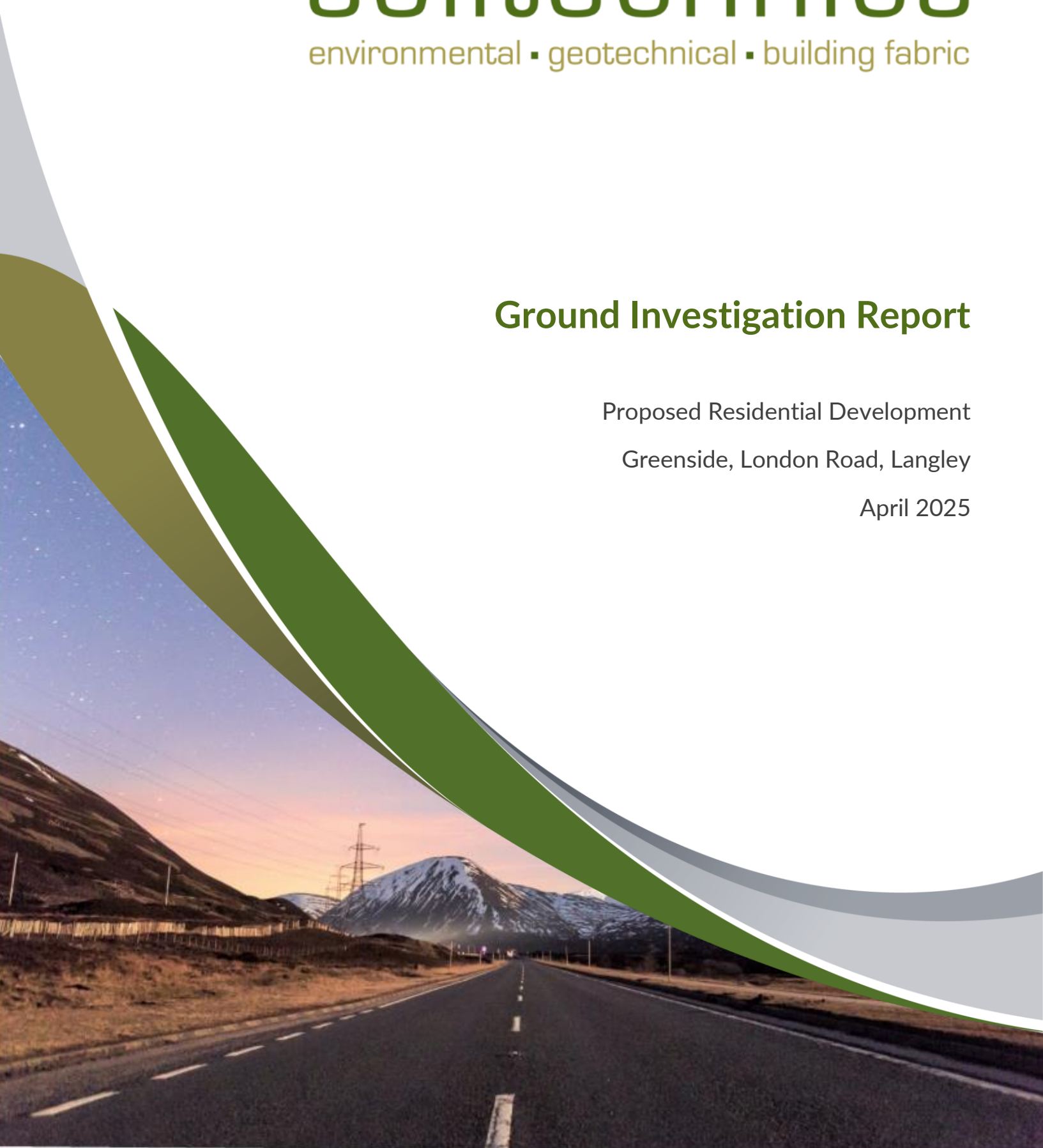
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Ground Investigation Report

Proposed Residential Development

Greenside, London Road, Langley

April 2025



Project Details

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Table of Contents

Non-technical Summary	vi
1 Introduction	1
1.1 Scheme Outline	1
1.2 Brief	1
1.3 Definition of Scope	2
1.4 Limitations	2
2 Desk Study	3
2.1 Sources of Information	3
2.2 Site Description	3
2.3 Environmental Designations	4
2.4 Planning Records	5
2.5 Site History	5
2.6 Anticipated Geology	5
2.7 Hydrogeology and Groundwater Sensitivity	6
2.8 Hydrology and Surface Water Sensitivity	6
2.9 Flood Risk	6
2.10 Non-Mining Ground Instability Hazard	7
2.11 Quarrying and Mining	7
2.12 Landfill and Infilled Ground	7
2.13 Recent Industrial Activity	7
2.14 Radon	7
2.15 Underground Infrastructure	8
2.16 Unexploded Ordnance (UXO) Hazard Screen	8
3 Tier 1 Preliminary Contamination Risk Assessment	9
3.1 Objectives	9
3.2 Evaluation Criteria	9
3.3 Methodology	9
3.4 Source Assessment	10
3.5 Receptor Assessment	10
3.6 Pathway Assessment	11
3.7 Initial Conceptual Site Model (iCSM)	11
3.8 Preliminary Risk Assessment Conclusions and Recommendations	17
4 Ground Investigation	18
4.1 Objectives	18
4.2 Fieldwork Summary	18
4.3 Unexploded Ordnance (UXO)	18
4.4 Sampling	18
4.5 In-situ Testing	19
4.6 Investigation Constraints	19
5 Laboratory testing	20
5.1 Overview	20
5.2 Geotechnical Testing	20
5.3 Chemical Testing	20
6 Ground Investigation Findings	21
6.1 Ground Model	21
6.2 Groundwater	23

6.3	Evidence of Possible Contamination	23
6.4	Obstructions and Instability	23
7	Geotechnical Discussion	24
7.1	Scheme Overview	24
7.2	Geotechnical Category	24
7.3	Dissolution Features	24
7.4	Building Foundation Strategy	25
7.5	Geotechnical Parameters	25
7.6	Spread Foundations	26
7.7	Residential Ground Floor Construction	27
7.8	Aggressiveness of the Ground to Buried Concrete	27
7.9	Pavement Foundation	27
7.10	Constructability	28
8	Tier 2 Generic Quantitative Risk Assessment	29
8.1	Objectives	29
8.2	Fieldwork Observations	29
8.3	Laboratory Testing Rationale	29
8.4	Generic Assessment Criteria	29
8.5	Human Health GQRA (Soils and Vapour)	30
8.6	Proposed Site Users Risk Assessment (Soils and Vapour)	30
8.7	Construction Workers Risk Assessment	31
8.8	Adjacent Site Users Risk Assessment	31
8.9	Risks to Soft Landscaping Vegetation	31
8.10	Water Supply Pipes	31
8.11	Updated Conceptual Site Model (uCSM)	32
8.12	Risk Assessment Conclusions	36
8.13	Ground Gas Protection Measures	36
8.14	Unexpected and Previously Unencountered Contamination	37
9	Soil and Waste Management	38
9.1	Sustainability	38
9.2	Waste Hierarchy	38
9.3	Liability of Waste Management	38
9.4	Materials Management	38
9.5	Waste Characterisation Governance	39
9.6	Waste Populations	39
9.7	Sampling and Testing	39
9.8	Waste Characterisation	39
9.9	Application of Advice	39
9.10	Further Recommendations	40
10	Recommendations for Further Works	41
Appendix A	Drawings	
Appendix B	Photographic Records	
Appendix C	Exploratory Hole Logs: Trial Pits	
Appendix D	In Situ Test Results	
Appendix E	Dynamic Cone Penetrometer Results	

Appendix F	Geotechnical Laboratory Test Results
Appendix G	Geoenvironmental Laboratory Test Results
Appendix H	Contamination Assessment Screening
Appendix I	Waste Characterisation Analysis
Appendix J	Utility Service Plans
Appendix K	Regulatory Correspondence
Appendix L	Envirocheck Report

Drawing Register

Title	Produced by	Date	Reference
Exploratory Hole Location Plan	Soiltechnics	January 2025	STX6902-D01-A

List of Tables

Table 1-A:	Definition of investigation scope	2
Table 2-A:	Site description	4
Table 2-B:	Summary of site history	5
Table 2-C:	Summary of anticipated geology at the site	6
Table 2-D:	Preliminary hydrogeological model	6
Table 2-E:	Non-mining ground stability hazards	7
Table 2-F:	UXO hazard screen	8
Table 3-A:	Contamination source assessment	10
Table 3-B:	Receptor assessment	11
Table 3-C:	Generic pathway assessment	11
Table 3-D:	iCSM risk ratings	12
Table 3-F:	iCSM – proposed end users	13
Table 3-G:	iCSM – acute exposure to construction workers	14
Table 3-H:	iCSM – chronic exposure to adjacent site users	14
Table 3-I:	iCSM – acute exposure to adjacent site users	15
Table 3-J:	iCSM – phytotoxic risk to proposed planting scheme	15
Table 3-L:	iCSM – current site risks (part IIA)	16
Table 3-K:	Receptors at risk under the proposed scheme	17
Table 4-A:	Summary of fieldwork undertaken	18
Table 4-B:	Summary of field testing undertaken	19
Table 5-A:	Summary of geotechnical laboratory testing	20
Table 5-B:	Summary of chemical laboratory testing	20
Table 7-A:	Qualitative risk assessment of dissolution features	25
Table 7-B:	Summary of characteristic geotechnical parameters – Made Ground	25
Table 7-C:	Summary of characteristic geotechnical parameters – Clay-with-flints Formation	26
Table 7-D:	Summary of foundation ultimate limit state analyses	26
Table 7-E:	Key geotechnical variables used in settlement analyses	26
Table 7-F:	SLS bearing resistance to ensure total settlement to <25mm	26
Table 7-G:	Summary of the aggressiveness of the ground to buried concrete	27
Table 8-A:	Summary of scheduled laboratory testing	29
Table 8-B:	Human health GQRA models and outcomes	30
Table 8-C:	Human health GQRA exceedances	30
Table 8-D:	CSM risk ratings	32
Table 8-H:	uCSM – Proposed end users	34

Table 8-I:	uCSM – acute exposure to construction workers	34
Table 8-J:	uCSM – chronic exposure to adjacent site users	34
Table 8-K:	uCSM – acute exposure to adjacent site users	35
Table 8-L:	uCSM – phytotoxic risk to proposed planting scheme	35
Table 8-J:	GQRA risk assessment conclusions	36
Table 8-K:	Ground gas protection measures requirement	36
Table 9-A:	Waste management hierarchy	38
Table 9-B:	Waste characterisation summary	39

List of Figures

Figure 2-A:	Aerial photograph and approximate site boundary	3
Figure 6-A:	Trial pits sections of TP01 (left) and TP05 (right) showing gravels over clay Made Ground over Clay-with-flints Formation.	21
Figure 6-B:	Made Ground excavated from TP02	22
Figure 6-C:	Made Ground excavated from TP03	22
Figure 6-D:	Clay-with-flints Formation excavated from TP02	22

Non-technical Summary

Topic	Commentary
Site description	The site (approximately 0.51 hectares in area) currently comprises a single residential dwelling with a mixture of outbuildings, workshops and a builder's yard which take up the majority of the site. A shared access driveway to the south-west of site serves both the residential dwelling and business operations of the outbuildings and yard.
Development proposals	The proposed redevelopment comprises the demolition of the existing dwelling and auxiliary outbuildings/workshops and the construction of six detached residential properties with private gardens, as well as an access road and associated areas of hardstanding for access and parking.
Ground conditions	Variable Made Ground was encountered to between 0.4m to 0.8m bgl, overlying generally firm to stiff, locally soft clay soil of the Clay-With-Flints Formation, proven to a maximum depth of 3.5m bgl.
Foundation and slab solution	Traditional shallow spread foundations will likely be suitable for the proposed development, placed within the cohesive soils of the Clay-With-Flints Formation at a minimum depth of 1m bgl. Foundations may need to be locally deepened due to trees, the thickness of the Made Ground, or existing/relict foundations and/or any obstructions that may need to be removed.
Chemical contamination and remedial requirements	No asbestos was encountered on site; however, elevated levels of lead and PAH compounds are present within shallow the made ground which poses a risk to future residents. A remediation strategy is required to identify the appropriate remedials option and provide the design and verification details. It is likely this will include a clean soil cover over the Made Ground and the installation of drinking water barrier pipe. It may be possible to undertake further soil sampling post demolition and site strip to reduce or remove the remedial requirements.
Radon, gas risk and protection measures	Basic radon protection measures are required for the proposed development.
Waste characterisation	Based on the laboratory testing undertaken, the Made Ground and natural soils are considered non-hazardous and suitable for disposal in an inert waste landfill.
Recommendation for further works	A Remediation Strategy and subsequent Verification Report. Further site testing post demolition may reduce or remove this requirement. A significant sized mound is present along the northwest of site. It is possible this is stockpiled topsoil, generated from stripping the land to accommodate previous development. Further works are recommended pre commencement to characterise the material to inform the disposal costs or suitability for reuse.

1 Introduction

1.1 Scheme Outline

- 1.1.1 The proposed redevelopment comprises the demolition of the existing dwelling and auxiliary outbuildings/workshops and the construction of six detached residential properties with private gardens, together with an access road and parking areas.
- 1.1.2 It is understood that the development is controlled under the North Hertfordshire District Council planning regime, under application reference 24/00671/FP. The planning application has been granted permission by the council, subject to planning conditions. This report has been produced to support discharge of planning conditions 10 (a) and 10 (b), relating to the production and submission of a preliminary environmental risk assessment and site investigation (phase II environmental risk assessment) report.
- 1.1.3 The report is based on the project proposals and information outlined above; should the scheme change then it will be necessary to review the conclusions and recommendations presented in this report.

1.2 Brief

- 1.2.1 This report has been prepared following instructions received from Welland Group, on behalf of our mutual client PJJ Developments. The overall brief of works is to:
- i) Undertake a ground investigation at the site to establish the prevailing ground conditions and identify potential abnormal development constraints.
 - ii) Support the planning application and condition discharge by assessing the potential risks from contamination at the site.
 - iii) Assess potential contamination onsite to inform the construction phase/waste classification.
 - iv) Determine geotechnical parameters and provide a geotechnical appraisal for the scheme.
- 1.2.2 The objectives of this report are outlined below:
- i) Review and summarise desk study information.
 - ii) Undertake a land contamination Tier 1 preliminary risk assessment.
 - iii) Summarise the intrusive investigation works undertaken and associated laboratory testing.
 - iv) Present a ground model summarising the ground and groundwater conditions at the site including relevant geotechnical parameters.
 - v) Provide a geotechnical appraisal for the project and highlight key geotechnical issues that may impact upon the proposed scheme.
 - vi) Undertake a land contamination Tier 2 generic quantitative risk assessment.
 - vii) Provide recommendations to inform an Options Appraisal and Remediation Strategy, should they be required.
 - viii) Undertake a general assessment of potential contamination risks which may affect the development.
 - ix) Provide a waste characterisation assessment of soils at the site for potential disposal to landfill.

1.3 Definition of Scope

- 1.3.1 The phasing and scope of the ground investigation works is broadly defined by the following documents.

Title	Document Reference	Publisher	Investigation Scope
Code of practice for ground investigations	BS 5930: 2015	British Standards Institution	Phase 1: Desk study Phase 2: Preliminary investigation
Eurocode 7 — Geotechnical design Part 2: Ground investigation and Testing	BS EN 1997-2: 2007	British Standards Institution	Preliminary Investigation
Investigation of potentially contaminated sites – Code of practice	BS 10175: 2011+A2:2017	British Standards Institution	Preliminary Investigation (desk study) Exploratory Investigation
Land contamination risk management	Online resource, updated April 2021	Environment Agency	Stage 1 Risk Assessment: Tier 1: Preliminary risk assessment Tier 2: Generic quantitative risk assessment

Table 1-A: Definition of investigation scope

1.4 Limitations

- 1.4.1 Soiltechnics disclaims any responsibility to our Client and others in respect of any matters outside the scope of this report. This report has been prepared with reasonable skill, care and diligence in accordance with the terms of our contract, taking account of the resources, investigations and testing devoted to it by agreement with our Client. This report is confidential to our Client and Soiltechnics accepts no responsibility of whatsoever nature to third parties to whom this report or any part thereof is made known. Any such party relies upon the report at their own risk.

2 Desk Study

2.1 Sources of Information

2.1.1 Reference has been made to the following sources of information:

- An Envirocheck Report and historical map records, presented as Appendix L.
- British Geological Survey (BGS) GeoIndex – Onshore database.
- BGS Sheet 221 (Scale 1:50 000) – Hitchin (1995).
- Ordnance Survey OpenData.
- Coal Authority Development and Specific Risk databases.
- Environment Agency open-source databases.
- Google mapping services.
- Interrogation of search engines for anecdotal information on the site history and other readily available online resources.

2.2 Site Description

2.2.1 The site lies within the village of Langley, Hertfordshire at post code SG4 7PP. The site is accessed from London Road (B656) which lies adjacent to the site's south-western boundary.

2.2.2 An aerial image showing the approximate site boundary is presented below, followed by a table summarising the key site features. A site plan is provided within Appendix A and photographic records of the site are presented in Appendix B.



Figure 2-A: Aerial photograph and approximate site boundary

Theme	Feature
Current site use	The site (approximately 0.5 hectares in area) currently comprises a single residential dwelling to the west, with the remainder of the site consisting of a yard and a number of outbuildings. An access driveway is present to the south-west of site.
Local area land use	The surrounding area mainly comprises agricultural fields with a small number of residential dwellings to the southwest of the site boundary.
Topography	Levels in the surrounding area and on site fall in an easterly direction.
Buildings, surfacing and other permanent features	A two-storey, detached residential house with gardens is located in the west of the site. The remainder of the site comprises a yard surfaced in a mixture of asphalt and gravel surfacing, and containing a number of outbuildings. These are timber/metal framed with various roof coverings including timber and corrugated sheet metal. An approximately 2-3m high soil mound is present in the northern corner of the site boundary.
Vegetation	Mature trees and various shrubs and hedgerows are present along site boundaries and within the existing garden areas.
On-site/adjacent surface water features	None observed.
Injurious and invasive weeds	None observed.
Asbestos containing material (ACM) in buildings	The scope of this report excludes identifying asbestos within buildings on site, and an asbestos survey was not made available at the time of writing. Although no suspected ACMs were observed, the outbuildings and workshops on site were constructed prior to 1985. Therefore, ACMs may be present.
ACMs on site	No ACMs observed in surface debris.
Potential sources of contamination	A heating oil tank was observed in the centre of the site and was situated on a concrete slab although surrounding ground was unsurfaced. Various vehicles were stored within outbuildings. Debris comprising bricks, concrete, wood, slate etc. was present across the surface of the yard area.
Evidence for ground instability	None observed.

Table 2-A: Site description

- 2.2.3 The observations provided above are made by a Geoenvironmental Engineer, who is not a specialist in asbestos surveying or invasive weed identification. Any associated comments are intended for use by this report only, and not for any other purpose.

2.3 Environmental Designations

- 2.3.1 The site is not reported to be within or in close proximity to any areas of designated sensitive land use, such as a Ramsar Site, Site of Special Scientific Interest (SSSI), or Special Area of Conservation. The site is within an area of Adopted Green Belt.

2.4 Planning Records

- 2.4.1 A search of online planning records held for the site held by the North Hertfordshire District Council reveals that a previous planning application, 22/01835/FP, was granted on 6th June 2023 for the erection of 4 detached dwellings following demolition of existing dwelling/outbuildings and builders yard buildings. The site's planning history also includes a previous Application for Established user certificate (ref 1/1728/84), granted on the 29th January 1985 for use as a builders' yard and workshops.

2.5 Site History

- 2.5.1 Historical maps indicate the site was undeveloped until the 1970s, when the existing buildings were constructed. Surrounding land has remained predominantly agricultural although a blacksmith was recorded adjacent to the site in the early 20th Century, later converted to residential.
- 2.5.2 A chronological summary of the site's history is provided below.

Date	On-site	Off-site
Late 1800s.	The site forms part of an undeveloped agricultural field, crossing a small area of woodland in the south-western corner of the site.	The site is mainly surrounded by agricultural fields. A blacksmith is recorded adjacent to the site to the west. London Road borders the site to the southwest. The village of Langley is recorded approximately 90m north. A number of chalk pits are recorded in the local area with the closest recorded ~120m north-east of the site.
1920s	No significant change.	A chapel is recorded adjacent to the blacksmith.
1940s to 1950s	No significant change.	A row of residential dwellings have been constructed along London Road to the south.
1970s	A number of buildings are recorded in the southwestern half of the site. A track is recorded around the northeastern half of the site, which appears to link to a similar track on the adjacent site.	The blacksmith and chapel have been converted into residential housing. Residential houses now border the site to the south. A track is recorded on adjacent land to the southeast. The chalk pit to the northeast is recorded as a refuse tip.
1980-2000	Minor change in building footprint to the central most building.	Track to the southeast no longer recorded.
2000-Present day	No significant change.	No significant change.

Table 2-B: Summary of site history

- 2.5.3 Further to the above, the current site owner advised a small pond had been infilled to the north east of the house, understood to be small in scale.

2.6 Anticipated Geology

- 2.6.1 Based on a review of available records, the site is underlain by superficial deposits; predominantly the Lowestoft Formation but Clay-with-Flints is recorded within the far southwestern part of the site. Glaciofluvial Sand and Gravel are also recorded at crop to the immediate northwest and therefore could be present on site. Underlying bedrock is recorded as the Lewes Nodular Chalk Formation and Seaford Chalk Formation.

2.6.2 A summary of the anticipated geology underlying the site is summarised as follows:

Stratum	Bedrock / superficial	Anticipated thickness (m)	Typical description
Lowestoft Formation	Superficial	0-10m	Till with chalk and flint content, together with outwash sands and gravels, silts and clays.
Clay-with-flints Formation	Superficial	0-10m	Clay with abundant nodules and rounded pebbles of flint.
Lewes Nodular Chalk Formation and Seaford Chalk Formation	Bedrock	Up to 70m	Chalk.

Table 2-C: Summary of anticipated geology at the site

2.7 Hydrogeology and Groundwater Sensitivity

2.7.1 The general hydrogeological profile of the site is provided in the table below.

Stratum	Aquifer Designation	Groundwater commentary
Lowestoft Formation	Secondary Aquifer - Undifferentiated	Groundwater potentially present within permeable strata.
Clay-with-flints Formation	Unproductive Strata	Generally impermeable. Minor water inclusions within discrete sand/silt partings could be present.
Lewes Nodular Chalk Formation and Seaford Chalk Formation	Principal Aquifer	Local borehole records suggest groundwater is present at 40-70m bgl (depending upon local ground level).

Table 2-D: Preliminary hydrogeological model

2.7.2 The site is located within a Source Protection Zone III (Total Catchment) associated with one abstraction point located approximately 1856m to the south of site. It is anticipated that the well is abstracting from the principal aquifer in the chalk.

2.7.3 There are no recorded potable or active groundwater abstraction licenses within 1km of the site. The nearest abstraction point is some 1.8km south of site with water abstracted for private water undertaking and for schools and colleges (make-up or top-up water).

2.8 Hydrology and Surface Water Sensitivity

2.8.1 The nearest surface water feature is recorded ~300m north of the site. This is likely to be a small pond. Langley Brook is located ~800m north and northeast of the site.

2.8.2 There are no active surface water abstraction licenses down-gradient of the site.

2.9 Flood Risk

2.9.1 The site falls within a Flood Zone 1 area. This designation indicates there is less than a 0.1% chance of flooding from rivers or the sea in any year

2.9.2 The site is not recorded in an area with the potential for surface water flooding during a 1 in 30 year flood event.

2.9.3 The site is not recorded in area shown to have a potential for groundwater flooding at surface or of property situated below ground level.

- 2.9.4 It should be noted that this information does not constitute a site-specific Flood Risk Assessment and one may be required for the scheme.

2.10 Non-Mining Ground Instability Hazard

- 2.10.1 The Envirocheck Report includes hazard ratings due to natural ground instability, which have been derived by the BGS. These hazards have been summarised in the table below.

Hazard	Hazard Potential	Discussions
Collapsible ground	Very Low	N/A
Compressible ground	No Hazard	N/A
Ground dissolution	Low/Moderate	The risk of dissolution is recorded as both low and moderate onsite. The risk is likely associated with underlying chalk bedrock which is expected to be some 10-20m below the site, overlain by generally low permeability soils.
Landslide	Very Low	N/A
Running sand	Very Low	N/A
Shrinking or swelling clay	Low	N/A

Table 2-E: Non-mining ground stability hazards

2.11 Quarrying and Mining

- 2.11.1 The site falls outside of a Coal Mining Reporting Area.
- 2.11.2 There are several chalk pits located in the wider site area. The closest of which lies approximately 150m from the northeast boundary of the site.

2.12 Landfill and Infilled Ground

- 2.12.1 There is one current landfill site, Langley Tip, recorded ~120m northeast of site.
- 2.12.2 There are several records of unknown filled ground (non-water) in the wider site area. The closest of which lies 148m northeast of the site.

2.13 Recent Industrial Activity

- 2.13.1 There are no regulated facilities or activities in the vicinity of the site under IPPC or LAPPC control, and no registered radioactive substances.
- 2.13.2 The site is in a primarily rural area, with no commercial and industrial properties in close proximity to the site.
- 2.13.3 As the site is not located in close proximity to a watercourse, records held of discharge consents and pollution incidents to controlled waters are not considered relevant to this desk study.
- 2.13.4 No records are held for pollution incidents or discharges to land or groundwater within 500m of the site.

2.14 Radon

- 2.14.1 The site is in an area where the above ground radon Affected Area status is classed as an Intermediate Probability Radon Area where 1-3% of homes are estimated to be at or above the action level.

2.15 Underground Infrastructure

- 2.15.1 Copies of all utility plans obtained are presented as Appendix J. The plans are provided for information only and should not be relied upon to be accurate. In addition, it is worth noting that the public utility plans provided by the asset owners typically exclude private service runs.
- 2.15.2 The plans do not show any mains services to cross the site.

2.16 Unexploded Ordnance (UXO) Hazard Screen

- 2.16.1 A UXO hazard screen has been undertaken by Soiltechnics (as a non-specialist) in accordance with CIRIA C785 to determine if further specialist risk assessment is required. This has been carried out with reference to the Zetica bomb density maps, area-specific bomb strike maps (where available), and a review of historical mapping and possible military sites in the area. A summary is presented below.

Hazard	Outcome	Discussion
Question 1: Are there any indicators of former military land use on site?	No	A review of the site's history has not identified indicators of former military use on site.
Question 2: Are there any indicators of historical bombing on or near the site?	No	The site falls within a low bombing density area and no military sites or likely Luftwaffe targets have been identified in the surrounding area. A review of historical mapping records did not reveal any indicators of bombing in the area.

Table 2-F: UXO hazard screen

3 Tier 1 Preliminary Contamination Risk Assessment

3.1 Objectives

3.1.1 The objective of this preliminary risk assessment (PRA) is to determine the suitability of the site for the proposed redevelopment and end users, in terms of the risk from contamination. The assessment comprises the following steps:

- Identify potential contaminant linkages (PCLs) between sources, pathways and receptors.
- To provide data to assist in the design of potential exploratory and detailed intrusive investigations and to give an early indication of possible remedial requirements, if necessary.

3.2 Evaluation Criteria

3.2.1 The following assessment is undertaken within the legislative framework of the planning system. Therefore, the assessment needs to identify if land contamination could pose an unacceptable risk to human health or the environment, within the context of the proposed development site. In the context of the existing site use, as a minimum, land should not be capable of being determined as 'contaminated land' under Part IIA of the Environmental Protection Act 1990.

3.2.2 The risk criteria for the proposed development is based on a 'minimal risk' approach, whereas under the existing land use a designation of 'contaminated land' would only apply if there is a significant possibility of significant harm (SPOSH).

3.3 Methodology

3.3.1 The objectives listed above are achieved by utilising the information presented within the desk study to develop an initial conceptual site model (iCSM) and identification of potential unacceptable risks. Depending upon the outcome of the Tier 1 assessment, it may be necessary to undertake a Tier 2 generic quantitative risk assessment (GQRA).

3.3.2 An iCSM relies upon the identification and assessment of PCLs. A contaminant linkage comprises of three key components:

- Source – a contaminant or pollutant that is in, on or under the land and that has the potential to cause harm or pollution.
- Pathway – Current and post-development routes by which a receptor is, or could be, affected by a contaminant.
- Receptor – Something that could be adversely affected by a contaminant, for example a person (current and proposed end users or neighbours), controlled waters and ecosystems.

3.3.3 The Tier 1 risk assessment has been produced with reference to the following guidance:

- ['Land contamination risk management'](#) (EA, 2021).
- BS 10175:2011+A2:2017 'Investigation of potentially contaminated sites – Code of Practice'.
- CIRIA C552 'Contaminated land risk assessment- a guide to good practice', 2001.
- BS EN ISO 21365:2020 'Soil quality – Conceptual site models for potentially contaminated sites'
- BS 8576:2013 'Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOC)'.

3.4 Source Assessment

3.4.1 The table below summarises identified sources based on the findings of the desk study. Where appropriate, further discussion has been provided in the paragraphs which follow.

Potential Sources	Contaminant(s) of concern	Detail	Viable source?
On-site sources			
General Made Ground	Metals, polycyclic aromatic hydrocarbons (PAH), asbestos	Made Ground is expected on site due to development.	Y
	Permanent ground gases (CH ₄ and CO ₂)	Made Ground is expected to be of limited thickness and unlikely to contain significant organic material.	N
Infilled pond on site	Unknown	Infill material not known.	Y
Carbonate rich deposits (chalk)	Permanent ground gases (CO ₂)	Carbonate rich materials can generate carbon dioxide due to natural geochemical and weathering processes. Typically volume generated are low and do not pose a viable risk for developments.	N
Above ground heating oil tank (spills and leaks)	Petroleum hydrocarbons (TPH), volatile organics compounds (VOC)	Oil tank resting on top of concrete slab. Local contamination may be present, although there was no visible evidence for spills on the concrete or on surrounding soils.	Y
Car and machine storage (potential leaks and spills)	Hydrocarbons	Possible localized leaks/spills from construction and farm machinery and stored vehicles.	Y
Natural geology	Radon	The site is recorded as being in an Intermediated Probability Radon Area.	Y
Unexploded Ordnance	UXO	The Hazard Screen indicates a low likelihood of encountering UXO	N
Off-site sources			
Landfill site / Infilled quarry recorded ~120m NE	Landfill ground gases (CH ₄ and CO ₂)	Historic landfill site recorded within 250m. Further consideration required.	Y

Table 3-A: Contamination source assessment

3.5 Receptor Assessment

3.5.1 The following table summarises the identified receptors based on current site conditions and our understanding of the proposed end use:

Receptor Category	Principal Receptor	Receptor present?	Detail
Human health	Users of the current site	Yes	Residential
	End user of the developed site	Yes	Proposed residential use, with private gardens
	Construction operatives and other site investigators	Yes	Site to be developed.
	Adjacent site users and off-site members of the public	Yes	Public footpath and residential properties present adjacent to site.
	Surface waters	No	Surface waters are remote from the site.

Receptor Category	Principal Receptor	Receptor present?	Detail
Controlled waters	Groundwater	No	Site over superficial Secondary Undifferentiated Aquifer, not considered to be a potentially sensitive water resource. Principal Aquifer within underlying chalk is a sensitive water receptor, although is likely overlain by impermeable superficial deposits.
Sensitive ecosystems and species	Current site	Yes	Site is within and will be within the adopted Green Belt
	Developed site	Yes	
Property	Soft landscaping (current)	Yes	Shrubs and trees present along site boundaries and around buildings on site.
	Soft landscaping (proposed)	Yes	Private gardens and public open spaces proposed.
	Building materials	Yes	Concrete classification to be assessed under the geotechnical investigation.

Table 3-B: Receptor assessment

3.6 Pathway Assessment

3.6.1 The following table summarises the generic human health pathway assessment for the site, assuming a range of contaminant sources within the underlying soils. Source-specific pathways are considered within the iCSM in subsequent report sections.

Human Health Exposure Pathway	Residential land use with some soft landscaping (current)	Residential land with private gardens (proposed)	Construction operatives	Adjacent Site Users
Ingestion, inhalation and dermal contact with soils and dusts	✓	✓	✓	✓ (inhalation only)
Ingestion, inhalation and dermal contact with site derived dusts indoors	✓	✓	✓	✗
Ingestion of home-grown vegetables	✓	✓	✗	✗
Inhalation of vapours in outside spaces	✓	✓	✓	✓
Intrusion and inhalation of vapours indoors	✓	✓	✓	✗
Accumulation and Inhalation of ground gas in enclosed structures	✓	✓	✓	✗
Permeation into below-ground drinking water pipes	✓	✓	✗	✗

Table 3-C: Generic pathway assessment

3.6.2 Pathways to controlled waters have not been assessed due to the absence of an identified receptor.

3.7 Initial Conceptual Site Model (iCSM)

3.7.1 The table below presents our approach to the assessment of risks associated with PCLs. The categories below are based upon the definitions within CIRIA C552 (2001), with the addition of a 'negligible likelihood' scenario, which is to be used where there is no realistic scenario in which harm could occur.

3.7.2 The initial conceptual site model (iCSM) is presented within the following tables overleaf.

		Consequence of harm			
		Severe	Medium	Mild	Minor
Probability of harm	High likelihood	Risk: Very high (high – severe)	Risk: High (high – medium)	Risk: Moderate (high – mild)	Risk: Moderate/Low (high – minor)
	Likely	Risk: High (likely – severe)	Risk: Moderate (likely – medium)	Risk: Moderate/Low (likely – mild)	Risk: Low (likely – minor)
	Low Likelihood	Risk: Moderate (low – severe)	Risk: Moderate/Low (low – medium)	Risk: Low (low – mild)	Risk: Very low (low – minor)
	Unlikely	Risk: Moderate/Low (unlikely – severe)	Risk: Low (unlikely – medium)	Risk: Very low (unlikely – mild)	Risk: Very low (unlikely – minor)
	Negligible Likelihood	Risk: Low (negligible – severe)	Risk: Very Low (negligible – medium)	Risk: Very Low (negligible – mild)	Risk: Negligible (negligible – minor)

Table 3-D: iCSM risk ratings

RECEPTOR: PROPOSED END USERS				
Potential Source	Contaminants of Concern	Pathway	Tier 1 Risk Assessment (probability of harm x consequence)	Discussion
General Made Ground	Metals, PAH, asbestos	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Moderate/Low (low – medium)	Elevated levels of inorganic and organic contaminants could be present in the Made Ground deposits due to unknown historical activities and incidents on site (such as through the storage and use of fuels and chemicals). However, it is noted that no significant evidence of possible gross contamination was noted onsite. A general spread of precautionary testing is recommended.
Above ground fuel storage tank noted during site reconnaissance (spills and leaks)	Petroleum hydrocarbons (TPH), volatile organics compounds (VOC)	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Moderate/Low (low – medium)	No evidence of spills observed. Low-likelihood of residual contamination within areas of proposed soft landscaping. Verificatory soil sample recommended.
Car garage (potential leaks and spills)	Hydrocarbons	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Low (unlikely – medium)	Minor leaks from parked vehicles are unlikely to present a significant risk of gross contamination.
Natural geology	Radon	Migration through the sub-surface	Risk: Moderate (likely – medium)	The site is in an Intermediate Probability Area and basic radon protection measures are recommended.
Infilled pond on site	Permanent Ground Gases (CH ₄ & CO ₂)	Lateral migration through the sub-surface into enclosed spaces	Risk: Low (unlikely – medium)	Due to its location (close to a residential property) it is unlikely that grossly contaminated material was used to infill the pond, but a verificatory inspection is recommended.
Off-site: Landfill ~ 100m north-east	Permanent Ground Gases (CH ₄ , CO ₂ & H ₂ S)	Lateral migration through the sub-surface into enclosed spaces	Risk: Low (unlikely – medium)	The former quarry/pit is relatively small in scale and was recorded as a refuse tip during the 1970's-1980's. Residential properties were located immediately adjacent to the north during the filling and the likelihood that it was used for domestic waste with a significant gas generation potential is considered to be low. Further, near surface soils are expected to be effectively impermeable which would limit any gas migration.

Table 3-E: iCSM – proposed end users

RECEPTOR: CONSTRUCTION WORKERS				
Potential Source	Contaminants of Concern	Pathway	Tier 1 Risk Assessment (probability of harm x consequence)	Discussion
General Made Ground	Asbestos fibres and ACMs	Inhalation of dusts	Risk: Moderate/Low (low – medium)	If present, asbestos in soils can present an acute risk to construction workers, particularly during the enabling works phases. Very low and trace concentrations often pose a low risk if appropriate controls are put in place. While considered unlikely, screening is recommended.
All other contamination sources, excluding asbestos	Metals, PAHs, TPHs	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Low (low – mild)	No gross contamination of high-risk contaminants anticipated (e.g. cyanide, benzene, and vinyl chloride). Standard PPE and hygiene protocols for working on brownfield sites are likely to be sufficient to mitigate the risk.
Unexploded Ordnance	UXO	Direct contact / explosion	Risk: Low (negligible– severe)	The Hazard Screen did not show any indicators of potential UXO. No further risk assessment is required.

Table 3-F: iCSM – acute exposure to construction workers

RECEPTOR: ADJACENT SITE USERS FOLLOWING COMPLETION				
Potential Source	Contaminants of Concern	Pathway	Tier 1 Risk Assessment (probability of harm x consequence)	Discussion
All identified potential contaminant sources	Metals, PAHs, TPH, (S)VOCs, Asbestos	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Low (unlikely – medium)	Based on the exposure pathways that would be present from the developed site, and on the anticipated levels of contamination, it is considered unlikely that a pollutant linkage could pose an unacceptable risk to off-site receptors.

Table 3-G: iCSM – chronic exposure to adjacent site users

RECEPTOR: ADJACENT SITE USERS DURING THE CONSTRUCTION PHASE				
Potential Source	Contaminants of Concern	Pathway	Tier 1 Risk Assessment (probability of harm x consequence)	Discussion
General Made Ground	Asbestos	Inhalation of dusts	Risk: Moderate/Low (low – medium)	Potential risk associated with generation of air-borne asbestos fibres and dust during construction main earthworks phase. Whilst there is a low likelihood of harm occurring due to the effect of fresh-air dilution, the risk cannot be discounted at this stage.
All other potential contaminant sources	Metals, PAHs, TPH	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Low (unlikely – medium)	Unlikely to pose a viable risk to off-site receptors.

Table 3-H: *iCSM – acute exposure to adjacent site users*

RECEPTOR: PROPOSED PLANTING				
Potential Source	Contaminants of Concern	Pathway	Tier 1 Risk Assessment (probability of harm x consequence)	Discussion
Contaminants within topsoil and the shallow sub-surface	Metals, pH and inorganics	Direct contact and root uptake	Risk: Negligible (negligible– minor)	A suitable growing medium will likely need to be imported for any proposed landscaping scheme.

Table 3-I: *iCSM – phytotoxic risk to proposed planting scheme*

- 3.7.3 The risk to identified receptors from the proposed developments under the planning regime are assessed under a ‘minimal risk’ approach. Whereas, the risk to receptors under the current and continued use of the site is dealt with under the regulatory framework of the Part IIA regime, where Soiltechnics consider if there is a reasonable chance of a ‘significant potential of significant harm’ (SPOSH) occurring. This is not equivalent to a due diligence assessment for the continued use of the site to aid in determining potential contaminated land liabilities or land valuations.

3.7.4 The following table sets out the risk to current users considering a SPOSH approach:

Receptor	Potential Source	Contaminants of Concern	Pathway	Preliminary Assessment: Is their reasonable evidence of SPOSH?	Discussion
Human Health (Current and adjacent site users)	All potential contaminant sources identified above	Various Contaminants	Inhalation, ingestion and contact with soils, dusts and vapours	No	Whilst potential contamination sources have been identified, Soiltechnics have not encountered any evidence which indicates there could be a significant possibility of significant harm to human health occurring from contamination on site.
Controlled Waters (Surface water and groundwater)	All potential contaminant sources identified above	Various Contaminants	Mobilisation and migration	No	Whilst potential contamination sources have been identified, Soiltechnics have not encountered any evidence which indicates there could be a significant possibility of significant harm to controlled waters occurring from contamination on site.
Ecosystems	All potential contaminant sources identified above	Various Contaminants	Direct contact and root uptake	No	The site falls within an adopted Green Belt area; however, a precursory review of aerial and street view imagery does not show any significant barren areas, signs of poor growth, or significant vegetative stress.
Property	All potential contaminant sources identified above	Various Contaminants	Various pathways	No	Through undertaking the desk study, no evidence of potentially significant harm occurring to property has been identified.

Table 3-J: iCSM – current site risks (part IIA)

3.8 Preliminary Risk Assessment Conclusions and Recommendations

- 3.8.1 In summary, the PRA has not highlighted any potential contaminant linkages (PCL) which could pose a significant possibility of significant harm under the current land use. In terms of the proposed development scheme, a minimal risk approach applies, and PCLs have been identified which require further consideration.
- 3.8.2 The site is at a low risk from ground gases migration associated with an off-site area of infilled ground. Basic radon protection measures are required as part of the development.
- 3.8.3 Overall, each PCL identified as posing a risk of 'Moderate/Low' or higher should be considered as part of an intrusive Tier 2 generic quantitative risk assessment (GQRA). The following table summarises the principal receptors at risk which require further investigation to support the proposed development.

Receptor Category	Principal Receptor	PCL Present Requiring Further Investigation?
Human health	Current site users	No
	Proposed site users (soils, dusts, and vapour)	Yes
	Proposed site users (permanent ground gas)	No
	Proposed site users (radon)	No – protection required
	Adjacent site users and off-site members of the public (during the long-term use of the site)	No
	Adjacent site users and off-site members of the public (during the construction phase)	Yes - Asbestos risk only
	Construction operatives	Yes – Asbestos risk only
Controlled waters	Surface waters	No
	Groundwater	No
Property	Soft landscaping (current)	Yes
	Soft landscaping (proposed)	Yes
	Potable infrastructure	Yes
	Building materials	To be considered by the specifier – refer Section 7.8 for an assessment.

Table 3-K: Receptors at risk under the proposed scheme

4 Ground Investigation

4.1 Objectives

- 4.1.1 The ground investigation scope and location of exploratory holes was determined by Soiltechnics Ltd, based upon our overall brief outlined in Section 1.
- 4.1.2 The objectives of the fieldwork were to:
- i) Establish ground and groundwater conditions at the site.
 - ii) Obtain samples for subsequent laboratory testing.

4.2 Fieldwork Summary

- 4.2.1 Fieldwork was undertaken on 31st January.
- 4.2.2 A summary of the works completed is set out in the table below, along with the location of the exploratory logs. Photographic records of the trial pits are presented in Appendix B, and the exploratory hole location plan is presented within Appendix A.

Exploratory Hole Logs	Method	Qty	Final Depth Range (m bgl)	Comments
Appendix B	Hand Pits	2	0.1 – 0.3	HP01 Targeted sampling location for fuel tank.
Appendix B	Machine-excavated trial pits	5	2.50 – 3.00	TP01 to TP05 Trial pits terminated at scheduled depth.

Table 4-A: Summary of fieldwork undertaken

- 4.2.3 All soils encountered were described in accordance with BS EN ISO 14688 “Identification and Classification of soil”.

4.3 Unexploded Ordnance (UXO)

- 4.3.1 The site was assessed to have a low risk of encountering UXO and were supervised by a site engineer who has had UXO awareness training.
- 4.3.2 No items of suspected UXO were identified.

4.4 Sampling

- 4.4.1 During the fieldwork, sampling of soil for geotechnical purposes has been undertaken in accordance with BS EN ISO 22475-1 “Geotechnical Investigation and testing – sampling by drilling and excavation and groundwater measurements”.
- 4.4.2 Samples collected for chemical analysis have been taken and handled in accordance with BS ISO 18400-105:2017 “Soil quality — Sampling Part 105: Packaging, transport, storage and preservation of samples”.
- 4.4.3 Various sampling and sub-sampling methodologies have been adopted as appropriate, with the primary aim of obtaining the highest quality sample class practicable.
- 4.4.4 Untested chemical and geotechnical samples will be held for a period of 4 weeks from the date of the first report issue, after which they will be disposed of.

4.5 In-situ Testing

- 4.5.1 The following table summarises the field testing carried out. The results are summarised on individual exploratory hole logs where appropriate and detailed within the Appendices indicated.

Tests	Qty	Applicable standard / guidance	Location of Results
Hand shear vane	12	Manufacturer's instructions	Included within logs Detailed in Appendix D
Pocket penetrometer	8	Manufacturer's instructions	Included within logs Detailed in Appendix D
Dynamic cone penetrometer (DCP) using TRL probe	4	DMRB: CS229	Appendix E

Table 4-B: Summary of field testing undertaken

4.6 Investigation Constraints

- 4.6.1 No significant constraints were encountered which limited the design of the scope of works or the undertaking of fieldworks.

5 Laboratory testing

5.1 Overview

- 5.1.1 Samples obtained from exploratory holes were sent to independent accredited laboratories for geotechnical and chemical testing.

5.2 Geotechnical Testing

- 5.2.1 The geotechnical testing schedule was prepared by Soiltechnics using a targeted and judgemental approach, based upon the scheme proposals and our initial understanding of the ground conditions.
- 5.2.2 Geotechnical laboratory test results are presented in Appendix F, and the total number of geotechnical tests undertaken is summarised below:

Qty	Test
6	Moisture content
6	Atterberg limits
1	Particle size distribution (coarse)
6	BRE SD1 Suite B

Table 5-A: Summary of geotechnical laboratory testing

5.3 Chemical Testing

- 5.3.1 The chemical testing schedule was prepared by Soiltechnics using a targeted and judgemental approach, based upon the initial conceptual site model and fieldwork observations. This is further elaborated on within subsequent report sections.
- 5.3.2 Chemical laboratory test results are presented in Appendix G, and the total number of chemical tests undertaken is summarised below:

Sample Type	Qty	Testing	Suite Name
Soils	5	Basic Contamination Suite [metals, cyanides, PAHs, phenol]	ST Suite 1
	1	TPH CWG & BTEX	ST Suite 7
	5	Asbestos screening	-

Table 5-B: Summary of chemical laboratory testing

6 Ground Investigation Findings

6.1 Ground Model

- 6.1.1 Ground conditions encountered were relatively consistent across the site and comprised gravel surfacing over Made Ground and the Clay-with-flints Formation.
- 6.1.2 Sandy gravels comprising asphalt, flint and occasionally brick were encountered to depths of 0.05m to 0.20m bgl within all trial pits, except TP04 (location of infilled pond) where soft to firm, brown, slightly sandy, slightly gravelly clay with frequent rootlets and roots and gravels of brick and flint was encountered to 0.70m.
- 6.1.3 Made Ground was encountered in all trial pits from ground level to depths of 0.40-0.80m. These typically comprised sandy gravelly clays, sandy gravels and gravelly clayey sand. Gravels encountered typically consisted of asphalt, brick and flint. Medium to high cobble content of flint, brick, slate was encountered in the Made Ground.
- 6.1.4 The Clay-with-flints Formation underlies the Made Ground. This was recorded to be firm to stiff, brown, slightly sandy, slightly gravelly clay with low to high cobble content of flint. Gravels consisted of fine to coarse subangular to rounded flint.
- 6.1.5 Photographs of typical ground conditions are presented below.



Figure 6-A: TP01 (left) and TP05 (right) showing gravels over clay Made Ground over Clay-with-flints Formation.



Figure 6-B: Made Ground excavated from TP02



Figure 6-C: Made Ground excavated from TP03



Figure 6-D: Clay-with-flints Formation excavated from TP02

6.2 Groundwater

- 6.2.1 Groundwater was not observed in any of the exploratory holes during the fieldworks, with the maximum depth achieved being 3.5m bgl.
- 6.2.2 A review of the available groundwater level data from the surrounding area (see desk study) generally concurs with the findings above.
- 6.2.3 Groundwater levels are expected to vary seasonally and in response to recent weather conditions.

6.3 Evidence of Possible Contamination

- 6.3.1 During the ground investigation works, no significant visual or olfactory evidence of contamination was noted, except for the presence of anthropogenic materials contained within the Made Ground (brick, concrete, clinker-like material) which can lead to inflated levels of metals and PAHs in soils.

6.4 Obstructions and Instability

- 6.4.1 The progress of the ground investigation works was not generally affected by below ground obstructions or instability.

7 Geotechnical Discussion

7.1 Scheme Overview

- 7.1.1 The following assessments are made on the investigatory data presented in the preceding sections of this report and are made with reference to the specific nature of the development. Should scheme proposals change then it is recommended that the validity of the conclusions of this report in relation to the revised scheme are checked.
- 7.1.2 The project will comprise the demolition of the existing outbuildings across site, and the construction of six detached residential properties with private gardens, and associated areas of hardstanding for access and parking.
- 7.1.3 In view of the scheme proposals, the geotechnical elements considered in this report are outlined below:
- Building foundations
 - Floor slab
 - Pavement

7.2 Geotechnical Category

- 7.2.1 In accordance with BS EN1997-1:2004 + A1:2013 (Eurocode 7), the project is designated as Geotechnical Category 2. This category includes projects with *conventional types of structures and foundations with no exceptional risk, or difficult ground or loading conditions*. Furthermore, *routine design procedures* are appropriate.
- 7.2.2 It should be noted that this Report does not constitute a Geotechnical Design Report (GDR) as defined in Eurocode 7. Accordingly, a GDR should be prepared by the designer during the detailed design phase.

7.3 Dissolution Features

- 7.3.1 The site is recorded as having both a low and moderate risk of dissolution.
- 7.3.2 Reference has been made to CIRIA report C574 Engineering in Chalk. That report indicates that the presence of dissolution features should be expected on all calcium carbonate rich chalk sites. The underlying Lewes Nodular Chalk Formation is considered rich in calcium carbonate and therefore dissolution features are possible.
- 7.3.3 Dissolution features pose a hazard to foundations because of the presence of one or more of the following features, which are generally located above the groundwater table:
- i) Large variations in intact chalk horizon
 - ii) Loose chalk or superficial deposits infilling pipes
 - iii) Cavities or caves within the chalk
 - iv) Dissolution widened discontinuities in the chalk affecting its load carrying capacity

- 7.3.4 The risk that these hazards present to a building relates to its vulnerability, which in turn relates to the foundation type. A building on shallow spread type foundations and ground bearing floors is more vulnerable than piled foundations extending through the base of these features supporting a suspended ground floor slab. A qualitative risk assessment has been undertaken and summarised below:

Item	Observation / enquiry	Assessed risk
Surface features	No observed depressions or local variability in levels. Soils observed as generally impermeable which will have restricted infiltration into the chalk below.	Low
Variation in density of near surface soils	Ground conditions generally consistent where inspected.	Low
Variation in intact chalk horizon	Chalk not encountered and expected to be some 10-20m bgl.	Low
Adverse movement in nearby buildings	None observed	Low
Envirocheck database	Risk recorded as low and moderate onsite.	Low

Table 7-A: Qualitative risk assessment of dissolution features

- 7.3.5 Based on the above, the risk of the site being subject to dissolution features is considered low. Although the risk is considered low, there remains a residual risk that dissolution features could be encountered in the construction phase, identified by voiding or locally loose/low strength soil.

- 7.3.6 If any unexpected ground conditions are identified a competent geotechnical engineer should be consulted.

7.4 Building Foundation Strategy

- 7.4.1 In view of the key geotechnical issues discussed above and anticipated loadings, spread foundations are likely to be viable for the project.

7.5 Geotechnical Parameters

- 7.5.1 Characteristic values of geotechnical parameters have been derived, in accordance with Eurocode 7. The following tables present the recommended characteristic values for the strata encountered:

Variable	Characteristic value	Derivation
Weight density above water table, γ_b (kN/m ³)	18	BS8004:2015 Figure 1

Table 7-B: Summary of characteristic geotechnical parameters – Made Ground

Variable	Characteristic value	Derivation
Weight density below water table, γ_b (kN/m ³)	19	BS8004:2015 Figure 2
Undrained shear strength, c_u (kN/m ²)	50	In situ testing
Undrained deformation modulus, E_u (MN/m ²)	25	$E_u/c_u = 500$ from Jamiolkowski et al (1979) Literature

Table 7-C: Summary of characteristic geotechnical parameters – Clay-with-flints Formation

7.6 Spread Foundations

- 7.6.1 The soils underlying the proposed foundations are of medium to high volume change potential when classified in accordance with NHBC Standards, Chapter 4.2. Accordingly, and in isolation of other considerations affecting foundation depth, foundations should be founded at a minimum depth of 1m BGL to penetrate the zone of shrinkage and swelling caused by seasonal wetting and drying.
- 7.6.2 Made Ground was encountered across the site. All foundations should extend through Made ground and into the underlying deposits by a minimum of 0.3m.
- 7.6.3 Ultimate limit state analyses (bearing capacity) have been undertaken in accordance with the approach outlined in Annex D of Eurocode 7 to derive the following design bearing resistances:

Summary	Combination	Per square m kN/m ²	Line resistance per m run kN/m
10m x 0.45m. Founding depth 1m.	1	275	120
	2	200	90
10m x 0.6m. Founding depth 1m.	1	275	165
	2	200	120
10m x 0.9m. Founding depth 1m.	1	280	250
	2	205	180

Table 7-D: Summary of foundation ultimate limit state analyses

- 7.6.4 Serviceability limit state (SLS) has been assessed by undertaking settlement analyses in accordance with the approach outlined in Annex F of Eurocode 7 and adopting the following variables:

Stratum	Variable	Value adopted	Derivation
Clay-with-flints Formation	Coefficient of volume compressibility, m_v (m ² /MN)	0.15	Literature
	Geological factor, μ_g	1	Literature

Table 7-E: Key geotechnical variables used in settlement analyses

- 7.6.5 The proposed loads are not known at this stage. Accordingly, the maximum bearing pressures have derived to ensure settlement is less than 25mm, which is typically adopted as a maximum tolerable limit. The following table summarises the results.

Summary	Per square m kN/m ²	Line resistance per m run kN/m
10m x 0.45m. Founding depth 1m.	255	115
10m x 0.6m. Founding depth 1m.	210	125
10m x 0.9m. Founding depth 1m.	160	145

Table 7-F: SLS bearing resistance to ensure total settlement to <25mm

7.6.6 Differential settlement is dependent upon the variation of loads imposed on the ground and consistency of the foundation supporting ground. Assuming foundation loads are reasonably uniform and in line with the values outlined above, it is estimated that differential settlement is unlikely to exceed say 10mm. It is likely settlement will be substantially achieved within say 10 years of construction.

7.6.7 It should be noted that foundation design is iterative. Accordingly, a final check of ultimate and serviceability limit states should be undertaken following confirmation of foundation size and loads.

7.7 Residential Ground Floor Construction

7.7.1 In view of the high-volume change potential of clay soils onsite, it is recommended that a suspended ground floor is adopted.

7.8 Aggressiveness of the Ground to Buried Concrete

7.8.1 The aggressiveness of the ground with respect to buried concrete has been assessed in accordance with Building Research Establishment Special Digest 1: Concrete in Aggressive Ground Third Edition (2005).

7.8.2 The site is interpreted to be a greenfield site where pyrite is unlikely to be present.

7.8.3 Laboratory testing has been undertaken on soil samples obtained from the investigation works.

7.8.4 The proposed foundations will extend into previously undisturbed soils that may contain pyrite. Excavating to form a foundation does not create 'disturbed' ground as defined in BRE SD-1. However any arisings resulting from foundation excavation or replacement piling for example would be classified as 'disturbed' ground. Accordingly, the amount of oxidizable sulphides has also been considered when categorising the strata.

7.8.5 The classification of the strata is tabulated below:

Stratum	Disturbed / Undisturbed	Design sulphate class	Aggressive chemical environment for concrete class
Made Ground	Disturbed	DS-1	AC-1s
	Undisturbed	DS-1	AC-1s
Clay-with-flints Formation	Disturbed	DS-1	AC-1s
	Undisturbed	DS-1	AC-1s

Table 7-G: Summary of the aggressiveness of the ground to buried concrete

7.9 Pavement Foundation

7.9.1 As part of the scheme development it is understood that an access road and / or hardstanding areas will be constructed at or about existing ground level across the central portion of the site. In situ California Bearing Ratio (CBR) value for the subgrade has been determined from Dynamic Cone Penetrometer testing in accordance with CS 229 Data for Pavement Construction. Results of these tests are presented as Appendix E.

7.9.2 There is a high degree of variability in the results, likely due to gravel and cobble obstructions, and the lower values have been used to derive the suggested design value of 3.5%.

7.9.3 It is recommended that the design values are validated with in situ testing immediately prior to construction. Furthermore, it is recommended that the formation level is trimmed and rolled following the requirements outlined in the Specification for Highway Works Series 600.

7.9.4 The slightly silty nature of the Clay-with-flint Formation deposits will render them moisture susceptible with small increases in moisture content giving rise to a rapid loss of support to construction plant. It is therefore recommended that the sub-base is laid as soon as practicable following establishment of formation.

7.10 Constructability

7.10.1 Under most standard contracts it is the responsibility of the Contractor to design, construct and maintain temporary works. Accordingly, the following discussion is provided for information only.

7.10.2 Groundwater is not anticipated to be encountered during excavations to form spread foundations. Excavation sides are anticipated to be stable in the short term. However, some overbreak of the Made Ground and other more granular deposits may occur.

7.10.3 In the event that a soft area is located in the course of foundation excavations then excavation should continue to locate stiffer / denser soils.

7.10.4 It is recommended that foundation concrete be poured as soon as practicable after excavation to prevent deterioration of the formation. This is particularly applicable to chalk soils which rapidly deteriorates upon excavation and exposure to water.

8 Tier 2 Generic Quantitative Risk Assessment

8.1 Objectives

8.1.1 The objective of this generic quantitative risk assessment (GQRA) is to further assess the potential contaminant linkages (PCLs) identified by the preliminary risk assessment using the following:

- The findings of the intrusive site investigation and resulting site specific ground and hydrogeological model.
- Laboratory analysis of soils and groundwater.

8.2 Fieldwork Observations

8.2.1 Fieldwork observations on the potential for contamination and the underlying ground conditions did not identify any new contaminant sources or significant pathway alterations to the anticipated ground model. Therefore, no PCL additions or amendments are required to be made to the CSM at this stage.

8.2.2 No visual or olfactory evidence of hydrocarbon contamination was noted in any of the exploratory locations. The above ground fuel storage tank on site did not show any evidence of hydrocarbon contamination in its vicinity. However, all positions were taken externally and there remains a possibility that localised contamination may be present beneath the existing outbuildings or externally in areas not currently investigated.

8.3 Laboratory Testing Rationale

8.3.1 Laboratory testing has been scheduled by targeting potential contaminant linkages identified within the iCSM and observations made during fieldworks. The sampling and testing strategy is based on a judgemental approach.

8.3.2 The testing of the general Made Ground deposits was undertaken across various locations to gain spatial coverage over the site and to characterise the strata encountered. Testing included a broad suites of analysis due to the potential for unknown contamination to be present.

8.3.3 In addition to the above, the following potential sources of contamination were identified within the iCSM and were subject to targeted sampling and testing as summarised below.

Source	Strata/medium	Qty	Scheduled analysis	Exploratory IDs	Sample Depth Range (m bgl)
Above ground fuel storage tank noted during site reconnaissance (spills and leaks)	Made Ground	1	TPH CWG & PAH	HP01	0.20

Table 8-A: Summary of scheduled laboratory testing

8.4 Generic Assessment Criteria

8.4.1 Assessment of laboratory test data has been carried out using published generic assessment criteria (GACs). The GACs act as screening values to provide a 'trigger' to an assessor that soil concentrations above these limits might present an unacceptable risk.

- 8.4.2 Various GAC sources are used within this report. Key assumptions are made in the derivation of screening values in regard to their use and application, and exposure modelling is based on precautionary national scenarios. This generic approach can result in an overly conservative assessment; therefore, the assessor is required to review the outcome of the GQRA screening in the context of the site specific CSM and identified potential contaminant linkages.
- 8.4.3 Asbestos does not currently have published GACs which can be used for generic assessment purposes, at this stage a present / absent trigger limit has been adopted.
- 8.4.4 Specific details regarding the published GAC sources chosen and any parameter refinements made are summarised within Appendix H, along with the order of preference where multiple GAC sources are available. The exposure models adopted are discussed in the relevant sections below.

8.5 Human Health GQRA (Soils and Vapour)

- 8.5.1 The results of the human health screening assessment for soils and vapours are detailed in Appendix H. The following table outlines the exposure models adopted, along with summarising the outcome of each screening assessment.

Receptor	Exposure Model	Outcome
All human health receptors	Presence of asbestos	No suspected ACMs observed during fieldworks. No fibres detected through laboratory analysis.
Proposed users	Residential with plant uptake	1 sample (TP05 at 0.5m bgl) shows an exceedance of Lead. 1 sample (TP01 at 0.15m) shows multiple PAH exceedances. All other results below GAC screening values.
Construction operatives	Acute occupational exposure (assumed no PPE worn)	No exceedances.
Adjacent site users and the public	Acute off-site public exposure during construction phase	No exceedances.

Table 8-B: Human health GQRA models and outcomes

- 8.5.2 The table below summarises the instances where contaminants have exceeded the generic screening criteria.

Receptor	Strata	Contaminant	Locations & Depths	Test Result / Range (mg/kg)	GAC (mg/kg)
Proposed users	Made Ground	Lead	TP05 at 0.50m	370	200
		Benzo(a)anthracene		12	7.2
Proposed users	Made Ground	Benzo(a)pyrene	TP01 at 0.15m	16	5
		Benzo(b)fluoranthene		18	2.6
		Dibenz(a,h)anthracene		2.2	0.24

Table 8-C: Human health GQRA exceedances

8.6 Proposed Site Users Risk Assessment (Soils and Vapour)

- 8.6.1 Laboratory testing of Made Ground soils has identified an exceedance in Lead at TP05 where a garden south-west of site is proposed. Exceedances in numerous PAHs within TP01 in the northern corner of site where a garden is proposed has also been identified. No other samples in the remaining exploratory hole locations recorded an exceedance in Lead or PAHs.

- 8.6.2 Given the relatively low sampling frequency it must be assumed there is a potential for further exceedances across the site in lieu of further sampling.
- 8.6.3 It is assumed the site will be generally stripped of surfacing/Made Ground prior to the construction and that imported soils will be required for garden areas.
- 8.6.4 Therefore, it is currently recommended that a remediation strategy comprising installation of a clean cover system is adopted. A further spread of testing post demolition and site strip may allow this to be reduced or removed.
- 8.6.5 There remains a possibility that localised hydrocarbon contamination could be present in other areas of the site, particularly beneath existing buildings. A watching brief, provided by the Principal Contractor, is recommended during all below ground works. Unless gross contamination is encountered, the proposed cover system will sufficiently address the risks.

8.7 Construction Workers Risk Assessment

- 8.7.1 Analysis indicates that contaminant levels do not pose an acute risk to construction workers. In general, standard PPE and hygiene protocols for working on brownfield sites is considered adequate to mitigate against the potential risk from contaminants on site, and no special precautions are required.

8.8 Adjacent Site Users Risk Assessment

- 8.8.1 Based upon the laboratory results and our understanding of the site, there is not considered to be an unacceptable level of risk to adjacent site users, both during construction and following completion of the development.

8.9 Risks to Soft Landscaping Vegetation

- 8.9.1 To help determine the risk to vegetation from potentially phytotoxic contaminants, screening values presented within the British Standard 'Specification for Topsoil' (BS 3882:2015), and the Environment Agency online guidance 'Sewage Sludge in Agriculture: Code of Practice' have been adopted.
- 8.9.2 Analysis indicates that the near-surface soils may contain metal concentrations (Lead and Zinc) at levels which could pose a potentially phytotoxic risk to vegetation in the proposed planting scheme.
- 8.9.3 Providing a clean cover system is installed to mitigate against the human health risks already identified, this will also serve to sever the pathway of exposure to planting, and therefore the risk can be discounted from further consideration.

8.10 Water Supply Pipes

- 8.10.1 A full site investigation as set out in the UK Water Industry Research (UKWIR) document '*Guidance for the selection of Water supply pipes to be used in Brownfield sites*' has not been undertaken.
- 8.10.2 The UKWIR document advises a trigger concentration of 0.125mg/kg for the 'extended VOC (volatile organic compounds) suite', which includes the PAH (polycyclic aromatic hydrocarbons) suite that has been included in the soil analysis during this investigation.

- 8.10.3 The maximum summed concentration of PAH congeners from individual samples obtained from the site at likely pipe depths (0.50m to 1.50m bgl) exceeds the trigger concentration of 0.125mg/kg in all five samples, and on this basis the installation of protective barrier-pipes in below ground water infrastructure is recommended as a precaution, unless service trenches are over-dug and backfilled with suitable clean materials.
- 8.10.4 If pipes are installed at depths greater than 0.80m (below the Made Ground and into natural soils), the installation of protective barrier-pipes in below ground water infrastructure is unlikely to be required based on observations to date. Should deeper Made Ground be encountered, or localised hydrocarbon contamination be identified then barrier pipes may be required unless potentially contaminated materials are fully removed.
- 8.10.5 In all instances, it is advised to consult the water company for advice to determine if protective pipe is necessary or if further assessment and investigation works are warranted. Irrespective of the assessment made here, water companies may insist on barrier pipe being installed. Once the initial consultation has taken place, Soiltechnics can support you in any further assessments that may be required.

8.11 Updated Conceptual Site Model (uCSM)

- 8.11.1 Following on from the discussions above, an updated conceptual site model has been tabulated overleaf.
- 8.11.2 The table below presents our approach to the assessment of risks associated with potential contaminant linkages. The categories are based upon the definitions within CIRIA C552 (2001), with the addition of a 'negligible likelihood' scenario, which is to be used where there is no realistic scenario in which harm could occur.

		Consequence of harm			
		Severe	Medium	Mild	Minor
Probability of harm	High likelihood	Risk: Very high (high – severe)	Risk: High (high – medium)	Risk: Moderate (high – mild)	Risk: Moderate/Low (high – minor)
	Likely	Risk: High (likely – severe)	Risk: Moderate (likely – medium)	Risk: Moderate/Low (likely – mild)	Risk: Low (likely – minor)
	Low Likelihood	Risk: Moderate (low – severe)	Risk: Moderate/Low (low – medium)	Risk: Low (low – mild)	Risk: Very low (low – minor)
	Unlikely	Risk: Moderate/Low (unlikely – severe)	Risk: Low (unlikely – medium)	Risk: Very low (unlikely – mild)	Risk: Very low (unlikely – minor)
	Negligible Likelihood	Risk: Low (negligible– severe)	Risk: Very Low (negligible– medium)	Risk: Very Low (negligible– mild)	Risk: Negligible (negligible– minor)

Table 8-D: CSM risk ratings

RECEPTOR: PROPOSED END USERS				
Potential Source	Contaminants of Concern	Pathway	Tier 2 Risk Assessment (probability of harm x consequence)	Discussion
Infilled pond on site	Permanent Ground Gases (CH ₄ & CO ₂)	Lateral migration through the sub-surface into enclosed spaces	Risk: Very Low (negligible– medium)	Due to its small size, and the fact that material used to infill the pond is similar to that across site (no suspected putrescible material), this is unlikely to cause harm in relation to ground gas generation potential.
Off-site: Landfill ~ 100m north-east	Permanent Ground Gases (CH ₄ & CO ₂)	Lateral migration through the sub-surface into enclosed spaces	Risk: Moderate/Low (unlikely – severe)	Langley Tip, a BGS recorded landfill site, is located down a topographical gradient from the site; therefore, preferential pathways are unlikely. No visual or olfactory evidence of putrescible material and odours were observed during fieldwork.

RECEPTOR: PROPOSED END USERS				
Potential Source	Contaminants of Concern	Pathway	Tier 1 Risk Assessment (probability of harm x consequence)	Discussion
General Made Ground	Metals, PAH, asbestos	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Moderate/Low (low – medium)	Elevated lead and PAH's detected, which are not uncommon in brownfield land. While no gross contamination was observed, a clean cover system is required in garden areas in lieu of further testing.
Above ground fuel storage tank noted during site reconnaissance (spills and leaks)	Petroleum hydrocarbons (TPH), volatile organics compounds (VOC)	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Low (unlikely – medium)	No evidence of spills observed and no TPH detected in soils.
Car garage (potential leaks and spills)	Hydrocarbons	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Low (unlikely – medium)	No hotspot contamination observed. While a residual risk of contamination below existing outbuildings remain, the clean cover system proposed will sufficiently address this risk unless gross contamination is encountered (unexpected).
Natural geology	Radon	Migration through the sub-surface	Risk: Moderate (likely – medium)	The site is in an Intermediate Probability Area and basic radon protection measures are recommended.

RECEPTOR: PROPOSED END USERS

Infilled pond on site	Permanent Ground Gases (CH ₄ & CO ₂)	Lateral migration through the sub-surface into enclosed spaces	Risk: Low (unlikely – medium)	Soils in the area of the infilled pond were consistent with the rest of the site and thus no specific risk identified.
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Table 8-E: uCSM – Proposed end users

RECEPTOR: CONSTRUCTION WORKERS

Potential Source	Contaminants of Concern	Pathway	Tier 2 Risk Assessment (probability of harm x consequence)	Discussion
General Made Ground	Asbestos fibres and ACMs	Inhalation of dusts	Risk: Low (unlikely – medium)	Laboratory testing of samples did not identify any asbestos within the Made Ground.
All other contamination sources, excluding asbestos	Metals, PAHs, TPHs	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Low (unlikely – medium)	No elevated concentrations above the selected screening criteria. No gross contamination of high-risk contaminants encountered (e.g. cyanide, benzene, and vinyl chloride).

Table 8-F: uCSM – acute exposure to construction workers

RECEPTOR: ADJACENT SITE USERS FOLLOWING COMPLETION

Potential Source	Contaminants of Concern	Pathway	Tier 2 Risk Assessment (probability of harm x consequence)	Discussion
General Made Ground	Asbestos fibres and ACMs	Inhalation of dusts	Risk: Low (unlikely – medium)	No mitigation measures required for proposed end users.
All other contamination sources, excluding asbestos	Metals, PAHs, TPHs	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Low (unlikely – medium)	No elevated concentrations above the selected screening criteria.

Table 8-G: uCSM – chronic exposure to adjacent site users

RECEPTOR: ADJACENT SITE USERS DURING THE CONSTRUCTION PHASE				
Potential Source	Contaminants of Concern	Pathway	Tier 2 Risk Assessment (probability of harm x consequence)	Discussion
General Made Ground	Asbestos fibres and ACMs	Inhalation of dusts	Risk: Low (unlikely – medium)	No mitigation measures required for proposed end users.
All other contamination sources, excluding asbestos	Metals, PAHs, TPHs	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Low (unlikely – medium)	No elevated concentrations above the selected screening criteria.

Table 8-H: *uCSM – acute exposure to adjacent site users*

RECEPTOR: PROPOSED PLANTING				
Potential Source	Contaminants of Concern	Pathway	Tier 2 Risk Assessment (probability of harm x consequence)	Discussion
Contaminants within topsoil and the shallow sub-surface	Metals, pH and inorganics	Direct contact and root uptake	Risk: Negligible (negligible– minor)	Elevated concentrations above the selected screening criteria are present across the site; therefore, a suitable growing medium will need to be imported for any proposed landscaping scheme for the probability of harm to be negligible.

Table 8-I: *uCSM – phytotoxic risk to proposed planting scheme*

8.12 Risk Assessment Conclusions

8.12.1 The updated CSM has identified potential contaminant linkages which exceed the low-risk threshold and require further investigation, mitigation, or remediation. These are discussed in further detail below.

Contaminant Source	Receptor	Recommended Action	Discussion
Elevated Lead and PAHs within the shallow soils	Proposed end users and vegetation	Remediation	Remediation required. This could be achieved through the installation of a clean soil cover system in all soft landscaping areas, or through the complete removal of Made Ground from soft landscaped areas.
Elevated organic contaminants within the Made Ground	Drinking water infrastructure	Remediation	There is a requirement for installation protective barrier pipes for drinking water.
Radon and Ground gas	Proposed end users	Remediation	Basic radon protection measures required.

Table 8-J: GQRA risk assessment conclusions

8.12.2 A Remediation Strategy must be established to detail the measures to be taken, along with including the verification plan for all necessary works.

8.12.3 As the remedial requirements of the project are not inherently complex, an Options Appraisal is not considered necessary. An Options Appraisal would highlight a range of potential remedial options and then provide a comparison of the options based on their feasibility, cost, sustainability, effectiveness, and operational requirements. This can be undertaken on request.

8.12.4 Once all investigations and remedial works are completed, a Verification Report will then be required.

8.12.5 The following items are considered to be outside the formal scope of a Remediation Strategy and subsequent verification works and must be controlled by the developer and their Principal Contractor.

8.12.6 It will be their responsibility to satisfy the appropriate regulatory bodies that mitigation works have been carried out appropriately.

- The designs and installation of radon protection measures.
- The installation of protective barrier pipe for potable infrastructure.

8.13 Ground Gas Protection Measures

8.13.1 For clarity, the requirement for ground gas protection measures is summarised in the table below.

Gas Type	Contaminant of Concern	Protection Measures Required?
Permanent Ground Gases	N/A	None required.
Hydrocarbon Vapours	N/A	None required
Radon	Radon	Yes; basic radon protection measures required.

Table 8-K: Ground gas protection measures requirement

8.14 Unexpected and Previously Unencountered Contamination

- 8.14.1 With the development of any site, there is a residual risk of contamination being found that is unexpected or has not been encountered during investigation or other siteworks.
- 8.14.2 Should any previously unencountered and unexpected contamination be encountered, works should be temporarily halted and Soiltechnics informed. The Consultant should then assess the situation to determine what remedial action is required and inform the Local Authority at the earliest opportunity.
- 8.14.3 It is often a requirement of Local Authority planning conditions that the building/demolition contractor has a contamination discovery/contingency strategy in place for dealing with unexpected contamination. Soiltechnics are pleased to provide advice on such a strategy if required.

9 Soil and Waste Management

9.1 Sustainability

- 9.1.1 Where possible, disposal of soils to landfill should be avoided in preference for more sustainable alternatives. Such alternatives are set out below and rely on appropriate planning and design.
- 9.1.2 Soiltechnics can provide additional support and guidance to assist in overall material management and soil waste minimisation upon request.

9.2 Waste Hierarchy

- 9.2.1 Under the Waste Regulations, there is a requirement to apply (where reasonable) the waste management hierarchy, which is summarised below. Within the hierarchy, soil disposal to landfill should be limited to the necessary minimum.

Stage (in order of preference)	Example application
Prevention / Reduce	Design, planning, Site Waste Management Plans (SWMP).
Reuse	Reuse of soils under exemption, permit or Materials Management Plan (MMP), sorting at the point of excavation, screening of excavated material.
Recycling	Recycling aggregate, waste segregation, screening and sorting.
Recovery	Remediation works, transfer to a Soil Treatment Facility
Pre-treatment	Non-hazardous and hazardous soils do not need to be treated, where such treatment would not reduce the volume of waste.
Disposal	If the waste hierarchy steps outline above are followed, the remaining waste can be disposed of to a landfill without any further treatment.

Table 9-A: Waste management hierarchy

9.3 Liability of Waste Management

- 9.3.1 Part III of the Finance Act was amended in 2018 to extend the scope of landfill tax to cover any site (not exclusively landfills) operating without an appropriate environmental permit, exemption, or MMP.
- 9.3.2 These changes have given HMRC the powers to work with the Environment Agency to identify non-compliant sites and pursue and penalise the person(s) illegally disposing of waste, and anyone who knowingly facilitates the disposal. This includes sites filling site-won soils which are surplus to requirement.

9.4 Materials Management

- 9.4.1 In terms of the development, where reasonably practicable, landfill disposal should be minimised through the reuse of site-won materials on site, or off-site transfer of surplus soils to other development schemes or Soil Treatment Facilities. Early consideration of the site's overall material balance at the design stage is also critical in reducing the need for off-site disposal, limiting costs, and increasing the overall sustainability of the development.
- 9.4.2 Where Made Ground soils are to be reused onsite or materials transferred between sites, a Materials Management Plan (MMP) or Waste Exemption is recommended.

- 9.4.3 The process of an MMP allows soils that are suitable for reuse and have a certainty of use to not be considered a waste, and therefore not fall under the waste regulations. This scheme is self-regulated within the industry and is supported in principle by the Environment Agency.

9.5 Waste Characterisation Governance

- 9.5.1 The classification of soils for disposal to landfill is undertaken in accordance with WM3 (v1.2GB), and a Waste Acceptance Criteria assessment (WAC) undertaken in accordance with the limits in Annex II of the Landfill Directive (Directive 1999/31/EC).

9.6 Waste Populations

- 9.6.1 For preliminary assessment purposes, the Made Ground materials across the site have been taken as a single waste population.

9.7 Sampling and Testing

- 9.7.1 The hazardous waste classification assessment has been undertaken by adopting the maximum recorded concentration of each compound from all the samples tested within the identified waste population, as outlined in WM3, Approach D.
- 9.7.2 For the Waste Acceptance Criteria (WAC) assessment, a representative composite sample was formed from Made Ground samples across the site
- 9.7.3 The rate of testing has been chosen to provide a preliminary waste categorisation only.

9.8 Waste Characterisation

- 9.8.1 Where testing has been carried out, the waste classification assessment sheets are enclosed within Appendix I, and a summary of the findings is presented in the table below.
- 9.8.2 Observations from the fieldwork indicate that the underlying natural soils are not impacted by contamination and therefore are considered suitable for disposal as non-hazardous waste in an inert landfill site without the requirement for further testing.

Potential Waste Population	Hazardous Classification (LoW code)	Landfill Classification	Comments
Made Ground	Non-hazardous (17-05-04)	Inert	Due to the quantities of demolition rubble contained within the Made Ground, screening of the material may produce a viable recyclable aggregate and reduce the overall volume of waste material requiring disposal.
Clean, uncontaminated, natural materials	Non-hazardous (17-05-04)	Inert	Considered non-hazardous and inert without any testing required.

Table 9-B: Waste characterisation summary

9.9 Application of Advice

- 9.9.1 Where assessments have been carried out of soils currently in-situ at the time of investigation and not of stockpiled waste soils, they should be treated as provisional only.

- 9.9.2 There is no obligation on any waste operator to accept our waste characterisation assessments. Landfill operators may consider your waste to fall under a different classification and/or may require additional testing of waste soils prior to acceptance. It is therefore recommended that this report along with the chemical results is provided to the preferred facility to confirm (or otherwise) it can accept the waste.
- 9.9.3 It should be noted that there remains the potential for unexpected or previously unencountered contamination to be encountered. Any such materials intended for waste disposal should be segregated and tested to determine the appropriate classification and disposal route.

9.10 Further Recommendations

- 9.10.1 Given the history of the site and inherent variability of Made Ground deposits, it is possible that previously unencountered contamination may be present, including asbestos containing materials (ACMs). Therefore, it is advisable to provide a watching brief during excavation works to identify and segregate any soils at the point of excavation with visual or olfactory evidence of contamination, in order to minimise the overall volume of any impacted material. Any such materials, if encountered, are likely to require further testing to determine the appropriate disposal route.
- 9.10.2 As the waste classifications provided are preliminary only and based on limited sampling of soils in-situ, it is recommended to undertake additional sampling and testing during the construction works to fully characterise the waste soils intended for disposal. The overall frequency of testing should be dependent upon the composition, volume and variability of the material excavated.

10 Recommendations for Further Works

- 10.1.1 Currently, a remediation strategy comprising a clean cover system is required and a verification report required to demonstrate this has been completed.
- 10.1.2 Post demolition, further testing may enable this to be reduced or removed.
- 10.1.3 The Principal Contractor should have a discovery strategy in place in the event of exposing unexpected or previously unencountered contamination. Soiltechnics should be informed at the earliest opportunity to undertake an assessment of the material, and to inform the Local Authority as appropriate.

Appendix A Drawings



Key:

- Site Boundary
- Trial Pit
- Dynamic Cone Penetrometer Test
- Soakaway Test
- Hand Pit

Notes

1) Base image provided by Google.

2) All drawn features are approximate.

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REV	DATE	COMMENT ON VARIATION

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PROJECT
Greenside, London Road, Langley

TITLE
Exploratory Hole Location Plan

DRAWING No.
STX6902-D01-A



Key:

- Site Boundary
- Trial Pit
- Dynamic Cone Penetrometer Test
- Soakaway Test
- Hand Pit
- Site Photos

Notes

1) Base image provided by Google.

2) All drawn features are approximate.

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PROJECT
Greenside, London Road, Langley

TITLE
Photosheet Plan

DRAWING No.
STX6902-D01-B

Appendix B Photographic Records



Photo 1: Existing portacabin structure and builder's yard building facing north-east.



Photo 2: Former outbuilding south-east of site.



Photo 3: Existing builder's yard buildings and tree (~14m) adjacent to existing residential building.



Photo 4: Tree (~15m) adjacent to residential building.



Photo 5: Residential building, garden and location of infilled pond, facing south-west.



Photo 6: Gravel surfacing, hedges and trees with footprint of former outbuilding, facing north-west.



Photo 7: Tree (~18m), mound and ~2m high chain link fencing in northern corner of site.



Photo 8: Builder's yard buildings and office building, facing south-west



Photo 9: Heating oil tank adjacent to residential building facing south-west.



Photo 10: Concrete admixture container located along the site's north-eastern border.



Photo 11: Septic tank located adjacent to office building in southern area of site.



Photo 12: HP01



Photo 13: TP01



Photo 14: TP02



Photo 15: TP04



Photo 16: TP05

Appendix C Exploratory Hole Logs: Trial Pits

Key to legends

Composite materials, soils and lithology					
	Topsoil		Made Ground		Boulders
	Clay		Coal		Cobbles
	Gravel		Limestone		Mudstone
	Sand		Sandstone		Silt
					Siltstone
					Chalk
					Concrete
					Peat

Note: Composite soil types are signified by combined symbols.

Key to 'test results' and 'sampling' columns

Test result		Sampling	
Depth	Records depth that the test was carried out (i.e.: at 2.10m or between 2.10m and 2.55m)	From (m) To (m)	Records depth of sampling
	PP – Pocket penetrometer result reported as an equivalent undrained shear strength (kN/m ²) by applying a factor of 50.		D Disturbed sample
			B Bulk disturbed sample
			ES Environmental sample
			W Water sample
		Type	U Undisturbed thick-walled sample 100mm diameter sampler
			UT Undisturbed thin walled sample 100mm diameter sampler
			UTF Failed undisturbed sample
Result	SV – Hand held shear vane result reported as an undrained shear strength (kN/m ²). Where multiple readings are taken at the same level the average value is shown on the log. * Signifies that instrument limit reached.		

Water observations

Described at foot of log and shown in the 'water strike' column.

▼ Water level observed after specified delay in drilling

∇ Water strike

Density

Density recorded in brackets determined by qualitative field assessment or inferred from density testing and soil descriptions from across the site (i.e.: [Medium dense]).

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STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Black slightly sandy GRAVEL. Gravel is fine to medium subangular asphalt and flint. (MADE GROUND)	0.05						0.20		ES
Yellowish brown sandy GRAVEL. Gravel is fine to coarse subrounded to subangular flint. (MADE GROUND)	0.10								
Dark brown sandy GRAVEL. Gravel is fine to coarse angular to rounded asphalt, flint and brick. (MADE GROUND)	0.30								
TRIAL PIT TERMINATED AT 0.30m									

Notes Terminated at scheduled depth.	Groundwater observations		Title Trial pit record	Dimensions (w x l) 0.25m x 0.30m	Date(s) 31/01/2025 -
	Strike (m)	Comments			
			Method Hand Excavation	Plant used Hand Tools	Sheet number Sheet 1 of 1
			Level (m OD) -	Logged by IK	Revision A
			Co-ordinates -	Status FINAL	HP01
	No groundwater strike recorded				

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[illegible]

Notes Terminated at scheduled depth.	Groundwater observations		Title Trial pit record	Dimensions (w x l) 0.60m x 2.00m	Date(s) 31/01/2025 - 01/01/1970
	Strike (m)	Comments			
			Method Machine Excavated	Plant used JCB 3CX	Sheet number Sheet 1 of 1
			Level (m OD) -	Logged by DR	Revision A
			Co-ordinates -	Status FINAL	TP01
	No groundwater strike recorded				

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STX6902

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING			
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE	
Black GRAVEL. Gravel is fine to coarse angular to subangular asphalt, flint and brick. (MADE GROUND)	0.05						0.01		ES	
	0.20							0.15		ES
Firm greyish brown slightly sandy slightly gravelly CLAY with high cobble content. Gravel is fine to coarse angular to subangular flint, slate, and brick. Cobbles are flint, slate and brick. (MADE GROUND)	0.40					PP 0.50	PP 75	0.50		ES
										
Firm brown slightly sandy slightly gravelly CLAY with high cobble content. Gravel is fine to coarse angular to subangular flint. Cobbles are flint. (MADE GROUND)						PP 1.00	PP 50	1.00		D
										
Stiff yellowish brown mottled reddish brown gravelly CLAY with low cobble content. Gravel is fine to coarse subangular to rounded flint. Cobbles are flint. (CLAY-WITH-FLINTS FORMATION)	1.10									
						PP 1.50	PP 92			
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										

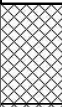
Notes Terminated at scheduled depth.	Groundwater observations		Title Trial pit record	Dimensions (w x l) 0.45m x 2.00m	Date(s) 31/01/2025 - 01/01/1970
	Strike (m)	Comments	Method Machine Excavated	Plant used JCB 3CX	Sheet number Sheet 1 of 1
			Level (m OD) -	Logged by DR	Revision A
			Co-ordinates -	Status FINAL	TP02
	No groundwater strike recorded				

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STX6902

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Dark brown sandy GRAVEL. Gravel is fine to coarse angular to subrounded asphalt and flint. (MADE GROUND)	0.25						0.10		ES
Firm brown slightly sandy slightly gravelly CLAY with low cobble content and rare reinforcement bar. Gravel is fine to coarse angular to rounded brick, slate and flint. Cobbles are brick. (MADE GROUND)	0.70						0.50		ES
Firm to stiff yellowish brown slightly gravelly CLAY with medium cobble content. Gravel is medium to coarse subangular to rounded flint. Cobbles are flint. (CLAY-WITH-FLINTS FORMATION)					SV 1.00	SV 67	1.00		D
					SV 1.50	SV 72	1.60		D
					SV 2.00	SV 58			
					SV 2.50	SV 87			
TRIAL PIT TERMINATED AT 2.50m	2.50								

Notes Terminated at scheduled depth for soakaway test.	Groundwater observations		Title Trial pit record	Dimensions (w x l) 0.45m x 2.00m	Date(s) 31/01/2025 - 01/01/1970
	Strike (m)	Comments			
			Method Machine Excavated	Plant used JCB 3CX	Sheet number Sheet 1 of 1
			Level (m OD) -	Logged by DR	Revision A
	No groundwater strike recorded		Co-ordinates -	Status FINAL	TP03

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STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Soft to firm brown slightly sandy slightly gravelly CLAY with frequent rootlets and roots to 3mm. Gravel is fine to coarse angular to subrounded brick and flint. (MADE GROUND)	0.70 0.80				SV 1.00	SV 55	0.50		ES
Yellowish brown slightly clayey SAND. (MADE GROUND)							1.00		D
Firm to stiff yellowish brown slightly gravelly CLAY with high cobble content. Gravel is medium to coarse subangular to rounded flint. Cobbles are flint. (CLAY-WITH-FLINTS FORMATION)							1.50		D
							2.00		D
							2.50		D
							3.00		PP 3.00
TRIAL PIT TERMINATED AT 3.00m									

Notes Terminated at scheduled depth.	Groundwater observations		Title Trial pit record	Dimensions (w x l) 0.45m x 2.00m	Date(s) 31/01/2025 - 01/01/1970
	Strike (m)	Comments	Method Machine Excavated	Plant used JCB 3CX	Sheet number Sheet 1 of 1
			Level (m OD) -	Logged by DR	Revision A
	No groundwater strike recorded		Co-ordinates -	Status FINAL	TP04

Greenside, London Road, Langley
STX6902

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Dark brown slightly sandy GRAVEL. Gravel is fine to coarse angular to subrounded asphalt and flint. (MADE GROUND)	0.20						0.10		ES
Soft to firm brown slightly sandy slightly gravelly CLAY with frequent rootlets and roots to 5mm. Gravel is fine to coarse angular to subrounded flint. (MADE GROUND)	0.60				SV 0.80	SV 62	0.50		ES
Soft to firm yellowish brown mottled orangish brown slightly sandy slightly gravelly CLAY with high cobble content, and rare rootlets and roots to 2mm. Gravel is fine to coarse subangular to rounded flint. Cobbles are flint. (CLAY-WITH-FLINTS FORMATION)	1.10				SV 1.50	SV 80	1.00		ES
Firm to stiff yellowish brown slightly gravelly CLAY with high cobble content. Gravel is medium to coarse angular to rounded flint. Cobbles are flint. (CLAY-WITH-FLINTS FORMATION)					SV 2.00	SV 77	1.50		D
					SV 2.50	SV 133	2.50		D
					SV 3.00	SV 72			
									
TRIAL PIT TERMINATED AT 3.00m	3.00								

Notes Terminated at scheduled depth.	Groundwater observations		Title Trial pit record	Dimensions (w x l) 0.45m x 2.00m	Date(s) 31/01/2025 - 01/01/1970
	Strike (m)	Comments	Method Machine Excavated	Plant used JCB 3CX	Sheet number Sheet 1 of 1
			Level (m OD) -	Logged by DR	Revision A
	Co-ordinates -		Status FINAL	TP05	
	No groundwater strike recorded				

Appendix D In Situ Test Results

Table summarising Pocket Penetrometer results

* Instrument limit reached.

Location	Start Depth (m)	Results 1-3	Average	Undrained Shear Strength (kN/m ²)
TP02	1.00	1.25/1/0.75	1.00	50
TP02	0.50	1/1.5/2	1.50	75
TP02	1.50	2/1/2.5	1.83	92
TP02	2.00	1.75/1.25/1	1.33	67
TP02	3.00	3/2.5/3	2.83	142
TP02	3.50	3.25/3.5/3.25	3.33	167
TP04	2.00	1/1.5/1.5	1.33	67
TP04	3.00	2.25/2/2	2.08	104

Table summarising Shear Vane results

* Instrument limit reached.

Location	Start Depth (m)	Results 1-3	Average	Undrained Shear Strength (kN/m ²)
TP01	2.50	80/55/80	71.67	71
TP03	1.00	65/65/70	66.67	66
TP03	1.50	70/70/75	71.67	71
TP03	2.00	55/60/60	58.33	58
TP03	2.50	90/90/80	86.67	86
TP04	1.00	65/50/50	55.00	55
TP04	1.50	60/70/65	65.00	65
TP05	0.80	60/65/60	61.67	61
TP05	1.50	70/100/70	80.00	80
TP05	2.00	75/75/80	76.67	76
TP05	2.50	140/140/120	133.33	133
TP05	3.00	80/60/75	71.67	71

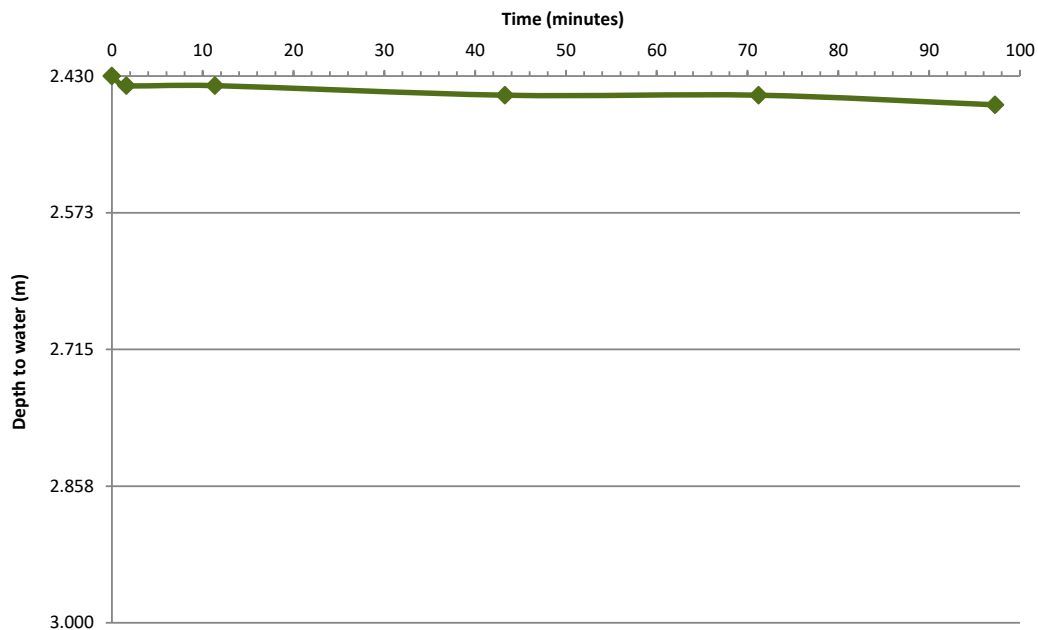
Soil infiltration test (following BRE Digest 365 2016)

Location	Cycle	Test date	Plan dimensions (m)
TP01	1	1/31/2025	0.60 x 2.00

Groundwater observations (at time of excavation)

DRY

Depth of pit at start (m)	Depth of pit at end (m)
3	3



Insufficient infiltration over 97 minutes of monitoring therefore unable to calculate soil infiltration rate.

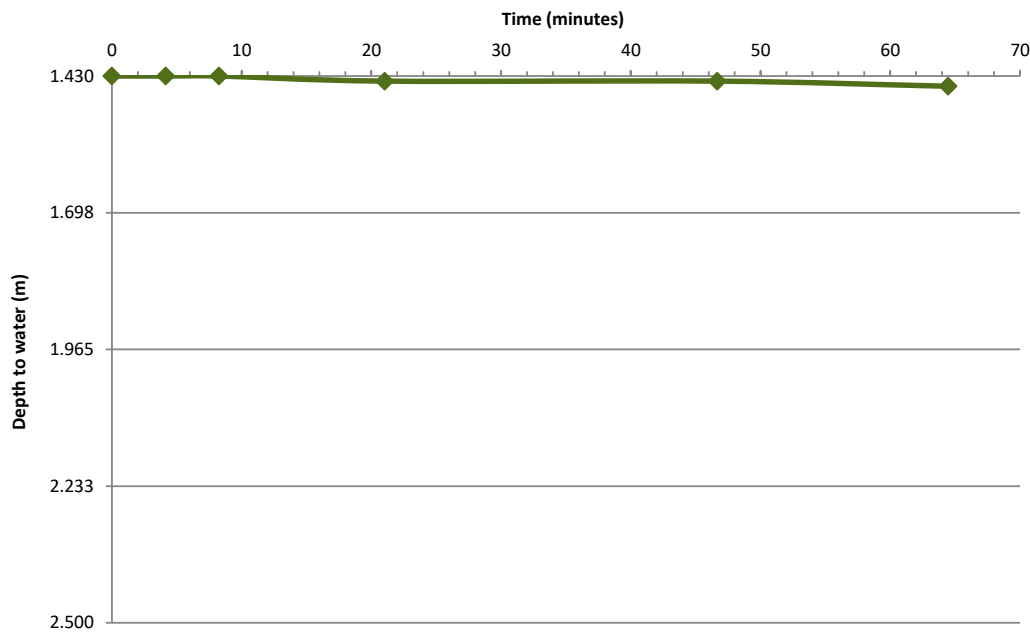
Soil infiltration test (following BRE Digest 365 2016)

Location	Cycle	Test date	Plan dimensions (m)
TP03	1	1/31/2025	0.45 x 2.00

Groundwater observations (at time of excavation)

DRY

Depth of pit at start (m)	Depth of pit at end (m)
2.5	2.5



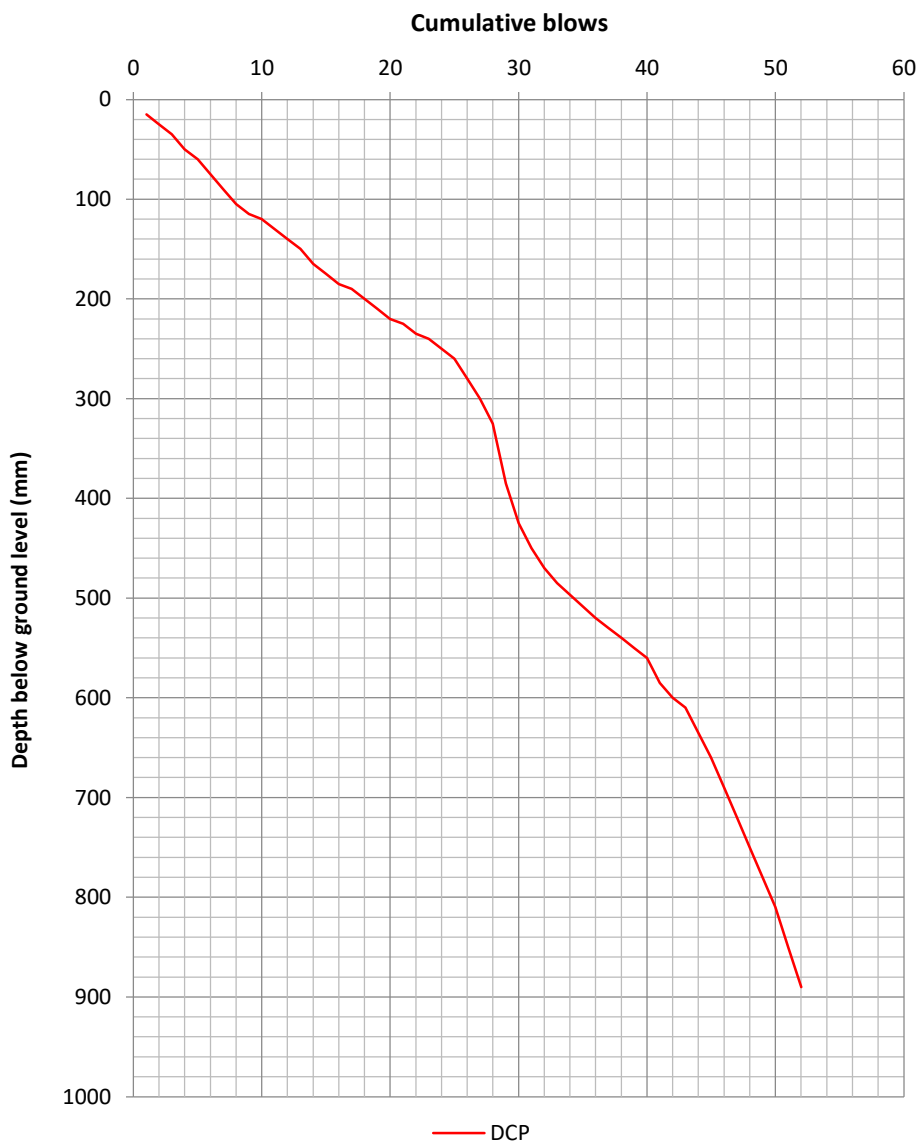
Insufficient infiltration over 65 minutes of monitoring therefore unable to calculate soil infiltration rate.

Appendix E Dynamic Cone Penetrometer Results

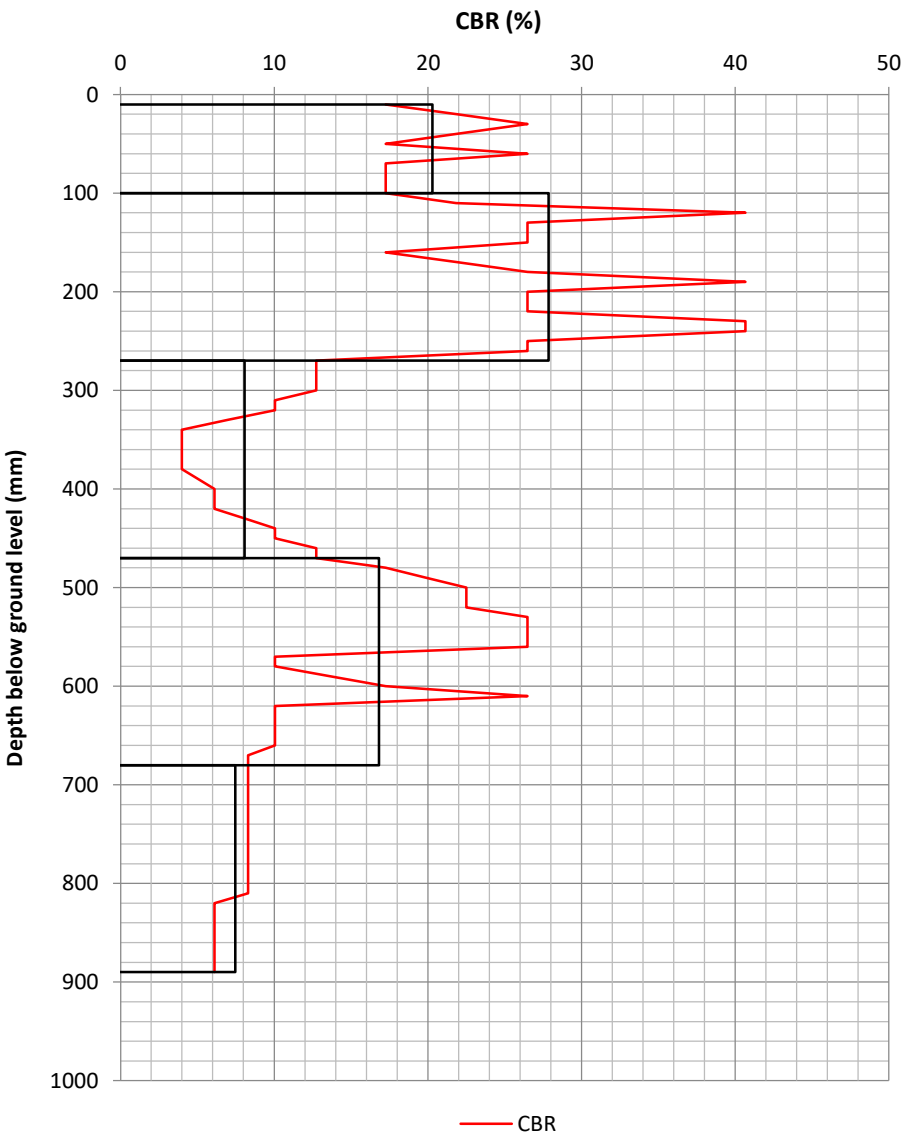
Dynamic Cone Penetrometer (DCP) test

Location	Date of test	Start depth (mm)	Zero reading (mm)	Operator
DCP01	1/31/2025	0	50	DR

Plot showing number of blows against depth



Plot showing CBR (%) against depth



Layer properties

Layer No.	CBR (%)	Thickness (mm)	Start depth (mmBGL)	Base depth (mmBGL)
1	20.3	90	10	100
2	27.9	170	100	270
3	8.1	200	270	470
4	16.8	210	470	680
5	7.5	210	680	890

Notes

1. Test procedure following Highways England Document CS229 Data for Pavement Assessment.

Calculations

$$\text{Log10 (Uncorrected (UC) CBR)} = 2.48 - 1.057\text{Log10}(\text{mm/blow})$$

Dynamic Cone Penetrometer (DCP) test

Location	Date of test	Start depth (mm)	Zero reading (mm)	Operator
DCP02A	1/31/2025	0	45	DR

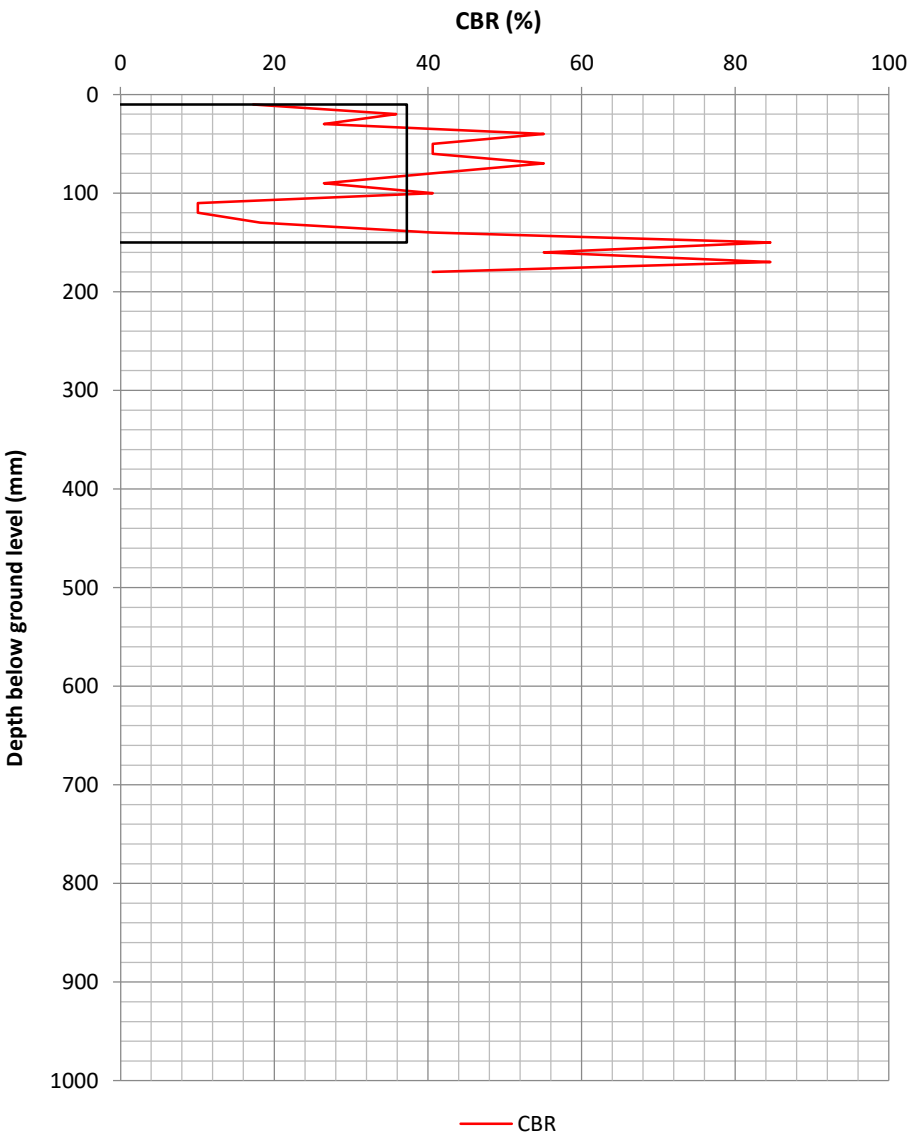
Plot showing number of blows against depth



Notes

1. Test procedure following Highways England Document CS229 Data for Pavement Assessment.

Plot showing CBR (%) against depth



Calculations

$\text{Log10 (Uncorrected (UC) CBR)} = 2.48 - 1.057\text{Log10}(\text{mm/blow})$

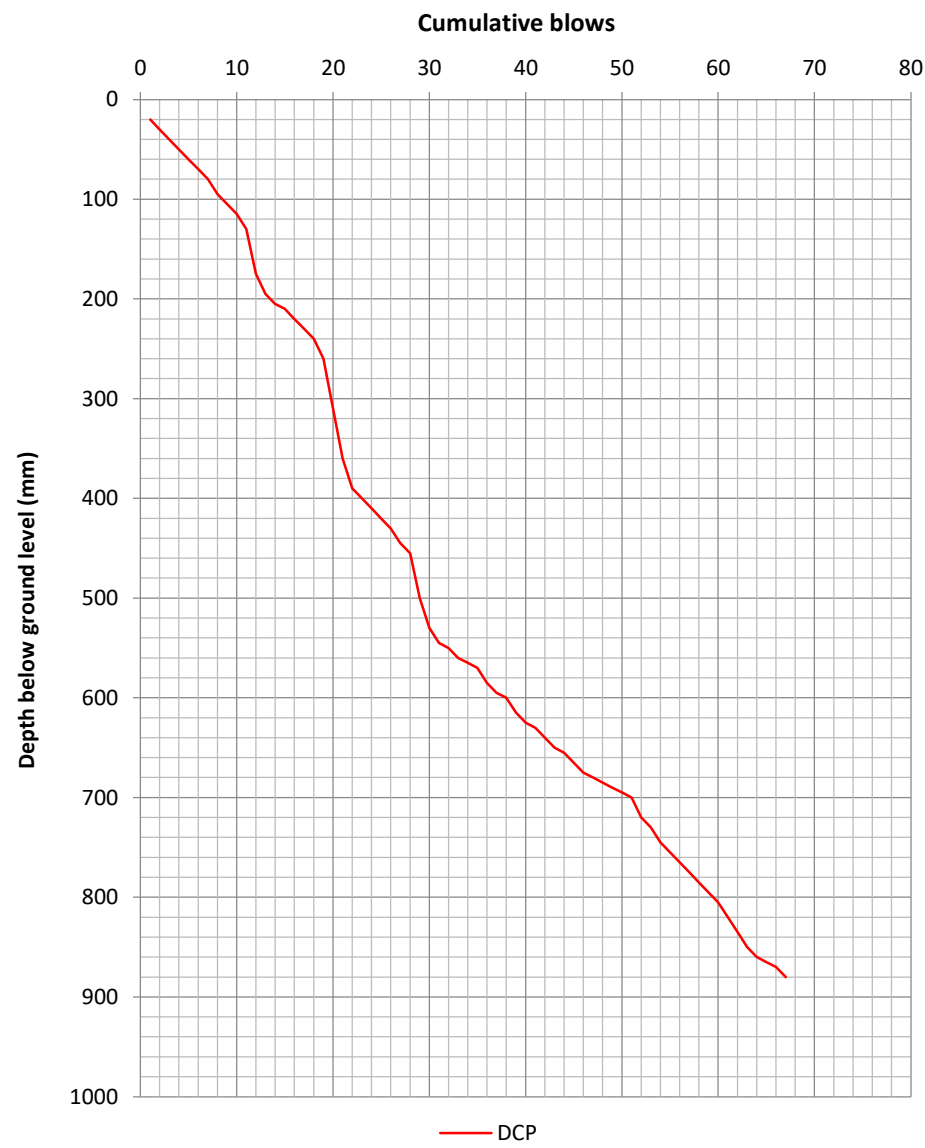
Layer properties

Layer No.	CBR (%)	Thickness (mm)	Start depth (mmBGL)	Base depth (mmBGL)
1	37.3	140	10	150

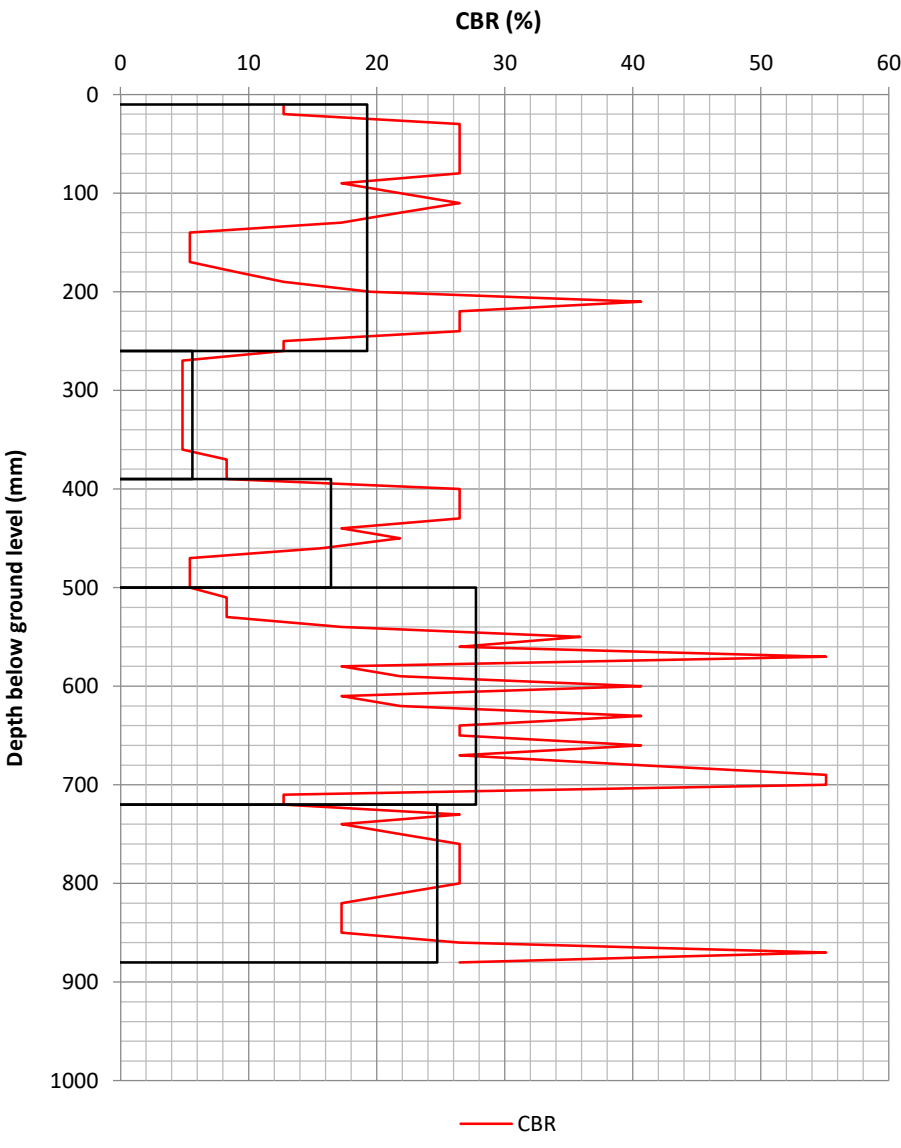
Dynamic Cone Penetrometer (DCP) test

Location	Date of test	Start depth (mm)	Zero reading (mm)	Operator
DCP02B	1/31/2025	0	60	DR

Plot showing number of blows against depth



Plot showing CBR (%) against depth



Layer properties

Layer No.	CBR (%)	Thickness (mm)	Start depth (mmBGL)	Base depth (mmBGL)
1	19.3	250	10	260
2	5.6	130	260	390
3	16.4	110	390	500
4	27.8	220	500	720
5	24.7	160	720	880

Notes

1. Test procedure following Highways England Document CS229 Data for Pavement Assessment.

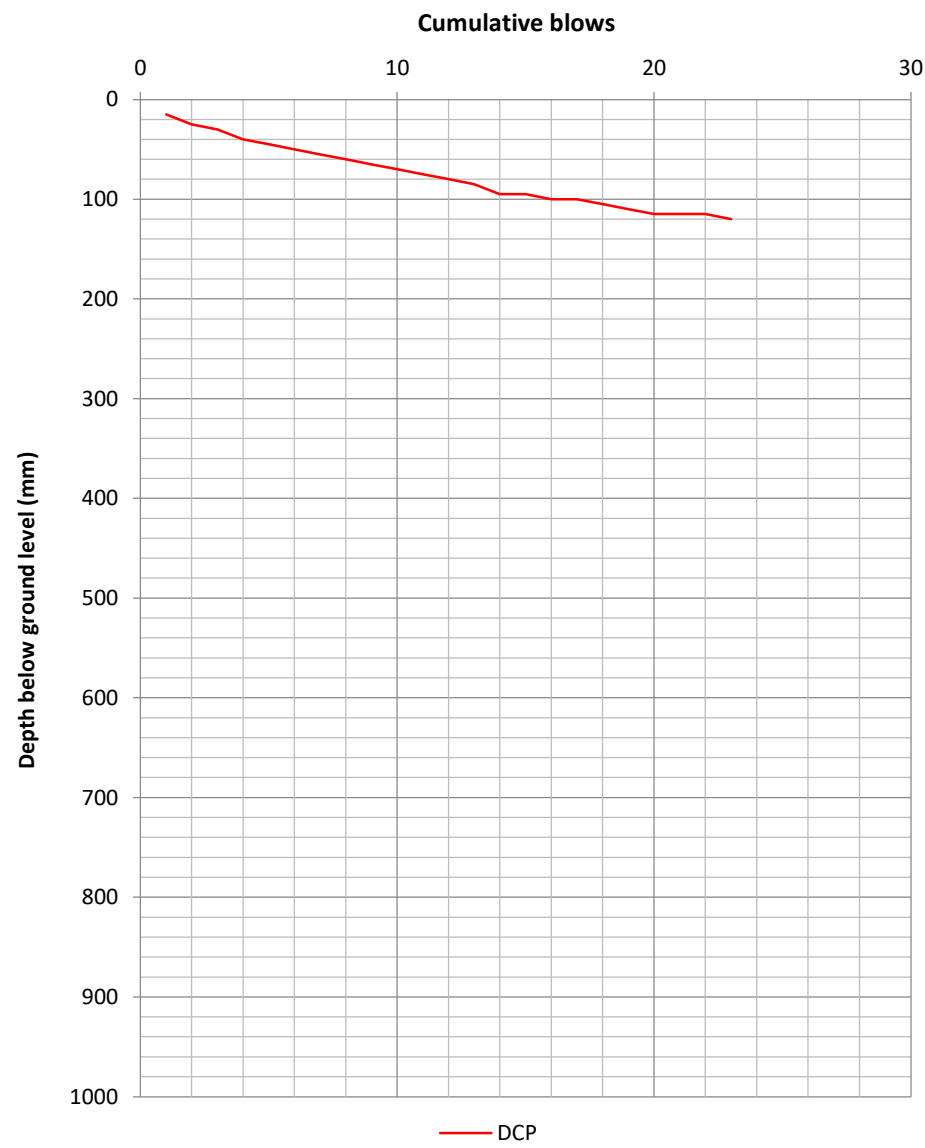
Calculations

$\text{Log10 (Uncorrected (UC) CBR)} = 2.48 - 1.057\text{Log10}(\text{mm/blow})$

Dynamic Cone Penetrometer (DCP) test

Location	Date of test	Start depth (mm)	Zero reading (mm)	Operator
DCP03A	1/31/2025	0	65	DR

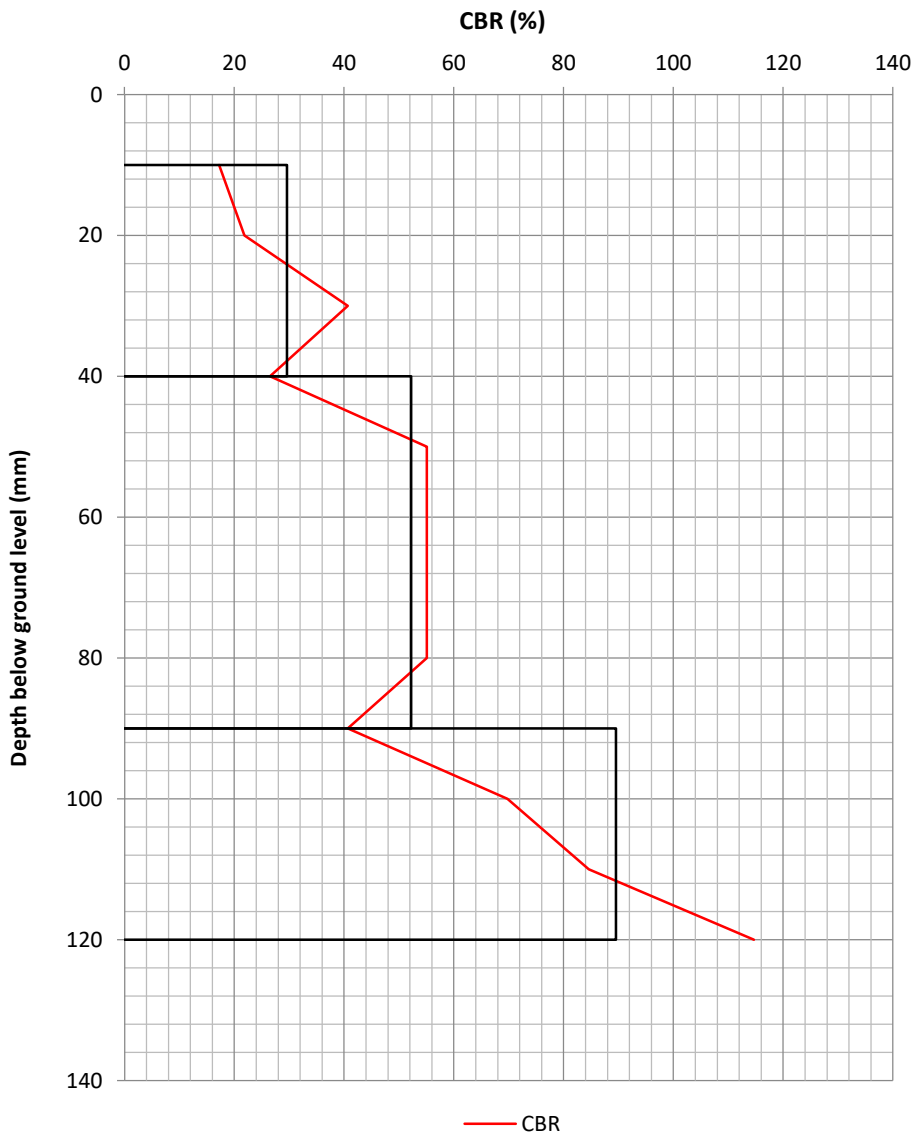
Plot showing number of blows against depth



Notes

1. Test procedure following Highways England Document CS229 Data for Pavement Assessment.

Plot showing CBR (%) against depth



Calculations

$\text{Log10 (Uncorrected (UC) CBR)} = 2.48 - 1.057\text{Log10}(\text{mm/blow})$

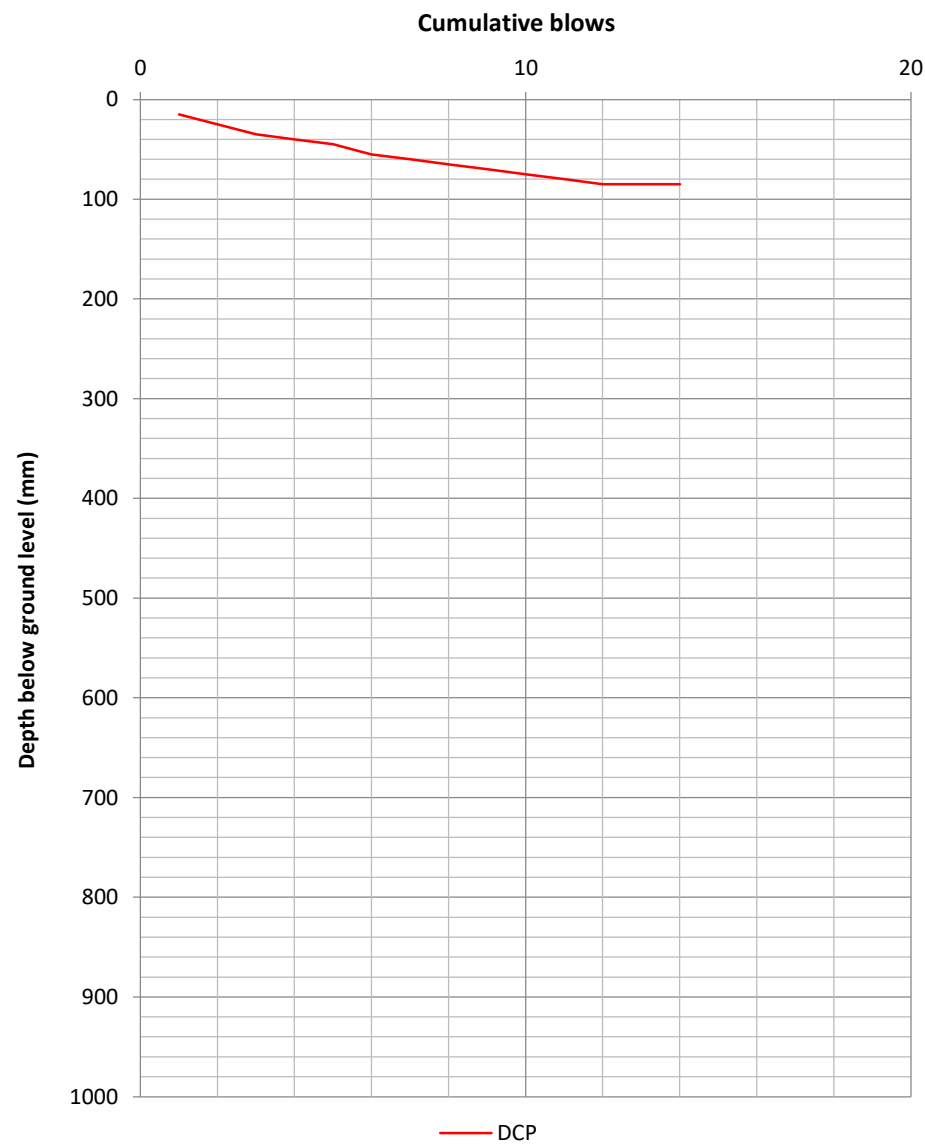
Layer properties

Layer No.	CBR (%)	Thickness (mm)	Start depth (mmBGL)	Base depth (mmBGL)
1	29.6	30	10	40
2	52.2	50	40	90
3	89.6	30	90	120

Dynamic Cone Penetrometer (DCP) test

Location	Date of test	Start depth (mm)	Zero reading (mm)	Operator
DCP03B	1/31/2025	0	55	DR

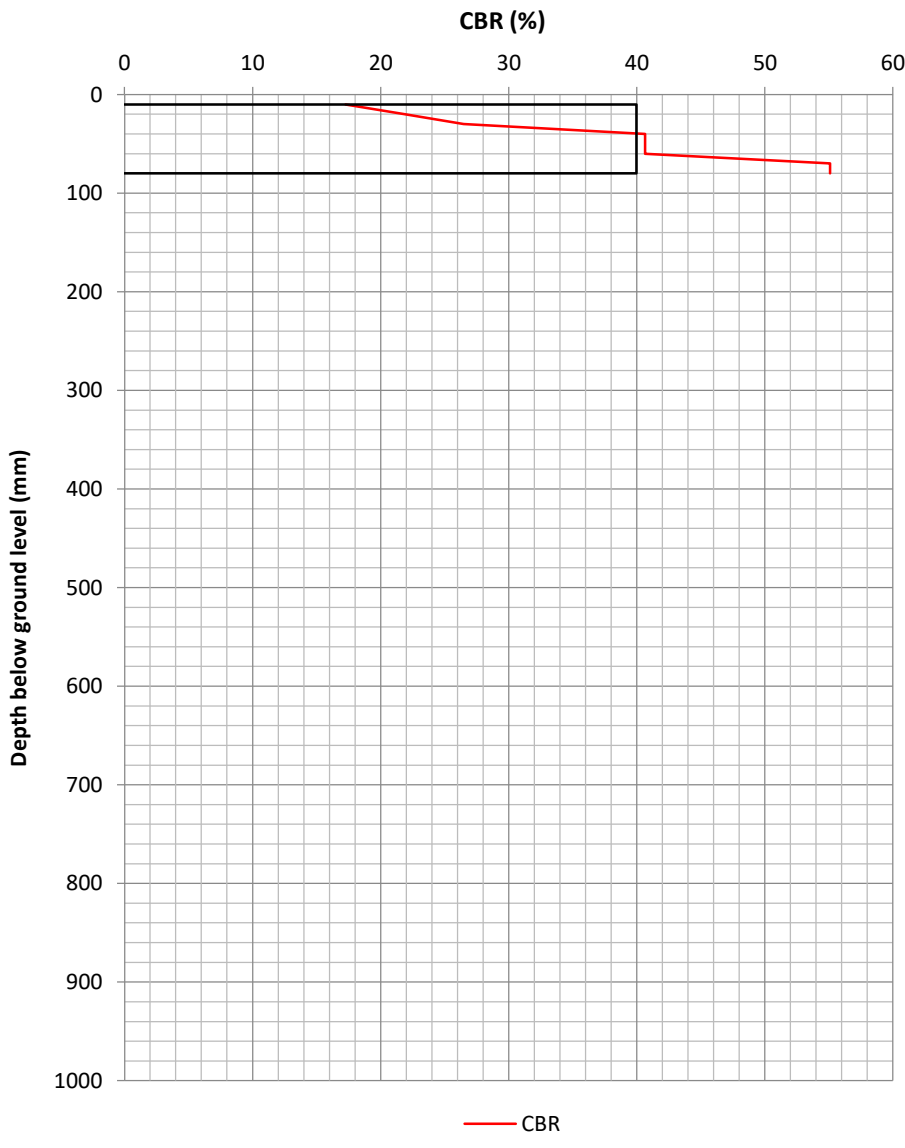
Plot showing number of blows against depth



Notes

1. Test procedure following Highways England Document CS229 Data for Pavement Assessment.

Plot showing CBR (%) against depth



Calculations

$\text{Log10 (Uncorrected (UC) CBR)} = 2.48 - 1.057\text{Log10}(\text{mm/blow})$

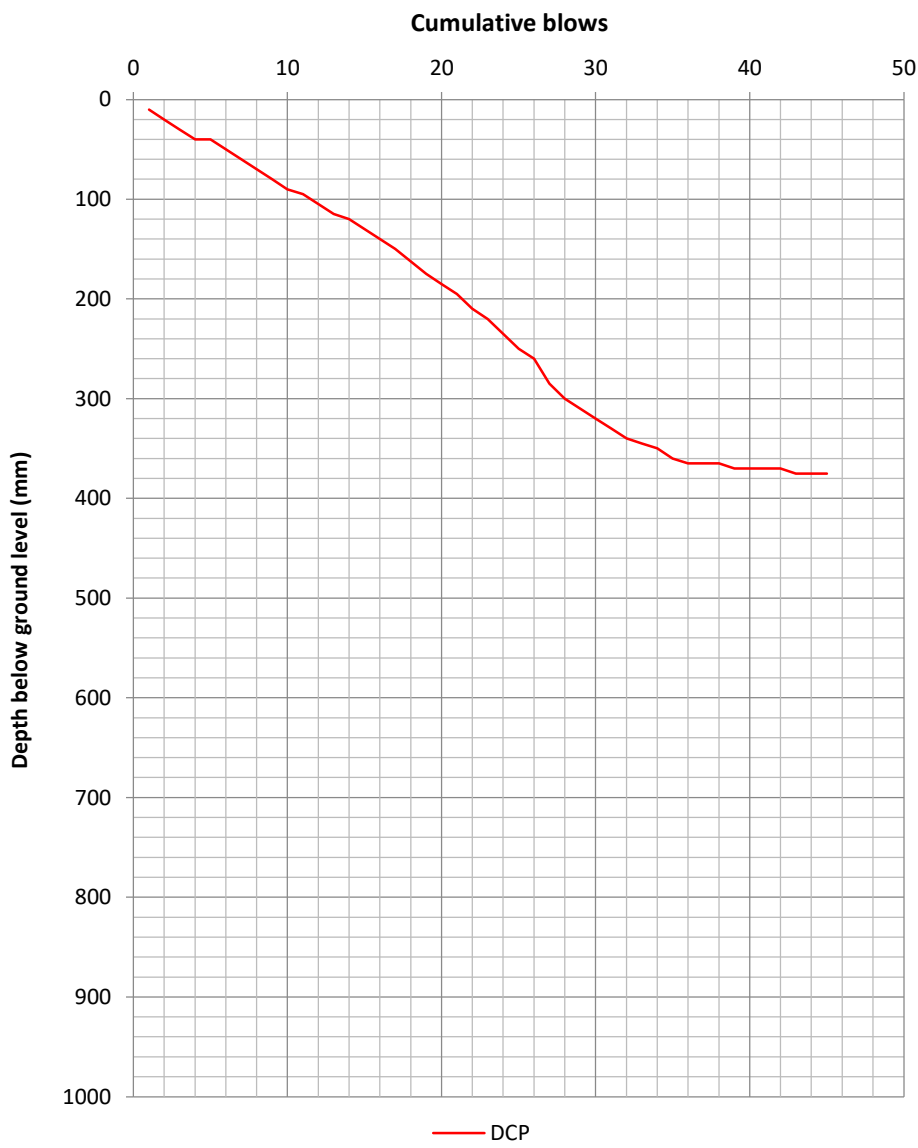
Layer properties

Layer No.	CBR (%)	Thickness (mm)	Start depth (mmBGL)	Base depth (mmBGL)
1	40.0	70	10	80

Dynamic Cone Penetrometer (DCP) test

Location	Date of test	Start depth (mm)	Zero reading (mm)	Operator
DCP04A	1/31/2025	0	60	DR

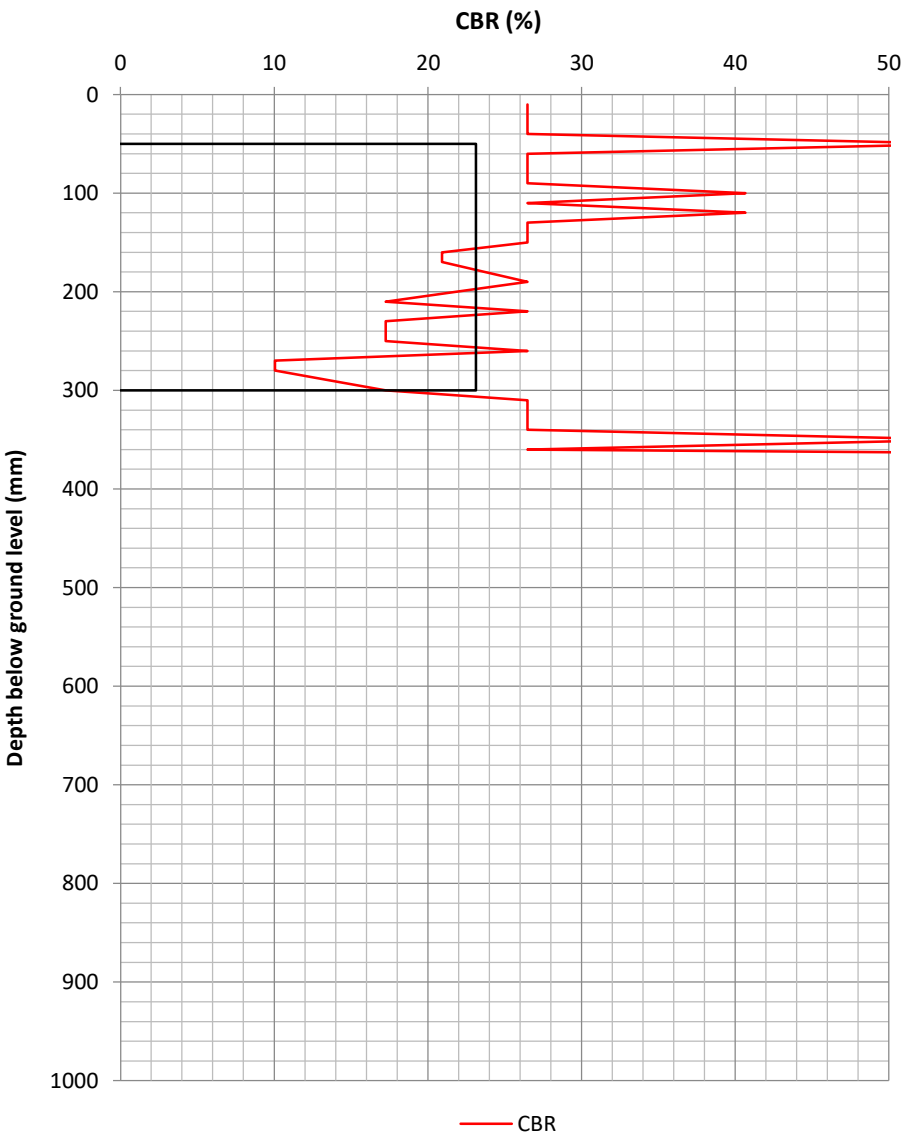
Plot showing number of blows against depth



Notes

1. Test procedure following Highways England Document CS229 Data for Pavement Assessment.

Plot showing CBR (%) against depth



Calculations

$\text{Log10 (Uncorrected (UC) CBR)} = 2.48 - 1.057\text{Log10}(\text{mm/blow})$

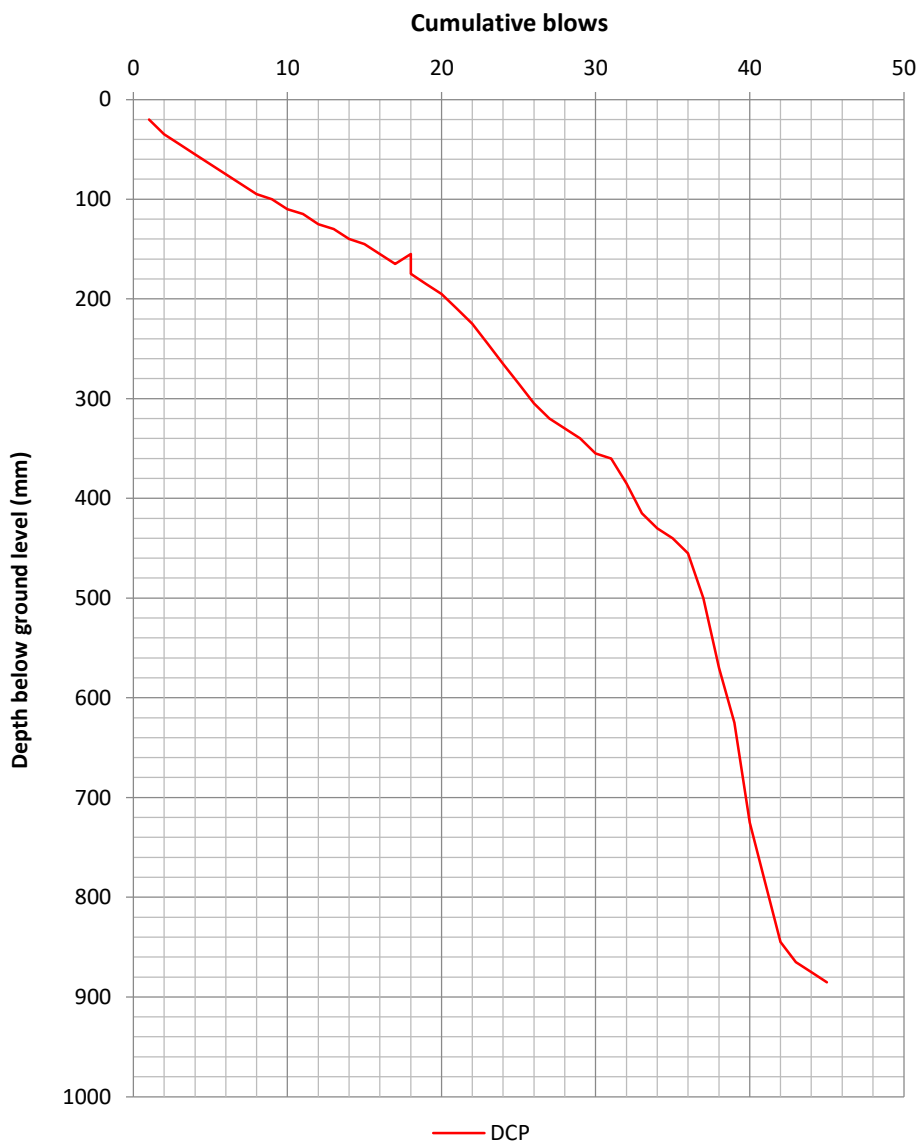
Layer properties

Layer No.	CBR (%)	Thickness (mm)	Start depth (mmBGL)	Base depth (mmBGL)
1	23.1	250	50	300

Dynamic Cone Penetrometer (DCP) test

Location	Date of test	Start depth (mm)	Zero reading (mm)	Operator
DCP04B	1/31/2025	0	65	DR

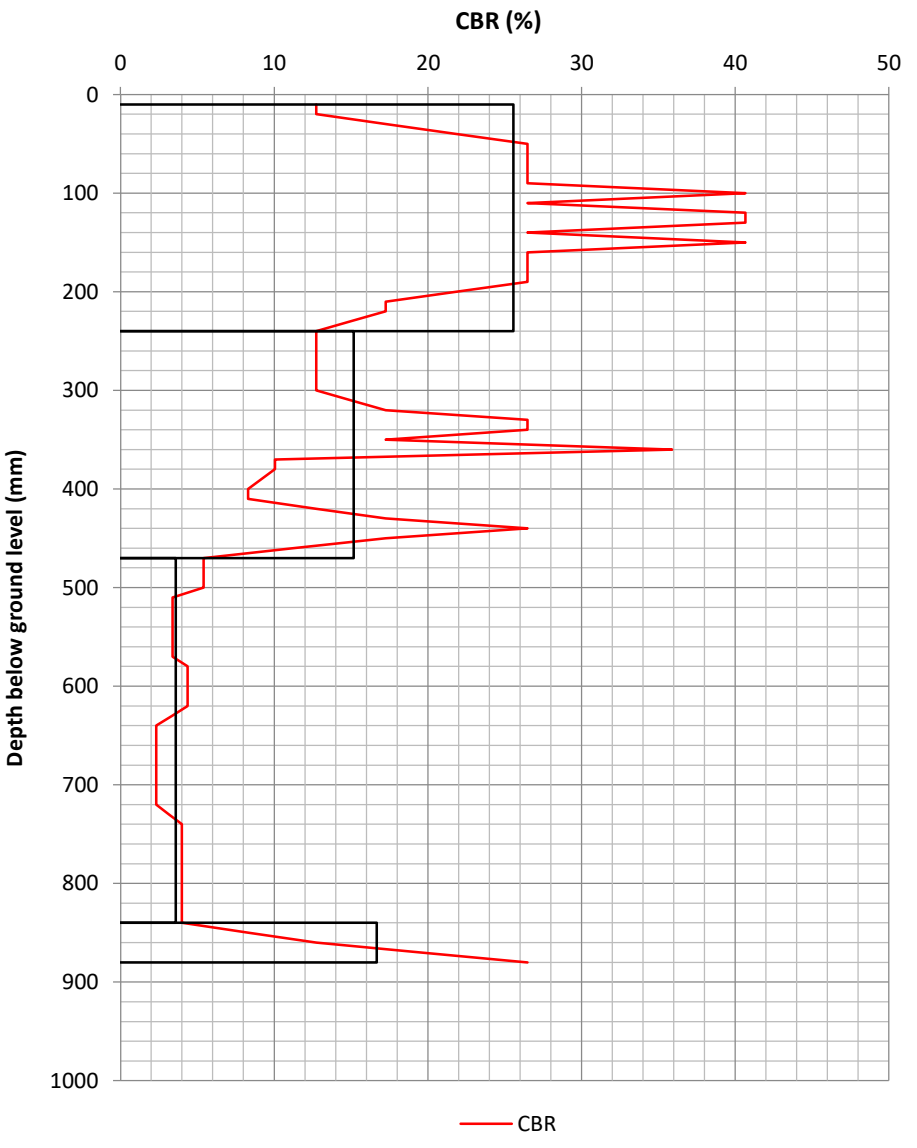
Plot showing number of blows against depth



Notes

1. Test procedure following Highways England Document CS229 Data for Pavement Assessment.

Plot showing CBR (%) against depth



Calculations

$\text{Log10 (Uncorrected (UC) CBR)} = 2.48 - 1.057\text{Log10}(\text{mm/blow})$

Layer properties

Layer No.	CBR (%)	Thickness (mm)	Start depth (mmBGL)	Base depth (mmBGL)
1	25.6	230	10	240
2	15.2	230	240	470
3	3.6	370	470	840
4	16.7	40	840	880

Dynamic Cone Penetrometer (DCP) raw data

Location	Penetration below ground level (mm)	Cumulative blows
DCP04B	20	1
DCP04B	35	2
DCP04B	45	3
DCP04B	55	4
DCP04B	65	5
DCP04B	75	6
DCP04B	85	7
DCP04B	95	8
DCP04B	100	9
DCP04B	110	10
DCP04B	115	11
DCP04B	125	12
DCP04B	130	13
DCP04B	140	14
DCP04B	145	15
DCP04B	155	16
DCP04B	165	17
DCP04B	155	18
DCP04B	175	18
DCP04B	185	19
DCP04B	195	20
DCP04B	210	21
DCP04B	225	22
DCP04B	245	23
DCP04B	265	24
DCP04B	285	25
DCP04B	305	26
DCP04B	320	27
DCP04B	330	28
DCP04B	340	29
DCP04B	355	30
DCP04B	360	31
DCP04B	385	32
DCP04B	415	33
DCP04B	430	34
DCP04B	440	35
DCP04B	455	36
DCP04B	500	37
DCP04B	570	38
DCP04B	625	39
DCP04B	725	40
DCP04B	785	41
DCP04B	845	42

Dynamic Cone Penetrometer (DCP) raw data

Location	Penetration below ground level (mm)	Cumulative blows
DCP04B	865	43
DCP04B	875	44
DCP04B	885	45
DCP04A	10	1
DCP04A	20	2
DCP04A	30	3
DCP04A	40	4
DCP04A	40	5
DCP04A	50	6
DCP04A	60	7
DCP04A	70	8
DCP04A	80	9
DCP04A	90	10
DCP04A	95	11
DCP04A	105	12
DCP04A	115	13
DCP04A	120	14
DCP04A	130	15
DCP04A	140	16
DCP04A	150	17
DCP04A	175	19
DCP04A	185	20
DCP04A	195	21
DCP04A	210	22
DCP04A	220	23
DCP04A	235	24
DCP04A	250	25
DCP04A	260	26
DCP04A	285	27
DCP04A	300	28
DCP04A	310	29
DCP04A	320	30
DCP04A	330	31
DCP04A	340	32
DCP04A	345	33
DCP04A	350	34
DCP04A	360	35
DCP04A	365	36
DCP04A	365	37
DCP04A	365	38
DCP04A	370	39
DCP04A	370	40
DCP04A	370	41

Dynamic Cone Penetrometer (DCP) raw data

Location	Penetration below ground level (mm)	Cumulative blows
DCP04A	370	42
DCP04A	375	43
DCP04A	375	44
DCP04A	375	45
DCP03B	15	1
DCP03B	25	2
DCP03B	35	3
DCP03B	40	4
DCP03B	45	5
DCP03B	55	6
DCP03B	60	7
DCP03B	65	8
DCP03B	70	9
DCP03B	75	10
DCP03B	80	11
DCP03B	85	12
DCP03B	85	13
DCP03B	85	14
DCP03A	15	1
DCP03A	25	2
DCP03A	30	3
DCP03A	40	4
DCP03A	45	5
DCP03A	50	6
DCP03A	55	7
DCP03A	60	8
DCP03A	65	9
DCP03A	70	10
DCP03A	75	11
DCP03A	80	12
DCP03A	85	13
DCP03A	95	14
DCP03A	95	15
DCP03A	100	16
DCP03A	100	17
DCP03A	105	18
DCP03A	110	19
DCP03A	115	20
DCP03A	115	21
DCP03A	115	22
DCP03A	120	23
DCP02B	20	1
DCP02B	30	2

Dynamic Cone Penetrometer (DCP) raw data

Location	Penetration below ground level (mm)	Cumulative blows
DCP02B	40	3
DCP02B	50	4
DCP02B	60	5
DCP02B	70	6
DCP02B	80	7
DCP02B	95	8
DCP02B	105	9
DCP02B	115	10
DCP02B	130	11
DCP02B	175	12
DCP02B	195	13
DCP02B	205	14
DCP02B	210	15
DCP02B	220	16
DCP02B	230	17
DCP02B	240	18
DCP02B	260	19
DCP02B	310	20
DCP02B	360	21
DCP02B	390	22
DCP02B	400	23
DCP02B	410	24
DCP02B	420	25
DCP02B	430	26
DCP02B	445	27
DCP02B	455	28
DCP02B	500	29
DCP02B	530	30
DCP02B	545	31
DCP02B	550	32
DCP02B	560	33
DCP02B	565	34
DCP02B	570	35
DCP02B	585	36
DCP02B	595	37
DCP02B	600	38
DCP02B	615	39
DCP02B	625	40
DCP02B	630	41
DCP02B	640	42
DCP02B	650	43
DCP02B	655	44
DCP02B	665	45

Dynamic Cone Penetrometer (DCP) raw data

Location	Penetration below ground level (mm)	Cumulative blows
DCP02B	675	46
DCP02B	680	47
DCP02B	685	48
DCP02B	690	49
DCP02B	695	50
DCP02B	700	51
DCP02B	720	52
DCP02B	730	53
DCP02B	745	54
DCP02B	755	55
DCP02B	765	56
DCP02B	775	57
DCP02B	785	58
DCP02B	795	59
DCP02B	805	60
DCP02B	820	61
DCP02B	835	62
DCP02B	850	63
DCP02B	860	64
DCP02B	865	65
DCP02B	870	66
DCP02B	880	67
DCP02A	15	1
DCP02A	20	2
DCP02A	30	3
DCP02A	35	4
DCP02A	40	5
DCP02A	45	6
DCP02A	55	7
DCP02A	55	8
DCP02A	65	9
DCP02A	70	10
DCP02A	75	11
DCP02A	85	12
DCP02A	95	13
DCP02A	100	14
DCP02A	125	15
DCP02A	135	16
DCP02A	135	17
DCP02A	145	18
DCP02A	145	19
DCP02A	150	20
DCP02A	155	21

Dynamic Cone Penetrometer (DCP) raw data

Location	Penetration below ground level (mm)	Cumulative blows
DCP02A	160	22
DCP02A	165	23
DCP02A	165	24
DCP02A	170	25
DCP02A	175	26
DCP02A	185	27
DCP01	15	1
DCP01	25	2
DCP01	35	3
DCP01	50	4
DCP01	60	5
DCP01	75	6
DCP01	90	7
DCP01	105	8
DCP01	115	9
DCP01	120	10
DCP01	130	11
DCP01	140	12
DCP01	150	13
DCP01	165	14
DCP01	175	15
DCP01	185	16
DCP01	190	17
DCP01	200	18
DCP01	210	19
DCP01	220	20
DCP01	225	21
DCP01	235	22
DCP01	240	23
DCP01	250	24
DCP01	260	25
DCP01	280	26
DCP01	300	27
DCP01	325	28
DCP01	385	29
DCP01	425	30
DCP01	450	31
DCP01	470	32
DCP01	485	33
DCP01	520	36
DCP01	530	37
DCP01	540	38
DCP01	550	39

Dynamic Cone Penetrometer (DCP) raw data

Location	Penetration below ground level (mm)	Cumulative blows
DCP01	560	40
DCP01	585	41
DCP01	600	42
DCP01	610	43
DCP01	635	44
DCP01	660	45
DCP01	690	46
DCP01	720	47
DCP01	750	48
DCP01	780	49
DCP01	810	50
DCP01	850	51
DCP01	890	52

Dynamic Cone Penetrometer (DCP) summary

Location	Layer No.	CBR (%)	Thickness (mm)	Start depth (mmBGL)	Base depth (mmBGL)
DCP01	1	20.3	90	10	100
DCP01	2	27.9	170	100	270
DCP01	3	8.1	200	270	470
DCP01	4	16.8	210	470	680
DCP01	5	7.5	210	680	890
DCP02A	1	37.3	140	10	150
DCP02B	1	19.3	250	10	260
DCP02B	2	5.6	130	260	390
DCP02B	3	16.4	110	390	500
DCP02B	4	27.8	220	500	720
DCP02B	5	24.7	160	720	880
DCP03A	1	29.6	30	10	40
DCP03A	2	52.2	50	40	90
DCP03A	3	89.6	30	90	120
DCP03B	1	40.0	70	10	80
DCP04A	1	23.1	250	50	300
DCP04B	1	25.6	230	10	240
DCP04B	2	15.2	230	240	470
DCP04B	3	3.6	370	470	840
DCP04B	4	16.7	40	840	880

Appendix F Geotechnical Laboratory Test Results



TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

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



Environmental Science

4041

Client: Soiltechnics Limited
Client Address: Cedar Barn, White Lodge,
Walgrave, Northampton, NN6 9PY

Contact: Admin
Site Address: Greenside, London Road, Langley

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

Client Reference: STX6902
Job Number: 25-006206-1
Date Sampled: 31/01/2025
Date Received: 07/02/2025
Date Tested: 13/02/2025
Sampled By: Not Given

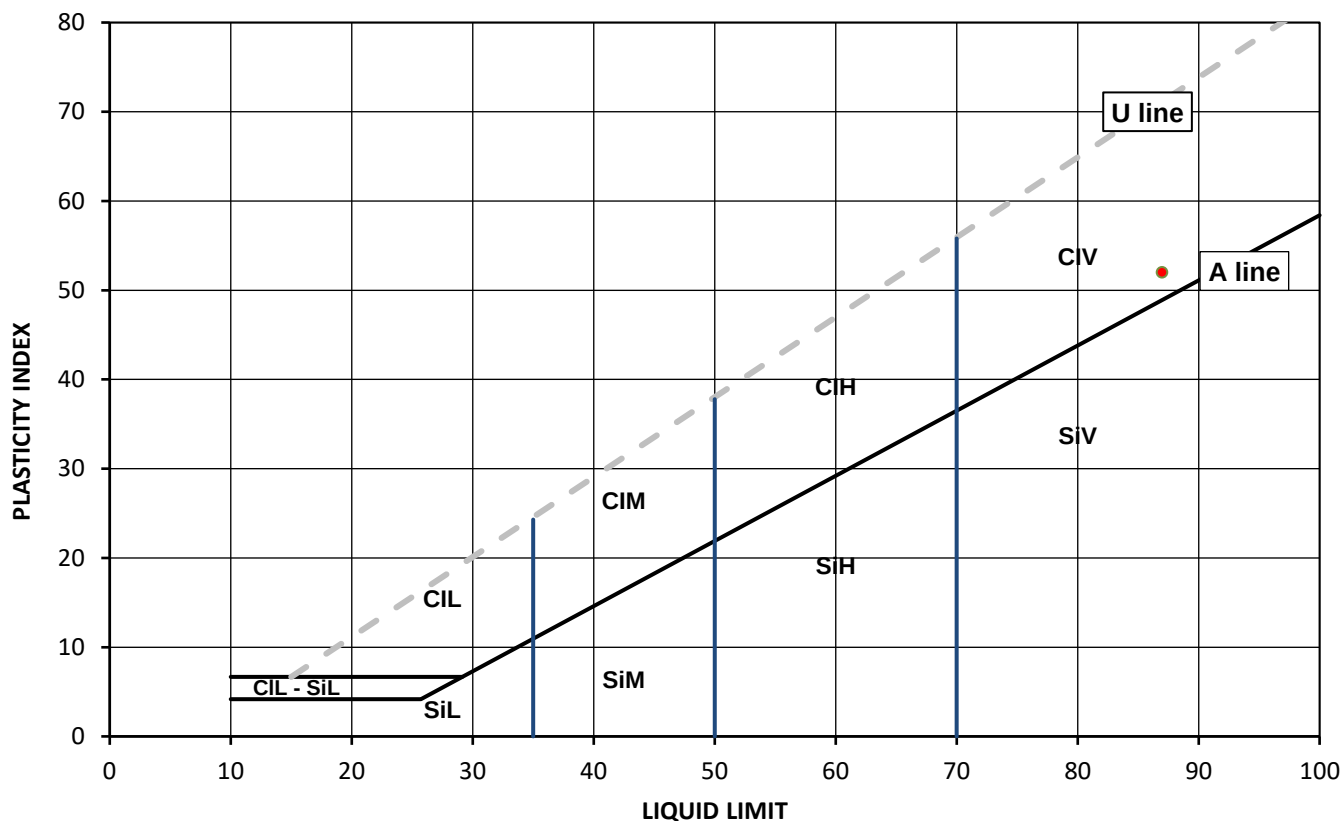
Test Results:

Laboratory Reference: 448720
Hole No.: TP01
Sample Reference: TP01-1-4
Sample Description: Orangish brown slightly gravelly silty CLAY

Depth Top [m]: 1.00
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >0.425 mm;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
23.0	87	1.055	35	52	-0.23	1.23	78



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

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

Note: Water Content by BS EN 17892-1:2014+A1:2022, BS 1377-2:2022; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

Signed:

Katarzyna Banys

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

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

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



Environmental Science

4041

Client: Soiltechnics Limited
Client Address: Cedar Barn, White Lodge,
Walgrave, Northampton, NN6 9PY

Contact: Admin
Site Address: Greenside, London Road, Langley

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

Client Reference: STX6902
Job Number: 25-006206-1
Date Sampled: 31/01/2025
Date Received: 07/02/2025
Date Tested: 13/02/2025
Sampled By: Not Given

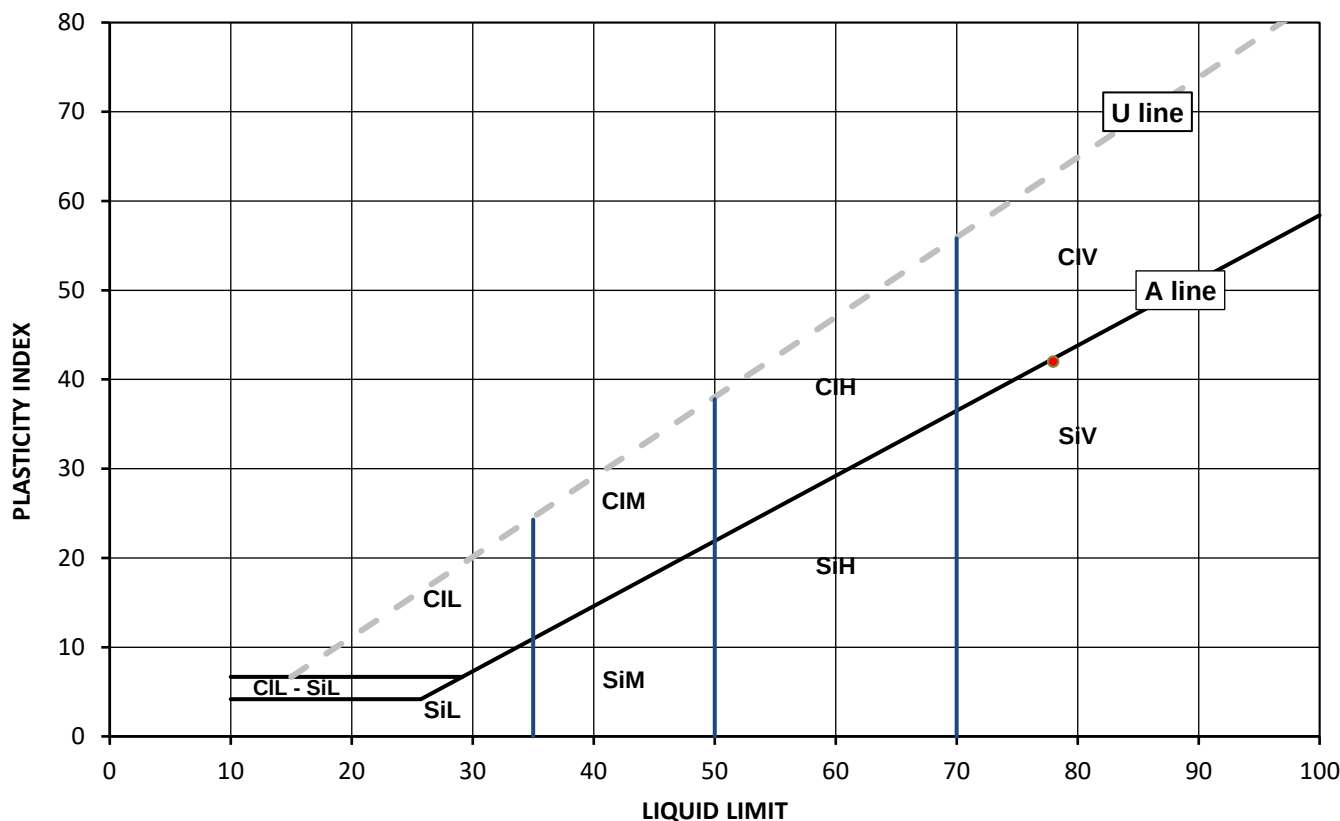
Test Results:

Laboratory Reference: 448722
Hole No.: TP02
Sample Reference: TP02-2-4
Sample Description: Orangish brown slightly gravelly silty CLAY

Depth Top [m]: 2.00
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >0.425 mm;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
24.1	78	1.055	36	42	-0.29	1.29	79



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

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

Note: Water Content by BS EN 17892-1:2014+A1:2022, BS 1377-2:2022; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

Signed:

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

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



Environmental Science

4041

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Walgrave, Northampton, NN6 9PY

Contact: Admin
Site Address: Greenside, London Road, Langley

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

Client Reference: STX6902
Job Number: 25-006206-1
Date Sampled: 31/01/2025
Date Received: 07/02/2025
Date Tested: 13/02/2025
Sampled By: Not Given

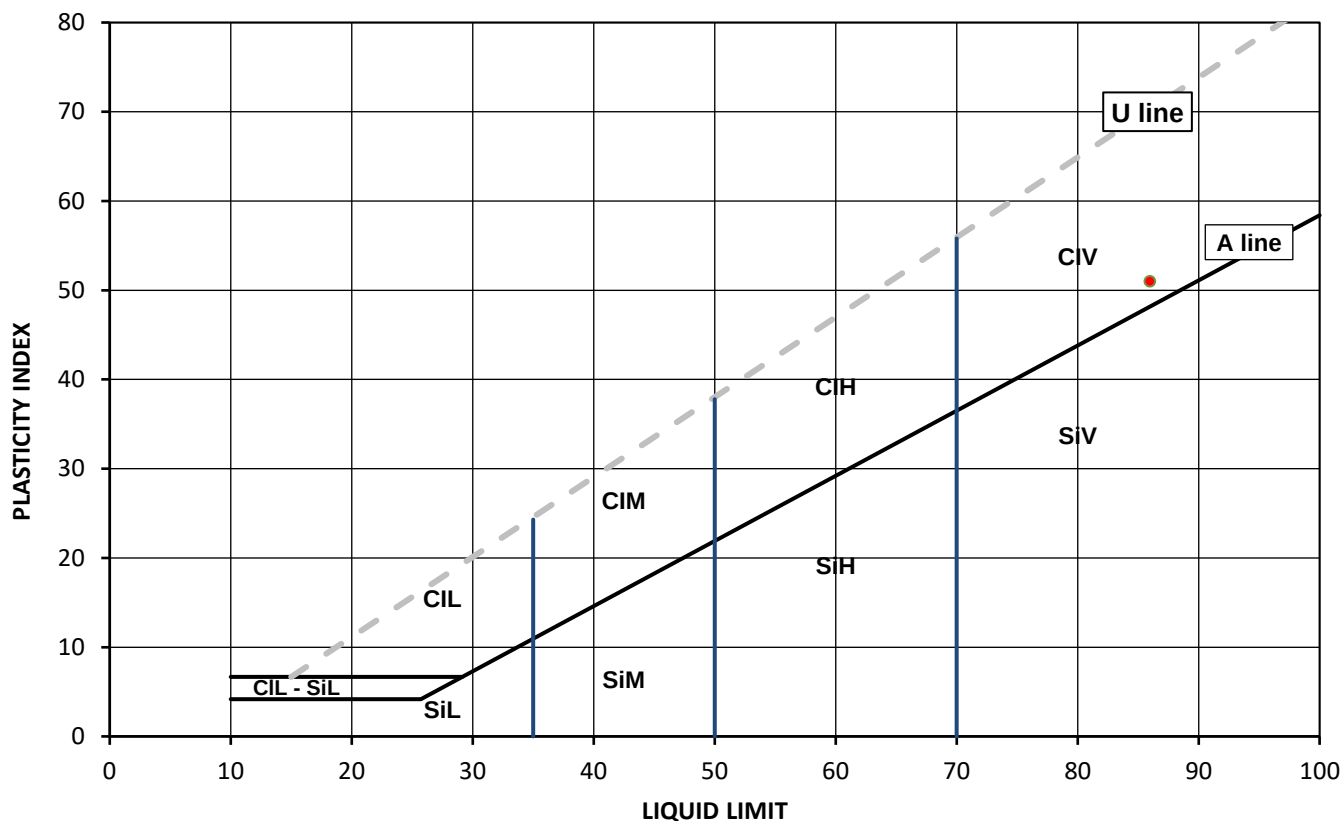
Test Results:

Laboratory Reference: 448723
Hole No.: TP03
Sample Reference: TP03-1-3
Sample Description: Orangish brown slightly gravelly silty CLAY

Depth Top [m]: 1.00
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >0.425 mm;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
30.7	86	1.018	35	51	-0.08	1.08	94



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

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

Note: Water Content by BS EN 17892-1:2014+A1:2022, BS 1377-2:2022; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

Signed:

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
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Environmental Science

4041

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Walgrave, Northampton, NN6 9PY

Contact: Admin
Site Address: Greenside, London Road, Langley

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

Client Reference: STX6902
Job Number: 25-006206-1
Date Sampled: 31/01/2025
Date Received: 07/02/2025
Date Tested: 13/02/2025
Sampled By: Not Given

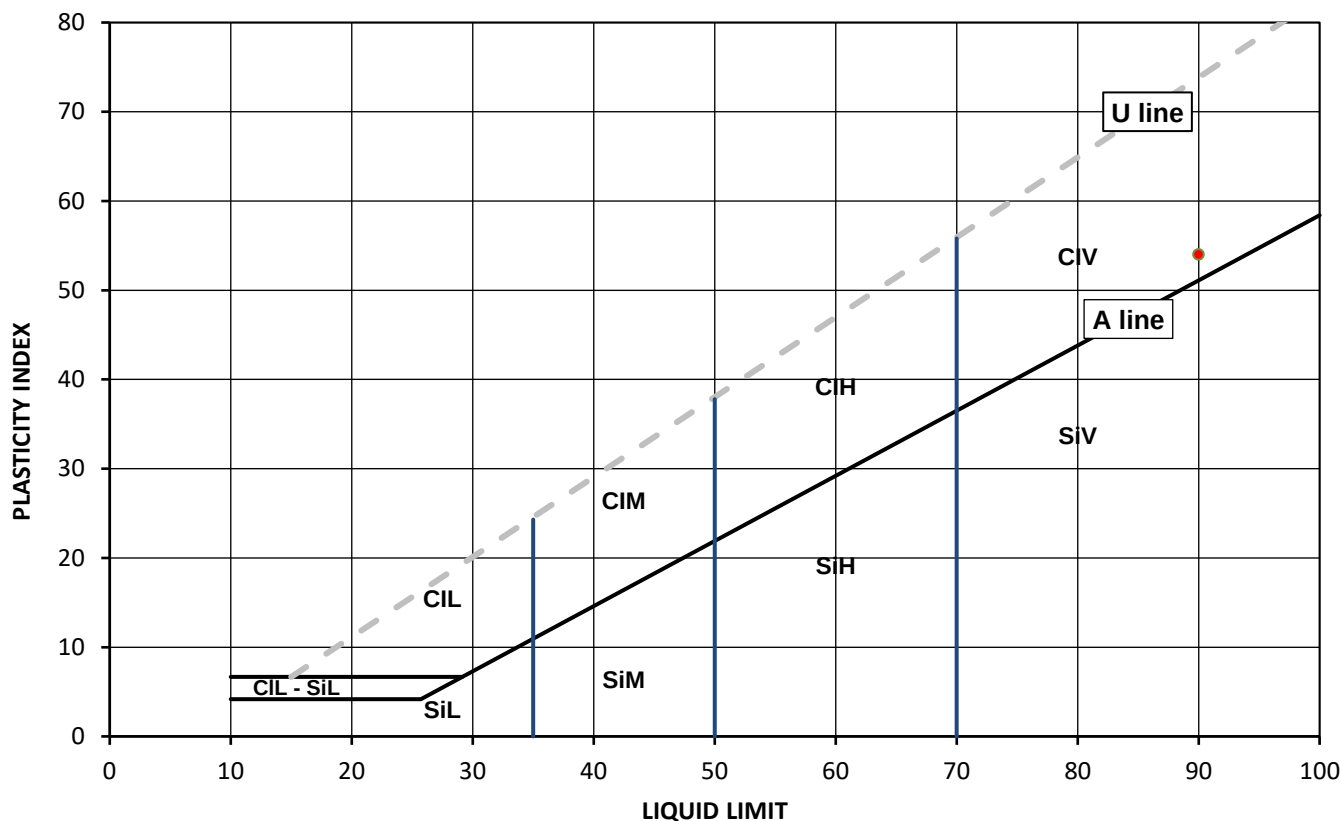
Test Results:

Laboratory Reference: 448724
Hole No.: TP04
Sample Reference: TP04-2-4
Sample Description: Brown gravelly CLAY

Depth Top [m]: 2.00
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >0.425 mm;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
26.1	90	1.055	36	54	-0.19	1.19	60



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

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

Note: Water Content by BS EN 17892-1:2014+A1:2022, BS 1377-2:2022; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

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Northampton NN4 7EB



Environmental Science

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Contact: Admin
Site Address: Greenside, London Road, Langley

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

Client Reference: STX6902
Job Number: 25-006206-1
Date Sampled: 31/01/2025
Date Received: 07/02/2025
Date Tested: 13/02/2025
Sampled By: Not Given

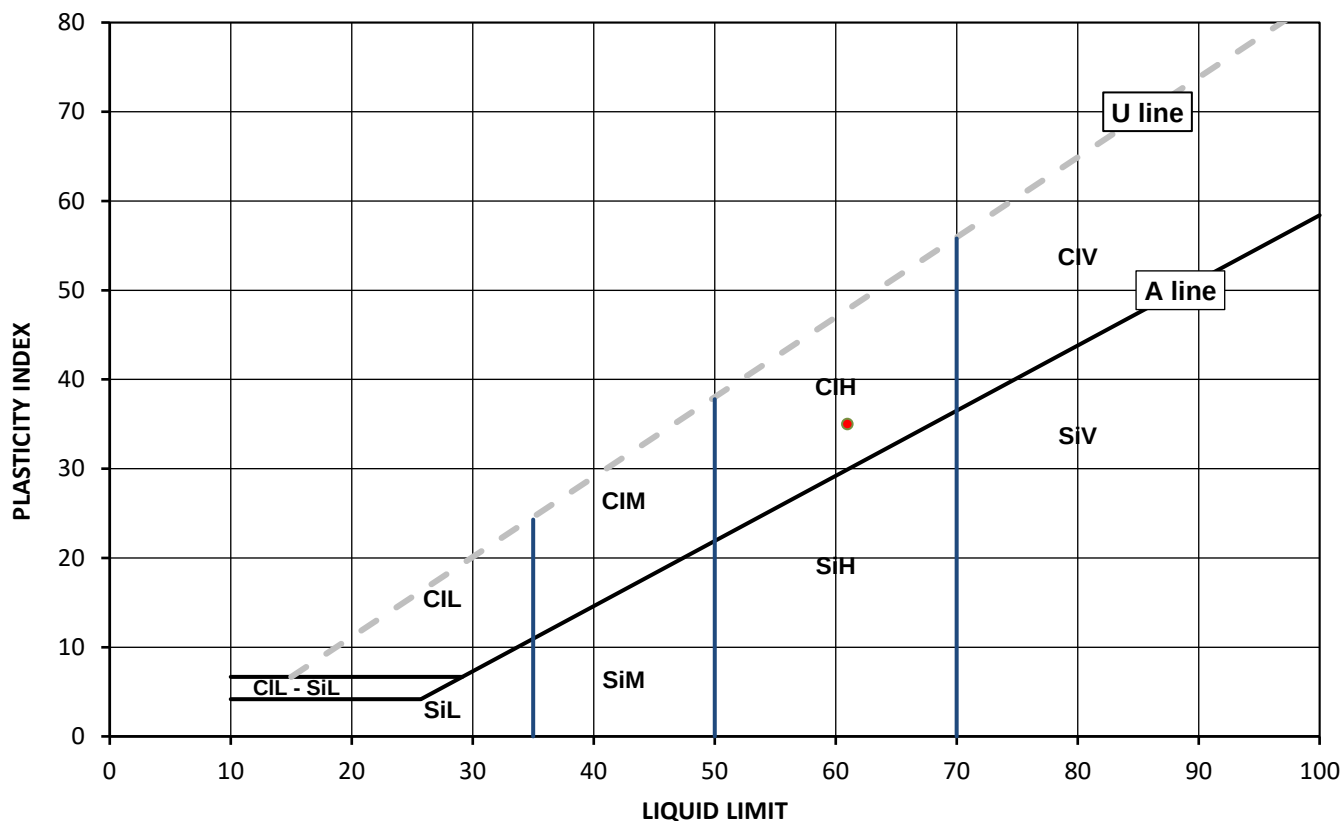
Test Results:

Laboratory Reference: 448725
Hole No.: TP05
Sample Reference: TP05-1.5-3
Sample Description: Orangish brown slightly gravelly CLAY

Depth Top [m]: 1.50
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >0.425 mm;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
24.6	61	1.055	26	35	-0.03	1.03	69



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

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

Note: Water Content by BS EN 17892-1:2014+A1:2022, BS 1377-2:2022; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

Signed:

Katarzyna Banys

Katarzyna Banys
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for and on behalf of i2 Analytical Ltd

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SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

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



Environmental Science

Tested in Accordance with:

BS EN ISO 17892-12:2018+A2:2022, cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022, cl 5.3, 6. Correlation Factor by Clayton C.R.I and Jukes A.W (1978). W by BS EN ISO 17892-1:2014+A1:2022.

Client Reference: STX6902

Job Number: 25-006206-1

Date Sampled: 31/01/2025

Date Received: 07/02/2025

Date Tested: 13/02/2025

Sampled By: Not Given

4041

Client: Soiltechnics Limited

Client Address: Cedar Barn, White Lodge,
Walgrave, Northampton, NN6 9PY

Contact: Admin

Site Address: Greenside, London Road, Langley

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	W	Liquid & Plastic Limit							Density		
		Reference	Depth Top	Depth Base	Type				% Passing 425um	WL*	Correlation Factor	Wp	Ip	Cone type	Sample Preparation	bulk	dry	PD
			m	m														
448720	TP01	TP01-1-4	1.00	Not Given	D	Orangish brown slightly gravelly silty CLAY	Atterberg 1 Point	23.0	78	87	1.055	35	52	80g/30 deg	WR			
448722	TP02	TP02-2-4	2.00	Not Given	D	Orangish brown slightly gravelly silty CLAY	Atterberg 1 Point	24.1	79	78	1.055	36	42	80g/30 deg	WR			
448723	TP03	TP03-1-3	1.00	Not Given	D	Orangish brown slightly gravelly silty CLAY	Atterberg 1 Point	30.7	94	86	1.018	35	51	80g/30 deg	WR			
448724	TP04	TP04-2-4	2.00	Not Given	D	Brown gravelly CLAY	Atterberg 1 Point	26.1	60	90	1.055	36	54	80g/30 deg	WR			
448725	TP05	TP05-1.5-3	1.50	Not Given	D	Orangish brown slightly gravelly CLAY	Atterberg 1 Point	24.6	69	61	1.055	26	35	80g/30 deg	WR			

Note: # Non accredited; NP - Non plastic; N - Tested in natural condition, R - Tested after >0.425mm removed by hand, WR - Tested after washing to remove >425mm; * - One point liquid limit corrected as per the report Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Comments:

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Signed:

Katarzyna Banyś

Katarzyna Banyś
Reporting Specialist

for and on behalf of i2 Analytical Ltd



SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS EN ISO 17892-1:2014+A1:2022, BS 1377-2: 2022, clause 4.1

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



Environmental Science

4041
Client: Soiltechnics Limited
Client Address: Cedar Barn, White Lodge,
Walgrave, Northampton, NN6 9PY

Contact: Admin
Site Address: Greenside, London Road, Langley

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

Client Reference: STX6902
Job Number: 25-006206-1
Date Sampled: 31/01/2025
Date Received: 07/02/2025
Date Tested: 13/02/2025
Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC											
		Reference	Depth Top m	Depth Base m	Type														
448720	TP01	TP01-1-4	1.00	Not Given	D	Orangish brown slightly gravelly silty CLAY		23.0											
448722	TP02	TP02-2-4	2.00	Not Given	D	Orangish brown slightly gravelly silty CLAY		24.1											
448723	TP03	TP03-1-3	1.00	Not Given	D	Orangish brown slightly gravelly silty CLAY		30.7											
448724	TP04	TP04-2-4	2.00	Not Given	D	Brown gravelly CLAY		26.1											
448725	TP05	TP05-1.5-3	1.50	Not Given	D	Orangish brown slightly gravelly CLAY		24.6											

Comments:

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Signed:

Katarzyna Banyś

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



TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016,
BS 1377-2:2022 cl. 10

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



Environmental Science

4041

Client: Soiltechnics Limited
Client Address: Cedar Barn, White Lodge,
Walgrave, Northampton, NN6 9PY

Contact: Admin
Site Address: Greenside, London Road, Langley

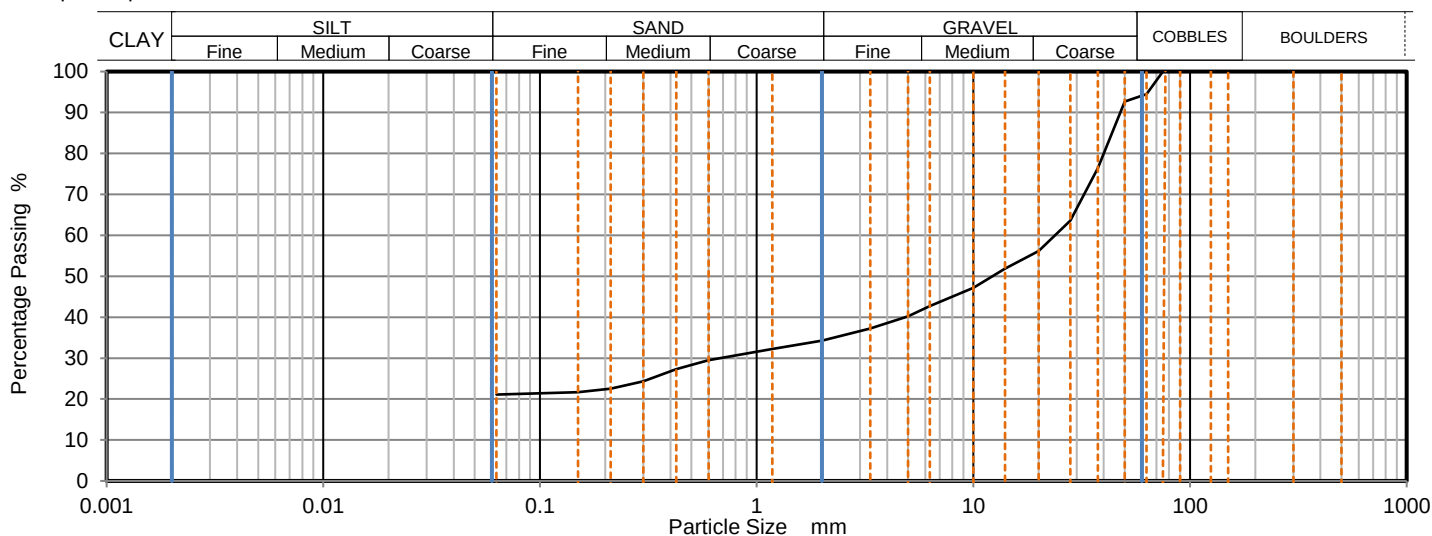
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: STX6902
Job Number: 25-006206-1
Date Sampled: 31/01/2025
Date Received: 07/02/2025
Date Tested: 17/02/2025
Sampled By: Not Given

Test Results:

Laboratory Reference: 448721
Hole No.: TP01
Sample Reference: TP01-2.1-5
Sample Description: Yellowish brown very clayey sandy GRAVEL with cobbles
Sample Preparation: Sample was whole tested, oven dried at 108.6 °C and broken down by hand.

Depth Top [m]: 2.10
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	95		
50	93		
37.5	76		
28	64		
20	56		
14	52		
10	47		
6.3	43		
5	40		
3.35	37		
2	34		
1.18	32		
0.6	30		
0.425	27		
0.3	24		
0.212	23		
0.15	22		
0.063	21		

Sample Proportions	% dry mass
Very coarse	5
Gravel	61
Sand	13
Fines <0.063 mm	21

Grading Analysis	
D100	mm 75
D60	mm 23.7
D30	mm 0.684
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

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

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: The material submitted - fails to meet the minimum mass requirements as stated in BS EN ISO 17892-4:2016 Table 1.

Signed:

Katarzyna Banys

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

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Soiltechnics Limited
Cedar Barn
White Lodge
Walgrave, Northampton
NN6 9PY

e: admin@soiltechnics.net

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

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 25-006207

Project / Site name:	Greenside, London Road, Langley	Samples received on:	07/02/2025
Your job number:	STX6902	Samples instructed on/ Analysis started on:	11/02/2025
Your order number:	POR021545	Analysis completed by:	18/02/2025
Report Issue Number:	1	Report issued on:	24/02/2025
Samples Analysed:	6 soil samples		

Signed:



Matthew O'Connell
Key Account Manager
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
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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.

Analytical Report Number: 25-006207
 Project / Site name: Greenside, London Road, Langley
 Your Order No: POR021545

Lab Sample Number	448726	448727	448728	448729	448730
Sample Reference	TP01	TP01	TP02	TP03	TP04
Sample Number	TP01-0.65-3	TP01-1-4	TP02-0.5-7	TP03-1-3	TP04-0.5-1
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.65	1.00	0.50	1.00	0.50
Date Sampled	31/01/2025	31/01/2025	31/01/2025	31/01/2025	31/01/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	29.4	< 0.1	31.5
Moisture Content	%	0.01	NONE	11	12	12	23	17
Total mass of sample received	kg	0.1	NONE	1.9	2	1.9	0.4	1.7

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.4	8	7.3	7.8	8.2
Total Sulphate as SO ₄	%	0.005	MCERTS	0.053	0.024	0.026	0.019	0.043
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	170	120	64	58	63
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	83.8	60.9	31.9	28.9	31.5
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	1.8	2	1.2	0.8	1.6
Total Sulphur	mg/kg	50	MCERTS	430	130	150	83	400
Total Sulphur	%	0.005	MCERTS	0.043	0.013	0.015	0.008	0.04
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	3.5	2.8	< 2.0	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

Heavy Metals / Metalloids

Magnesium (leachate equivalent)	mg/l	2.5	NONE	4.2	2.6	3	< 2.5	5.4
Magnesium (water soluble)	mg/kg	5	NONE	8.5	5.2	5.9	< 5.0	11

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

Analytical Report Number: 25-006207
 Project / Site name: Greenside, London Road, Langley
 Your Order No: POR021545

Lab Sample Number				448731
Sample Reference				TP04
Sample Number				TP04-2.5-5
Water Matrix				N/A
Depth (m)				2.50
Date Sampled				31/01/2025
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	20
Total mass of sample received	kg	0.1	NONE	1.9

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8
Total Sulphate as SO ₄	%	0.005	MCERTS	0.03
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	250
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	126
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	5.9
Total Sulphur	mg/kg	50	MCERTS	130
Total Sulphur	%	0.005	MCERTS	0.013
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0

Heavy Metals / Metalloids

Magnesium (leachate equivalent)	mg/l	2.5	NONE	3.9
Magnesium (water soluble)	mg/kg	5	NONE	7.7

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

Analytical Report Number : 25-006207

Project / Site name: Greenside, London Road, Langley

* 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 *
448726	TP01	TP01-0.65-3	0.65	Brown sand with gravel
448727	TP01	TP01-1-4	1	Brown clay and sand with gravel
448728	TP02	TP02-0.5-7	0.5	Brown clay with gravel and stones
448729	TP03	TP03-1-3	1	Brown clay
448730	TP04	TP04-0.5-1	0.5	Brown clay and sand with gravel and stones
448731	TP04	TP04-2.5-5	2.5	Brown clay with gravel

Analytical Report Number : 25-006207

Project / Site name: Greenside, London Road, Langley

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	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.	L019B	D	NONE
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES	In-house method based on TRL 447	L038B	D	NONE
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
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	L038B	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078-PL	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
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

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 30°C.

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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

Appendix G Geoenvironmental Laboratory Test Results



Final Report

Report No.: 25-04365-1

Initial Date of Issue: 26-Feb-2025

Re-Issue Details:

Client Soiltechnics Limited

Client Address: 1st Floor Unit 9 Westpoint Enterprise
Park
Clarence Avenue
Trafford Park
Manchester
M17 1QS

Contact(s): Admin

Project STX6902 Greenside

Quotation No.: **Date Received:** 10-Feb-2025

Order No.: POR021541 **Date Instructed:** 10-Feb-2025

No. of Samples: 6

Turnaround (Wkdays): 5 **Results Due:** 14-Feb-2025

Date Approved: 26-Feb-2025

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: STX6902 Greenside

Client: Soiltechnics Limited		Chemtest Job No.:		25-04365	25-04365	25-04365	25-04365	25-04365	25-04365	25-04365
Quotation No.:		Chemtest Sample ID.:		1929551	1929552	1929553	1929554	1929555	1929556	
Order No.: POR021541		Client Sample Ref.:		1	2	1	2	5	1	
		Client Sample ID.:		TP01-0.15-1	TP01-0.35-2	TP02-0.15-1	TP03-0.5-2	TP05-0.5-5	HP01-0.2-1	
		Sample Location:		TP01	TP01	TP02	TP03	TP05	HP01	
		Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		Top Depth (m):		0.15	0.35	0.15	0.50	0.50	0.20	
		Date Sampled:		31-Jan-2025	31-Jan-2025	31-Jan-2025	31-Jan-2025	31-Jan-2025	31-Jan-2025	
		Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM		
Determinand	HWOL Code	Accred.	SOP	Units	LOD					
ACM Type		N	2192		N/A	-	-	-	-	
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	
Moisture		N	2030	%	0.020	9.6	11	17	16	8.2
Stones and Removed Materials		N	2030	%	0.020	< 0.020	< 0.020	< 0.020	< 0.020	
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones and	, Stones and Roots	Stones, and Roots	Stones, Roots and	Stones and
Soil Texture		N	2040		N/A	Sand	Clay	Clay	Clay	Sand
pH at 20C		M	2010		4.0	8.7	7.9	7.9	7.8	7.9
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40	0.92	1.1	0.96	0.76	0.82
Cyanide (Complex)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	0.50	< 0.50
Cyanide (Free)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	0.50	< 0.50
Arsenic		M	2455	mg/kg	0.5	11	17	12	12	13
Beryllium		U	2455	mg/kg	0.5	0.8	0.9	0.6	0.6	0.9
Cadmium		M	2455	mg/kg	0.10	0.22	0.10	0.37	2.3	0.32
Chromium		M	2455	mg/kg	0.5	14	42	28	22	24
Copper		M	2455	mg/kg	0.50	36	18	24	46	26
Mercury		M	2455	mg/kg	0.05	0.06	0.36	0.13	0.10	0.09
Nickel		M	2455	mg/kg	0.50	15	24	16	18	17
Lead		M	2455	mg/kg	0.50	51	31	72	120	370
Selenium		M	2455	mg/kg	0.25	0.37	0.38	0.57	0.41	0.58
Vanadium		U	2455	mg/kg	0.5	31	57	36	35	36
Zinc		M	2455	mg/kg	0.50	83	76	190	1500	170
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05					< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05					< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05					< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10					< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05					< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25					< 0.25
Aliphatic EPH >C10-C12 MC	EH_2D_AL_#1	M	2690	mg/kg	2.00					< 2.0
Aliphatic EPH >C12-C16 MC	EH_2D_AL_#1	M	2690	mg/kg	1.00					< 1.0
Aliphatic EPH >C16-C21 MC	EH_2D_AL_#1	M	2690	mg/kg	2.00					< 2.0
Aliphatic EPH >C21-C35 MC	EH_2D_AL_#1	M	2690	mg/kg	3.00					< 3.0
Aliphatic EPH >C35-C40 MC	EH_2D_AL_#1	N	2690	mg/kg	10.00					< 10

Results - Soil

Project: STX6902 Greenside

Client: Soiltechnics Limited		Chemtest Job No.:				25-04365	25-04365	25-04365	25-04365	25-04365	25-04365
Quotation No.:		Chemtest Sample ID.:				1929551	1929552	1929553	1929554	1929555	1929556
Order No.: POR021541		Client Sample Ref.:				1	2	1	2	5	1
		Client Sample ID.:				TP01-0.15-1	TP01-0.35-2	TP02-0.15-1	TP03-0.5-2	TP05-0.5-5	HP01-0.2-1
		Sample Location:				TP01	TP01	TP02	TP03	TP05	HP01
		Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):				0.15	0.35	0.15	0.50	0.50	0.20
		Date Sampled:				31-Jan-2025	31-Jan-2025	31-Jan-2025	31-Jan-2025	31-Jan-2025	31-Jan-2025
		Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	
Determinand	HWOL Code	Accred.	SOP	Units	LOD						
Total Aliphatic EPH >C10-C35 MC	EH_2D_AL_#1	M	2690	mg/kg	5.00						< 5.0
Total Aliphatic EPH >C10-C40 MC	EH_2D_AL_#1	N	2690	mg/kg	10.00						< 10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05						< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05						< 0.05
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05						< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25						< 0.25
Aromatic EPH >C10-C12 MC	EH_2D_AR_#1	U	2690	mg/kg	1.00						< 1.0
Aromatic EPH >C12-C16 MC	EH_2D_AR_#1	U	2690	mg/kg	1.00						6.3
Aromatic EPH >C16-C21 MC	EH_2D_AR_#1	U	2690	mg/kg	2.00						97
Aromatic EPH >C21-C35 MC	EH_2D_AR_#1	U	2690	mg/kg	2.00						280
Aromatic EPH >C35-C40 MC	EH_2D_AR_#1	N	2690	mg/kg	1.00						69
Total Aromatic EPH >C10-C35 MC	EH_2D_AR_#1	U	2690	mg/kg	5.00						390
Total Aromatic EPH >C10-C40 MC	EH_2D_AR_#1	N	2690	mg/kg	10.00						460
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50						< 0.50
Total EPH >C10-C35 MC	EH_2D_Total_#1	U	2690	mg/kg	10.00						390
Total EPH >C10-C40 MC	EH_2D_Total_#1	N	2690	mg/kg	10.00						460
Organic Matter		M	2625	%	0.40	5.2	0.53	4.8	4.5	6.6	
Benzene		M	2760	µg/kg	1.0						< 1.0
Toluene		M	2760	µg/kg	1.0						< 1.0
Ethylbenzene		M	2760	µg/kg	1.0						< 1.0
m & p-Xylene		M	2760	µg/kg	1.0						< 1.0
o-Xylene		M	2760	µg/kg	1.0						< 1.0
Naphthalene		M	2800	mg/kg	0.10	0.31	< 0.10	< 0.10	< 0.10	0.10	
Acenaphthylene		N	2800	mg/kg	0.10	0.86	< 0.10	< 0.10	< 0.10	< 0.10	
Acenaphthene		M	2800	mg/kg	0.10	0.59	< 0.10	< 0.10	< 0.10	< 0.10	
Fluorene		M	2800	mg/kg	0.10	0.45	< 0.10	< 0.10	< 0.10	< 0.10	
Phenanthrene		M	2800	mg/kg	0.10	9.2	< 0.10	0.44	0.37	0.19	
Anthracene		M	2800	mg/kg	0.10	2.5	< 0.10	< 0.10	< 0.10	< 0.10	
Fluoranthene		M	2800	mg/kg	0.10	26	0.29	0.76	0.59	0.40	
Pyrene		M	2800	mg/kg	0.10	22	0.24	0.67	0.48	0.35	
Benzo[a]anthracene		M	2800	mg/kg	0.10	12	< 0.10	0.31	< 0.10	< 0.10	
Chrysene		M	2800	mg/kg	0.10	13	< 0.10	0.47	< 0.10	< 0.10	
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	18	< 0.10	0.59	< 0.10	< 0.10	
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	7.0	< 0.10	0.21	< 0.10	< 0.10	
Benzo[a]pyrene		M	2800	mg/kg	0.10	16	< 0.10	0.55	< 0.10	< 0.10	
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	11	< 0.10	0.43	< 0.10	< 0.10	
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	2.2	< 0.10	< 0.10	< 0.10	< 0.10	

Results - Soil

Project: STX6902 Greenside

Client: Soiltechnics Limited		Chemtest Job No.:	25-04365	25-04365	25-04365	25-04365	25-04365	25-04365
Quotation No.:		Chemtest Sample ID.:	1929551	1929552	1929553	1929554	1929555	1929556
Order No.: POR021541		Client Sample Ref.:	1	2	1	2	5	1
		Client Sample ID.:	TP01-0.15-1	TP01-0.35-2	TP02-0.15-1	TP03-0.5-2	TP05-0.5-5	HP01-0.2-1
		Sample Location:	TP01	TP01	TP02	TP03	TP05	HP01
		Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):	0.15	0.35	0.15	0.50	0.50	0.20
		Date Sampled:	31-Jan-2025	31-Jan-2025	31-Jan-2025	31-Jan-2025	31-Jan-2025	31-Jan-2025
		Asbestos Lab:	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	
Determinand	HWOL Code	Accred.	SOP	Units	LOD			
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	10	< 0.10	0.41
Total Of 16 PAH's		N	2800	mg/kg	2.0	150	< 2.0	4.8
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection	
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.	
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection	
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

This report shall not be reproduced except in full, and only with the prior approval of the laboratory.

Any comments or interpretations are outside the scope of UKAS accreditation.

The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.

Uncertainty of measurement for the determinands tested are available upon request .

None of the results in this report have been recovery corrected.

All results are expressed on a dry weight basis.

The following tests were analysed on samples 'as received' and the results subsequently corrected to a dry weight basis EPH, VPH, TPH, BTEX, VOCs, SVOCs, PCBs, Phenols.

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ prior to analysis.

All Asbestos testing is performed at the indicated laboratory .

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1.

NEW_ASB Eurofins Chemtest Limited, 11 Depot Road, Newmarket, CB8 0AL

DURHAM Eurofins Chemtest Limited, Unit A North Wing, Prospect Business Park, Crookhall Lane, Consett, Co Durham, DH8 7PW

Sample Deviation Codes

As a result of any of the below deviations applying, the test results may be unreliable

A - Date of sampling not supplied

B - Sample age exceeds stability time (sampling to extraction)

C - Sample not received in appropriate containers

D - Broken Container

E - The required amount of sample for analysis was not received

H - Appropriate cooling measures were not taken for sample transportation

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt.

All water samples will be retained for 14 days from the date of receipt.

Charges may apply to extended sample storage.

Report Information

Water Sample Category Key for Accreditation

DW - Drinking Water
GW - Ground Water
LE - Land Leachate
NA - Not Applicable
PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

HWOL Acronym System

HS - Headspace analysis
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent
CU - Clean-up – e.g. by Florisil, silica gel
1D - GC – Single coil gas chromatography
Total - Aliphatics & Aromatics
AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

Asbestos Tests LOD = LOQ

Limit of Detection = Limit of Quantification for asbestos results only

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



Final Report

Report No.: 25-04366-1

Initial Date of Issue: 25-Feb-2025

Re-Issue Details:

Client Soiltechnics Limited

Client Address: 1st Floor Unit 9 Westpoint Enterprise
Park
Clarence Avenue
Trafford Park
Manchester
M17 1QS

Contact(s): Admin

Project STX6902 Greenside

Quotation No.: **Date Received:** 10-Feb-2025

Order No.: POR021541 **Date Instructed:** 10-Feb-2025

No. of Samples: 1

Turnaround (Wkdays): 7 **Results Due:** 18-Feb-2025

Date Approved: 25-Feb-2025

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: STX6902 Greenside

Client: Soiltechnics Limited		Chemtest Job No.:	25-04366			
Quotation No.:		Chemtest Sample ID.:	1929557			
Order No.: POR021541		Client Sample Ref.:	1			
		Client Sample ID.:	CS01-0.00-1			
		Sample Location:	CS01			
		Sample Type:	SOIL			
		Top Depth (m):	0.00			
		Date Sampled:	31-Jan-2025			
Determinand	HWOL Code	Accred.	SOP	Units	LOD	
Moisture		N	2030	%	0.020	13

Results - 2 Stage WAC

Project: STX6902 Greenside

Chemtest Job No: 25-04366							Landfill Waste Acceptance Criteria			
Chemtest Sample ID: 1929557							Limits			
Sample Ref: 1							Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill	
Sample ID: CS01-0.00-1										
Sample Location: CS01										
Top Depth(m): 0.00										
Bottom Depth(m):										
Sampling Date: 31-Jan-2025										
Determinand	SOP	Accred.	Units							
Total Organic Carbon	2625	M	%				2.1	3	5	6
Loss On Ignition	2610	M	%				3.7	--	--	10
Total BTEX	2760	M	mg/kg				[C] < 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg				< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg				[C] 110	500	--	--
Total (Of 17) PAH's	2800	N	mg/kg				9.3	100	--	--
pH at 20C	2010	M					8.1	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.0060	--	To evaluate	To evaluate			
Eluate Analysis			2:1 mg/l	8:1 mg/l	2:1 mg/kg	Cumulative mg/kg 10:1	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg			
Arsenic	1455	U	0.0032	0.0053	0.0064	0.051	0.5	2	25	
Barium	1455	U	0.012	0.007	0.025	0.073	20	100	300	
Cadmium	1455	U	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.04	1	5	
Chromium	1455	U	0.0054	0.0047	0.011	0.048	0.5	10	70	
Copper	1455	U	0.0053	0.0053	0.011	0.0050	2	50	100	
Mercury	1455	U	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.01	0.2	2	
Molybdenum	1455	U	0.011	0.0047	0.022	0.053	0.5	10	30	
Nickel	1455	U	0.0038	0.0030	0.0077	0.031	0.4	10	40	
Lead	1455	U	0.0009	0.0033	0.0018	0.030	0.5	10	50	
Antimony	1455	U	0.0030	0.0016	0.0060	0.018	0.06	0.7	5	
Selenium	1455	U	0.0008	0.0008	0.0016	0.0079	0.1	0.5	7	
Zinc	1455	U	0.006	0.007	0.013	0.070	4	50	200	
Chloride	1220	U	1.5	< 1.0	< 10	< 10	800	15000	25000	
Fluoride	1220	U	0.29	0.28	< 1.0	2.8	10	150	500	
Sulphate	1220	U	13	4.4	26	52	1000	20000	50000	
Total Dissolved Solids	1020	N	95	59	190	620	4000	60000	100000	
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-	
Dissolved Organic Carbon	1610	U	6.8	7.1	< 50	71	500	800	1000	

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	6.5
WAC Sample Weight	

Leachate Test Information	
Leachant volume 1st extract/l	0.338
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.164

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1929557	1	CS01-0.00-1	CS01	31-Jan-2025	C	Plastic Bag

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity at 25°C and Total Dissolved Solids (TDS) in Waters	Conductivity Meter	TE LE SW GW
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.	RE PW PL LE DW GW
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).	RE PW PL SW DW GW
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation	PL SW GW
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.	
2010	pH Value of Soils	pH at 20°C	pH Meter	
2015	Acid Neutralisation Capacity	Acid Reserve	Titration	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID	
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.	
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenzo[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS	
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS. Reported PCB 101 results may contain contributions from PCB 90 due to inseparable chromatography.	
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge	
650	Characterisation of Waste (Leaching WAC)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge	

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

This report shall not be reproduced except in full, and only with the prior approval of the laboratory.

Any comments or interpretations are outside the scope of UKAS accreditation.

The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.

Uncertainty of measurement for the determinands tested are available upon request .

None of the results in this report have been recovery corrected.

All results are expressed on a dry weight basis.

The following tests were analysed on samples 'as received' and the results subsequently corrected to a dry weight basis EPH, VPH, TPH, BTEX, VOCs, SVOCs, PCBs, Phenols.

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ prior to analysis.

All Asbestos testing is performed at the indicated laboratory .

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1.

NEW_ASB	Eurofins Chemtest Limited, 11 Depot Road, Newmarket, CB8 0AL
DURHAM	Eurofins Chemtest Limited, Unit A North Wing, Prospect Business Park, Crookhall Lane, Consett, Co Durham, DH8 7PW

Sample Deviation Codes

As a result of any of the below deviations applying, the test results may be unreliable

A - Date of sampling not supplied

B - Sample age exceeds stability time (sampling to extraction)

C - Sample not received in appropriate containers

D - Broken Container

E - The required amount of sample for analysis was not received

H - Appropriate cooling measures were not taken for sample transportation

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt.

All water samples will be retained for 14 days from the date of receipt.

Charges may apply to extended sample storage.

Report Information

Water Sample Category Key for Accreditation

DW - Drinking Water
GW - Ground Water
LE - Land Leachate
NA - Not Applicable
PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

HWOL Acronym System

HS - Headspace analysis
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent
CU - Clean-up – e.g. by Florisil, silica gel
1D - GC – Single coil gas chromatography
Total - Aliphatics & Aromatics
AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

Asbestos Tests LOD = LOQ

Limit of Detection = Limit of Quantification for asbestos results only

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Appendix H Contamination Assessment Screening

Chronic human health risk (soils)

Scenario										
End user		Proposed site user								
Receptor		Residential with homegrown produce								
SOM		1.00%								
GAC Preference		C4SLs over S4ULs								

Contaminant	Guideline source	Guideline value (mg/kg)	Max value (mg/kg)	Location	HP01	TP01	TP01	TP02	TP03	TP05
				Depth (m)	0.20	0.15	0.35	0.15	0.50	0.50
				Date	31/01/25	31/01/25	31/01/25	31/01/25	31/01/25	31/01/25
Inorganics - Metals										
Arsenic	C4SL	37	17			11	17	12	12	13
Beryllium	S4UL	1.7	0.9			0.8	0.9	0.6	0.6	0.9
Boron	S4UL	290	1.1			0.92	1.1	0.96	0.76	0.82
Cadmium	C4SL	22	2.3			0.22	0.1	0.37	2.3	0.32
Chromium (III)	S4UL	910	42			14	42	28	22	24
Chromium (VI)	C4SL	21	<LoD			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Copper	S4UL	2400	46			36	18	24	46	26
Cyanide - Free	ATK	34	<LoD			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Lead	C4SL	200	370			51	31	72	120	370
Mercury	S4UL	40	0.36			0.06	0.36	0.13	0.1	0.09
Nickel	S4UL	130	24			15	24	16	18	17
Selenium	S4UL	250	0.58			0.37	0.38	0.57	0.41	0.58
Vanadium	S4UL	410	57			31	57	36	35	36
Zinc	S4UL	3700	1500		83	76	190	1500	170	
Inorganics - Asbestos										
Asbestos Type		N/A				-	-	-	-	-
Asbestos Screen		N/A				No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Inorganics - Soil Parameters										
Organic matter		N/A				5.2	0.53	4.8	4.5	6.6
Organics - PAH & Phenol										
Acenaphthene	S4UL	210	0.59		0.59	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	S4UL	170	0.86		0.86	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	S4UL	2400	2.5		2.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)anthracene	S4UL	7.2	12		12	< 0.10	0.31	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	C4SL	5	16		16	< 0.10	0.55	< 0.10	< 0.10	< 0.10
Benzo(b)fluoranthene	S4UL	2.6	18		18	< 0.10	0.59	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	S4UL	320	10		10	< 0.10	0.41	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	S4UL	77	7		7	< 0.10	0.21	< 0.10	< 0.10	< 0.10
Chrysene	S4UL	15	13		13	< 0.10	0.47	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	S4UL	0.24	2.2		2.2	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	S4UL	280	26		26	0.29	0.76	0.59	0.4	
Fluorene	S4UL	170	0.45		0.45	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	S4UL	27	11		11	< 0.10	0.43	< 0.10	< 0.10	< 0.10
Naphthalene	C4SL	15	0.31		0.31	< 0.10	< 0.10	< 0.10	0.1	
Phenanthrene	S4UL	95	9.2		9.2	< 0.10	0.44	0.37	0.19	
Phenol	S4UL	120	<LoD		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	S4UL	620	22		22	0.24	0.67	0.48	0.35	
Organics - TPH CWG and BTEX										
Benzene	C4SL	0.87	<LoD		< 0.001					
Toluene	S4UL	130	<LoD		< 0.001					
Ethylbenzene	S4UL	47	<LoD		< 0.001					
o-Xylene	S4UL	60	<LoD		< 0.001					
m & p-xylene	S4UL	56	<LoD		< 0.001					
Xylenes (sum of)	S4UL	56	<LoD		<LoD					
EC05 - EC06 Aliphatic	S4UL	42	<LoD		< 0.05					
EC>06 - EC08 Aliphatic	S4UL	100	<LoD		< 0.10					
EC>08 - EC10 Aliphatic	S4UL	27	<LoD		< 0.05					
EC>10 - EC12 Aliphatic	S4UL	130	<LoD		< 2.0					
EC>12 - EC16 Aliphatic	S4UL	1100	<LoD		< 1.0					
EC>16 - EC21 Aliphatic	S4UL	65000	<LoD		< 2.0					
EC>21 - EC35 Aliphatic	S4UL	65000	<LoD		< 3.0					
EC>35 - EC40 Aliphatic	ERROR	ERROR	<LoD		< 10					
EC5 - EC7 (benzene)	S4UL	70	<LoD		< 0.05					
EC7 - >EC8 (toluene)	S4UL	130	<LoD		< 0.05					
EC>08 - EC10 Aromatic	S4UL	34	<LoD		< 0.05					
EC>10 - EC12 Aromatic	S4UL	74	<LoD		< 1.0					
EC>12 - EC16 Aromatic	S4UL	140	6.3		6.3					
EC>16 - EC21 Aromatic	S4UL	260	97		97					
EC>21 - EC35 Aromatic	S4UL	1100	280		280					
EC>35 - EC44 Aromatic	S4UL	1100	69		69					

Chronic human health risk (soils)

Scenario	
End user	Proposed site user
Receptor	Residential with homegrown produce
SOM	1.00%
GAC Preference	C4SLs over S4ULs

Contaminant	Guideline source	Guideline value	Max value	Location	HP01	TP01	TP01	TP02	TP03	TP05
				Depth (m)	0.20	0.15	0.35	0.15	0.50	0.50

Chronic human health risk (soils)

Scenario	
End user	Proposed site user
Receptor	Residential with homegrown produce
SOM	1.00%
GAC Preference	C4SLs over S4ULs

Contaminant	Guideline source	Guideline value	Max value	Location	HP01	TP01	TP01	TP02	TP03	TP05
				Depth (m)	0.20	0.15	0.35	0.15	0.50	0.50

Acute human health risk (soils)

Scenario	Off-site public exposure
Critical receptor	Young female child (1 to 2 years old)
Oral exposure	N/A
Demal exposure	N/A
Inhalation exposure	30 mins exposure to a child off-site, from dusts and vapours generated during excavation

Contaminant	Guideline source	Principal pathway	Guideline value (mg/kg)	Max value (mg/kg)	Location	HP01	TP01	TP01	TP02	TP03	TP05
					Depth (m)	0.20	0.15	0.35	0.15	0.50	0.50
					Date	31/01/25	31/01/25	31/01/25	31/01/25	31/01/25	31/01/25
Inorganics											
Arsenic	AGAC	Inhalation	7,000,000	17			11	17	12	12	13
Cadmium	AGAC	Inhalation	1,800,000	2.3			0.22	0.1	0.37	2.3	0.32
Cyanide - Free	AGAC	Inhalation	380	<LoD			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organics											
Benzene	AGAC	Inhalation	120	<LoD			< 0.001				
Phenol	AGAC	**sat.**	**sat.**	<LoD			< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Acute human health risk (soils)

Scenario	Occupational exposure (construction worker)
Critical receptor	Adult female worker
Oral exposure	Ingestion of soil and dusts over a single working day
Demal exposure	Soil being left on the skin for several hours, assumed no PPE worn
Inhalation exposure	30 mins exposure - worker standing adjacent to active excavation (assumed no RPE)

Contaminant	Guideline source	Principal pathway	Guideline value (mg/kg)	Max value (mg/kg)	Location	HP01	TP01	TP01	TP02	TP03	TP05
					Depth (m)	0.20	0.15	0.35	0.15	0.50	0.50
					Date	31/01/25	31/01/25	31/01/25	31/01/25	31/01/25	31/01/25
Inorganics											
Arsenic	AGAC	Oral	7,000	17			11	17	12	12	13
Cadmium	AGAC	Oral	12,000	2.3			0.22	0.1	0.37	2.3	0.32
Cyanide - Free	AGAC	Oral & Inhalation	1,400	<LoD			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organics											
Benzene	AGAC	Inhalation	240	<LoD			< 0.001				
Phenol	AGAC	**sat.**	**sat.**	<LoD			< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Ecotoxicity screening

Scenario	
Type of assessment	Generic SSVs with 'Added Risk' ambient levels
Representative natural background concentration	
Vanadium (mg/kg) (10th percentile value from UK arable and grassland soils)	17
Zinc (mg/kg) (10th percentile value from UK arable and grassland soils)	24.1

Contaminant	Guideline source	Guideline value (mg/kg)	Max value (mg/kg)	Location	TP01	TP01	TP02	TP03	TP05
				Depth (m)	0.15	0.35	0.15	0.50	0.50
				Date	31/01/25	31/01/25	31/01/25	31/01/25	31/01/25
Inorganics - Metals									
Cadmium	SSV	0.6	2.3		0.22	0.1	0.37	2.3	0.32
Copper	SSV	35.1	46		36	18	24	46	26
Nickel	SSV	28.2	24		15	24	16	18	17
Vanadium	SSV*	19	57		31	57	36	35	36
Zinc	SSV	35.6	1500		83	76	190	1500	170
Organics - PAH									
Benzo(a)pyrene	SSV	0.15	16		16	< 0.10	0.55	< 0.10	< 0.10

Phytotoxicity

Scenario									
Land use				Grassed lawns					
Contaminant	Guideline source	Guideline value (mg/kg)	Max value (mg/kg)	Location	TP01	TP01	TP02	TP03	TP05
				Depth (m)	0.15	0.35	0.15	0.50	0.50
				Date	31/01/25	31/01/25	31/01/25	31/01/25	31/01/25
Soil parameters									
pH	BSI-u	8.5	8.7		8.7	7.9	7.9	7.8	7.9
pH	BSI-l	5.5	7.8		8.7	7.9	7.9	7.8	7.9
Potentially toxic element									
Arsenic	SSIA	50			11	17	12	12	13
Cadmium	SSIA	3	2.3		0.22	0.1	0.37	2.3	0.32
Chromium (III)	SSIA	600	42		14	42	28	22	24
Lead	SSIA	300	370		51	31	72	120	370
Mercury	SSIA	1.5	0.36		0.06	0.36	0.13	0.1	0.09
Selenium	SSIA	5	0.58		0.37	0.38	0.57	0.41	0.58
Potentially toxic element (pH >7.0)									
Copper	SSIA	330	46		36	18	24	46	26
Nickel	SSIA	180	24		15	24	16	18	17
Zinc	SSIA	300	1500		83	76	190	1500	170

Appendix I Waste Characterisation Analysis

Waste acceptance

Parameter	Inert waste landfill	Stable non-reactive hazardous waste in a non-hazardous landfill cell (SNRHW)	Hazardous waste landfill	Location	CS01
				Depth (m)	0.00
				Date	31/01/25
Parameters determined on the waste					
Total organic carbon	3	5	6		2.1
BTEX	6				< 0.010
PCBs (7 congeners)	1				< 0.10
Mineral oil	500				110
PAH (17 congeners)	100				9.3
Acid neutralisation capacity (pH 6)		To be evaluated	To be evaluated		0.006
Limit values (mg kg ⁻¹) for compliance test using BN 12457-3 at L/S 10 l					
Arsenic	0.5	2	25		0.051
Barium	20	100	300		0.073
Cadmium	0.04	1	5		< 0.00011
Chromium (III)	0.5	10	70		0.048
Copper	2	50	100		0.005
Mercury	0.01	0.2	2		< 0.00005
Molybdenum	0.5	10	30		0.053
Nickel	0.4	10	40		0.031
Lead	0.5	10	50		0.03
Antimony	0.06	0.7	5		0.018
Selenium	0.1	0.5	7		0.0079
Zinc	4	50	200		0.07
Fluoride	10	150	500		2.8
Total dissolved solids	4,000	60,000	100,000		620
Phenol	1				< 0.50
Dissolved organic carbon	500	800	1000		71
Classifications					
Waste classification					Non-hazardous
Landfill type					Inert waste landfill

- Key Notes:**
- 1) The values for total dissolved solids (TDS) can be used alternatively to the values for sulphate and chloride.
- 2) Soils with TOC values over the limit value may still be accepted provided the DOC value falls are below it's respective limit value.
- 3) In a hazardous waste, either the TOC or LOI must be used.

Appendix J Utility Service Plans

Overview map of worksite

1

2

3

4

Langley

Track

Greenside

The Forge

Pen-y-Bryn

LONDON ROAD

Warning: PDF designed for A4 colour print only with no page scaling

Cadent
Your Gas Network

Dig Sites

Area: 

Line: 



LP Mains



MP Mains



IP Mains



LHP Mains

 Valve

 Depth of cover

 Syphon

 Diameter Change

 Material Change

 Out of Standard Service

Where an out-of-standard service is present please contact plant protection 0800 688 588 for further information.

Out-of-standard service symbology may be used to indicate one or more of the following:

- Identification of shallow services
- Identification of dual services
- Recording of non-perpendicular services

A perpendicular service/connection is laid in a straight line from the entry point at the property to the connection at the main – this includes a pipe that has a perpendicular connection and is not straight but does not deviate more than 1m off centre line.

IMPORTANT NOTICES

This plan shows these pipes owned by Cadent Gas Limited in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GT's or otherwise privately owned may be present in this area. Information with regards to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Cadent Gas Limited or their agents, servants or contractors for any errors or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

In case of emergency call - 0800 111 999

Crown Copyright © - This plan is reproduced from or based on the OS map by Cadent Gas Limited, with the sanction of the controller of HM Stationary Office. Crown Copyright Reserved. Ordnance Survey Licence number 100024886

Date Requested: 21/01/2025
Job Reference: 36039623
Site Location: 521609 222252
Requested by: Miss Lauren Wenham
Your Scheme/Reference: STX6902

View extent: 100m, 100m

Scale: 1:1025 (When plotted at A4)

1

Track

Greenside

Warning: PDF designed for A4 colour print only with no page scaling



Dig Sites

Area:

Line:



LP Mains
MP Mains
IP Mains
LHP Mains



Valve



Depth of cover



Syphon



Diameter Change



Material Change



Out of Standard Service

Where an out-of-standard service is present please contact plant protection 0800 688 588 for further information.

Out-of-standard service symbology may be used to indicate one or more of the following:

- Identification of shallow services
- Identification of dual services
- Recording of non-perpendicular services

A perpendicular service/connection is laid in a straight line from the entry point at the property to the connection at the main – this includes a pipe that has a perpendicular connection and is not straight but does not deviate more than 1m off centre line.



Date Requested: 21/01/2025
Job Reference: 36039623
Site Location: 521609 222252
Requested by: Miss Lauren Wenham
Your Scheme/Reference: STX6902

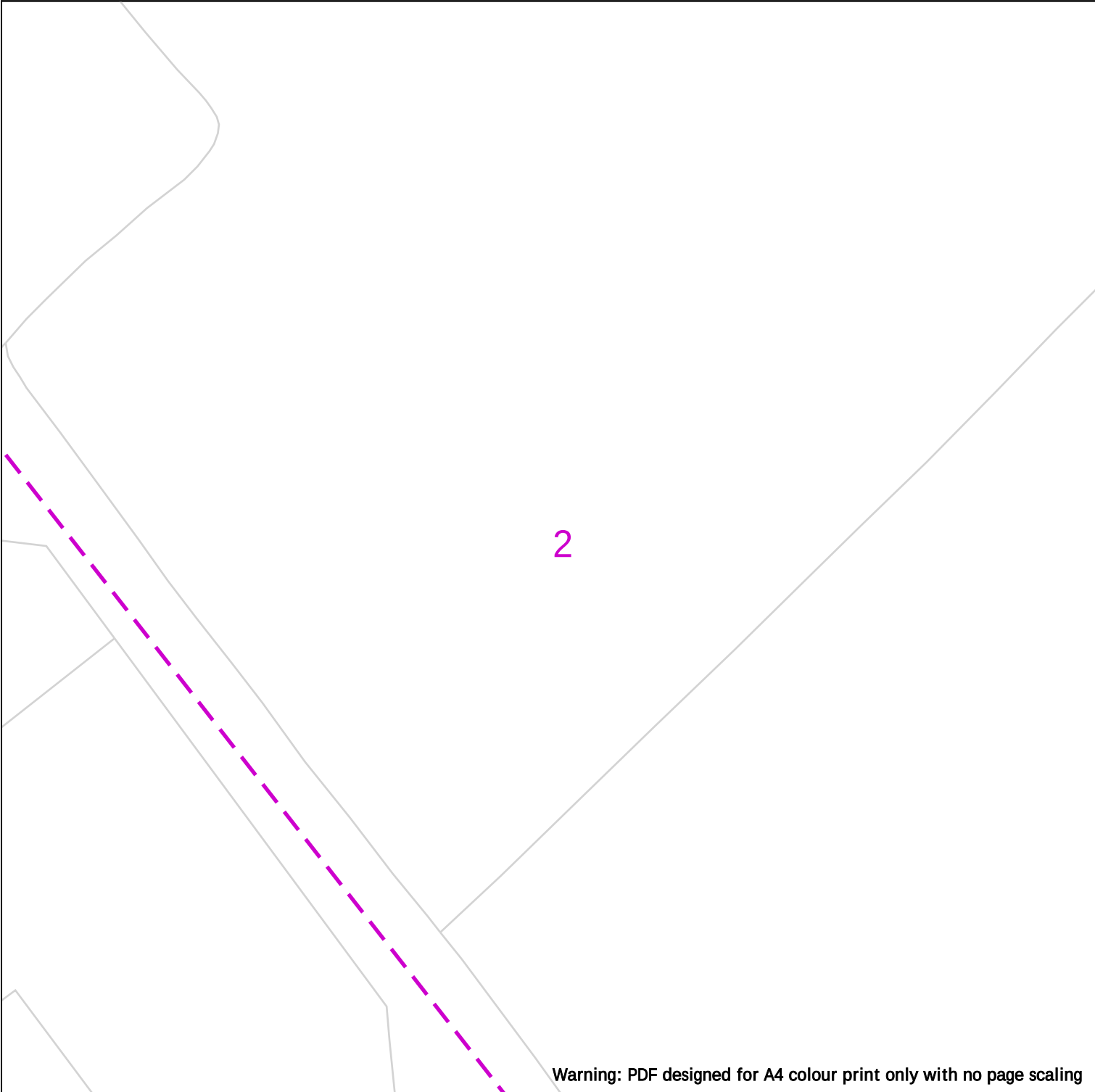
View extent: 100m, 100m

Scale: 1:500 (When plotted at A4)

IMPORTANT NOTICES

This plan shows these pipes owned by Cadent Gas Limited in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GT's or otherwise privately owned may be present in this area. Information with regards to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Cadent Gas Limited or their agents, servants or contractors for any errors or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

In case of emergency call - 0800 111 999



Warning: PDF designed for A4 colour print only with no page scaling



Date Requested: 21/01/2025
Job Reference: 36039623
Site Location: 521609 222252
Requested by: Miss Lauren Wenham
Your Scheme/Reference: STX6902

View extent: 100m, 100m

Scale: 1:500 (When plotted at A4)

Dig Sites

Area:

Line:



LP Mains



MP Mains



IP Mains



LHP Mains



Valve



Depth of cover



Syphon



Diameter Change



Material Change



Out of Standard Service

Where an out-of-standard service is present please contact plant protection 0800 688 588 for further information.

Out-of-standard service symbology may be used to indicate one or more of the following:

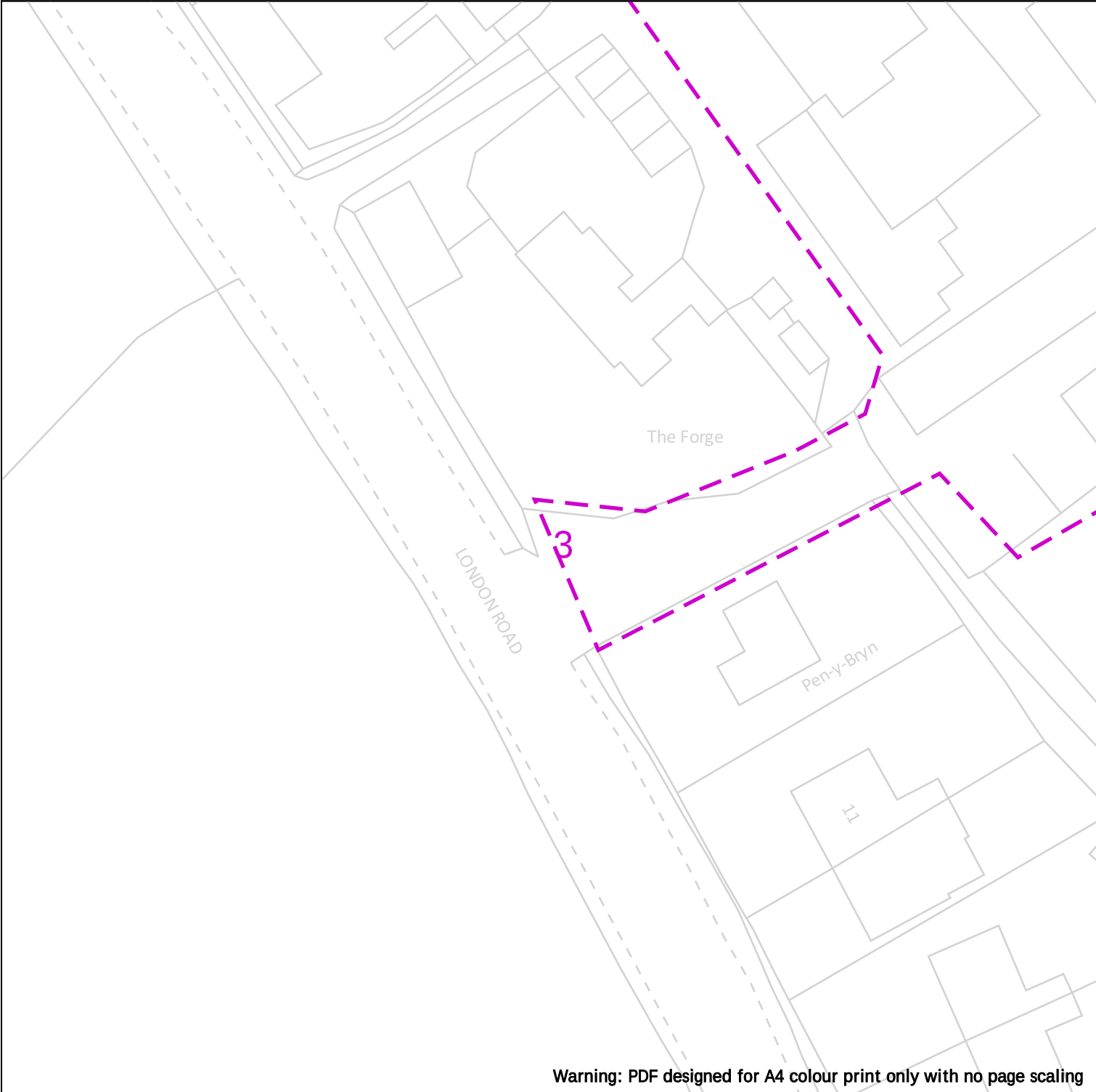
- Identification of shallow services
- Identification of dual services
- Recording of non-perpendicular services

A perpendicular service/connection is laid in a straight line from the entry point at the property to the connection at the main – this includes a pipe that has a perpendicular connection and is not straight but does not deviate more than 1m off centre line.

IMPORTANT NOTICES

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In case of emergency call - 0800 111 999





Cadent
Your Gas Network

Date Requested: 21/01/2025
Job Reference: 36039623
Site Location: 521609 222252
Requested by: Miss Lauren Wenham
Your Scheme/Reference: STX6902

View extent: 100m, 100m

Scale: 1:500 (When plotted at A4)



Dig Sites

	LP Mains
	MP Mains
	IP Mains
	LHP Mains

Area:

Line:

	Valve
	Depth of cover
	Syphon
	Diameter Change
	Material Change
	Out of Standard Service

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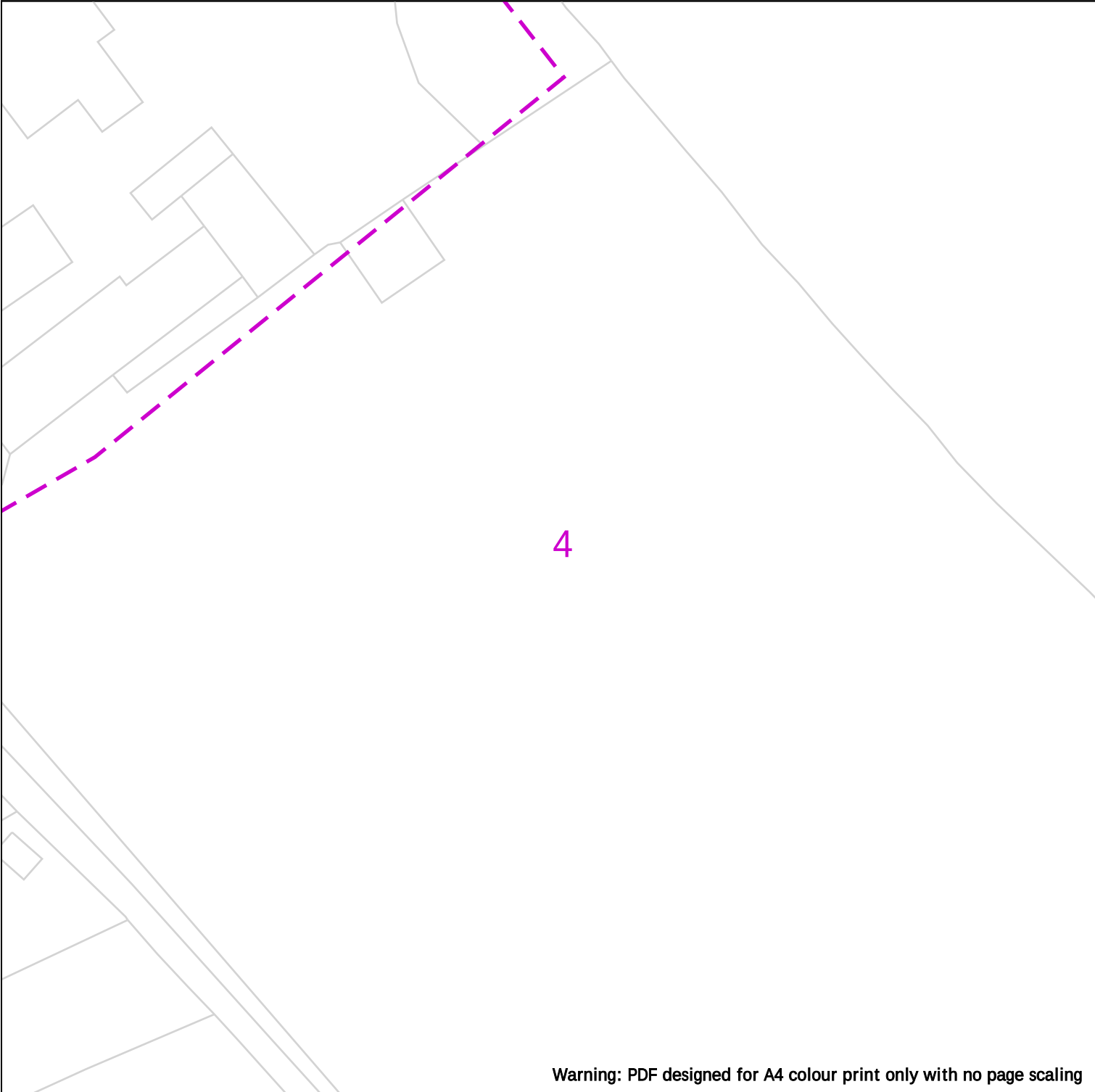
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In case of emergency call - 0800 111 999

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Cadent
Your Gas Network

25m

Dig Sites	Area: 	Line: 	
	LP Mains	 Valve	 Diameter Change
	MP Mains	 Depth of cover	 Material Change
	IP Mains	 Syphon	 Out of Standard Service
	LHP Mains		

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Date Requested: 21/01/2025
Job Reference: 36039623
Site Location: 521609 222252
Requested by: Miss Lauren Wenham
Your Scheme/Reference: STX6902

View extent: 100m, 100m

Scale: 1:500 (When plotted at A4)

TL2122SEA 1:500 LV

s0

[illegible]

TTL2122SEB 1:500 LV

s0

[illegible]



Network Records NetMAP Symbols Booklet - East of England

This symbol booklet is intended as a general guide only - some local variations of these symbols may be found.

Version 1.2

Released October 2010

Always check with your local Network Records office or the UK Power Networks server to ensure that you are using the most up to date copy of this booklet - Tel: 08000 565866.

Index:-

Page no:	Contents:
1	Guidance notes.
2	The area covered by this guide.
3	<u>1:500 view</u>
4	Scenery.
7	Scenery (UK Power Networks use only).
8	Primary distribution cables (EHV).
9	Secondary distribution cables (HV/LV).
10	Service cables/terminations.
11	Cable ducts.
13	EHV/HV/LV sites.
14	Mains joints.
15	Service joints.
17	Cross sections.
17	Common abbreviations/terminology (all views).
19	<u>1:2500 (LV) & 1:10000 (HV) network views</u> (UK Power Networks use only).
20	General.
22	1:2500 scale LV network.
22	1:10000 scale HV network.
23	<u>LV network diagram view</u> (UK Power Networks use only).
24	Overhead lines.
25	Underground cables.
26	Joints.
26	Substations/pole transformers.

Guidance notes.

Important notice:

If you do not understand the NetMAP record that you are using, please contact the UK Power Networks Network Records team for guidance
Tel: 08000 565866.

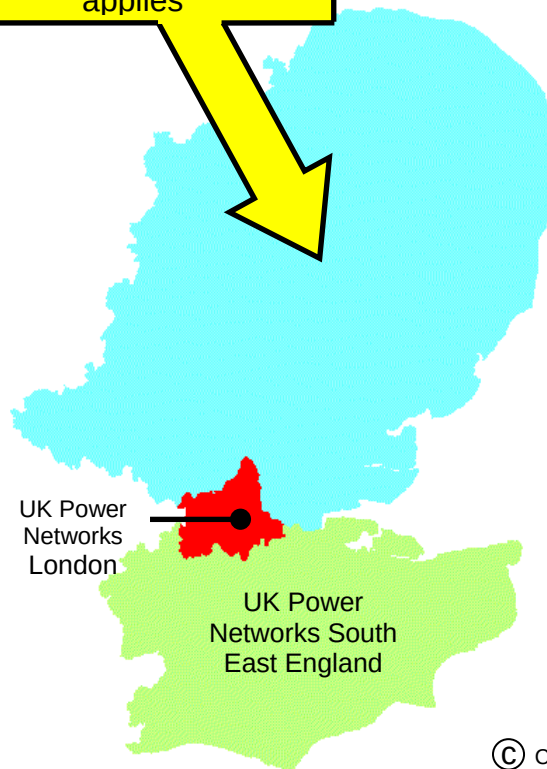
- The position of apparatus shown on NetMAP is believed to be correct, but the original landmarks may have altered since the apparatus was installed.
- It must be assumed that there is at least one service to each property, lamp column, street sign etc.
- All cables must be treated as live, unless proven otherwise by an authorised UK Power Networks representative.
- Third party cables are not usually shown. In cases of doubt, please telephone 08000 565866.
- When two or more maps are supplied for the same area, the maps must be read in conjunction with each other and with this symbol document.
- All LV cables are assumed to be 4 core, and all HV cables assumed to be 3 core unless otherwise stated.



**Plan Provision Team
Fore Hamlet
Ipswich
Suffolk IP3 8AA
Tel: 08000 565866**

The area covered by this guide:

**UK Power Networks
East of England.**
This is the only area
where this document
applies



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1:500 view - underground network

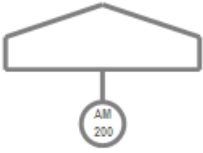
Scenery

NetMAP system	Scanned image	Description
		100 metre Ordnance Survey grid line (on O/S based maps only.)
		Property fence line
		Building line
		Kerb line
		Electrical Boundary

Scenery - for UK Power Networks use only - boxed in red

NetMAP system	Scanned image	Description
	Not applicable	Area of inset network - not the asset of UK Power Networks (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Proposed Cross Rail route (only visible to UK Power Networks and their immediate contractors)
	Not applicable	High pressure pipelines in the general vicinity (only visible to UK Power Networks and their immediate contractors)
Note: Pipelines are only viewable on NetMAP by UK Power Networks staff and their immediate contractors. Do not carry out any excavation without consent from the relevant agency - legally protected high pressure petroleum products pipeline route in the general vicinity - consult www.linewatch.co.uk for contacts and guidance. Pipeline contact numbers can also be found on the intranet – out of hours, contact our Control Centre.		
	Not applicable	Water - surface water (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Water - Source Protection Zone 1 (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Water - Source Protection Zone 2 (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Water - Source Protection Zone 3 (only visible to UK Power Networks and their immediate contractors)

section continued on next page

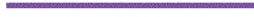
Scenery for UK Power Networks use only - boxed in red		
NetMAP system	Scanned image	Description
	Not applicable	Historical - Scheduled Monuments (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Historical - Parks and Gardens (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Historical - Areas of Archaeological Potential (AAP) (only visible to E UK Power Networks and their Immediate contractors)
	Not applicable	Nature - Ramsar Wetlands of International Importance (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Nature - Special Area of Conservation (SAC) (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Nature - Special Protected Area (SPA) (only visible to UK Power Networks and their immediate contractors)
		Nature - Site of Special and Scientific Interest (SSSI) (only visible to UK Power Networks and their immediate contractors)
section continued on next page		

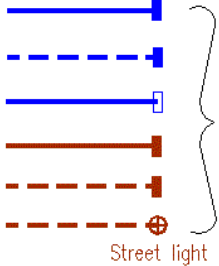
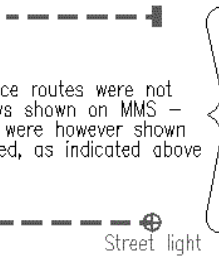
Scenery for UK Power Networks use only - boxed in red		
NetMAP system	Scanned image	Description
	Not applicable	Nature - Local Nature Reserve (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Nature - National Nature Reserve (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Nature - Area of Outstanding Natural Beauty (AONB) (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Nature - National Park (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Fluid filled cables - very high sensitivity (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Fluid filled cables - high sensitivity (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Fluid filled cables - medium sensitivity (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Fluid filled cables - low sensitivity (only visible to UK Power Networks and their immediate contractors)

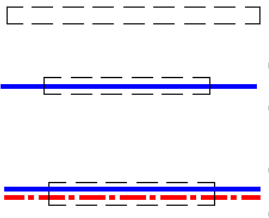
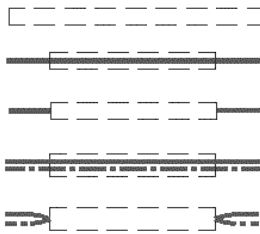
Primary distribution cables (1:500 view)

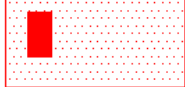
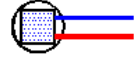
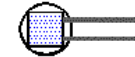
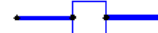
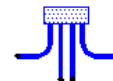
NetMAP system	Scanned image	Description
		Over 33kV and up to 132kV
		Over 11kV and up to 33kV

Secondary distribution cables (1:500 view)

NetMAP system	Scanned image	Description
		Over 230/400V and up to 11kV (HV) cable route
		230/400V (LV) cable route
		Pilot cable route
(Only shown this way if independent from HV cable route)		
Abandoned cables are shown and labelled as such when applicable		

Service cables and terminations (1:500 view)		
NetMAP system	Scanned image	Description
		3 phase service with termination 3 phase service with termination (unknown route) 3 phase service with multi-head termination Single phase service with termination Single phase service with termination (route unknown) Street lighting cable and termination

Cable ducts (1:500 view)		
NetMAP system	Scanned image	Description
		Empty duct Cable(s) in duct(s) Cable(s) in duct(s) (on some raster maps) Multiple cables in ducts Multiple cables in ducts (on some raster maps)

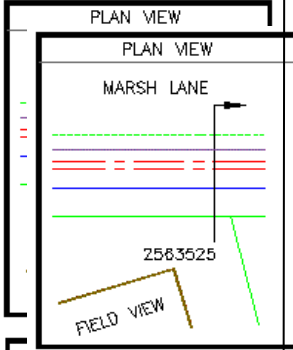
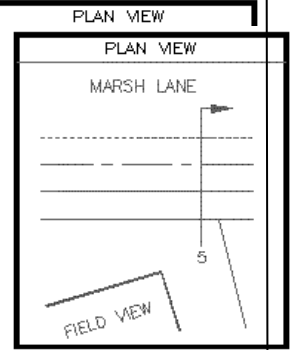
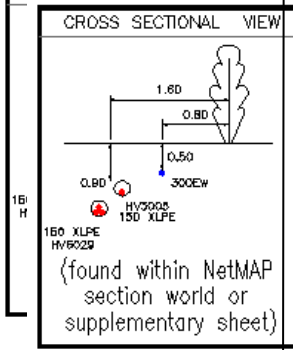
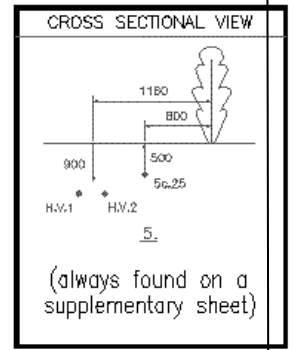
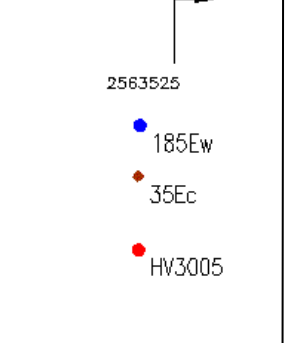
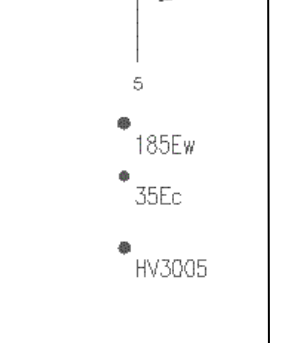
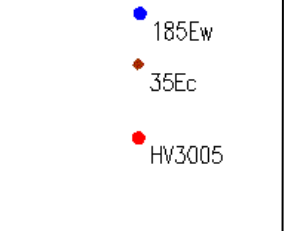
EHV, HV and LV sites (1:500 view)		
NetMAP system	Scanned image	Description
COLCHESTER GRID 	COLCHESTER GRID 	Primary substation
 HIGH STREET	 HIGH STREET  HIGH STREET	Secondary substation
		Pad mounted substation
		Link box – 2 way
		Link box – 4 way (6 way etc shown similarly)
		Feeder pillar – 4 way (6 way etc shown similarly)
CHURCH RD 	CHURCH RD 	Pole transformer
		Poles on underground records
		
		H pole, any voltage
		Service turret (solid type)
section continued on next page		

EHV, HV and LV sites continued (1:500 view)		
NetMAP system	Scanned image	Description
No NetMAP equivalent  CAUTION Missing Information	 No equivalent	Service turret (with link facility on LV main) Missing data in or near this location
 Contaminated Land refer to SHE 01 016	Not applicable	Contaminated land reference

Mains joints (1:500 view)		
NetMAP system	Scanned image	Description
(voltage indicated by colour/line-style)		
		Straight joint
		Crutch joint
		Straight crutch joint
		Pot end
		Pot end – on one of several cables – single line representation
		Branch joint/pot end – (humpty back joint, back to back joint, bull nose joint or stub joint)
		Sleeve repair or repair joint
		Cut end
		Capped end
		Tee joint
	NetMAP/vector only	Sicame joint box

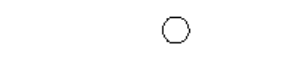
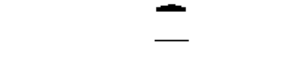
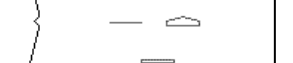
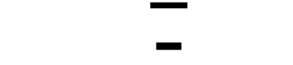
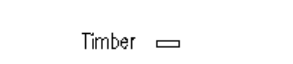
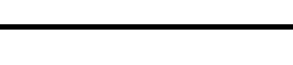
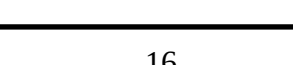
Service joints (1:500 view)		
NetMAP system	Scanned image	Description
Please note that 3 phase services are shown blue, and single phase services are shown brown		
		Straight joint
		Service joint to main
		Pot end

Cross sections (1:500 view)

NetMAP system	Scanned image	Description
		Single line representational plan view with NetMAP equivalent (please note the use of separate line for each voltage on the raster/MMS data)
 (found within NetMAP section world or supplementary sheet)	 (always found on a supplementary sheet)	Cross sectional view of above
		Section arrow with old/new numbering system – points in direction section is viewed
		LV/3 phase service cable Single phase service cable with size annotation HV cable – 3 core with route number annotation

section continued on next page

Cross sections continued (1:500 view)

NetMAP system	Scanned image	Description
		HV cable – modern EPR, Plam and Triplex with route number annotation
		Pilot cable
		33kV cable
		132kV cable
		Single duct
		6 way duct formation – irrespective of duct type and material, all are displayed similarly
		Protective slab
		Tiles
		Concrete slabs
		33kV fibre warning board
		Steel plate
		Plastic tile tape
		Timber

Common abbreviations and terminology (all views)

Abbrev.	Description	Abbrev.	Description
1c	Single core	Cut out or C/O	Meter/main fuse position
1ph	Single phase	cx	Triplex (copper)
2c	Two core	DE	Direct earth
3c	Three core	DSTA	Double steel tape armoured
3ph	Three phase	Ea	Alpex cable
ABC	Aerial bunched (bundled) conductor (modern LV overhead line)	EFI	Earth fault passage indicator
ABI	Air break isolator (no fuses)	EHV	Extra high voltage (11,001 Volts and over)
ABSD	Air break switch disconnect	ELCB	Earth leakage circuit breaker
ACCS	Aluminium concentric copper sheathed	ELT	Earth leakage trip
Al	Aluminium	EPR	Ethylene propylene rubber
AR	Auto recloser	Ew	Waveform cable
ASL	Automatic sectionalising links	E/W	Earthenware duct or earth wire
ax	Triplex (aluminium) 2 x 22mm AL PVC (example) Duplex 3 x 22mm AL PVC (example) Triplex	Fdr or Feeder	LV or HV cable fed by or feeding a substation
CB	Circuit breaker	F/G	Fuse gear
c/c	Concentric cores	F/P	Feeder pillar
ccc	Compact covered conductor	GRP	Fibreglass substation
CCT	Circuit	GVR	Gas vacuum recloser or pole mounted circuit breaker
CNE	Combined neutral and earth	HV	High voltage (1,001 – 11,000 Volts incl)
Cross phased	The core colour may be different to originating transformer phasing	HYBRID	Modern plastic cable with mixed conductor material (Al/Cu)
CS	Consac	Insulation	Electrically protective material surrounding a conductor
CSE	Cable sheath earth	Insulator	Porcelain or glass overhead line support (on poles)
Cu	Copper	ITC	Instrument traced cable or ITC - cable traced electronically using Cable Avoidance Tool (CAT) or similar

section continued on next page

Common abbreviations and terminology continued (all views)

Abbrev.	Description	Abbrev.	Description
Jumper	Connecting lead between open points, section points and overhead plant	PICAS	Paper insulated corrugated aluminium sheath armoured
kV	Kilovolt (or 1,000 Volts) – unit of electrical pressure	PILC	Paper insulated lead covered
kW	Kilowatt (1,000 Watts) – unit of electrical power	PILSTA	Paper insulated lead covered steel tape armoured cable
kVA	Kilovolt Amps or power	PL	Plain lead or public lighting
Link box or LB	Means of connecting LV feeders together using links or fuses	PME	Protected multiple earth or CNE
LSF	Low smoke & fume	PMT	Pole mounted transformer
LV	Low voltage (up to 1,000 Volts incl)	PMR	Pole mounted recloser (generic term for OYT/GVR)
LV Pillar	Low voltage fuse distribution board	PT	Pole transformer
Neutral	Return path of live cable	PVC	Polyvinyl chloride
O/H or OHL	Overhead line	RMU	Ring main unit
OYS	Oil filled pole mounted sectionaliser	RN	Reduced neutral
OYT	Oil filled pole mounted recloser	s/c	Split concentric or single core
PC400	Pole mounted LV fuse unit	S/L	Street light
PE	Pot end or potential end – joint on cable end	S/S	Substation
Phase	Usually the core colour of a cable (caution – may be cross phased) – Red, Yellow, Blue on old cables, or L1, L2, L3 on new cables, for example	STA	Steel tape armoured
		SWA	Steel wire armoured
		T1 or T2 etc	Substation TX setup where more than one TX exists
		T/F or TX	Transformer
		Volts	Unit of electrical pressure
		Watts	Unit of electrical power
		XLPE	Cross linked polyethylene

1:2500 & 1:10000 view - overhead networks - for UK Power Networks use only - boxed in red

General

NetMAP system	Scanned image	Description
		H pole
		Pole

1:2500 scale LV network

NetMAP system	Scanned image	Description
No NetMAP equivalent		132kV cable route
No NetMAP equivalent		33/22kV cable route
No NetMAP equivalent		11kV underground cable
		132kV overhead line
		33kV overhead line dots mark pole position
		11kV overhead line – dots mark pole position
		Dual construction – dots mark pole position
		LV overhead line – dots mark pole position
No NetMAP equivalent		LV underground cable
		Pole and stay
		Pole and strut
		Voltage regulator
		Static balancer
		Example of struts and stays
		Flying stay
		Earthed pole in PME system
261	261	Pole number
		Ground type substation
S.P.	S.P.	Section pole
S.L.	S.L.	Street light

section continued on next page

1:2500 scale LV network continued

NetMAP system	Scanned image	Description
O.R. Stay	O.R. Stay	Outrigger stay
Ext. Brkt	Ext. Brkt	Extension bracket
P. Box	P. Box	Pole box
N.E.	N.E.	Neutral and earth
O.R. Brkt	O.R. Brkt	Outrigger bracket

1:10000 scale HV network

NetMAP system	Scanned image	Description
		132kV overhead line
		33kV overhead line dots mark pole position
		11kV overhead line – dots mark pole position
		11kV overhead line – dual circuit – dots mark pole position
		11kV underground cable and EHV
		Pylon HV or EHV
		Grid line tower
		Stay
		Ground type substation
		Pole type transformer
		Live line taps
		Switchgear – all types
		Fuse gear
		Auto recloser – live line connected

The above circular substation/switchgear symbols may be found that contain different combinations of apparatus (see last example)

LV network diagram view-for UK Power Networks use only-boxed in red

Overhead lines

NetMAP system	Description
	Unknown
	Al
	Cu
	ABC
	Pole link

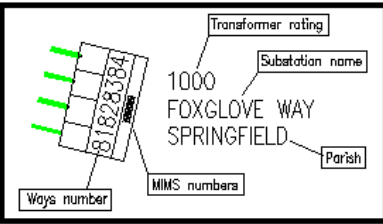
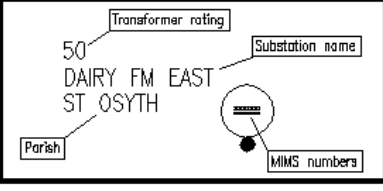
Underground cables (LV network diagram view)

NetMAP system	Description
	Unknown
	Al
	Cu
	CC
	TCC
	Ea
	Ec
	Ecx
	Ew
	LSF
	Other

Joints (LV network diagram view)

NetMAP system	Description
	Pot end or Sicame Box
	Straight joint
	Crutch joint
	3 phase termination

Substations/pole transformers (LV network diagram view)

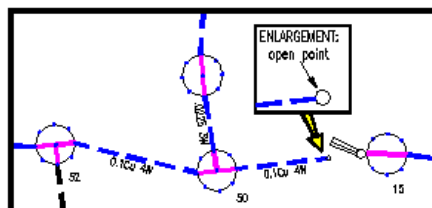
NetMAP system	Description
There are many substation combinations – these are merely a sample of configurations that can be found.            	2 way substation 4 way substation 4 way twin busbar substation 10 way back to back substation Pole transformer (normal) Pole transformer 2 way Pole transformer 3 way Substation with rating, name, Parish and MIMS identifying number Pole transformer with rating, name, Parish and MIMS identifying number Intermediate pole Section pole Overhead fuse

section continued on next page

Substations/pole transformers cont'd (LV network diagram view)

NetMAP system

Description



Overview – the purple lines through the section poles are pole links – these indicate how the network is linked together



2 way link box



3 way link box



4 way link box



4 way double busbar link box



4 way BICC link box



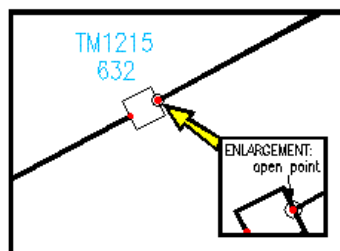
5 way link box



6 way link box



6 way double busbar link box



A two way link box with identification number, connected to a cable with an open point



Feeder pillars – these range from 2 ways through to 9 ways – a 9 way and a 2 way are shown as examples





Be Bright

Stay Safe

Stop!
Think before
you dig!



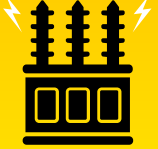
Your life can be lost within seconds if you come into contact with electricity.

Every year, people are killed or seriously injured when they come into contact with high voltage electricity.

This can have a far-reaching and devastating effect on family, friends and colleagues.

Distractions, working long hours, rushing to get the job done, can all impact on how we work and our safety.

Taking time to plan, being prepared and focusing on the way we work can help keep us safe.

 WOODEN POLES CAN CARRY TELEPHONE AND ELECTRICITY WIRES. NEVER ASSUME THE WIRE IS A TELEPHONE WIRE	 LINES CAN BE RE-ENERGISED AT ANY TIME	400,000 VOLTS ELECTRICITY SYSTEMS CARRY VOLTAGE UP TO 400,000 VOLTS. EVEN 230 VOLTS (DOMESTIC VOLTAGE) CAN BE LETHAL
Be Bright  Stay Safe UK Power Networks Delivering your electricity 		 RUBBER BOOTS WILL NOT PROTECT YOU!
OUR NETWORK DISTRIBUTES ELECTRICITY THROUGH UNDERGROUND CABLES, PYLONS, OVERHEAD POWER LINES, SUBSTATIONS AND OTHER EQUIPMENT 		National power cut helpline POWER CUT? CALL 105 OR CALL US 24 HOURS A DAY ON 0800 31 63 105
TAKE NOTICE OF ANY YELLOW 'DANGER OF DEATH' WARNING SIGNS. AND STAY WELL AWAY! 	REMEMBER ELECTRICITY CAN JUMP GAPS  OVERHEAD POWER LINES ARE OFTEN UNINSULATED (BARE)   CARRY OBJECTS AND EQUIPMENT HORIZONTALLY AND AT LOW LEVEL TO THE GROUND	
		CABLES ARE OUT OF SIGHT ALWAYS REQUEST CABLE PLANS BEFORE STARTING WORK  TOUCHING ANYTHING IN CONTACT WITH ELECTRICAL EQUIPMENT, EVEN THE LOWEST OF VOLTAGES, CAN BE FATAL 

The electricity network is designed to keep you safe. But how safe are you when you are working?

UK Power Networks is the country's biggest electricity distributor, making sure the lights stay on for more than eight million homes and businesses across London, the South East and the East of England.

The safety of our customers and staff is our top priority.

Underground cables carry a powerful electrical charge which can be conducted through machinery and equipment with fatal consequences. Anyone working close to live underground cables should take the time to read this simple leaflet and identify the precautions they should be taking.

Keep well away - Electricity can kill



Remember:

- The depth and location of cables and services shown on the plans may have changed because of subsequent site alterations
- Be aware that **not all** cables and services may be shown on the plans
- Cables do not run in straight lines. Underground cables may be deflected around underground obstacles and can change depth
- Wear Personal Protective Equipment to minimise the harm of electric shock and burns

If you are building a permanent or temporary structure within close proximity of power lines it's a legal requirement* you notify us in advance to ensure your building is kept at a safe distance from power lines, and to avoid the need to relocate our equipment in the future. This can be done by completing a simple form here www.ukpowernetworks.co.uk/notifyus

*Regulation 18(3) of the Electricity, Quality & Continuity Regulations 2002 (ESQCR)



How can we help?

If you work or live in the UK Power Networks area contact us or look on our website. We provide free information and advice about the precautions and safe working practices to be followed when working close to electrical equipment.

Further advice and guidance is available from the Health and Safety Executive (HSE):

HSG85 - Electricity at Work – Safe Working Practices

GS6 - Avoiding Danger from Overhead Power Lines

HSG47 - Avoiding Danger from Underground Services

What to do in an emergency

If a mains electricity cable is damaged:

- **STOP WORK IMMEDIATELY**
- Notify UK Power Networks: Dial 105
- If you damage a cable, stay calm, keep clear, and call for help
- Call the emergency services if anyone is injured or there is a fire. Anyone who has received an electric shock should go to hospital as damage may have occurred to the heart
- Always treat the cable(s) as live even if they are not sparking
- Never remove anything that is stuck or in contact with the cable
- Stay clear - keep everyone away until assistance arrives



To request your FREE vehicle cab stickers visit the safety pages at www.ukpowernetworks.co.uk

If you are unsure who your network operator is then please visit www.energynetworks.org

Be Bright

Stay Safe

You could be in danger when carrying out your everyday trades activities such as digging, construction and demolition.

- ⚡ Contact UK Power Networks or Line Search Before U Dig (LSBUD) in advance of the works to obtain relevant cable plans or to request disconnections. The cable plans will only show the indicative route and not the route into the property
- ⚡ Ensure the cable plans are shown to and understood by those on site **BEFORE** starting work
- ⚡ Confirm the cable location by using a Cable Avoidance Tool (CAT) before digging commences. Once found, mark cable positions with spray paint or similar
- ⚡ Complete a risk assessment and ensure it covers electrical hazards
- ⚡ Use spades and shovels with insulated handles in preference to forks and picks
- ⚡ Look around for anything in the vicinity that would have an electricity service such as street lights, CCTV cameras, or meter boxes and identify where the cables are
- ⚡ Look for electrical wires, cables and equipment near to where you are going to work and check for warning signs and any other hazards
- ⚡ Contact UK Power Networks to agree a safe method of work if there is a cable encased in concrete, **DO NOT BREAK OPEN**
- ⚡ Make sure everyone on site is aware of the presence and location of electrical cables
- ⚡ Before demolishing a building make sure supplies are disconnected, preferably well clear of the work area. For guidance on how to arrange a disconnection visit www.ukpowernetworks.co.uk

For cable plans visit
www.lsbud.co.uk or
www.ukpowernetworks.co.uk

NATIONAL POWER CUT HELPLINE

**POWER CUT?
CALL 105**

ADD THIS NUMBER TO YOUR
TELEPHONE CONTACTS LIST



Stop! Think before you dig!

#bebrightstaysafe



@UKPowerNetworks



/ukpowernetworks

National power cut helpline

**POWER CUT?
CALL 105**



Or call us
24 hours a day on
0800 31 63 105

For safety advice about overhead power lines,
disconnections and general enquiries, go to:
www.ukpowernetworks.co.uk

To request your **FREE** vehicle cab stickers visit the
safety pages at **www.ukpowernetworks.co.uk**

If you are unsure who your network
operator is then please visit
www.energynetworks.org



what3words

To report broken or damaged electrical
equipment or in an emergency call 0800
31 63 105 or 105 and use what3words
to help us locate you faster.



Enquirer

Name	Miss Lauren Wenham	Phone	01604 781877
Company	Soiltechnics Ltd	Mobile	Not Supplied
Address	Cedar Barn White Lodge Walgrave NTH NN6 9PY		
Email	admin@soiltechnics.net		

Enquiry Details

Enquiry type	Planned Works
Work category	Development Projects
Work type	Piling
Work type buffer*	150 metres
Start date	22/01/2025
End date	22/01/2025
Scheme/Reference	STX6902
Search location	XY= 521624, 222295
Confirmed location	521609 222252
Site size	0 metres square
Site Contact Name	Rosie Dean - Soiltechnics Limited
Site Phone No.	01604781877
Description of Works	boreholes

* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen.

Site Map


Please note that the above map only displays the location of the proposed work site and will not display any of the Members' pipes and cables. It is imperative that this area accurately reflects the proposed work site.

Affected LSBUD members

(LSBUD Members who have assets registered on LSBUD within the vicinity of your search area.)

Do not proceed until all Members listed below have confirmed that your works can continue.

Asset Owner	Phone/Email	Emergency Only	Status
Cadent Gas	0800688588	0800111999	Await response
UK Power Networks	08000565866	08000565866	Await response

Status explanation

Await Response means that the asset owner will contact you. This is typically by sending the plan response but they may ask for further information before being able to do so, particularly if any payments or authorisations are required.

Email Additional Info means that the asset owner needs further information about your works to assess your enquiry before providing a response. Please provide any details you have available including plans, method statements etc. if available.

Important notices

It is very important that you correctly understand what the service does and the procedures in order for you to work safely. Please refer to the LSBUD Support Page (www.lsbud.co.uk/lineasearchbeforeudig-support) for further guidance.

This information includes how to provide additional information to the LSBUD Members who request it to provide a response to your enquiry.

Validity and search criteria. The results of this enquiry are based on the confirmed information you entered and are valid only as at the date and time of the enquiry. It is your responsibility to ensure that the Enquiry Details are correct, and LineasearchbeforeUdig (LSBUD) accepts no responsibility for any errors or omissions in the Enquiry Details or any consequences thereof. LSBUD Members update their asset information on a regular basis so you are advised to consider this when undertaking any works. It is your responsibility to choose the period of time after which you need to resubmit any enquiry but the maximum time (after which your enquiry will no longer be dealt with by the LSBUD Helpdesk and LSBUD Members) is 28 days. If any details of the enquiry change, particularly including, but not limited to, the location of the work, then a further enquiry must be made.

Terms and Conditions. Please note that this enquiry is subject always to our standard terms and conditions available at www.lsbud.co.uk ("Terms of Use") and the disclaimer at the end of this document. Please note that in the event of any conflict or ambiguity between the terms of this Enquiry Confirmation and the Terms of Use, the Terms of Use shall take precedence.

List of not affected LSBUD members (LSBUD Members who do not have assets registered on the LSBUD service within the vicinity of your search area.)

AllPoints Fibre	Angus Energy	AWE Pipeline
B & D Energy Limited	Balfour Beatty Investments Limited	BOC Limited (A Member of the Linde Group)
Box Broadband	BP Exploration Operating Company Limited	BPA
Cambridge Water	Cambridgeshire County Council Climate Change and Energy Services	CATS Pipeline c/o Wood Group PSN
Cemex	Centrica Storage Ltd	CNG Services Ltd
Concept Solutions People Ltd	ConocoPhillips (UK) Teesside Operator Ltd	D.S.Smith
Diamond Transmission Corporation	DIO (MOD Live Pipelines)	Drax Power Limited
EDF Energy Renewables Ltd	EET Fuels	EirGrid
Eleclink Limited	Electricity North West Limited	Energy Assets Networks
ENI & Himor c/o Penspen Ltd	EnQuest NNS Limited	EP Langage Limited
ESB CCGT Power station (Carrington Gas Pipeline)	ESP Utilities Group	Esso Petroleum Company Limited
euNetworks Fiber UK Ltd	EXA Infrastructure	Exolum Pipeline System
Fulcrum Electricity Assets Limited	Fulcrum Pipelines Limited	G.Network Communication Ltd c/o JSM Group Ltd
Gamma	Gas Networks Ireland (UK)	Gateshead Energy Company
Gigaclear Ltd	Greenlink Interconnector Ltd	Harbour Energy
Heathrow Airport LTD	Humbly Grove Energy	IGas Energy
INEOS FPS Pipelines	INEOS Manufacturing (Scotland and TSEP)	INOVYN ChlorVinyls Limited
INOVYN Enterprises Limited	Intergen (Coryton Energy or Spalding Energy)	Kensa Utilities
Last Mile	Liverpool City Region Connect	Mainline Pipelines Limited
Manchester Jetline Limited	Manx Cable Company	Marchwood Power Ltd (Gas Pipeline)
Melbourn Solar Limited	MUA Group Limited	National Gas Transmission
National Grid Electricity Distribution	National Grid Electricity Transmission	National Grid Ventures
Neos Networks	Northern Gas Networks Limited	Northumbrian Water Group
NPower CHP Pipelines	NTT Global Data Centers EMEA UK Ltd	NYnet Ltd
Ogi	Oikos Storage Limited	Ørsted
Palm Paper Ltd	Perenco UK Limited (Purbeck Southampton Pipeline)	Petroineos
Phillips 66	Portsmouth Water	Premier Transmission Ltd (SNIP)
Redundant Pipelines - LPDA	RWE - Great Yarmouth Pipeline (Bacton to Great Yarmouth Power Station)	RWEnpower (Little Barford and South Haven)
SABIC UK Petrochemicals	SAS Utility Services Ltd	Scottish and Southern Electricity Networks
Scottish Power Generation	Seabank Power Ltd	SES Water
SGN	Shell	Shell NOP

South Staffs Water	SP Energy Networks	Spring Fibre Limited
Squire Energy Networks	SSE Generation Ltd	SSE Transmission
SSE Utility Solutions Limited	Storengy	Tata Communications (c/o JSM Construction Ltd)
TfL – London Underground HV Cables (Road & Track Side Cables)	toob Limited	Total (Colnbrook) c/o Penspen
Total Finaline Pipelines	Transmission Capital	Trojan Energy Limited
Uniper UK Ltd	University of Cambridge Granta Backbone Network	Vattenfall
Veolia ES SELCHP Limited	Veolia ES Sheffield Ltd	Voneus Limited
VPI Power Limited	Wales and West Utilities	Welsh Power
West of Duddon Sands Transmission Ltd	West Sussex OpenNetwork (Cooperative National Infrastructure)	Westminster City Council
Winnington CHP Ltd	Zayo Group UK Ltd c/o JSM Group Ltd	

Non-LSBUD members (Asset owners not registered on LSBUD)

(The following Non-LSBUD Members may have assets in your search area. It is **YOUR RESPONSIBILITY** to contact them before proceeding.)

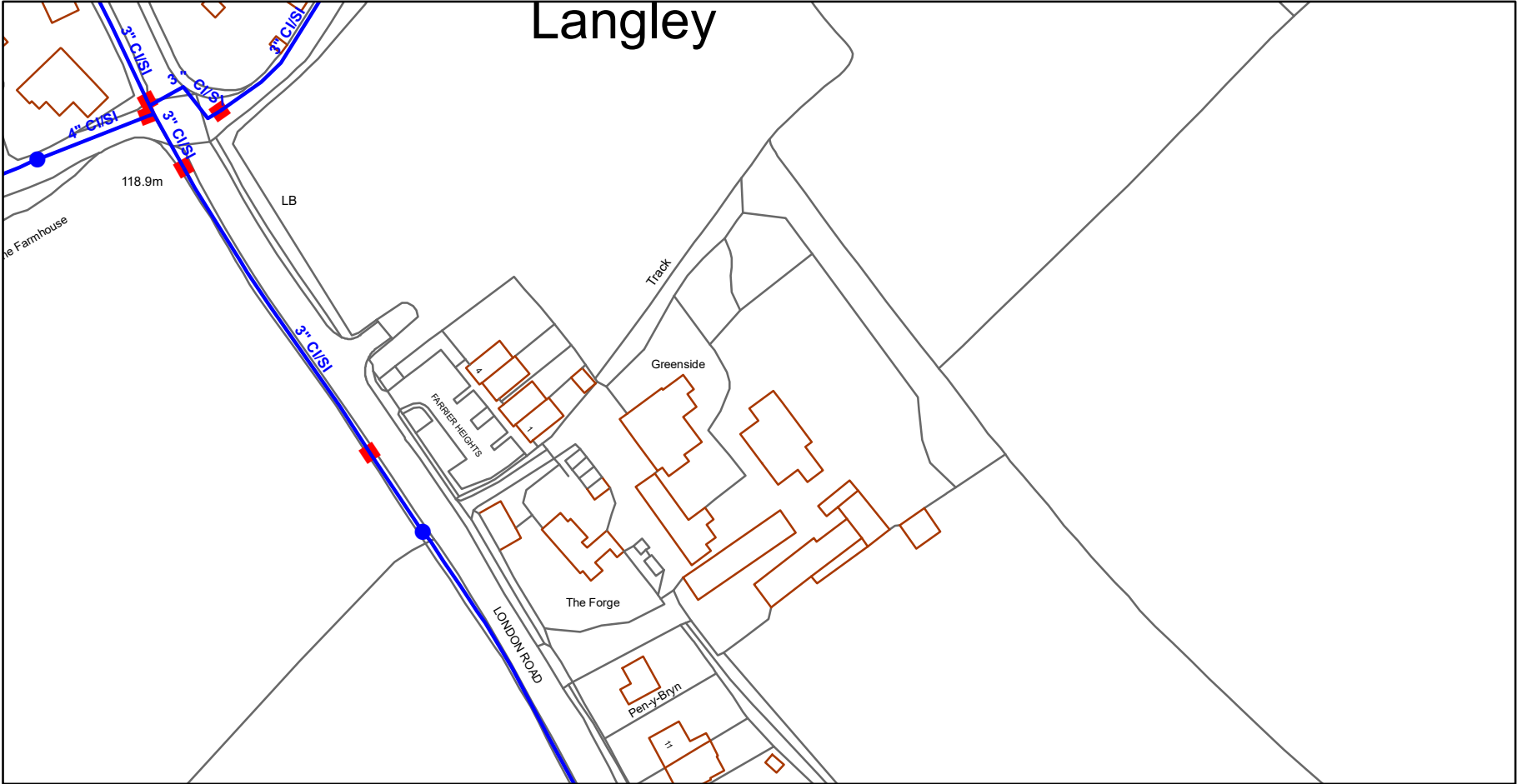
Please be aware this list is not exhaustive and it is your responsibility to identify and contact all asset owners within your search area.)

Asset Owner	Preferred contact method	Phone	Status
Affinity Water	maps@affinitywater.co.uk	03453572428	Not Notified
Anglian Water	http://www.digdat.co.uk	01480323891	Not Notified
Bring Energy	nrsua@bringenergy.com	0800 130 3600	Not Notified
BT	https://www.swns.bt.com/pls/mbe/welcome.home	08000232023	Not Notified
CityFibre	asset.team@cityfibre.com	033 3150 7282	Not Notified
Colt	plantenquiries@catelecomuk.com	01227768427	Not Notified
GTC	https://pe.gtc-uk.co.uk/PlantEnqMembership	01359240363	Not Notified
Hertfordshire County Council	highway.structures@hertfordshire.gov.uk	01992556121	Not Notified
Lumen Technologies	plantenquiries@ocugroup.com	02087314613	Not Notified
Mobile Broadband Network Limited	mbnl.plant.enquiries@turntown.com	01212 621 100	Not Notified
Sky UK Limited	nrsua@sky.uk	02070323234	Not Notified
Sota	sota.plantenquiries@ocugroup.com		Not Notified
Utility assets Ltd	assetrecords@utilityassets.co.uk		Not Notified
Verizon Business	osp-team@uk.verizonbusiness.com	01293611736	Not Notified
Virgin Media	http://www.digdat.co.uk	08708883116	Not Notified
Vodafone	osm.enquiries@atkinsglobal.com	01454662881	Not Notified

Disclaimer

Please refer to LSBUD's Terms of Use for full terms of use available at www.lsbud.co.uk

The results of this Enquiry are personal to the Enquirer and shall not be shared with or relied upon by any other party. The asset information on which the Enquiry results are based has been provided by LSBUD Members, therefore LSBUD will provide no guarantee that such information is accurate or reliable nor does it monitor such asset information for accuracy and reliability going forward. There may also be asset owners which do not participate in the enquiry service operated by LSBUD, including but not exclusively those set out above. Therefore, LSBUD cannot make any representation or give any guarantee or warranty as to the completeness of the information contained in the enquiry results or accept any responsibility for the accuracy of the mapping images used. LSBUD and its employees, agents and consultants accept no liability (save that nothing in this Enquiry Confirmation excludes or limits our liability for death or personal injury arising from our negligence, or our fraud or fraudulent misrepresentation, or any other liability that cannot be excluded or limited by English law) arising in respect thereof or in any other way for errors or omissions including responsibility to any person by reason of negligence.



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Plans are the property of Affinity Water Limited and may not be reproduced or distributed in any form (or any part) without the written permission of Affinity Water Limited.
Plans are continuously being updated, so out of date plans should be destroyed and not relied upon. The position of apparatus shown on this plan is provided for guidance only and should not be relied upon as being precise.
Therefore the Company accepts no responsibility in the event of inaccuracy. Service pipes are not necessarily shown on this plan. Cover is normally 915mm for mains and 750mm for communication pipes but this may vary.
The actual position of apparatus must be determined on site by making hand dug trial holes. The Company requires a minimum of two working days notice of the intention to excavate trial holes.
Except where prior written permission has been obtained, it is an offence under Section 174 of the Water Industry Act 1991 to operate or interfere with any valves, hydrants or other apparatus vested in Affinity Water.

XY: 521621,222303
NGR: TL2122NE
L&L: 51.886,-0.2343

1:1,250

Page Size = A4

This map was created by the Affinity Water Asset Information Team, Tamblin Way, Hatfield, AL10 9EZ



	Distribution Main		Hydrant
	Asbestos Distribution Main		Fitting
	Abandoned Main		Easement
	Asbestos Abandoned Main		Company Boundary
	Adit / Tunnel		
	Cable		

Our Ref: 36039623 Your Ref: STX6902

Tuesday, 21 January 2025

Lauren Wenham
Cedar Barn White Lodge
Walgrave
NTH
NN6 9PY

Dear Lauren Wenham

Thank you for contacting us regarding UK Power Networks equipment at the above site. I have enclosed a copy of our records which show the electrical lines and/or electrical plant. I hope you find the information useful.

I have also enclosed a fact sheet which contains important information regarding the use of our plans and working around our equipment. Safety around our equipment is our number one priority so please ensure you have completed all workplace risk assessments before you begin any works.

Should your excavation affect our Extra High Voltage equipment (6.6 KV, 22 KV, 33 KV or 132 KV), please contact us to obtain a copy of the primary route drawings and associated cross sections.

If you have any further queries do not hesitate to contact us.

Plan Provision
0800 056 5866



This information is made available to you on the terms set out below. If you do not accept the terms of use set out in this fact sheet please do not use the plans and return them to UK Power Networks.

1. UK Power Networks does not warrant that the information provided to you is correct. You rely upon it at your own risk.
2. UK Power Networks does not exclude or limit its liability if it causes the death of any person or causes personal injury to a person where such death or personal injury is caused by its negligence.
3. Subject to paragraph 2 UK Power Networks has no liability to you in contract, in tort (including negligence), for breach of statutory duty or otherwise how for any loss, damage, costs, claims, demands, or expenses that you or any third party may suffer or incur as a result of using the information provided whether for physical damage to property or for any economic loss (including without limitation loss of profit, loss of opportunity, loss of savings, loss of goodwill, loss of business, loss of use) or any special or consequential loss or damage whatsoever.
4. The information about UK Power Networks electrical plant and/or electric lines provided to you belongs to and remains the property of UK Power Networks. You must not alter it in any respect.
5. The information provided to you about the electrical plant and/or electric lines depicted on the plans may NOT be a complete record of such apparatus belonging to UK Power Networks. The information provided relates to electric lines and/or electrical plant belonging to UK Power Networks that it believes to be present but the plans are not definitive: other electric lines and/or electrical plant may be present and that may or may not belong to UK Power Networks.
6. Other apparatus not belonging to UK Power Networks is not shown on the plan. It is your responsibility to make your own enquiries elsewhere to discover whether apparatus belonging to others is present. It would be prudent to assume that other apparatus is present.
7. You are responsible for ensuring that the information made available to you is passed to those acting on your behalf and that all such persons are made aware of the contents of this letter.
8. Because the information provided to you may not be accurate, you are recommended to ascertain the presence of UK Power Networks electric lines and/or electrical plant by the digging of trial holes. Trial holes should be dug by hand only.

Excavations must be carried out in line with the Health and Safety Executive guidance document HSG 47. We will not undertake this work. A copy of HSG 47 can be obtained from the Health and Safety Executives website.

All electric lines discovered must be considered LIVE and DANGEROUS at all times and must not be cut, resited, suspended, bent or interfered with unless specially authorised by UK Power Networks.

The electric line and electrical plant belonging to UK Power Networks remains so even when made dead and abandoned and any such electric line and/or electrical plant exposed shall be reported to UK Power Networks.

Where your works are likely to affect our electric lines and/or electrical plant an estimate of the price of any protective /diversionary works can be prepared by UK Power Networks Branch at Metropolitan House, Darkes Lane, Potters Bar, Herts. , EN6 1AG, telephone no. 0845 2340040



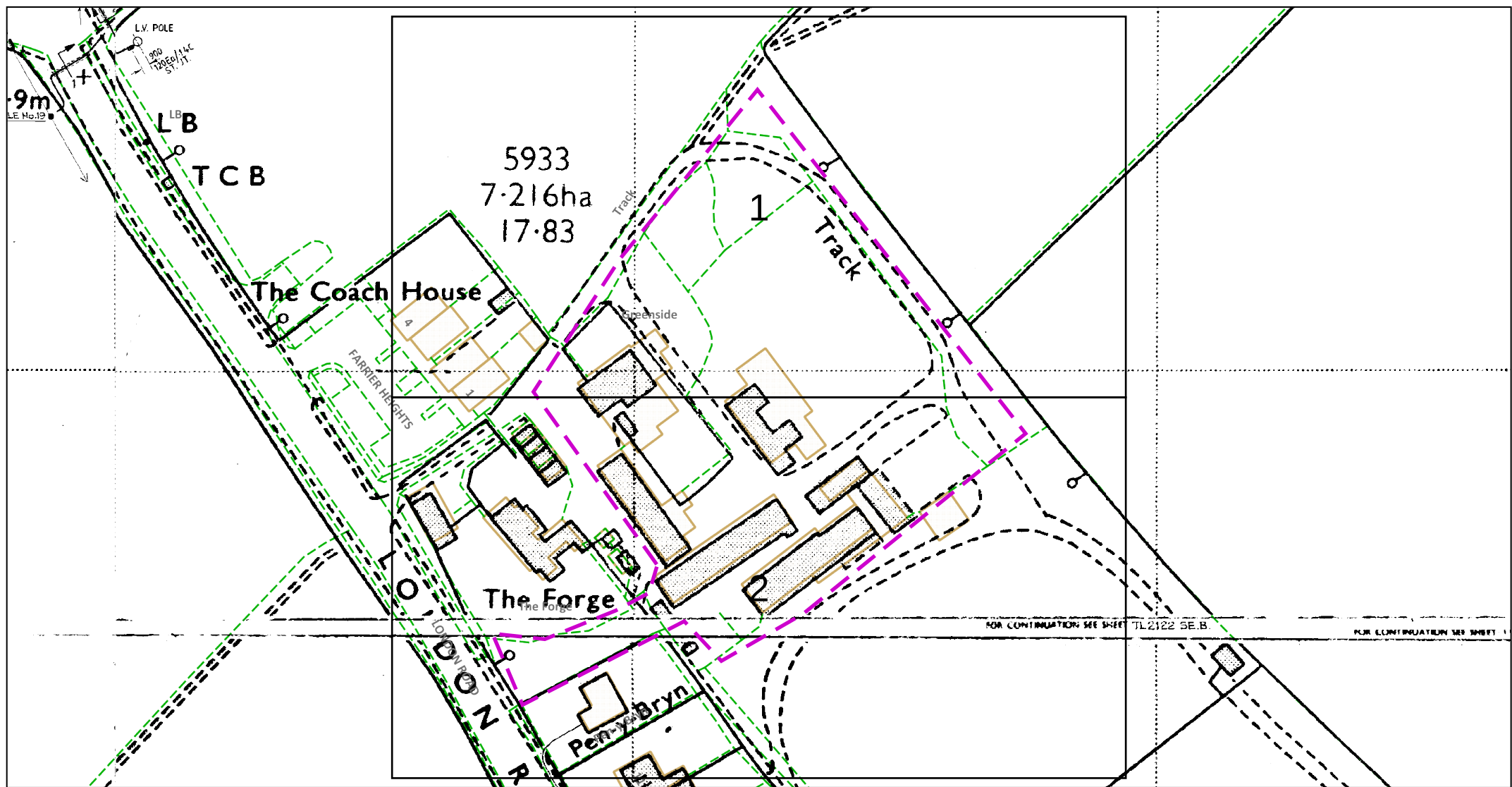
- 9 Any work near to any overhead electricity lines must be carried out by you in accordance with the Health and Safety Executive guidance document GS6 and the Electricity at Work Regulations.

The GS6 Recommendations may be purchased from HSE Books or downloaded from the Energy Networks Association's website.

If given a reasonable period of prior notice UK Power Networks will attend on site without charge to advise how and where "goal posts" should be erected. If you wish to use this service, in the first instance please telephone: 0845 6014516 between 08:30 and 17:00 Monday to Friday.

10. You are responsible for the security of the information provided to you. It must not be given, sold or made available upon payment of a fee to a third party.
11. If in carrying out work on land in, on, under or over which is installed an electric line and/or electrical plant that belongs to UK Power Networks you and/or anyone working on your behalf damages (however slightly) that apparatus you must inform immediately UK Power Networks by our emergency 24 hour three digit telephone number **105** providing;
- your name, address and telephone number;
 - the date, time and place at which such damage was caused;
 - a description of the electric line and/or electrical plant to which damage was caused;
 - the name of the person whom it appears to you is responsible for that damage;
 - the nature of the damage.
12. The expression "UK Power Networks" includes UK Power Networks (EPN) plc, UK Power Networks (LPN) plc, UK Power Networks (SEPN) plc, UK Power Networks and any of their successors and predecessors in title.





The quality and accuracy of any print will depend on your printer, your computer and its print settings. Measurements scaled from this plan may not match measurements between the same points on the ground.



This plan must be used with the attached 'Symbols' document.

Date Requested: 21/01/2025

Job Reference: 36039623

Site Location: 521572 222235

Requested by:

Miss Lauren Wenham

Your Scheme/Reference:

STX6902

Scale: 1:1025 (When plotted at A4)

1. The position of the apparatus shown on this drawing is believed to be correct but the original landmarks may have been altered since the apparatus was installed.
2. The exact position of the apparatus should be verified - use approved cable avoidance tools prior to excavation using suitable hand tools.
3. It is essential that trial holes are carefully made avoiding the use of mechanical tools or picks until the exact location of all the cables have been determined.
4. It must be assumed that there is a service cable into each property, lamp column and street sign, etc.
5. All cables must be treated as being live unless proved otherwise by UK Power Networks.
6. The information proved must be given to all people working near UK Power Networks plant and equipment. Do not use plans more than 3 months after the issue date for excavation purposes.
7. Please be aware that electric cables/lines belonging to other owners of licensed electricity distribution systems may be present and it is your responsibility to identify their location.
8. Please be aware the Low Voltage Overhead power lines are not currently displayed for the Eastern Region via this service, if you require records on the location of these please contact our Plan Provision team directly via plans@ukpowernetworks.co.uk.

1. UK Power Networks does not warrant that the information provided to you is correct. You rely upon it at your own risk.
2. UK Power Networks does not exclude or limit its liability if it causes the death of any persons or causes personal injury to a person.
3. Subject to paragraph 2 UK Power Networks has no liability to you in contract, in tort (including negligence), for breach of statutory duty or otherwise for any loss, damage, cost, claims, demands, or expenses that you or any third party may suffer or incur as a result of using the information provided whether for physical damage to property or for any economic loss (including without limitation loss of profit, loss of opportunity, loss of savings, loss of goodwill, loss of business, loss of use) or any special or consequential loss or damage whatsoever.
4. This plan has been provided to you on the basis of the terms of use set out in the covering letter that accompanies this plan. If you do not accept and/or do not understand the terms of use set out in the covering letter you must not use the plan and must return it to the sender of the letter.
5. You are responsible for the security of the information provided to you. It must not be given, sold or made available upon payment of a fee to a third party.
6. Please Note: The Overview map does not display UK Power Networks electricity network and should not be used for the location of UK Power Networks assets. For detail of the electricity network please view the relevant page as highlighted in the Overview map.

IF IN DOUBT - ASK! PHONE
0800 056 5866
EMERGENCY - If you damage a
cable or line
Phone 0800 783 8838 (24hrs)
URGENTLY



ALWAYS LOOK UP
BEFORE
YOU START WORK
Refer to HSE Guidance
note GS6

Maps produced at 1:2500 scale are Geo-Schematics which show LV mains cables and overhead lines (in some cases all voltages). Prior to carrying out excavations you must refer to the 1:500 records to determine the location of all known underground plant and equipment.



0 12.5 25 metres Dig Sites Area: Line:		The quality and accuracy of any print will depend on your printer, your computer and its print settings. Measurements scaled from this plan may not match measurements between the same points on the ground.									
This plan must be used with the attached 'Symbols' document.		1. The position of the apparatus shown on this drawing is believed to be correct but the original landmarks may have been altered since the apparatus was installed. 2. The exact position of the apparatus should be verified - use approved cable avoidance tools prior to excavation using suitable hand tools. 3. It is essential that trial holes are carefully made avoiding the use of mechanical tools or picks until the exact location of all the cables have been determined. 4. It must be assumed that there is a service cable into each property, lamp column and street sign, etc. 5. All cables must be treated as being live unless proved otherwise by UK Power Networks. 6. The information provided must be given to all people working near UK Power Networks plant and equipment. Do not use plans more than 3 months after the issue date for excavation purposes. 7. Please be aware that electric cables/lines belonging to other owners of licensed electricity distribution systems may be present and it is your responsibility to identify their location. 8. Please be aware the Low Voltage Overhead power lines are not currently displayed for the Eastern Region via this service, if you require records on the location of these please contact our Plan Provision team directly via plans@ukpowernetworks.co.uk.		1. UK Power Networks does not warrant that the information provided to you is correct. You rely upon it at your own risk. 2. UK Power Networks does not exclude or limit its liability if it causes the death of any persons or causes personal injury to a person. 3. Subject to paragraph 2 UK Power Networks has no liability to you in contract, in tort (including negligence), for breach of statutory duty or otherwise for any loss, damage, cost, claims, demands, or expenses that you or any third party may suffer or incur as a result of using the information provided whether for physical damage to property or for any economic loss (including without limitation loss of profit, loss of opportunity, loss of savings, loss of goodwill, loss of business, loss of use) or any special or consequential loss or damage whatsoever. 4. This plan has been provided to you on the basis of the terms of use set out in the covering letter that accompanies this plan. If you do not accept and/or do not understand the terms of use set out in the covering letter you must not use the plan and must return it to the sender of the letter. 5. You are responsible for the security of the information provided to you. It must not be given, sold or made available upon payment of a fee to a third party. 6. Please Note: The Overview map does not display UK Power Networks electricity network and should not be used for the location of UK Power Networks assets. For detail of the electricity network please view the relevant page as highlighted in the Overview map.		IF IN DOUBT - ASK! PHONE 0800 056 5866 EMERGENCY - If you damage a cable or line Phone 0800 783 8838 (24hrs) URGENTLY				ALWAYS LOOK UP BEFORE YOU START WORK Refer to HSE Guidance note GS6	
Date Requested: 21/01/2025 Job Reference: 36039623 Site Location: 521572 22235 Requested by: Miss Lauren Wenham Your Scheme/Reference: STX6902 Scale: 1:500 (When plotted at A4)				Maps produced at 1:2500 scale are Geo-Schematics which show LV mains cables and overhead lines (in some cases all voltages). Prior to carrying out excavations you must refer to the 1:500 records to determine the location of all known underground plant and equipment.							
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UK Power Networks Feedback Tool

Please help UK Power Networks improve the accuracy of their network records and help make it safer for all those working around them in future.

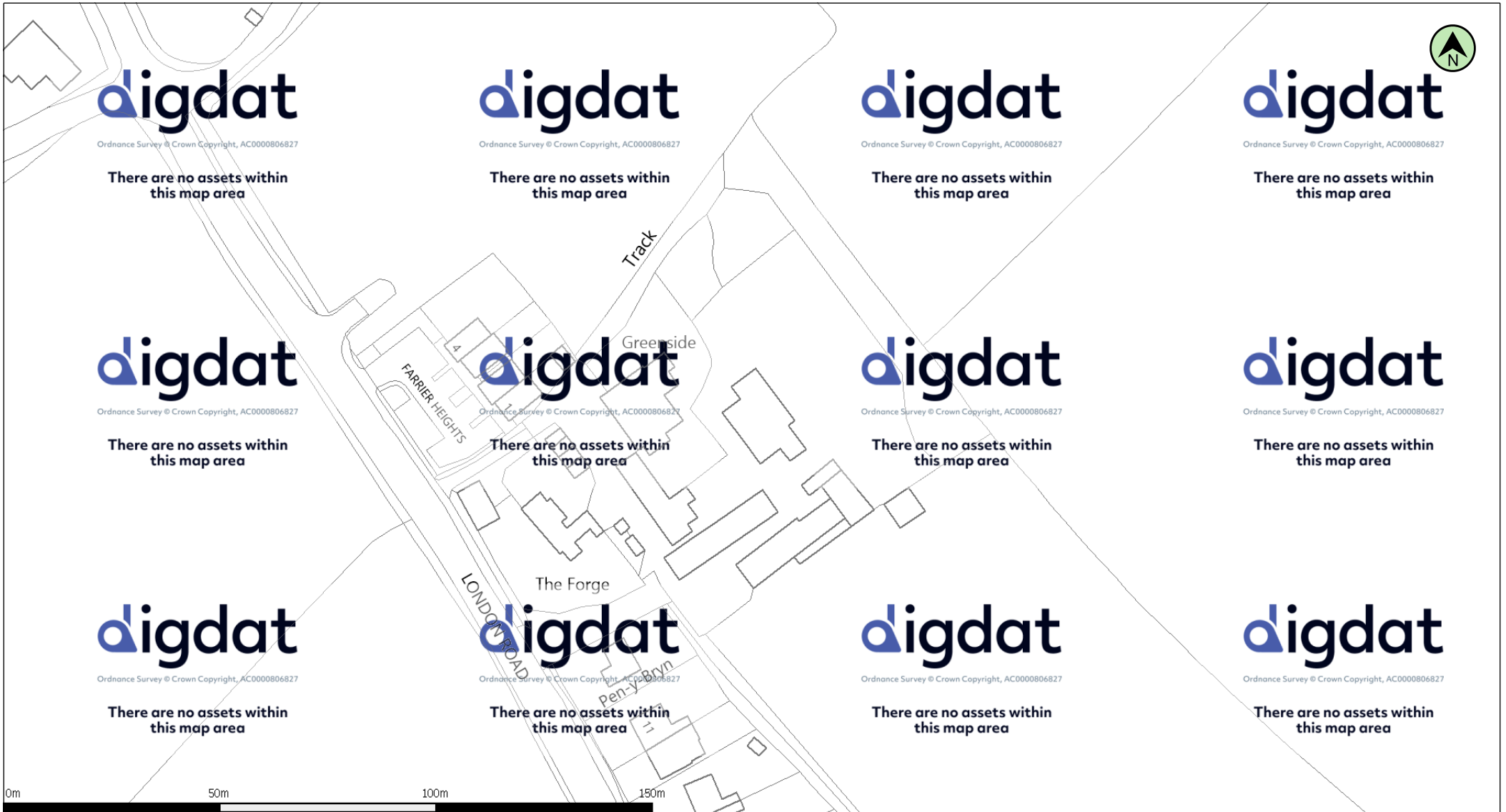
All you need to do is:

1. Use your phone camera to scan the QR code:
2. Provide feedback on what you have found on site (good or bad)
3. Upload a photo if needed



Thank you for making the area a safer place to dig.

UK Power Networks, working with LSBUD



(c) Crown copyright and database rights 2025 Ordnance Survey AC0000813445 Date: 21/01/25 Scale: 1:1250 Map Centre: 521624,222295 Data updated: 31/12/24 Our Ref: 1667098 - 1 Wastewater Plan A4 Powered by digdat

This plan is provided by Anglian Water pursuant its obligations under the Water Industry Act 1991 sections 198 or 199. It must be used in conjunction with any search results attached. The information on this plan is based on data currently recorded but position must be regarded as approximate. Service pipes, private sewers and drains are generally not shown. Users of this map are strongly advised to commission their own survey of the area shown on the plan before carrying out any works. The actual position of all apparatus MUST be established by trial holes. No liability whatsoever, including liability for negligence, is accepted by Anglian Water for any error or inaccuracy or omission, including the failure to accurately record, or record at all, the location of any water main, discharge pipe, sewer or disposal main or any item of apparatus. This information is valid for the date printed. This plan is produced by Anglian Water Services Limited (c) Crown copyright and database rights 2025 Ordnance Survey AC0000813445. This map is to be used for the purposes of viewing the location of Anglian Water plant only. Any other uses of the map data or further copies is not permitted. This notice is not intended to exclude or restrict liability for death or personal injury resulting from negligence.

Foul Sewer		Outfall*		Sewage Treatment Works	
Surface Sewer				Public Pumping Station	
Combined Sewer				Decommissioned Pumping Station	
Final Effluent		Inlet*			
Rising Main*					
Private Sewer*					
Decommissioned Sewer*		Manhole*			

*(Colour denotes effluent type)

admin@soiltechnics.net

STX6902

Appendix K Regulatory Correspondence

Lara Henwood

From: Mario Blazquez <mario.blazquez@hertfordshirebc.co.uk>
Sent: 22 January 2025 18:39
To: Rosie Dean
Subject: RE: STX6902 - Greenside, London Road, Langley

Dear Madam,

Unfortunately, we do not have records for this address. The closest records we have for soil type are flinty clay (No 13 London Rd) and standard foundations. On the other hand, we are not aware of any ground or drainage issues on this area (no sewers, foul drainage is resolved with treatment plants).

Kind regards

Mario Blazquez
Building Control Surveyor
Mobile: 07483 034499
www.hertfordshirebc.co.uk
mario.blazquez@hertfordshirebc.co.uk

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HERTFORDSHIRE BUILDING CONTROL

Campus East, Welwyn Garden City, Hertfordshire, AL8 6AE
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From: Building Control <buildingcontrol@hertfordshirebc.co.uk>
Sent: 22 January 2025 10:19

To: Mario Blazquez <mario.blazquez@hertfordshirebc.co.uk>

Subject: FW: STX6902 - Greenside, London Road, Langley

Hi Mario,

Please see the below request for any local knowledge in the Langley area - **SG4 7PP**. thanks

Kind Regards

Gianni Di Leto

Building Control Technician

T 01438 879990

E Gianni.dileto@hertfordshirebc.co.uk

Book your next inspection via WhatsApp: 07483 034482

HERTFORDSHIRE
BUILDING CONTROL

Campus East, Welwyn Garden City, Hertfordshire, AL8 6AE

Hertfordshire Building Control would love your feedback with a [Google Review](#).

Book your same-day inspection through the [LABC APP!](#)



From: Rosie Dean <Rosie.Dean@soiltechnics.net>

Sent: 22 January 2025 09:38

To: Building Control <buildingcontrol@hertfordshirebc.co.uk>

Subject: STX6902 - Greenside, London Road, Langley

EXTERNAL

Dear Sir/Madam,

We have been asked to undertake a review of a site in Langley to support the planning consent for a proposed development.

The postal address for the site is:

Greenside, London Road, Langley, SG4 7PP

The approximate site location and boundary is shown in the image attached.

As part of our investigation, it is customary to approach the Local Authority to enquire whether they have any knowledge of the local area which might impact the geotechnical design or construction methods. For example are you aware of the typical foundation solutions in the area, any adverse ground conditions, whether soakaways are used etc.

If you have any information that may be helpful to inform a full assessment of the site I would be very grateful.

Please do not hesitate to contact me with any questions.

Kind Regards,

Rosie Dean | **Administrative Assistant**

t 01604 781877 | w www.soiltechnics.net



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From: Alan Stone <alan.stone@north-herts.gov.uk>
Sent: 23 January 2025 12:28
To: Rosie Dean
Subject: Greenside, London Road, Langley Hitchin

Good afternoon,

We can undertake a search of our records of this site in relation to contamination on land.

The cost for this service is £95. Details of how to pay can be found on the NHDC website, using the link /contaminated-land-enquiries. Once payment is received we will process your request.

You, or your client, may also wish to examine the Planning pages on the NHDC website, in order to ascertain whether any investigation and/ or remediation of contamination on land has been completed under the Planning regime.

Should you wish to discuss this further, please do not hesitate to contact me.

Kind regards,

Alan Stone



Alan Stone
Senior Environmental Health
Officer
01462 474108
Alan.stone@north-herts.gov.uk
www.north-herts.gov.uk

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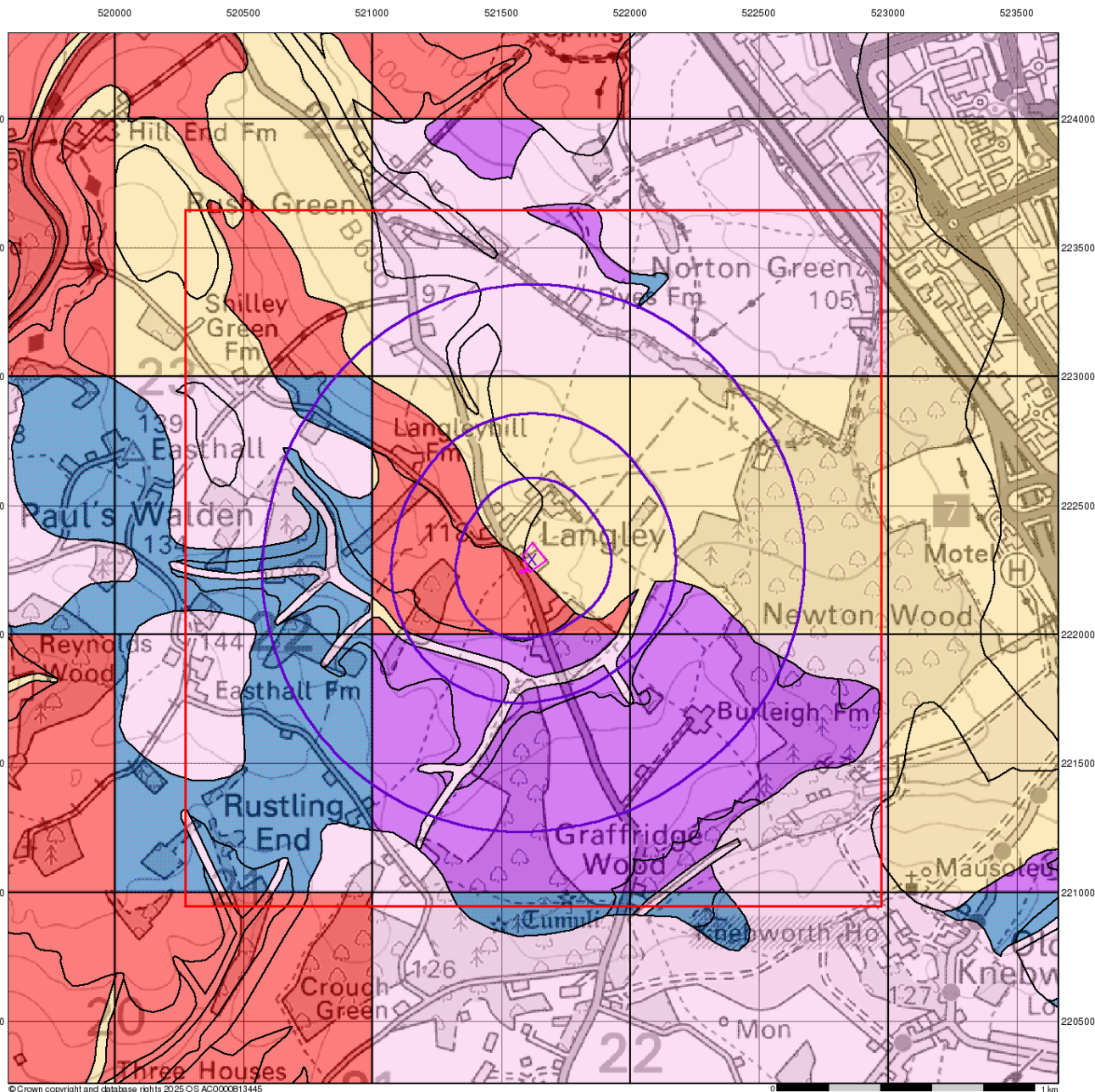
The Customer Service Centre at the Council Offices is now open on Monday-Friday 9am-5pm. If you need to speak to us, please [contact us](#) to discuss how we can help.

Received your annual Council Tax bill? It's quick and easy to [manage your account online with MyAccount](#).



Bringing **Communities** Together

Appendix L Envirocheck Report



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Groundwater Vulnerability

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Bedrock Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

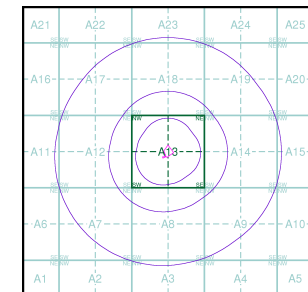
Superficial Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

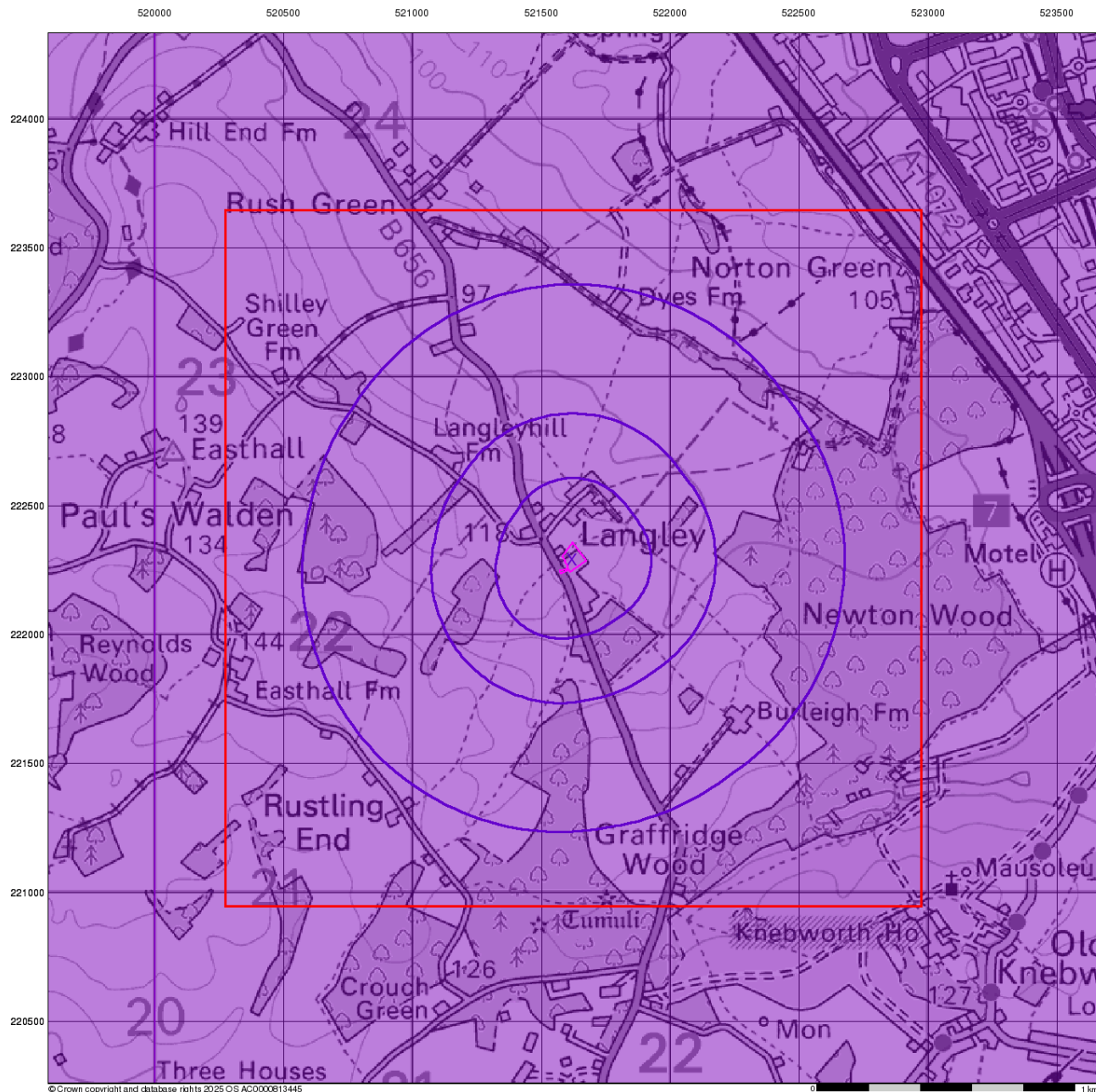
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 Slice: A
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 Search Buffer (m): 1000

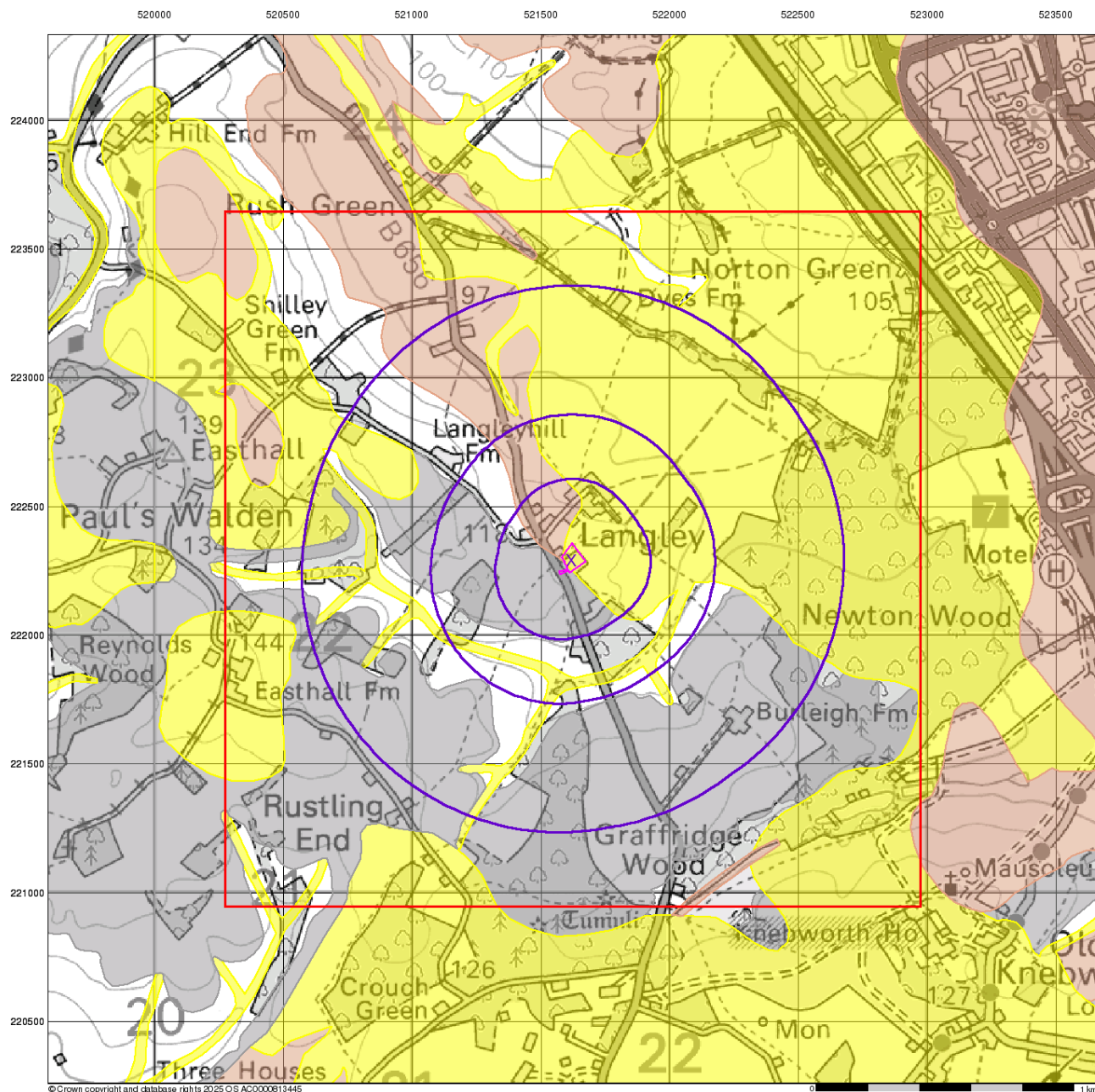
Site Details

Greenside

Landmark
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk





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Superficial Aquifer Designation

General

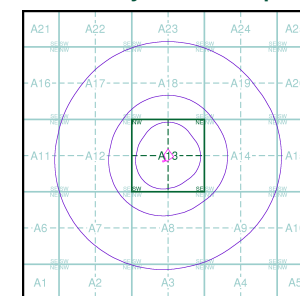
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

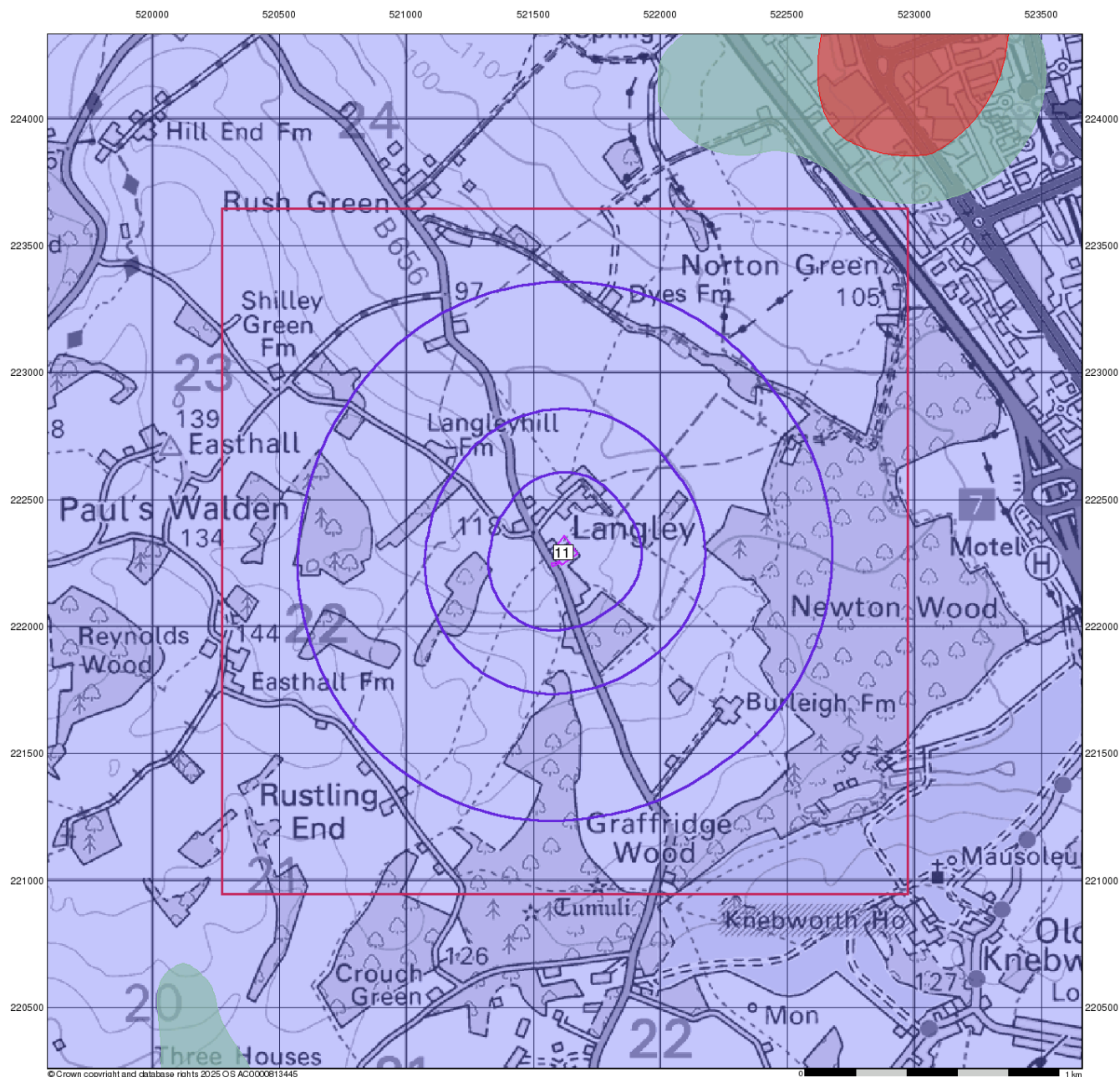
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 Customer Ref: STX6902
 National Grid Reference: 521620, 222290
 Slice: A
 Site Area (Ha): 0.58
 Search Buffer (m): 1000

Site Details

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Source Protection Zones

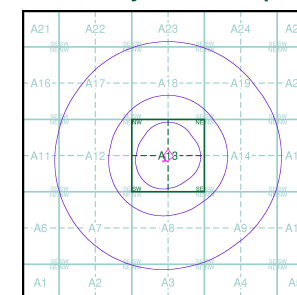
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

Site Sensitivity Context Map - Slice A



Order Details

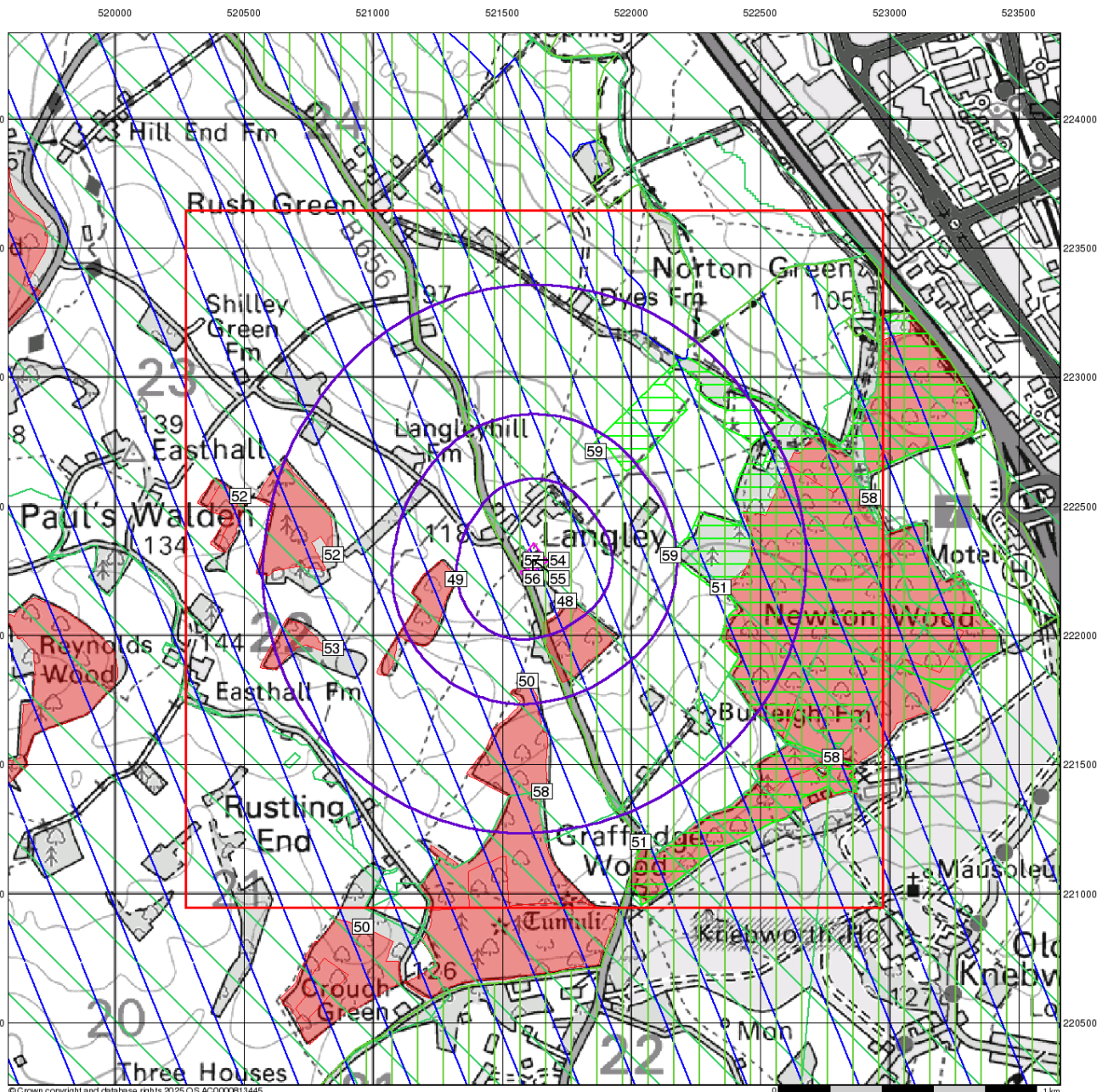
Order Number: 367757308_1_1
 Customer Ref: STX6902
 National Grid Reference: 521620, 222290
 Slice: A
 Site Area (Ha): 0.58
 Search Buffer (m): 1000

Site Details

Greenside

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Sensitive Land Uses

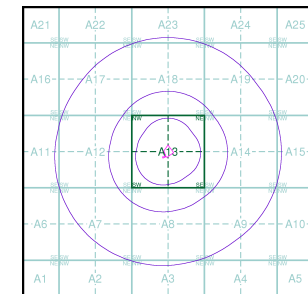
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

Site Sensitivity Context Map - Slice A



Order Details

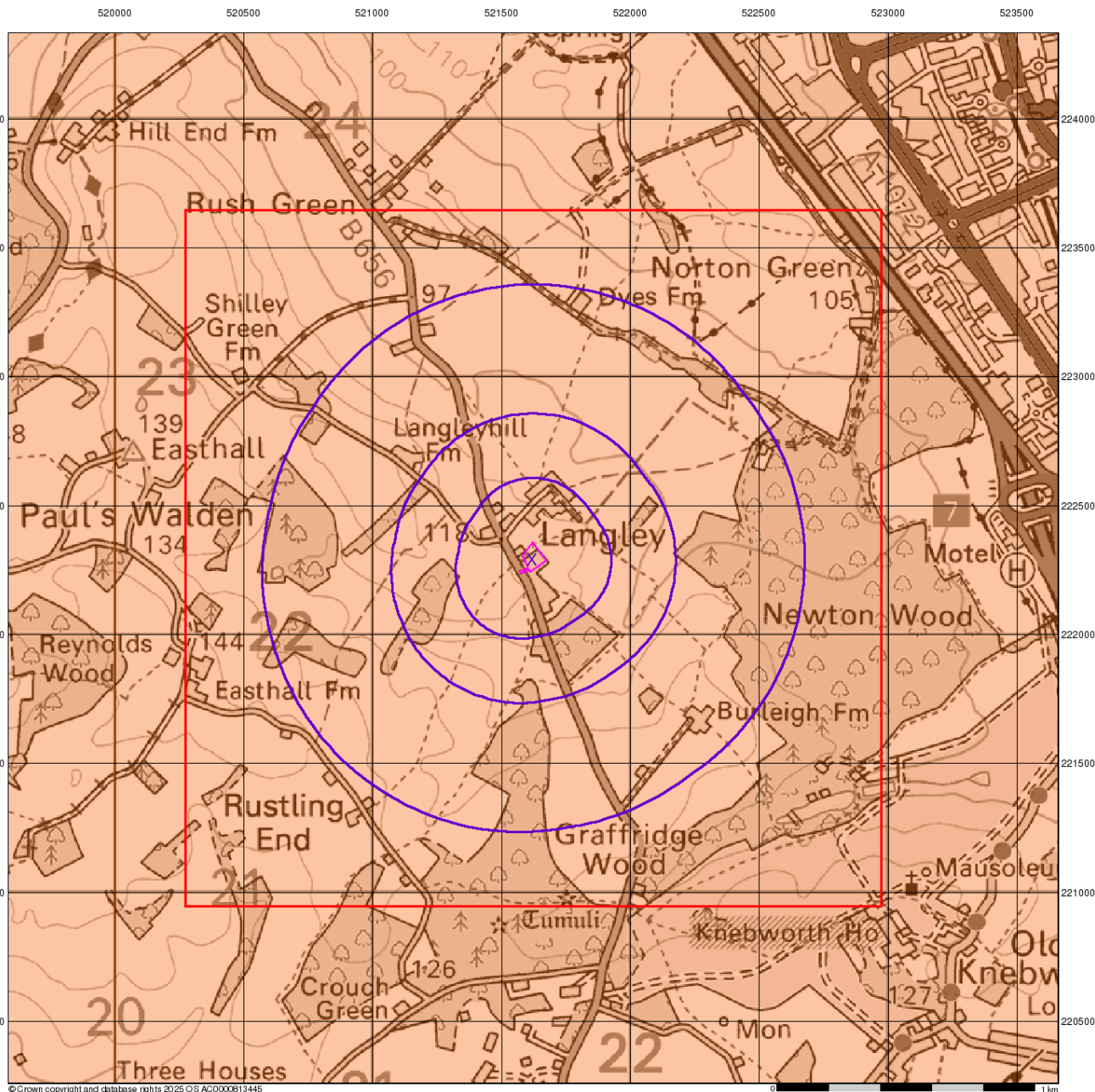
Order Number: 367757308_1_1
 Customer Ref: STX6902
 National Grid Reference: 521620, 222290
 Slice: A
 Site Area (Ha): 0.58
 Search Buffer (m): 1000

Site Details

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BGS Flood GFS Data

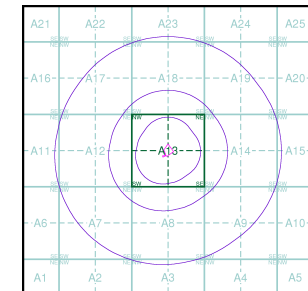
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 367757308_1_1
Customer Ref: STX6902
National Grid Reference: 521620, 222290
Slice: A
Site Area (Ha): 0.58
Search Buffer (m): 1000

Site Details

Greenside

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Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

367757308_1_1

Customer Reference:

STX6902

National Grid Reference:

521620, 222290

Slice:

A

Site Area (Ha):

0.58

Search Buffer (m):

1000

Site Details:

Greenside

Client Details:

Ms S Ltd
Soiltechnics Limited
Cedar Barn
White Lodge
Walgrave
Northampton
NN6 9PY

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	7
Hazardous Substances	-
Geological	9
Industrial Land Use	14
Sensitive Land Use	15
Data Currency	16
Data Suppliers	22
Useful Contacts	23

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client. In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Information supplied from a joint dataset compiled by The British Geological Survey and Public Health England. The probability result is only valid for properties above ground. All basement and cellar areas are considered to be at additional risk from high radon levels. If an underground room such as a cellar or basement makes up part of the living or working accommodation, the property should be tested regardless of Radon Affected Area status.

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Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes			n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		6	1	4
Prosecutions					
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls					
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 3			Yes	
Pollution Incidents to Controlled Waters					
Historical Prosecutions					
Registered Radioactive Substances					
Substantiated Pollution Incident Register					
Water Abstractions	pg 3				(*2)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 4	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk	pg 4	1	n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 4	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 4	Yes	n/a	n/a	n/a
Source Protection Zones	pg 5	1			
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 5				12
Water Framework Directive - Catchment	pg 6	Yes			Yes
Water Framework Directive - Groundwater	pg 6	Yes			
Water Framework Directive - Surface Waters					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites	pg 7		1		
Historical Landfill Sites	pg 7		1		
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 7	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 7		1		
Potentially Infilled Land (Non-Water)	pg 7		1	4	3
Potentially Infilled Land (Water)					
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 9	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 9	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 11		1	5	4
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 12	Yes		n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 12	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 12	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 13	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 13	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 13	Yes		n/a	n/a
Radon Potential - Radon Affected Areas	pg 13	Yes	n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 14				2
Fuel Station Entries					
Points of Interest - Commercial Services					
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 14				2
Points of Interest - Public Infrastructure	pg 14		1		
Points of Interest - Recreational and Environmental					
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 15		1	2	3
Areas of Adopted Green Belt	pg 15	1			
Areas of Unadopted Green Belt	pg 15	1			
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 15	2			1
Ramsar Sites					
Sites of Special Scientific Interest	pg 15			1	
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (SW)	0	1	521617 222291
1	Discharge Consents Operator: Farrier Heights Management Company Limited Property Type: Domestic Property (Multiple) Location: 1-4 Farrier Heights, Langley, Hitchin, Hertfordshire, Sg4 7bj Authority: Environment Agency, Anglian Region Catchment Area: Not Supplied Reference: Eprgb3292ap Permit Version: 1 Effective Date: 13th June 2017 Issued Date: 13th June 2017 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Land/Soakaway Receiving Water: Ground Via Borehole Status: New issued under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A13NW (W)	44	2	521540 222312
2	Discharge Consents Operator: Thameside Homes Limited Property Type: Domestic Property (Multiple) Location: Langley Farm Langley Lane, Langley, Hitchin, Hertfordshire, Sg4 7ps Authority: Environment Agency, Anglian Region Catchment Area: Not Supplied Reference: Eprfb3491nn Permit Version: 1 Effective Date: 19th December 2016 Issued Date: 19th December 2016 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Land/Soakaway Receiving Water: To Ground Status: New issued under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	129	2	521474 222370
3	Discharge Consents Operator: North Hertfordshire Homes Limited Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Langley Stw Serving Council Houses, London Road, Langley, Hertfordshire, Sg4 7pp Authority: Environment Agency, Anglian Region Catchment Area: River Hiz (Hitchin) Reference: Pr1nf1434 Permit Version: 3 Effective Date: 5th December 2013 Issued Date: 5th December 2013 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Land/Soakaway Receiving Water: Gw Via Infiltration System Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A13SE (SE)	163	2	521743 222135
4	Discharge Consents Operator: North Hertfordshire Homes Limited Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Langley Stw Serving Council Houses, London Road, Langley, Hertfordshire, Sg4 7pp Authority: Environment Agency, Anglian Region Catchment Area: River Hiz (Hitchin) Reference: Pr1nf1434 Permit Version: 2 Effective Date: 7th February 1992 Issued Date: 7th February 1992 Revocation Date: 4th December 2013 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Burleighcroft Ditch Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	168	2	521700 222100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	Discharge Consents Operator: North Herts D.C. Housing & Environment Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Langley Stw Serving Council Houses, London Road, Langley, Hertfordshire, Sg4 7pp Authority: Environment Agency, Anglian Region Catchment Area: River Hiz (Hitchin) Reference: Pr1nf1434 Permit Version: 1 Effective Date: 1st March 1984 Issued Date: 1st March 1984 Revocation Date: 6th February 1992 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Burleighcroft Ditch Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	168	2	521700 222100
5	Discharge Consents Operator: Mr Colin Grieves Property Type: Domestic Property (Single) Location: Eastlea Septic Tank And Conversion Unit, Eastlea, Village Street, Langley, Hitchin, Hertfordshire, Sg4 7pl Authority: Environment Agency, Anglian Region Catchment Area: Not Supplied Reference: Eprvb3291wf Permit Version: 1 Effective Date: 28th June 2021 Issued Date: 28th June 2021 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Trib. Of Langley Brook Status: New issued under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A13NE (N)	230	2	521673 222581
6	Discharge Consents Operator: Mr Colin Beak Property Type: Domestic Property (Single) Location: Lower Cottage Stp Lower Cottage, Village Street, Langley, Hitchin, Hertfordshire, Sg4 7pl Authority: Environment Agency, Anglian Region Catchment Area: Not Supplied Reference: Eprvb3291ew Permit Version: 1 Effective Date: 15th June 2021 Issued Date: 15th June 2021 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Trib. Of Langley Brook Status: New issued under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A18SE (N)	289	2	521703 222634
7	Discharge Consents Operator: Knebworth Estates Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Part Of Burleigh Farm Codicote, Hitchin, Herts Authority: Environment Agency, Anglian Region Catchment Area: River Hiz (Hitchin) Reference: Prcnf05011 Permit Version: 1 Effective Date: 27th January 1992 Issued Date: 27th January 1992 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Burleigh Brook Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A9SW (SE)	802	2	522120 221620

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	Discharge Consents Operator: Mr T A Akeroyd Property Type: Domestic Property (Single) Location: Dyes Farm London Road, Langley, Hitchin, Herts, Sg4 7pq Authority: Environment Agency, Anglian Region Catchment Area: River Hiz (Hitchin) Reference: Pr1nf2812 Permit Version: 1 Effective Date: 20th August 1987 Issued Date: 20th August 1987 Revocation Date: 22nd February 1992 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Trib River Purwell Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m	A18NE (N)	862	2	521800 223200
9	Discharge Consents Operator: W J Spicer And Sons Property Type: FARMS (NOT HOUSE)/CROP + ANIMAL REARING/PLANT NURSERY Location: Burleigh Farm Codicote Hitchin Hertfordshire Hertfordshire Sg4 8tg Authority: Environment Agency, Thames Region Catchment Area: Mimram Reference: Cang.0051 Permit Version: 1 Effective Date: 7th March 2000 Issued Date: 21st March 2000 Revocation Date: 17th December 2015 Discharge Type: Trade Discharge - Agricultural And Surface Discharge: Onto Land Environment: Receiving Water: Into Land Via Borehole Status: Revoked under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	865	2	522260 221650
10	Discharge Consents Operator: Mr T A Akeroyd Property Type: Domestic Property (Single) Location: Dyes Farm London Road, Langley, Hitchin, Herts, Sg4 7pq Authority: Environment Agency, Anglian Region Catchment Area: River Hiz (Hitchin) Reference: Pr1nf2812 Permit Version: 2 Effective Date: 23rd February 1992 Issued Date: 23rd February 1992 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Trib River Purwell Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 10m	A18NE (N)	917	2	521780 223260
	Nearest Surface Water Feature	A13NE (N)	306	-	521757 222631
	Water Abstractions Operator: Chartridge Conference Co Ltd Licence Number: 29/38/02/0083 Permit Version: 1 Location: Borehole At The Node, Knebworth, Hitchin Authority: Environment Agency, Thames Region Abstraction: Schools and Colleges: Make-Up or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: The Node, Knebworth, Hitchin, Herts Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 27th November 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1856	2	521540 220380

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Chartridge Conference Co Ltd Licence Number: 29/38/02/0083 Permit Version: 1 Location: Borehole At The Node, Knebworth, Hitchin Authority: Environment Agency, Thames Region Abstraction: Private Water Undertaking: Make-Up or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: The Node, Knebworth, Hitchin, Herts Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 27th November 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1856	2	521540 220380
	Groundwater Vulnerability Map Combined Classification: Principle Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Unproductive Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: <300 mm/year Baseflow Index: >70% Superficial Patchiness: <90% Superficial Thickness: 3-10m Superficial Recharge: High	A13SW (SW)	0	3	521599 222272
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: <300 mm/year Baseflow Index: >70% Superficial Patchiness: <90% Superficial Thickness: 3-10m Superficial Recharge: High	A13SW (SW)	0	3	521617 222291
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: <300 mm/year Baseflow Index: >70% Superficial Patchiness: <90% Superficial Thickness: 3-10m Superficial Recharge: High	A13SW (W)	0	3	521590 222289
	Groundwater Vulnerability - Soluble Rock Risk Classification: Very Significant Risk - Moderate Possibility	A13SW (SW)	0	3	521617 222291
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A13SW (SW)	0	3	521617 222291
	Superficial Aquifer Designations Aquifer Designation: Unproductive Strata	A13SW (SW)	0	3	521599 222272
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SW (W)	0	3	521590 222289

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A13SW (SW)	0	3	521617 222291
11	Source Protection Zones Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source.	A13SW (SW)	0	2	521617 222291
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
12	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 311.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Langley Brook Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A18NE (N)	837	4	521899 223147
13	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 126.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A14NE (E)	863	4	522519 222466
14	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 30.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A19NW (NE)	873	4	522025 223131
15	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A19NW (NE)	887	4	522007 223155
16	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 541.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Langley Brook Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A19NW (NE)	890	4	521993 223165
17	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.9 Watercourse Level: Underground Permanent: True Watercourse Name: Langley Brook Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A18NE (N)	910	4	521734 223260

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
18	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 329.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Langley Brook Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A18NE (N)	914	4	521736 223263
19	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 240.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 2	A15NW (E)	976	4	522640 222432
20	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 170.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A15NW (E)	976	4	522640 222432
21	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 6.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A19SE (NE)	990	4	522453 222899
22	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A19SE (NE)	995	4	522454 222906
23	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 100.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Langley Brook Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A19SE (NE)	999	4	522452 222914
	Water Framework Directive - Catchment Class Code: River Catchment WaterBody Name: Purwell WaterBody ID: GB105033037690 Operational Ivel Catchment: Ouse Upper and Bedford Management: Ouse Upper and Bedford Catchment: Ouse Upper and Bedford Catchment Name: Upper & Bedford Ouse	A13SW (SW)	0	2	521617 222291
	Water Framework Directive - Catchment Class Code: River Catchment WaterBody Name: Stevenage Brook WaterBody ID: GB106038033410 Operational Lee Upper Catchment: Lee Upper Management: Lee Upper Catchment: Lee Upper Catchment Name: Upper and Middle Lea	A8SE (S)	910	2	521870 221370
	Water Framework Directive - Groundwater Waterbody Name: Upper Lee Chalk Waterbody ID: GB40601G602900 URL Address: https://environment.data.gov.uk/catchment-planning/WaterBody/GB40601G602900 Overall Rating: Poor Chemical Rating: Poor Quantitative Measure: Poor Year: 2019	A13SW (SW)	0	2	521617 222291

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
24	BGS Recorded Landfill Sites Site Name: Langley Tip Location: HITCHIN, Herts Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate	A13NE (NE)	123	-	521723 222428
25	Historical Landfill Sites Licence Holder: Not Supplied Location: Hitchin, Hertfordshire Name: Langley Pit Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD31024 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Deposited Waste included Liquid Sludge EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: 1622 Other Ref: Not Supplied	A13NE (NE)	124	2	521724 222429
	Local Authority Landfill Coverage Name: Hertfordshire County Council - Has supplied landfill data		0	5	521617 222291
	Local Authority Landfill Coverage Name: North Hertfordshire District Council - Has supplied landfill data		0	6	521617 222291
	Local Authority Landfill Coverage Name: Stevenage Borough Council - Has supplied landfill data		969	7	522220 223119
26	Local Authority Recorded Landfill Sites Location: Langley Tip, Hitchin, Hertfordshire Reference: 1622 Authority: North Hertfordshire District Council, Environmental Health Department Last Reported Status: Unknown Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate	A13NE (NE)	123	6	521721 222429
27	Potentially Infilled Land (Non-Water) Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1987	A13NE (NE)	148	-	521731 222456
28	Potentially Infilled Land (Non-Water) Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1987	A13NW (NW)	300	-	521370 222520
29	Potentially Infilled Land (Non-Water) Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1987	A12SE (SW)	366	-	521268 222039
30	Potentially Infilled Land (Non-Water) Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1987	A12SE (W)	421	-	521163 222149
31	Potentially Infilled Land (Non-Water) Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1987	A17SE (NW)	458	-	521276 222657
32	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1987	A14SW (E)	525	-	522170 222113

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
33	Potentially Infilled Land (Non-Water) Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1987	A12NW (W)	665	-	520911 222322
34	Potentially Infilled Land (Non-Water) Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1987	A17SW (NW)	881	-	520937 222910

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: White Chalk Subgroup	A13SW (SW)	0	1	521617 222291
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (SW)	0	1	521617 222291
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 45 - 60 mg/kg	A13NW (NW)	92	1	521502 222344
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 45 - 60 mg/kg	A13SE (SE)	230	1	521787 222085
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 45 - 60 mg/kg	A8NW (S)	382	1	521480 221865
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 45 - 60 mg/kg	A14SW (E)	416	1	522063 222138
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 45 - 60 mg/kg	A8NE (S)	445	1	521688 221803

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 90 - 120 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 45 - 60 mg/kg Concentration:	A12SE (W)	598	1	520988 222117
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 90 - 120 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 45 - 60 mg/kg Concentration:	A12NW (W)	752	1	520822 222320
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 90 - 120 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 45 - 60 mg/kg Concentration:	A12SW (W)	779	1	520793 222216
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 90 - 120 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 45 - 60 mg/kg Concentration:	A8SW (S)	816	1	521301 221467
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 90 - 120 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 45 - 60 mg/kg Concentration:	A9NE (E)	969	1	522571 221920
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 45 - 60 mg/kg Concentration:	A19NW (NE)	992	1	522026 223263

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
35	BGS Recorded Mineral Sites Site Name: Langley Chalk Pit Location: Langley, Stevenage, Hertfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 166858 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Cretaceous Geology: White Chalk Subgroup Commodity: Chalk Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	149	1	521729 222460
36	BGS Recorded Mineral Sites Site Name: Langley Farm Chalk Pit Location: Langley, Stevenage, Hertfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 166859 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Cretaceous Geology: White Chalk Subgroup Commodity: Chalk Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	297	1	521374 222520
37	BGS Recorded Mineral Sites Site Name: Soot Wood Chalk Pit Location: Langley, Stevenage, Hertfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 166870 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Cretaceous Geology: White Chalk Subgroup Commodity: Chalk Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	362	1	521272 222040
37	BGS Recorded Mineral Sites Site Name: Soot Wood Chalk Pit Location: Langley, Stevenage, Hertfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 166871 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Cretaceous Geology: White Chalk Subgroup Commodity: Chalk Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	392	1	521247 222023
38	BGS Recorded Mineral Sites Site Name: Soot Wood Chalk Pit Location: Langley, Stevenage, Hertfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 166862 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Cretaceous Geology: White Chalk Subgroup Commodity: Chalk Positional Accuracy: Located by supplier to within 10m	A12SE (W)	433	1	521151 222147
39	BGS Recorded Mineral Sites Site Name: Langleyhill Farm Chalk Pit Location: Langley, Stevenage, Hertfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 166864 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Cretaceous Geology: White Chalk Subgroup Commodity: Chalk Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	453	1	521281 222655

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
40	BGS Recorded Mineral Sites Site Name: Burleigh Grove Chalk Pit Location: Langley, Stevenage, Hertfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 166878 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Cretaceous Geology: White Chalk Subgroup Commodity: Chalk Positional Accuracy: Located by supplier to within 10m	A14SW (E)	541	1	522182 222098
41	BGS Recorded Mineral Sites Site Name: Hodgkins Dell Chalk Pit Location: Langley, Stevenage, Hertfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 166860 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Cretaceous Geology: White Chalk Subgroup Commodity: Chalk Positional Accuracy: Located by supplier to within 10m	A12NW (W)	664	1	520912 222321
41	BGS Recorded Mineral Sites Site Name: Hodgkins Dell Chalk Pit Location: Langley, Stevenage, Hertfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 166861 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Cretaceous Geology: White Chalk Subgroup Commodity: Chalk Positional Accuracy: Located by supplier to within 10m	A12NW (W)	678	1	520901 222348
42	BGS Recorded Mineral Sites Site Name: Maiden Spring Chalk Pit Location: Langley, Stevenage, Hertfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 166857 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Cretaceous Geology: White Chalk Subgroup Commodity: Chalk Positional Accuracy: Located by supplier to within 10m	A17SW (NW)	889	1	520925 222908
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	521617 222291
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	521617 222291
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	521617 222291
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	521617 222291
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	521599 222272

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	83	1	521502 222344
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	126	1	521456 222195
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	521617 222291
	Potential for Landslide Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	92	1	521502 222344
	Potential for Landslide Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	230	1	521787 222085
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	521599 222272
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	521617 222291
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	521617 222291
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	0	1	521590 222289
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	230	1	521787 222085
	Radon Potential - Radon Affected Areas Affected Area: The property is in an Intermediate probability radon area (1 to 3% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	521617 222291
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	1	521625 222291
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	521617 222291
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	1	521625 222291

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
43	Contemporary Trade Directory Entries Name: H C Motors Location: London Road, Langley, Hitchin, Hertfordshire, SG4 7PJ Classification: Car Dealers - Used Status: Active Positional Accuracy: Manually positioned within the geographical locality	A17NE (NW)	933	-	521166 223171
44	Contemporary Trade Directory Entries Name: Moules Timber & Landscape Location: Pigeons Wick Cottage, Norton Green, Stevenage, SG1 2DP Classification: Fencing Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SE (NE)	941	-	522499 222739
45	Points of Interest - Manufacturing and Production Name: J B Smith & Sons Location: Langley Hill Farm Cottage, Langley Lane, Langley, Hitchin, SG4 7PS Category: Farming Class Code: Arable Farming Positional Accuracy: Positioned to address or location	A17SE (NW)	605	8	521111 222681
46	Points of Interest - Manufacturing and Production Name: W J Spicer & Sons Location: Burleigh Farm, Hitchin Road, Codicote, Hitchin, SG4 8TG Category: Farming Class Code: Arable Farming Positional Accuracy: Positioned to address or location	A9NW (SE)	831	8	522243 221681
47	Points of Interest - Public Infrastructure Name: Filter Bed Location: SG4 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	157	8	521731 222135

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
48	Ancient Woodland Name: Burleigh Croft Wood Reference: 1116097 Area(m²): 48799.35 Type: Ancient and Semi-Natural Woodland	A13SE (SE)	166	9	521747 222135
49	Ancient Woodland Name: Soot Wood/Briary Spring Reference: 1116095 Area(m²): 42237.92 Type: Ancient and Semi-Natural Woodland	A13SW (W)	253	9	521320 222216
50	Ancient Woodland Name: Graffridge/Winter Woods Reference: 1116096 Area(m²): 306014.41 Type: Ancient and Semi-Natural Woodland	A8NW (S)	412	9	521598 221824
51	Ancient Woodland Name: Newton/Cannocks Woods Reference: 1116101 Area(m²): 849124.06 Type: Ancient and Semi-Natural Woodland	A14SE (E)	678	9	522345 222185
52	Ancient Woodland Name: Lammas/Easthall Woods Reference: 1116092 Area(m²): 96297.84 Type: Plantation on Ancient Woodland	A12NW (W)	730	9	520845 222315
53	Ancient Woodland Name: Not Supplied Reference: 1414240 Area(m²): 21570.75 Type: Ancient and Semi-Natural Woodland	A7NW (SW)	787	9	520843 221950
54	Areas of Adopted Green Belt Authority: North Hertfordshire District Council Plan Name: North Hertfordshire District Local Plan Status: Adopted Plan Date: 30th April 1996	A13SW (SW)	0	10	521617 222291
55	Areas of Unadopted Green Belt Authority: North Hertfordshire District Council Plan Name: North Hertfordshire Local Plan Status: Submission Draft Plan Date: 11th April 2017	A13SW (SW)	0	10	521617 222291
56	Nitrate Vulnerable Zones Name: Anglian Chalk Description: Groundwater Source: Environment Agency, Head Office	A13SW (SW)	0	2	521617 222291
57	Nitrate Vulnerable Zones Name: Great Ouse Nvz Description: Surface Water Source: Environment Agency, Head Office	A13SW (SW)	0	2	521617 222291
58	Nitrate Vulnerable Zones Name: Lee Nvz Description: Surface Water Source: Environment Agency, Head Office	A8SE (S)	843	2	521652 221396
59	Sites of Special Scientific Interest Name: Knebworth Woods Multiple Areas: Y Total Area (m2): 1288416.14 Source: Natural England Reference: 1001506 Designation Details: Site Of Special Scientific Interest Designation Date: 1st June 1985 Date Type: Notified	A18SE (NE)	427	9	521860 222712

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices East Hertfordshire District Council - Environmental Health Department Environment Agency - Head Office North Hertfordshire District Council - Environmental Health Department Stevenage Borough Council - Environmental Health Department Welwyn Hatfield District Council - Environmental Health Department	January 2013 November 2023 October 2017 October 2017 October 2017	Annual Rolling Update Annually Annual Rolling Update Annual Rolling Update Annual Rolling Update
Discharge Consents Environment Agency - Anglian Region Environment Agency - Thames Region	October 2024 October 2024	Quarterly Quarterly
Enforcement and Prohibition Notices Environment Agency - Thames Region	March 2013	
Integrated Pollution Controls Environment Agency - Thames Region	January 2009	
Integrated Pollution Prevention And Control Environment Agency - South East Region - North East Thames Area Environment Agency - Thames Region	October 2024 October 2024	Quarterly Quarterly
Local Authority Integrated Pollution Prevention And Control Stevenage Borough Council - Environmental Health Department Welwyn Hatfield District Council - Environmental Health Department East Hertfordshire District Council - Environmental Health Department North Hertfordshire District Council - Environmental Health Department	April 2015 February 2024 January 2014 September 2014	Variable Variable Variable Variable
Local Authority Pollution Prevention and Controls Stevenage Borough Council - Environmental Health Department North Hertfordshire District Council - Environmental Health Department Welwyn Hatfield District Council - Environmental Health Department East Hertfordshire District Council - Environmental Health Department	April 2015 December 2020 February 2024 January 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements Stevenage Borough Council - Environmental Health Department Welwyn Hatfield District Council - Environmental Health Department East Hertfordshire District Council - Environmental Health Department North Hertfordshire District Council - Environmental Health Department	April 2015 February 2024 January 2014 September 2014	Variable Variable Variable Variable
Nearest Surface Water Feature Ordnance Survey	November 2024	
Pollution Incidents to Controlled Waters Environment Agency - Anglian Region Environment Agency - Thames Region	September 1999 September 1999	
Historical Prosecutions Environment Agency, Thames Region	March 2013	Not Applicable
Registered Radioactive Substances Environment Agency - Head Office Environment Agency - Thames Region	May 2023 May 2023	
Substantiated Pollution Incident Register Environment Agency - South East Region - North East Thames Area Environment Agency - Thames Region - North East Area	October 2024 October 2024	Quarterly Quarterly
Water Abstractions Environment Agency - Anglian Region Environment Agency - Thames Region	October 2024 October 2024	Quarterly Quarterly
Water Industry Act Referrals Environment Agency - Thames Region	October 2017	
Groundwater Vulnerability Map Environment Agency - Head Office	June 2018	As notified
Groundwater Vulnerability - Soluble Rock Risk Environment Agency - Head Office	June 2018	As notified

Agency & Hydrological	Version	Update Cycle
Bedrock Aquifer Designations Environment Agency - Head Office	January 2018	As notified
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	As notified
Source Protection Zones Environment Agency - Head Office	September 2022	Bi-Annually
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	December 2023	As notified
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	December 2023	As notified
Areas Benefiting from Flood Defences Environment Agency - Head Office	February 2023	
Flood Water Storage Areas Environment Agency - Head Office	January 2024	Quarterly
Flood Defences Environment Agency - Head Office	August 2022	
OS Water Network Lines Ordnance Survey	October 2024	Quarterly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	May 2018	Annually
Surface Water Suitability Environment Agency - Head Office	February 2016	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	As notified
Water Framework Directive - Catchment Environment Agency - Head Office	July 2024	Annually
Water Framework Directive - Groundwater Environment Agency - Head Office	July 2024	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	November 2002	As notified
Historical Landfill Sites Environment Agency - Head Office	October 2024	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - Thames Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - South East Region - North East Thames Area Environment Agency - Thames Region - North East Area	November 2024 November 2024	Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - South East Region - North East Thames Area Environment Agency - Thames Region - North East Area	October 2024 October 2024	Quarterly Quarterly
Local Authority Landfill Coverage East Hertfordshire District Council - Environmental Health Department Hertfordshire County Council - Spatial Planning and Economy Unit North Hertfordshire District Council - Environmental Health Department Stevenage Borough Council - Environmental Health Department Welwyn Hatfield District Council - Environmental Health Department	February 2003 February 2003 February 2003 February 2003 February 2003	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites East Hertfordshire District Council - Environmental Health Department Hertfordshire County Council - Spatial Planning and Economy Unit North Hertfordshire District Council - Environmental Health Department Stevenage Borough Council - Environmental Health Department Welwyn Hatfield District Council - Environmental Health Department	October 2018 October 2018 October 2018 October 2018 October 2018	
Potentially Infilled Land (Non-Water) Landmark Information Group Limited	December 1999	
Potentially Infilled Land (Water) Landmark Information Group Limited	December 1999	
Registered Landfill Sites Environment Agency - Thames Region - North East Area	March 2006	Not Applicable
Registered Waste Transfer Sites Environment Agency - Thames Region - North East Area	April 2018	
Registered Waste Treatment or Disposal Sites Environment Agency - Thames Region - North East Area	June 2015	

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	September 2024	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements Hertfordshire County Council - Spatial Planning and Economy Unit North Hertfordshire District Council Stevenage Borough Council Welwyn Hatfield District Council East Hertfordshire District Council	February 2016 February 2016 June 2023 June 2023 May 2023	Variable Variable Variable Variable Variable
Planning Hazardous Substance Consents East Hertfordshire District Council Hertfordshire County Council - Spatial Planning and Economy Unit North Hertfordshire District Council Stevenage Borough Council Welwyn Hatfield District Council	April 2015 February 2016 February 2016 February 2016 February 2016	Variable Variable Variable Variable Variable
Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	As notified
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	As notified
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	March 2024	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified
Coal Mining Affected Areas The Coal Authority - Property Searches	February 2023	Annual Rolling Update
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	November 2024	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	November 2024	Annually

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	December 2024	Quarterly
Fuel Station Entries Catalist Ltd - Experian	February 2024	Quarterly
Points of Interest - Commercial Services PointX	December 2024	Quarterly
Points of Interest - Education and Health PointX	December 2024	Quarterly
Points of Interest - Manufacturing and Production PointX	December 2024	Quarterly
Points of Interest - Public Infrastructure PointX	December 2024	Quarterly
Points of Interest - Recreational and Environmental PointX	December 2024	Quarterly
Underground Electrical Cables National Grid	January 2024	

Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural England	November 2024	Bi-Annually
Areas of Adopted Green Belt East Hertfordshire District Council North Hertfordshire District Council Stevenage Borough Council Welwyn Hatfield District Council	July 2024 July 2024 July 2024 July 2024	Quarterly Quarterly Quarterly Quarterly
Areas of Unadopted Green Belt East Hertfordshire District Council North Hertfordshire District Council Stevenage Borough Council Welwyn Hatfield District Council	July 2024 July 2024 July 2024 July 2024	Quarterly Quarterly Quarterly Quarterly
Areas of Outstanding Natural Beauty Natural England	November 2024	Bi-Annually
Environmentally Sensitive Areas Natural England	August 2023	
Forest Parks Forestry Commission	May 2023	Not Applicable
Local Nature Reserves Natural England	August 2024	Bi-Annually
Marine Nature Reserves Natural England	August 2024	Bi-Annually
National Nature Reserves Natural England	January 2025	Bi-Annually
National Parks Natural England	September 2024	Bi-Annually
Nitrate Sensitive Areas Natural England	April 2023	Not Applicable
Nitrate Vulnerable Zones Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA) Environment Agency - Head Office	April 2016 November 2024	Bi-Annually
Ramsar Sites Natural England	August 2024	Bi-Annually
Sites of Special Scientific Interest Natural England	November 2024	Bi-Annually
Special Areas of Conservation Natural England	October 2024	Bi-Annually
Special Protection Areas Natural England	November 2024	Bi-Annually

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	 Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Stantec UK Ltd	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
4	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.co.uk
5	Hertfordshire County Council - Spatial Planning and Economy Unit County Hall, Hertford, Hertfordshire, SG13 8DN	Telephone: 01992 556266 Fax: 01992 556015 Email: spatialplanning@hertfordshire.gov.uk Website: www.hertsdirect.org
6	North Hertfordshire District Council - Environmental Health Department Council Offices, Gernon Road, Letchworth, Hertfordshire, SG6 3JF	Telephone: 01462 474000 Fax: 01462 474559 Website: www.north-herts.gov.uk
7	Stevenage Borough Council - Environmental Health Department Daneshill House, Danestrete, Stevenage, Hertfordshire, SG1 1HN	Telephone: 01438 242242 Fax: 01438 740296 Website: www.stevenage.gov.uk
8	PointX 5-6 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
9	Natural England County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
10	North Hertfordshire District Council Council Offices, Gernon Road, Letchworth, Hertfordshire, SG6 3JF	Telephone: 01462 474000 Fax: 01462 474558 Website: www.north-herts.gov.uk
11	Stevenage Borough Council Daneshill House, Danestrete, Stevenage, Hertfordshire, SG1 1HN	Telephone: 01438 242242 Fax: 01438 740296 Website: www.stevenage.gov.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Landmark Information Group, Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0330 036 6618 Fax: 0844 844 9951 Email: helpdesk@landmark.co.uk Website: www.landmark.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	MGR	Made Ground (Undivided)	Artificial Deposit	Not Supplied - Holocene

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	LOFT	Lowestoft Formation	Diamicton	Not Supplied - Anglian
	GFDMP	Glaciofluvial Deposits, Mid Pleistocene	Sand and Gravel	Not Supplied - Cromerian
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary
	CWF	Clay-with-flints Formation	Clay, Silt, Sand and Gravel	Not Supplied - MIOCENE

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	LESE	Lewes Nodular Chalk Formation and Seaford Chalk Formation (Undifferentiated)	Chalk	Not Supplied - Turonian
	CKR	Chalk Rock Member	Chalk	Not Supplied - Turonian
	HNCK	Holywell Nodular Chalk Formation and New Pit Chalk Formation (Undifferentiated)	Chalk	Not Supplied - Cenomanian

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Geology 1:50,000 Maps

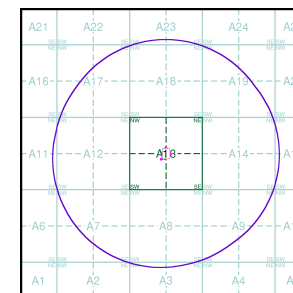
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	1
Map Sheet No:	221
Map Name:	Hitchin
Map Date:	1995
Bedrock Geology:	Available
Superficial Geology:	Available
Artificial Geology:	Available
Faults:	Not Supplied
Landslip:	Available
Rock Segments:	Not Supplied

Geology 1:50,000 Maps - Slice A



Order Details:

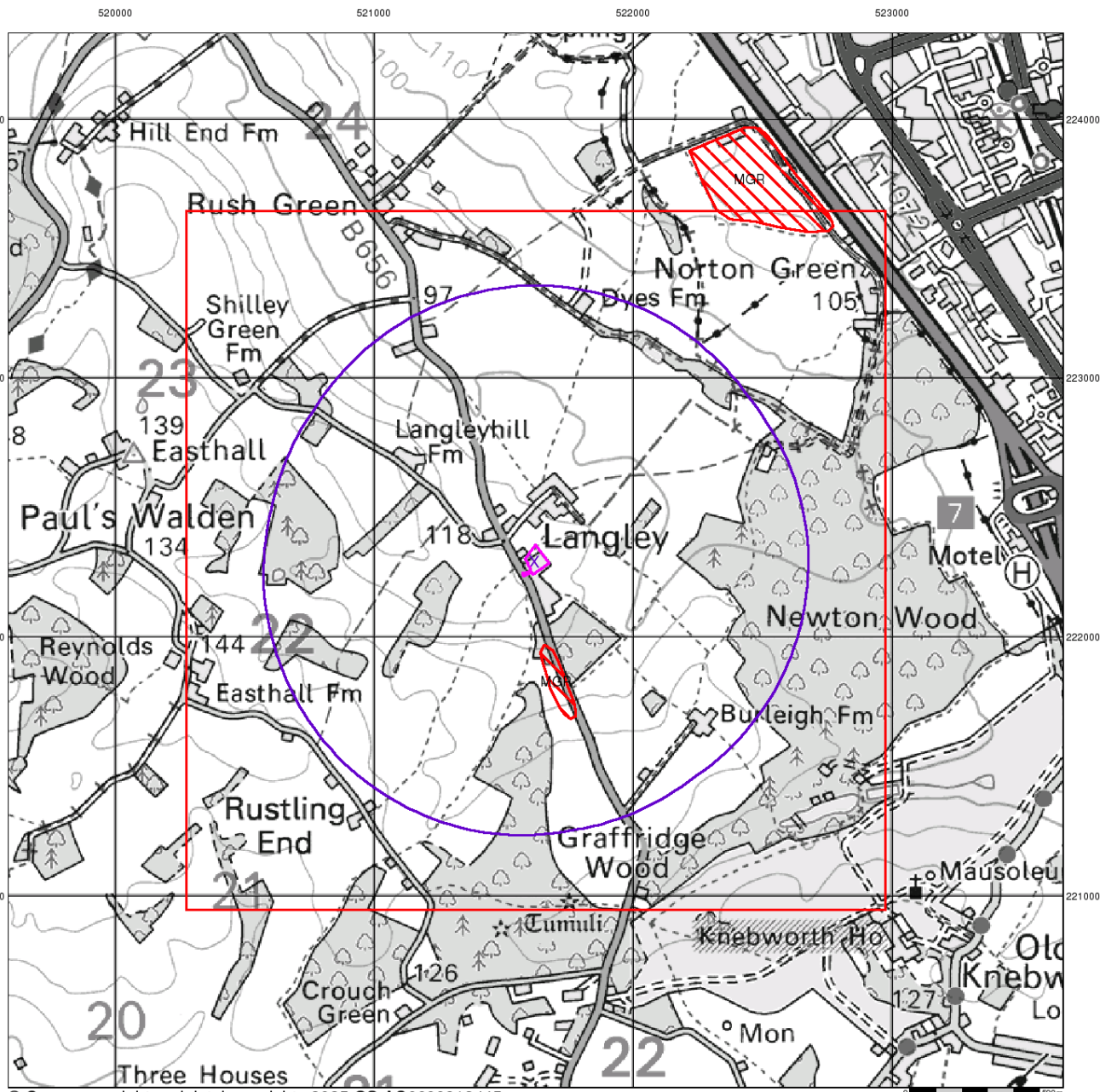
Order Number:	367757308_1_1
Customer Reference:	STX6902
National Grid Reference:	521620, 222290
Slice:	A
Site Area (Ha):	0.58
Search Buffer (m):	1000

Site Details:

Greenside

Landmark
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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Artificial Ground and Landslip

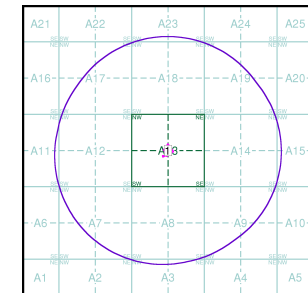
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



Order Details:

Order Number: 367757308_1_1
 Customer Reference: STX6902
 National Grid Reference: 521620, 222290
 Slice: A
 Site Area (Ha): 0.58
 Search Buffer (m): 1000

Site Details:

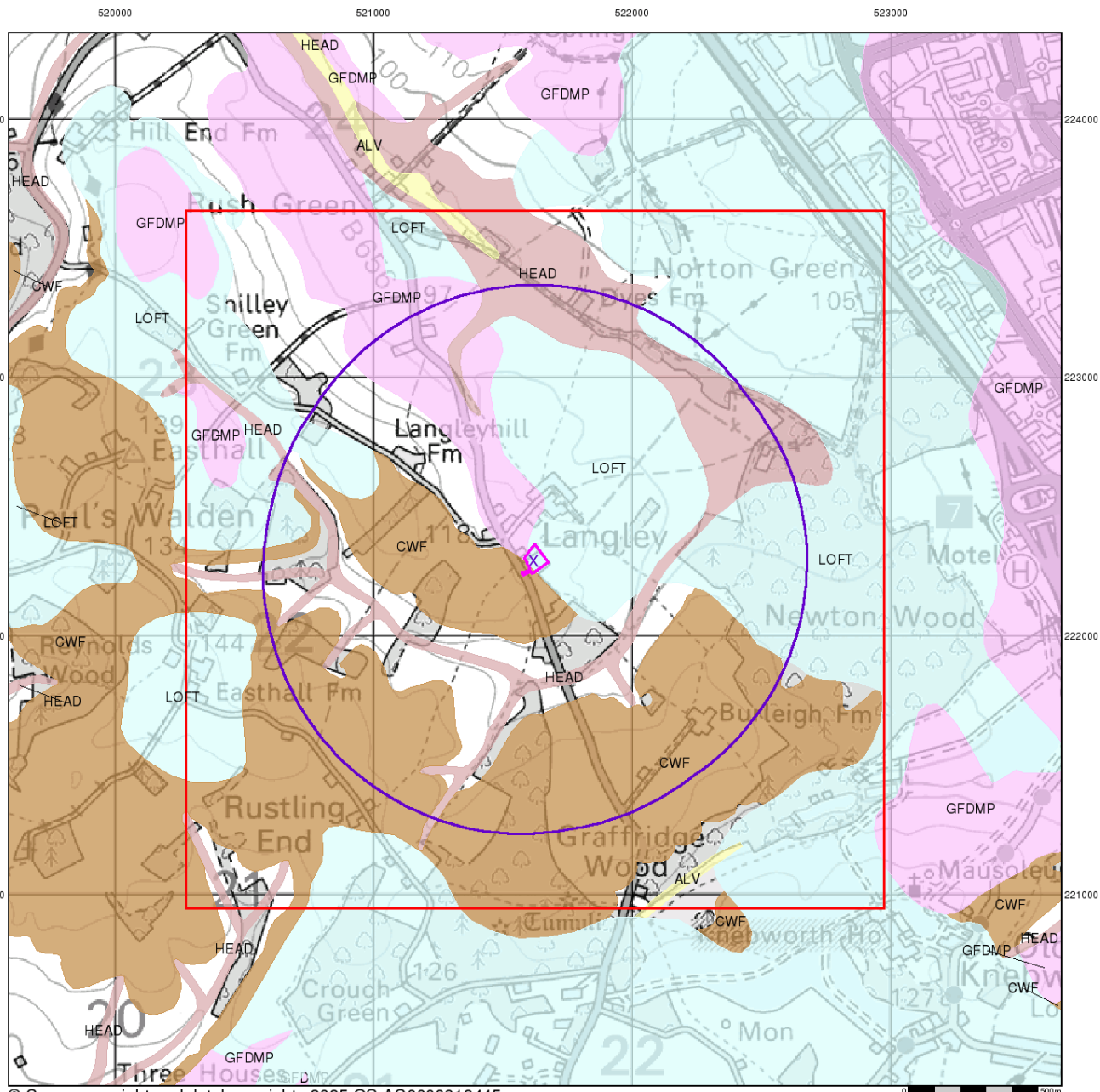
Greenside

Landmark
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v15.0 21-Jan-2025

Page 2 of 5



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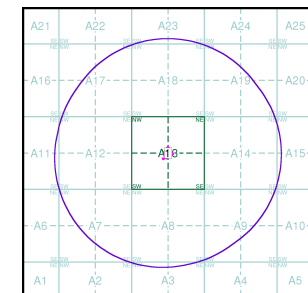
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



Order Details:

Order Number: 367757308_1_1
Customer Reference: STX6902
National Grid Reference: 521620, 222290
Slice: A
Site Area (Ha): 0.58
Search Buffer (m): 1000

Site Details:

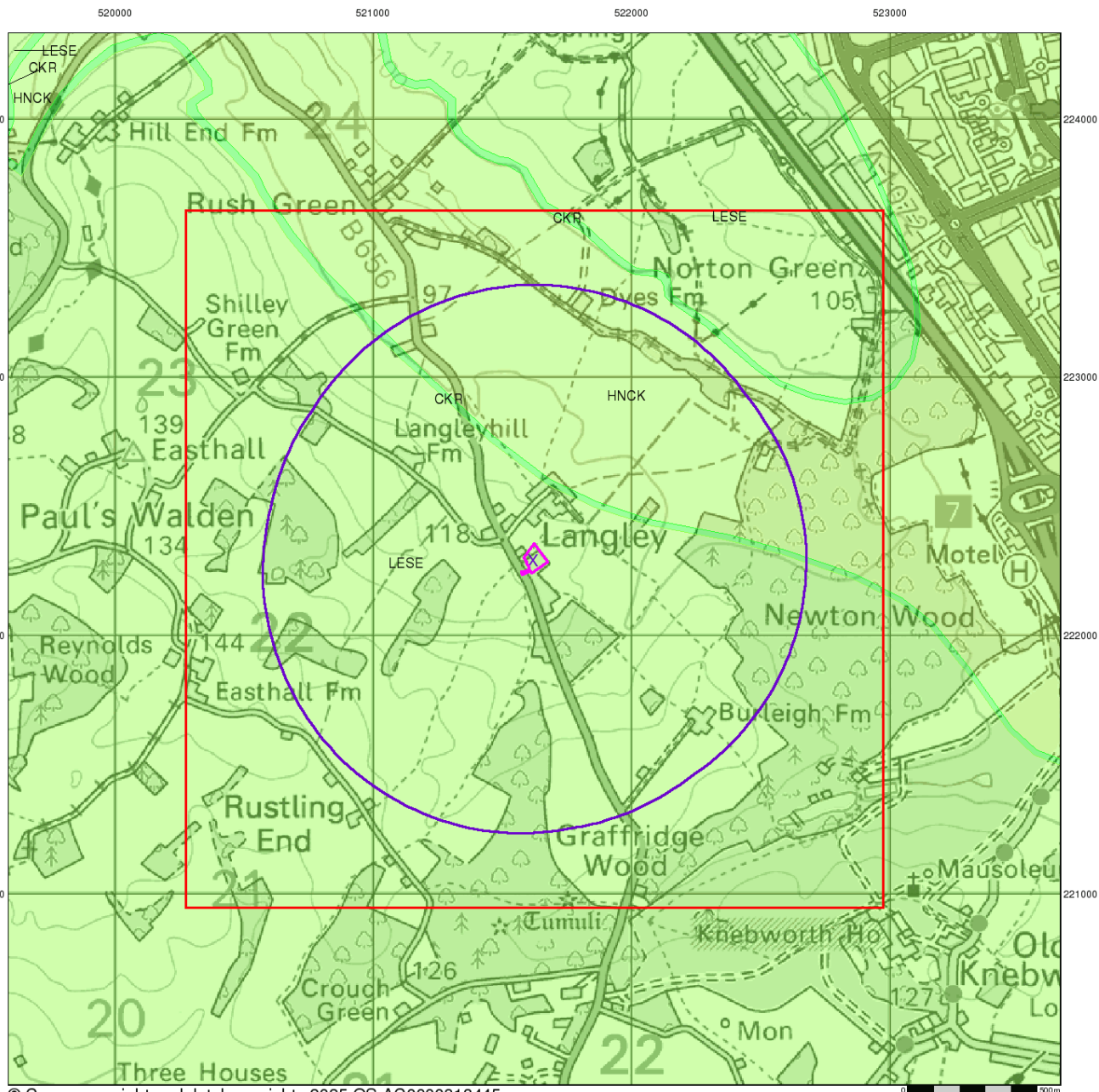
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Bedrock and Faults

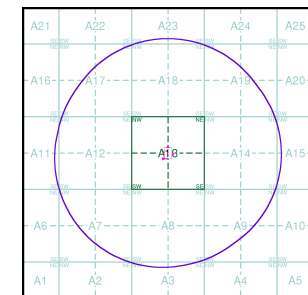
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A



Order Details:

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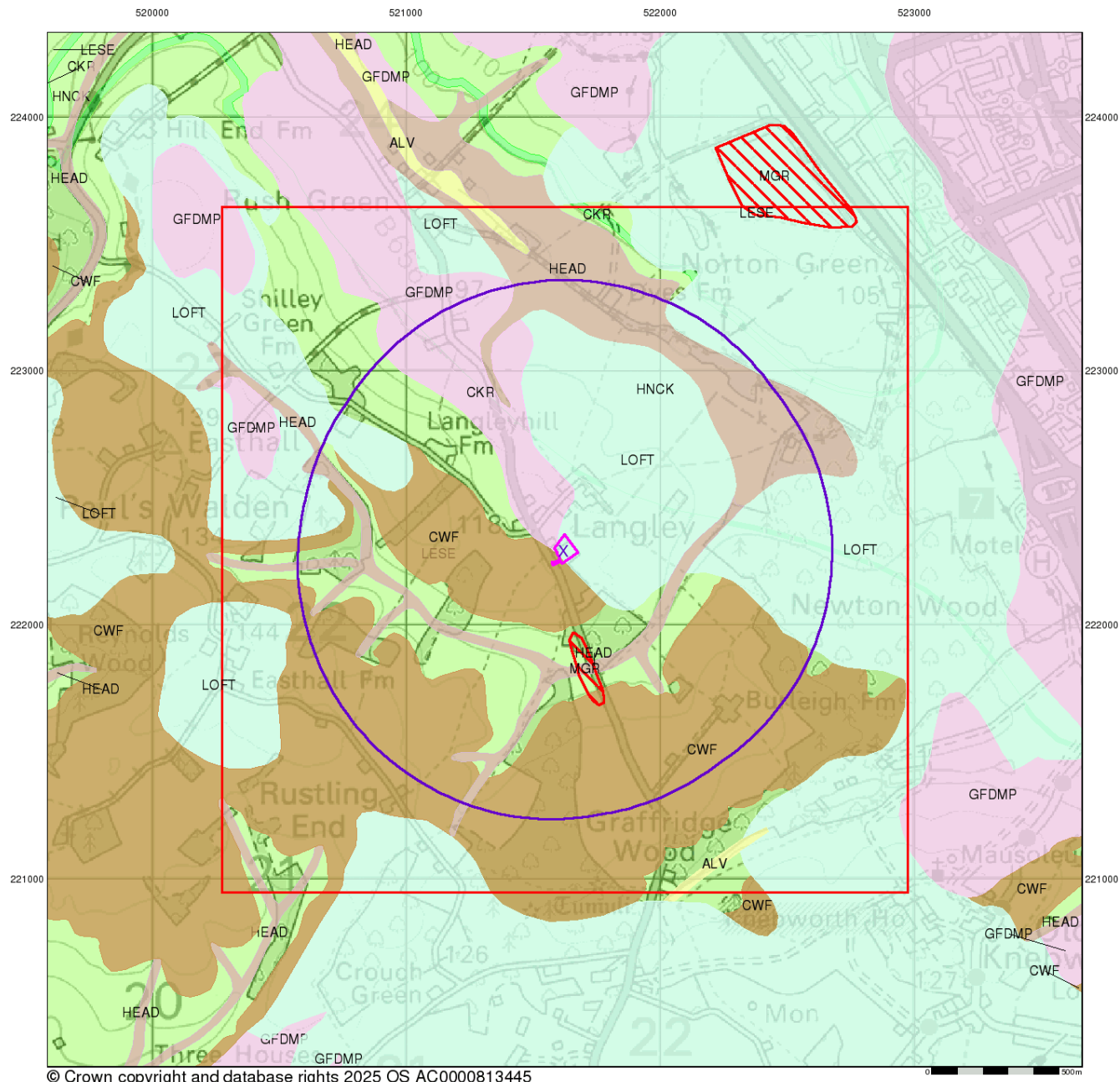
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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

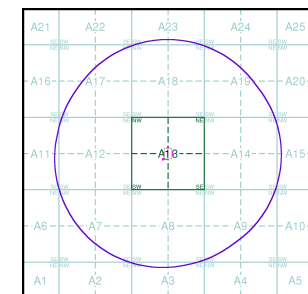
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Telephone: 0115 936 3143
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A



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Page 5 of 5

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

	Gravel Pit		Sand Pit		Other Pits
	Quarry		Shingle		Orchard
	Osiers		Reeds		Marsh
	Mixed Wood		Deciduous		Brushwood
	Fir		Furze		Rough Pasture
	Arrow denotes flow of water		Trigonometrical Station		
	Site of Antiquities		Bench Mark		
	Pump, Guide Post, Signal Post		Well, Spring, Boundary Post		
	•285 Surface Level				
	Sketched Contour		Instrumental Contour		
	Main Roads		Minor Roads		
	Sunken Road		Raised Road		
	Road over Railway		Railway over River		
	Railway over Road		Level Crossing		
	Road over River or Canal		Road over Stream		
	Road over Stream				
	County Boundary (Geographical)				
	County & Civil Parish Boundary				
	Administrative County & Civil Parish Boundary				
	County Borough Boundary (England)				
	County Burgh Boundary (Scotland)				
	Rural District Boundary				
	Civil Parish Boundary				

Ordnance Survey Plan 1:10,000

	Chalk Pit, Clay Pit or Quarry		Gravel Pit
	Sand Pit		Disused Pit or Quarry
	Refuse or Slag Heap		Lake, Loch or Pond
	Dunes		Boulders
	Coniferous Trees		Non-Coniferous Trees
	Orchard		Scrub
	Bracken		Heath
	Marsh		Reeds
	Building		Glasshouse
	Sloping Masonry		Pylon
	Cutting		Embankment
	Road Under		Road Over
	Level Crossing		Foot Bridge
	Standard Gauge Multiple Track		Standard Gauge Single Track
	Siding, Tramway or Mineral Line		Narrow Gauge
	Geographical County		Administrative County, County Borough or County of City
	Municipal Borough, Urban or Rural District, Burgh or District Council		Borough, Burgh or County Constituency
	Civil Parish		
	BP, BS Boundary Post or Stone		Police Station
	Church		Post Office
	Club House		Public Convenience
	Fire Engine Station		Public House
	Foot Bridge		Signal Box
	Fountain		Spring
	Guide Post		Telephone Call Box
	Mile Post		Telephone Call Post
	Mile Stone		Well

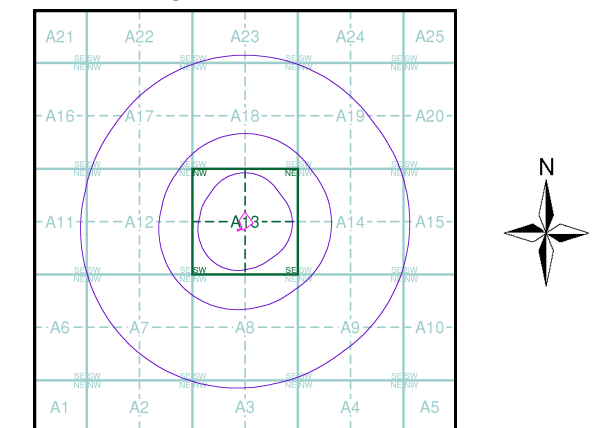
1:10,000 Raster Mapping

	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil, parish or community boundary
	District, Unitary, Metropolitan, London Borough boundary		Constituency boundary
	Area of wooded vegetation		Non-coniferous trees
	Non-coniferous trees (scattered)		Coniferous trees
	Coniferous trees (scattered)		Positioned tree
	Orchard		Coppice or Osiers
	Rough Grassland		Heath
	Scrub		Marsh, Salt Marsh or Reeds
	Water feature		Flow arrows
	Mean high water (springs)		Mean low water (springs)
	Telephone line (where shown)		Electricity transmission line (with poles)
	Bench mark (where shown)		Triangulation station
	Point feature (e.g. Guide Post or Mile Stone)		Pylon, flare stack or lighting tower
	Site of (antiquity)		Glasshouse
	General Building		Important Building

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Hertfordshire	1:10,560	1884	2
Hertfordshire	1:10,560	1899	3
Hertfordshire	1:10,560	1925	4
Hertfordshire	1:10,560	1925	5
Hertfordshire	1:10,560	1946	6
Hertfordshire	1:10,560	1946 - 1950	7
Ordnance Survey Plan	1:10,000	1960	8
Ordnance Survey Plan	1:10,000	1964	9
Ordnance Survey Plan	1:10,000	1970	10
Ordnance Survey Plan	1:10,000	1975	11
Ordnance Survey Plan	1:10,000	1987	12
10K Raster Mapping	1:10,000	1999	13
10K Raster Mapping	1:10,000	2006	14
VectorMap Local	1:10,000	2024	15

Historical Map - Slice A



Order Details

Order Number: 367757308_1_1
Customer Ref: STX6902
National Grid Reference: 521620, 222290
Slice: A
Site Area (Ha): 0.58
Search Buffer (m): 1000

Site Details

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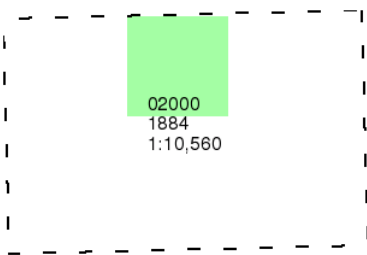
Hertfordshire

Published 1884

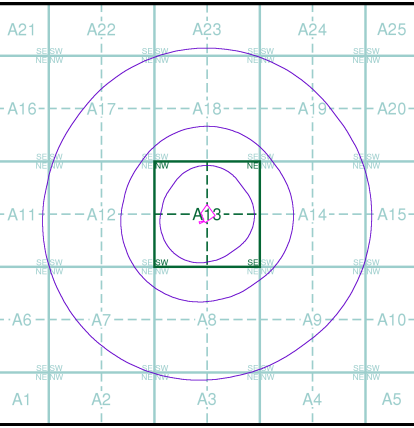
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

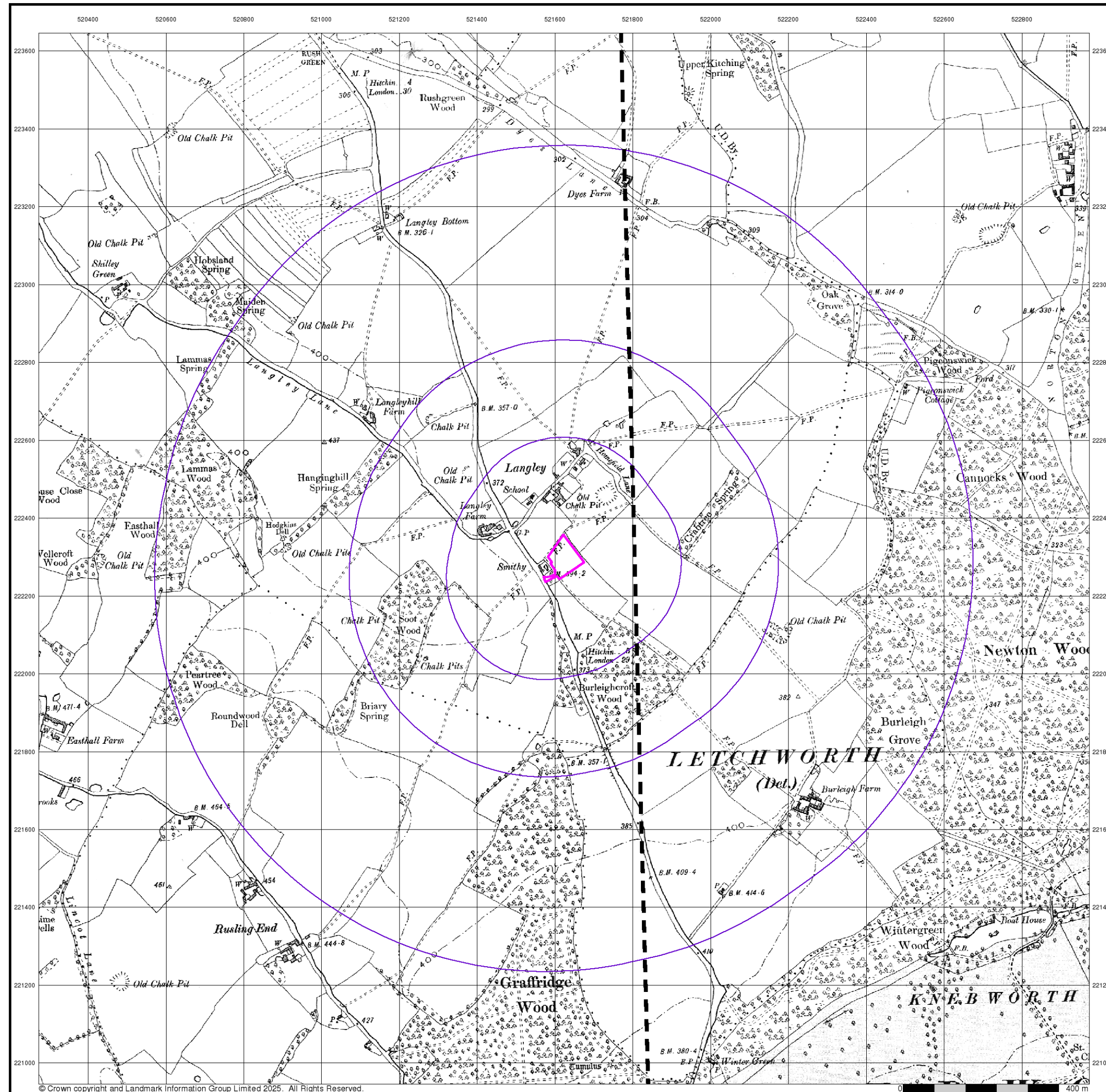


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Site Details

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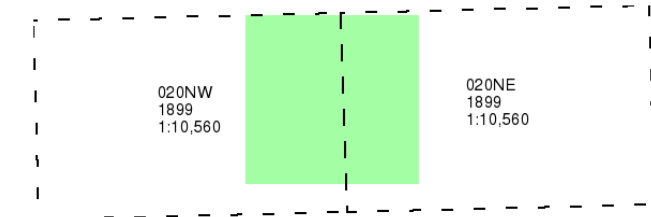
Hertfordshire

Published 1899

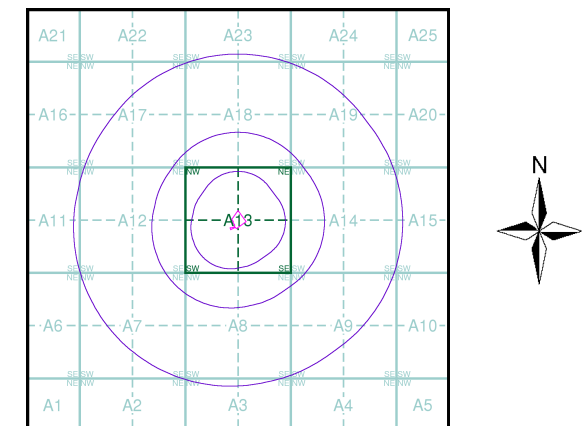
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Historical Map - Slice A



Order Details

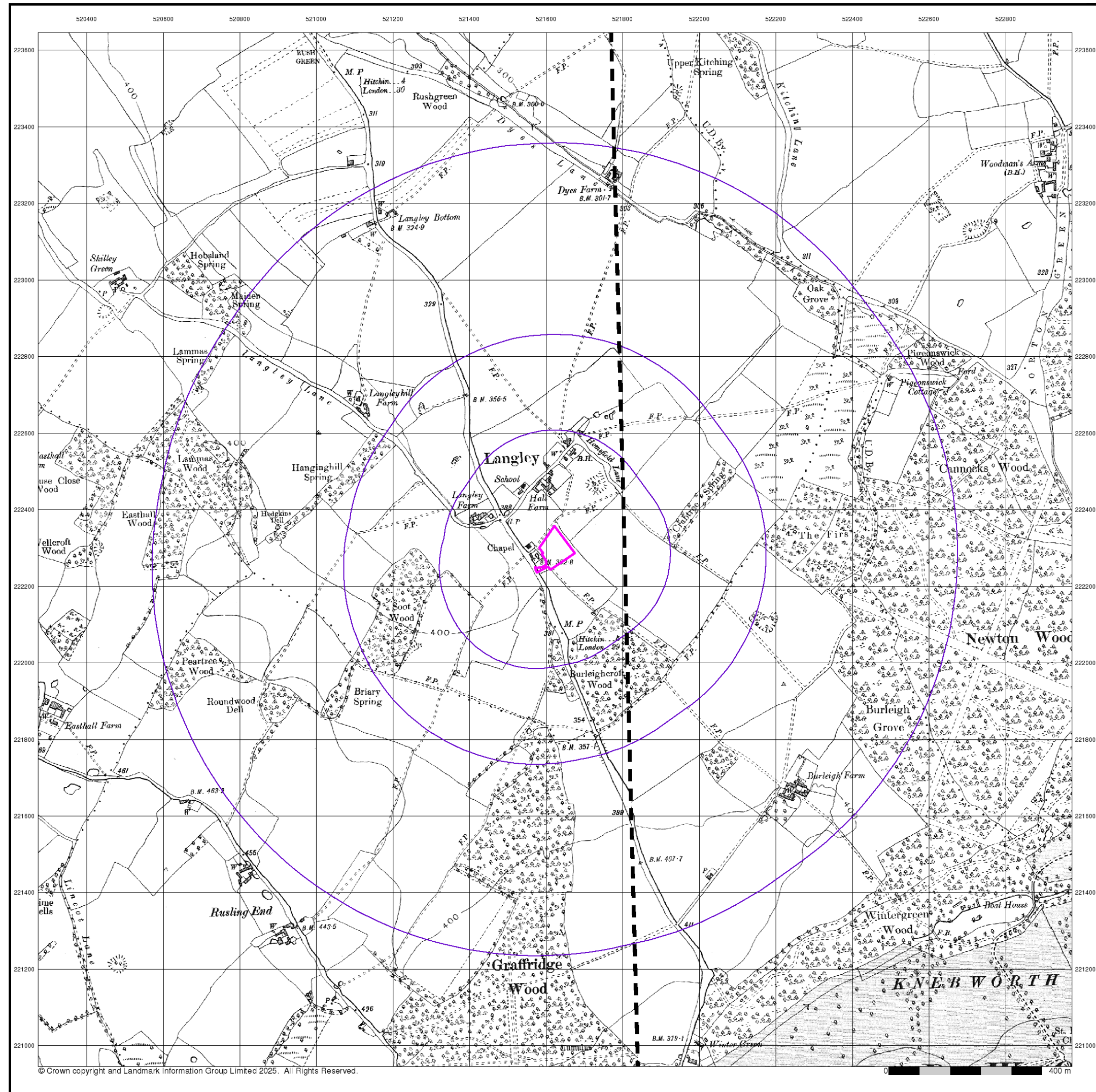
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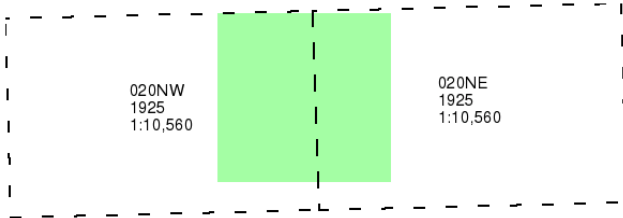
Hertfordshire

Published 1925

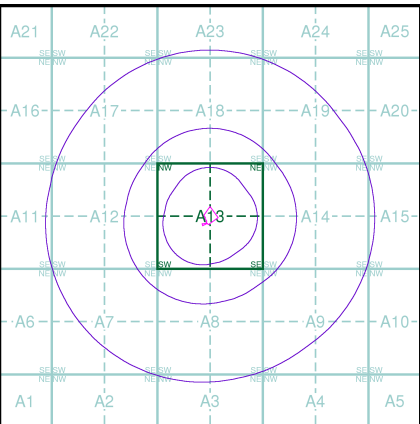
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Historical Map - Slice A

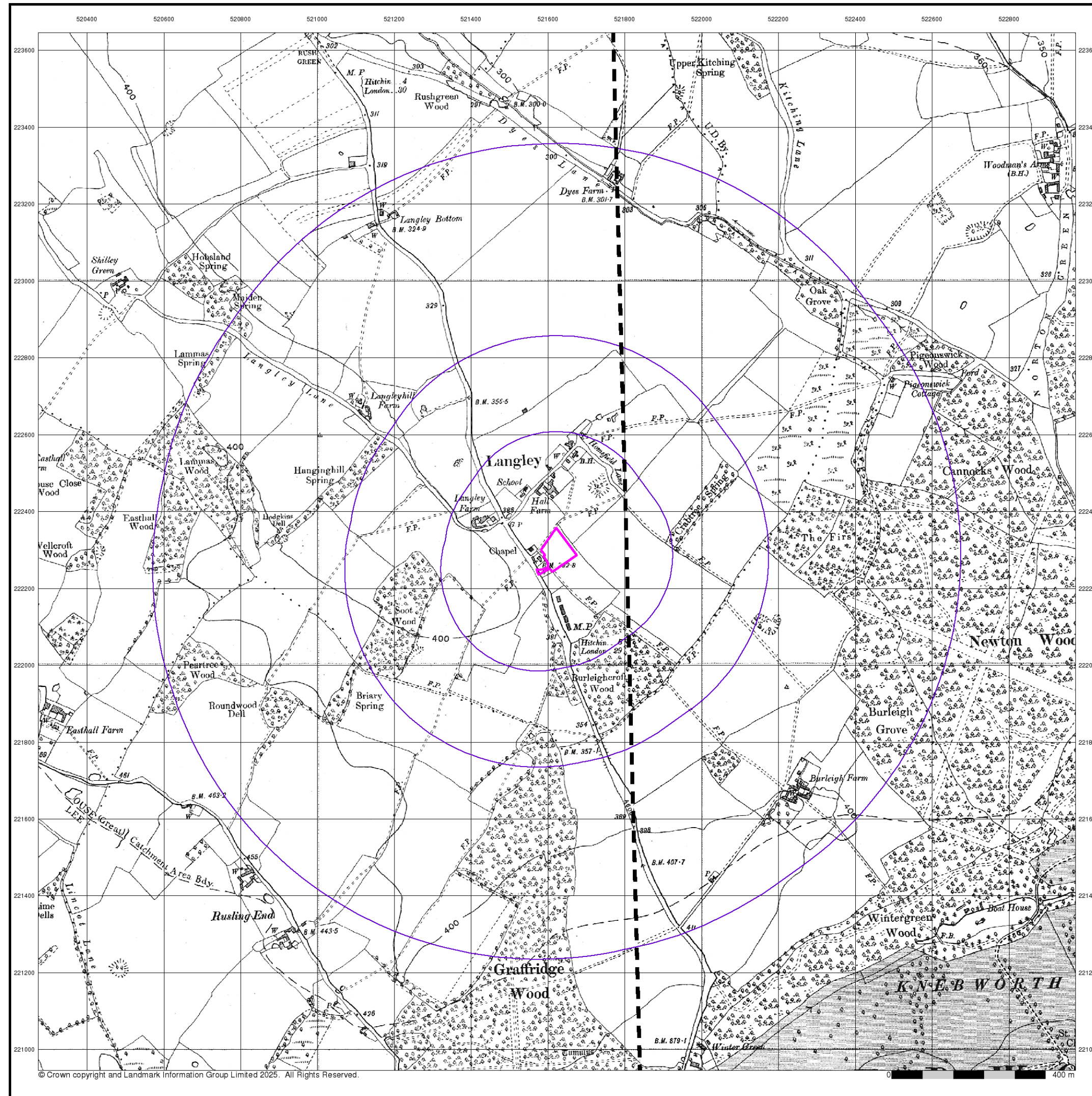


Order Details

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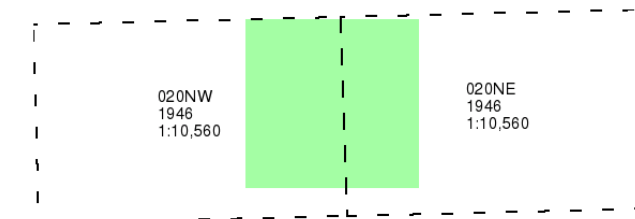
Hertfordshire

Published 1946

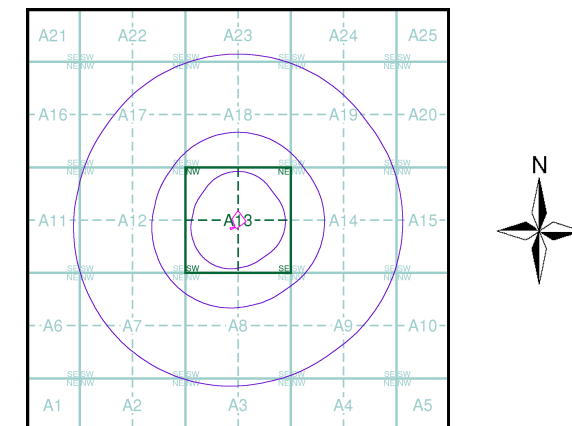
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Historical Map - Slice A



Order Details

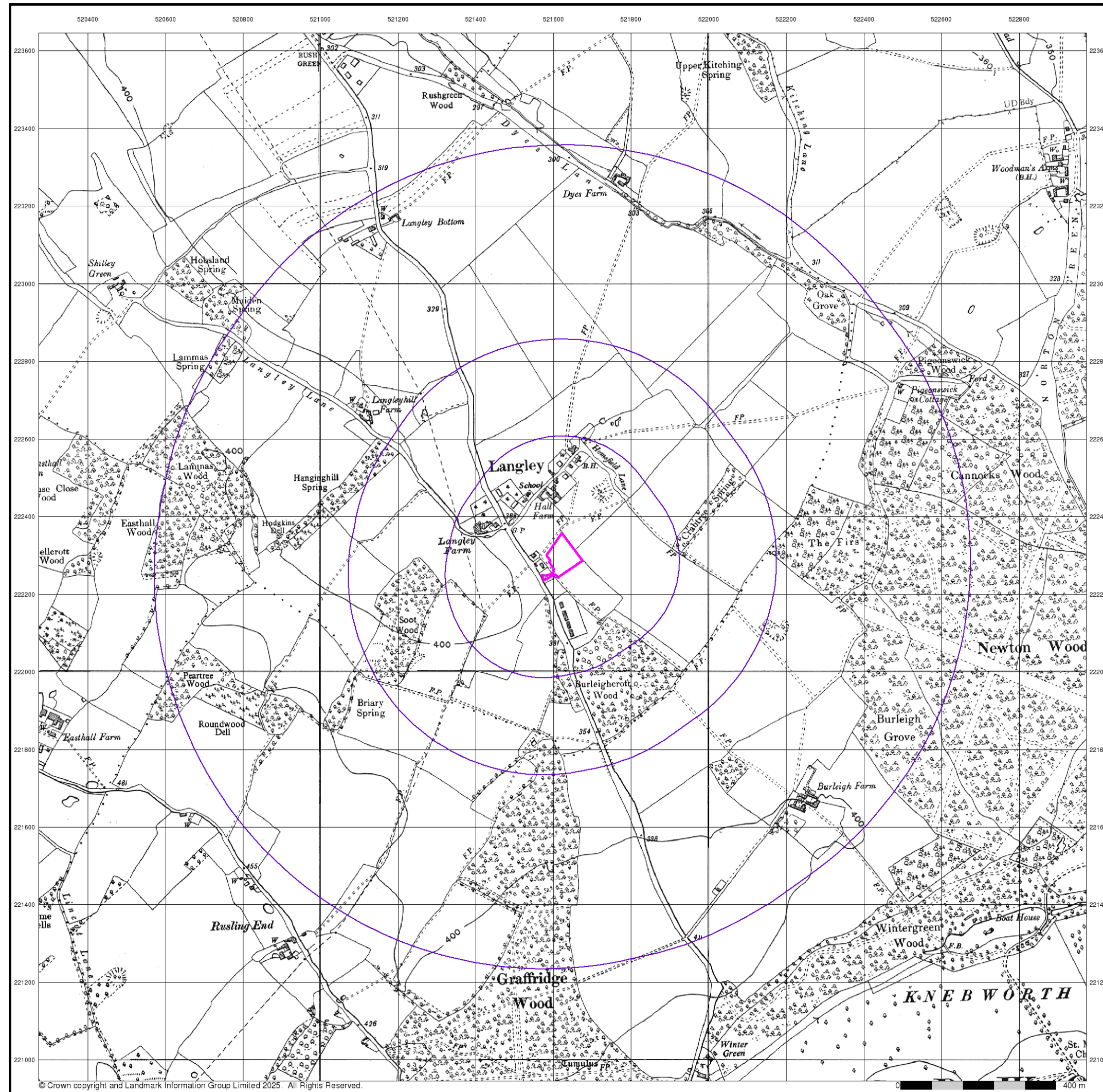
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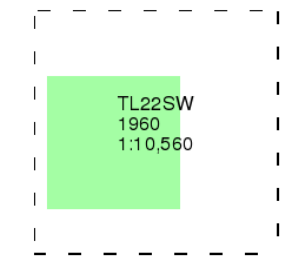
Ordnance Survey Plan

Published 1960

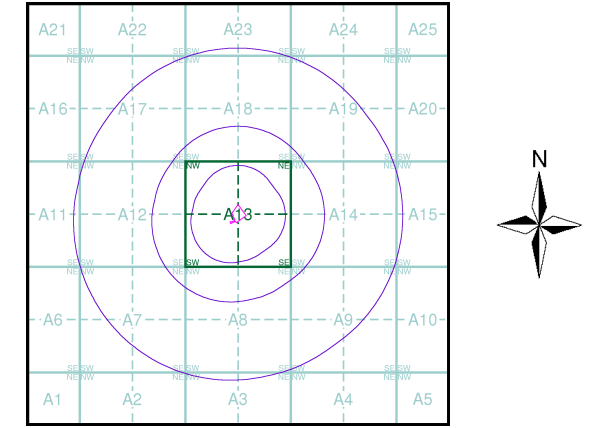
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Map Name(s) and Date(s)



Historical Map - Slice A

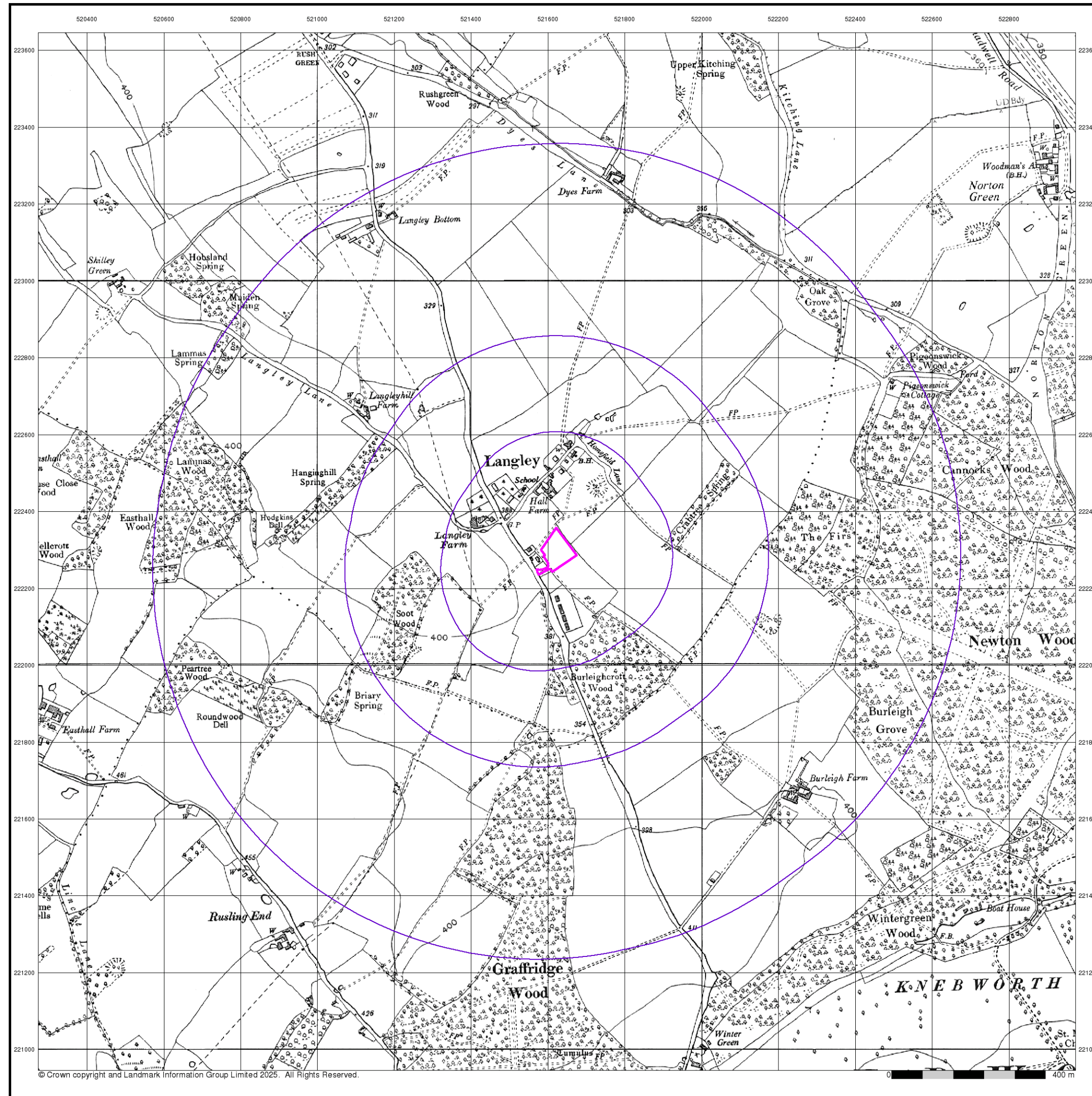


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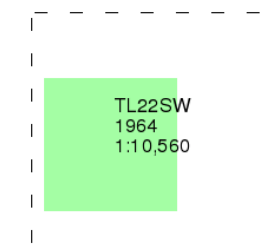
Ordnance Survey Plan

Published 1964

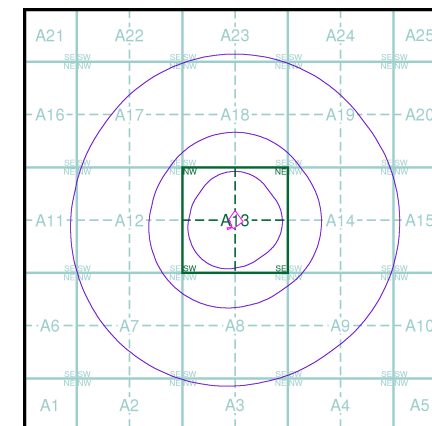
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Map Name(s) and Date(s)



Historical Map - Slice A

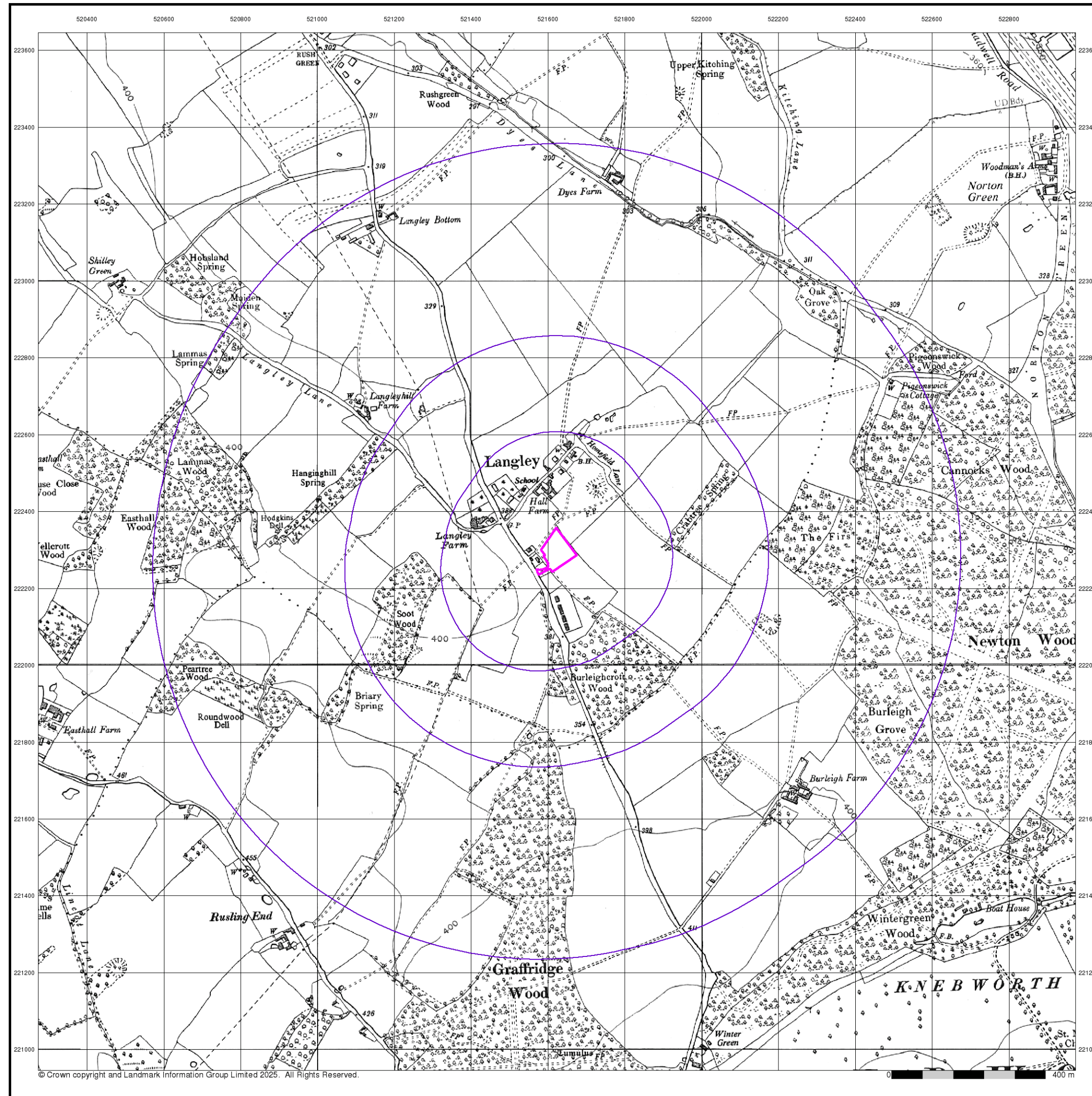


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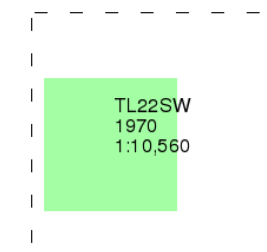
Ordnance Survey Plan

Published 1970

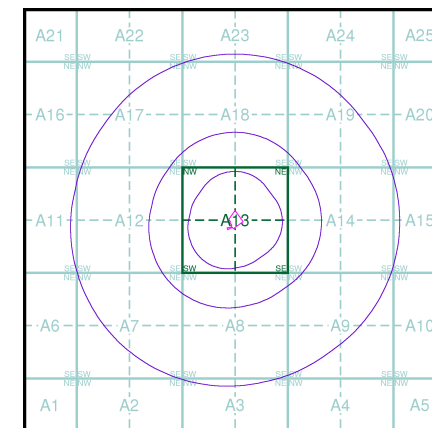
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Map Name(s) and Date(s)



Historical Map - Slice A

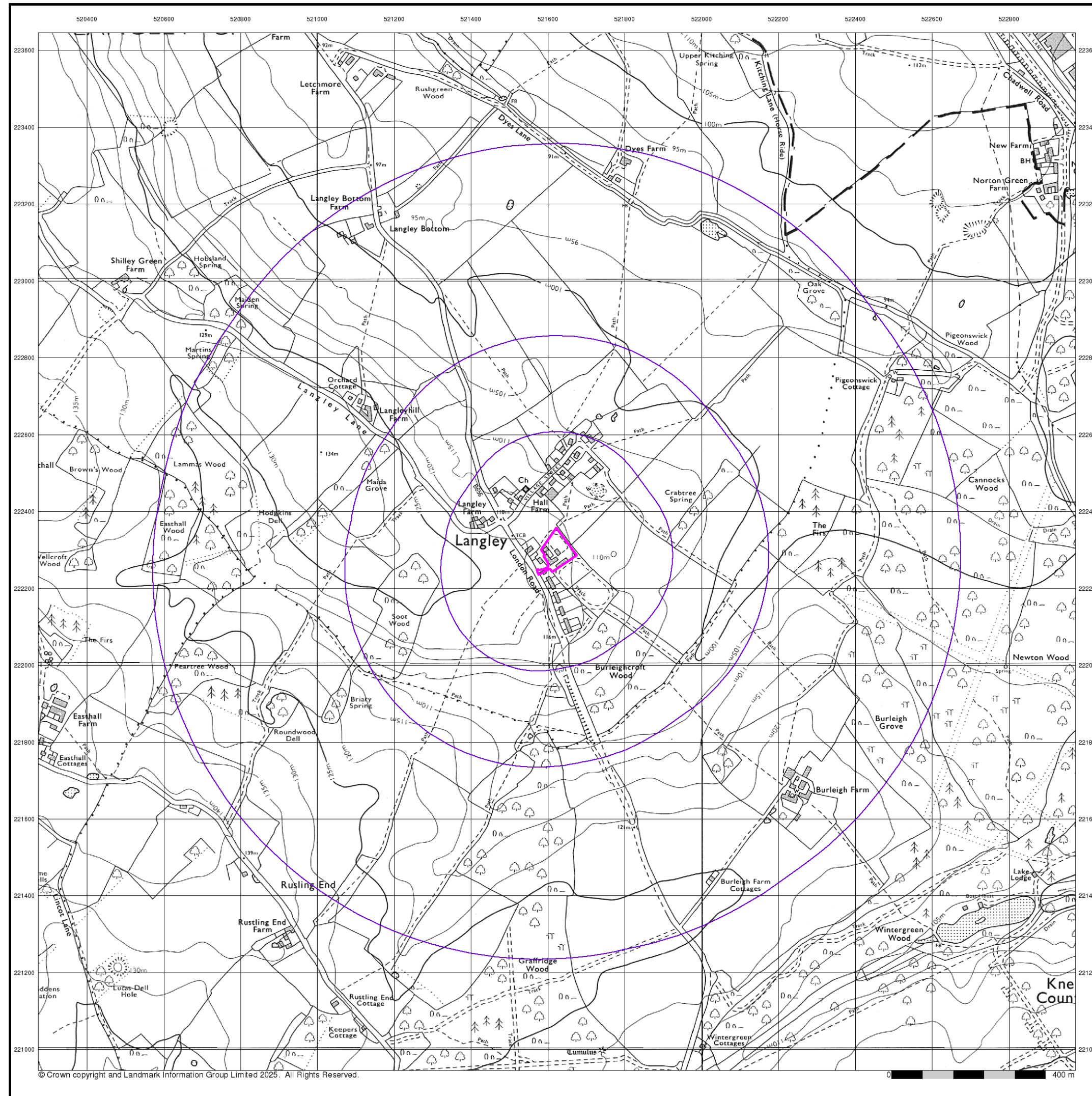


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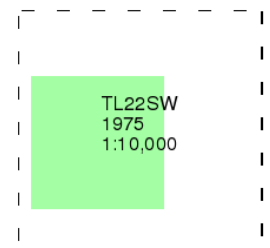
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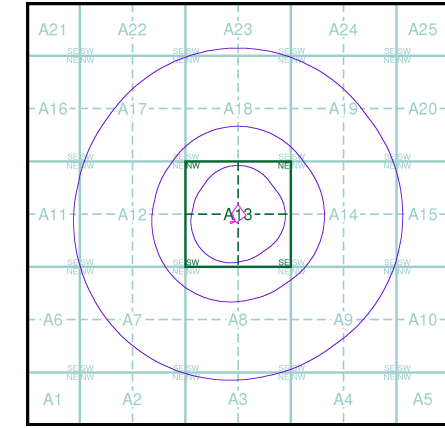
Ordnance Survey Plan
Published 1975
Source map scale - 1:10,000

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Map Name(s) and Date(s)

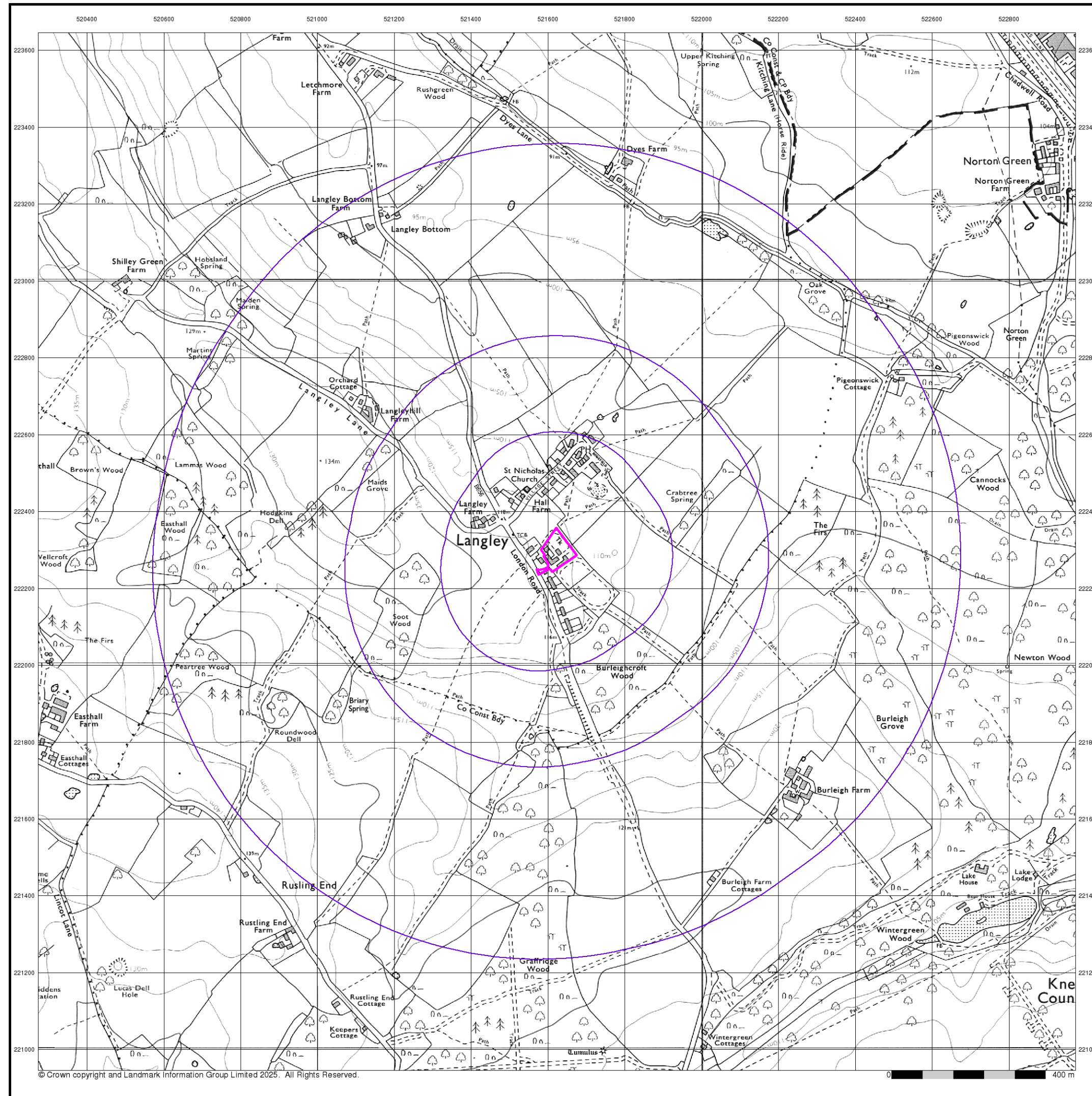


Historical Map - Slice A



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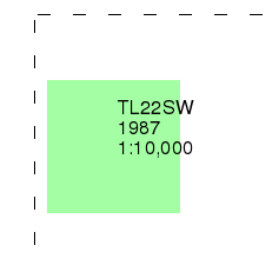
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Published 1987

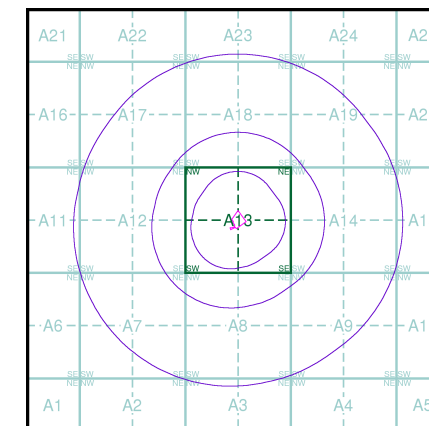
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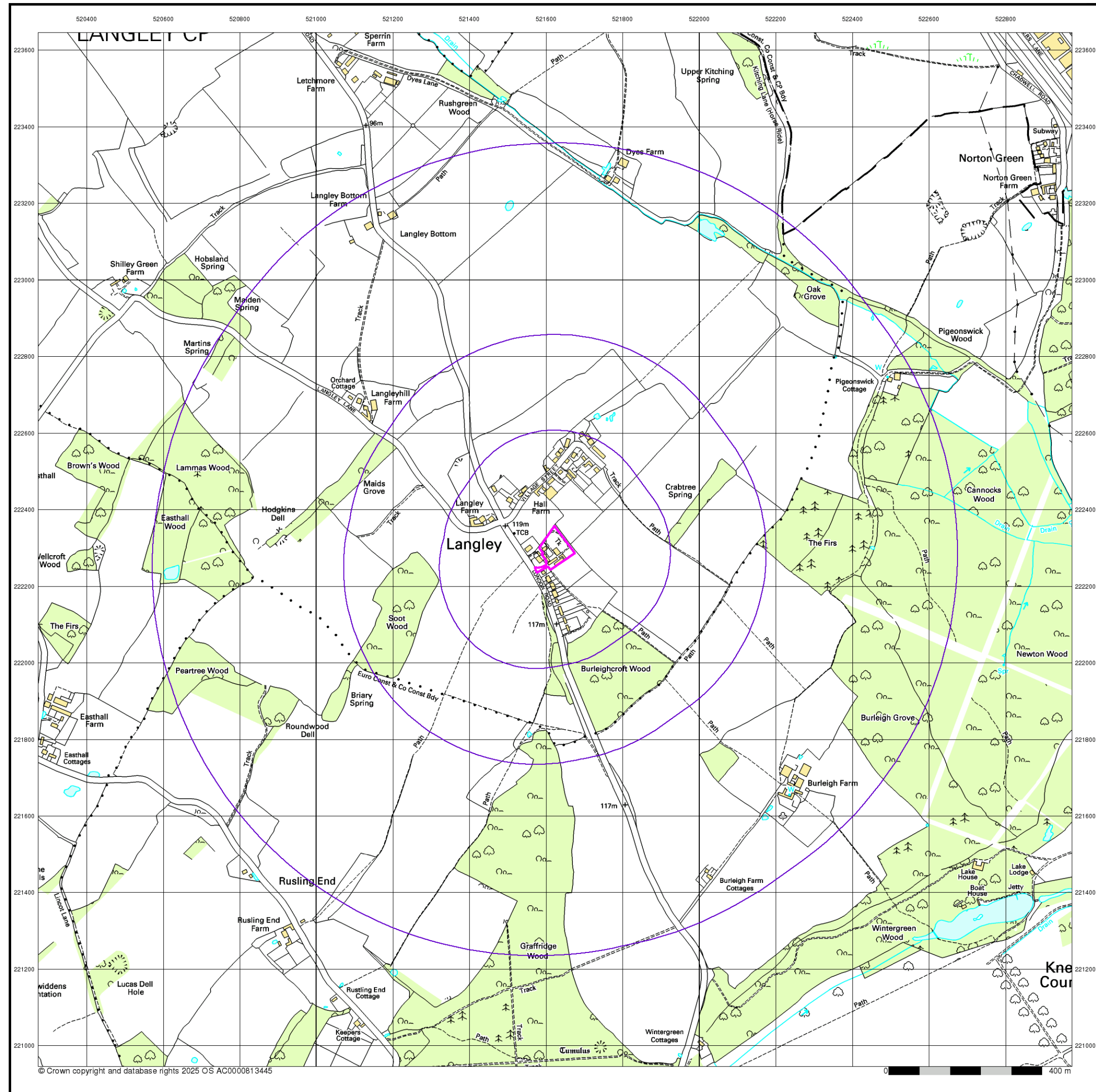


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10k Raster Mapping

Published 1999

Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

TL22SW

1999

1:10,000

Historical Map - Slice A

Order Details

Order Number:	367757308_1_1
Customer Ref:	STX6902
National Grid Reference:	521620, 222290
Slice:	A
Site Area (Ha):	0.58
Search Buffer (m):	1000

Site Details

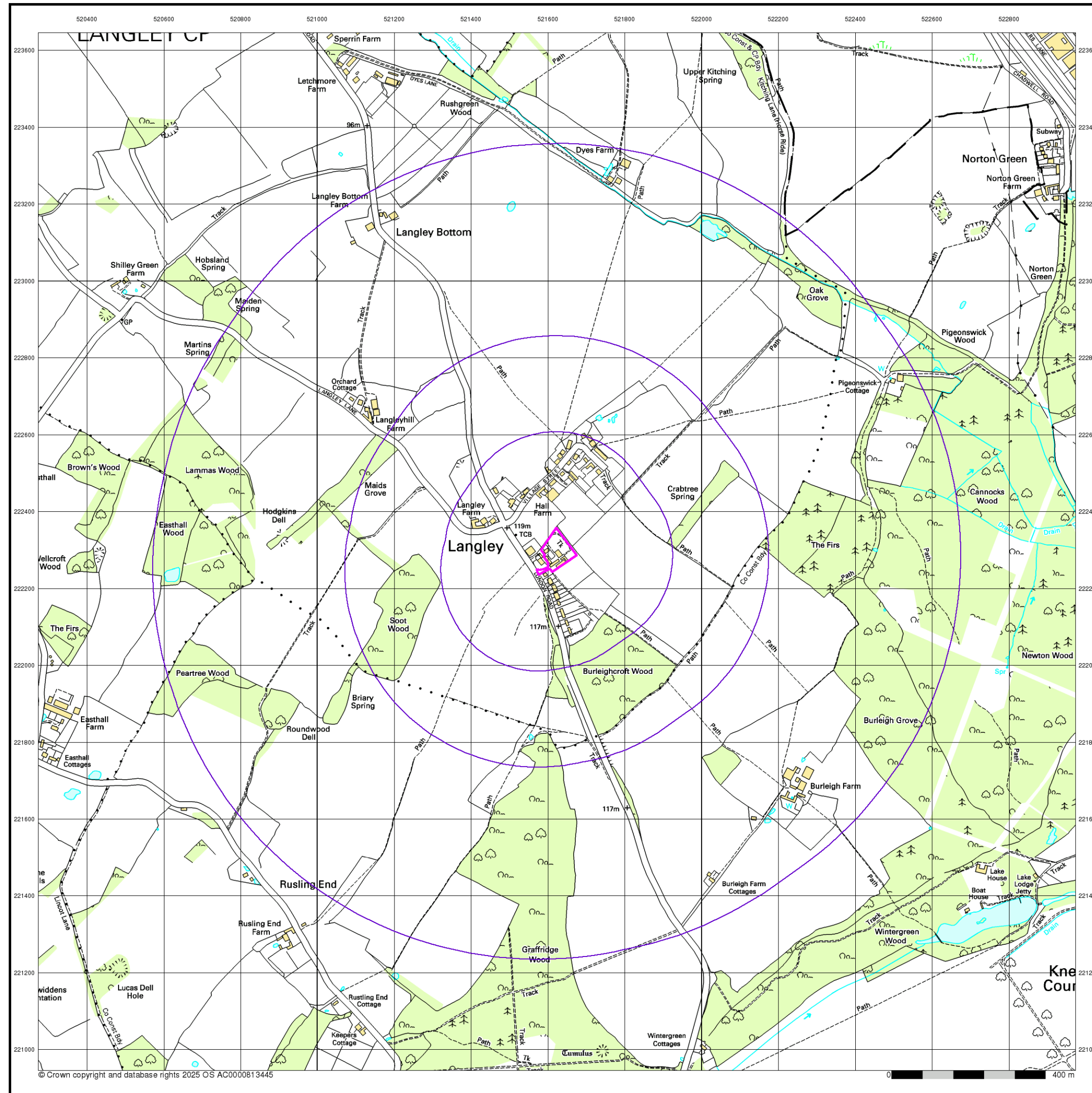
Greenside

Landmark

INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

A Landmark Information Group Service v50.0 21-Jan-2025 Page 13 of 15



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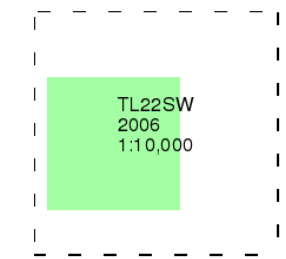
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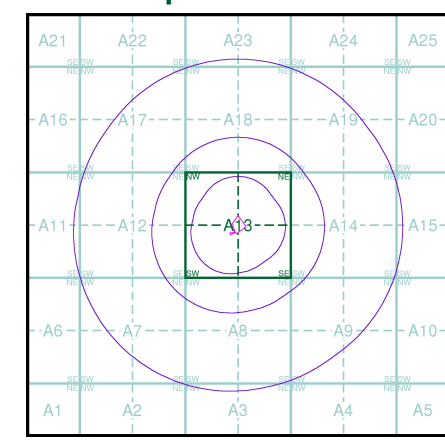
10k Raster Mapping
Published 2006
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)



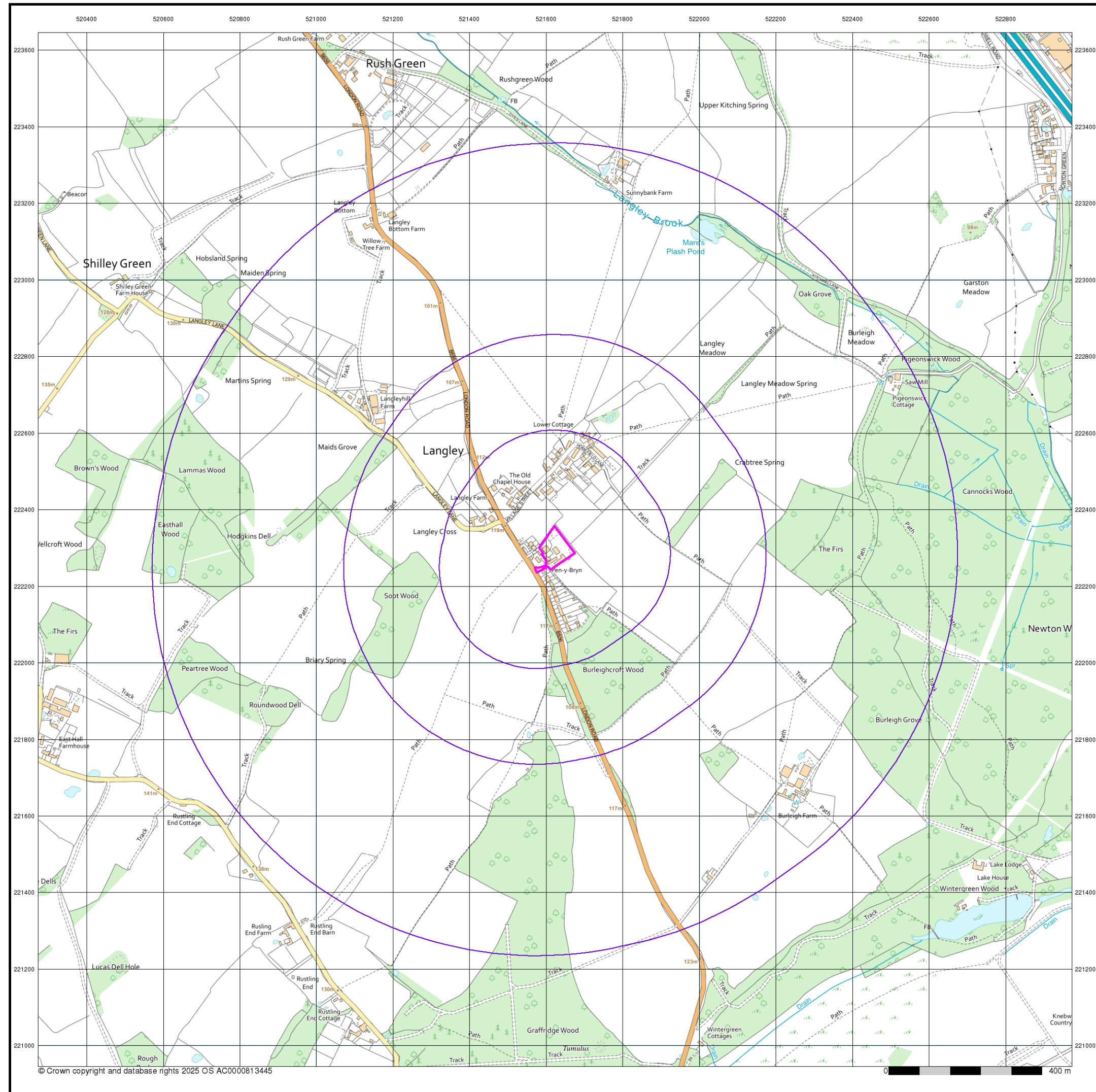
Historical Map - Slice A



Order Details
Order Number: 367757308_1_1
Customer Ref: STX6902
National Grid Reference: 521620, 222290
Slice: A
Site Area (Ha): 0.58
Search Buffer (m): 1000

Site Details
Greenside

Landmark
INFORMATION GROUP
Tel: 0844 844 9952
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VectorMap Local

Published 2024

Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

TL22SW
2024
Variable

Historical Map - Slice A

Order Details

Order Number:	367757308_1_1
Customer Ref:	STX6902
National Grid Reference:	521620, 222290
Slice:	A
Site Area (Ha):	0.58
Search Buffer (m):	1000

Site Details

Greenside

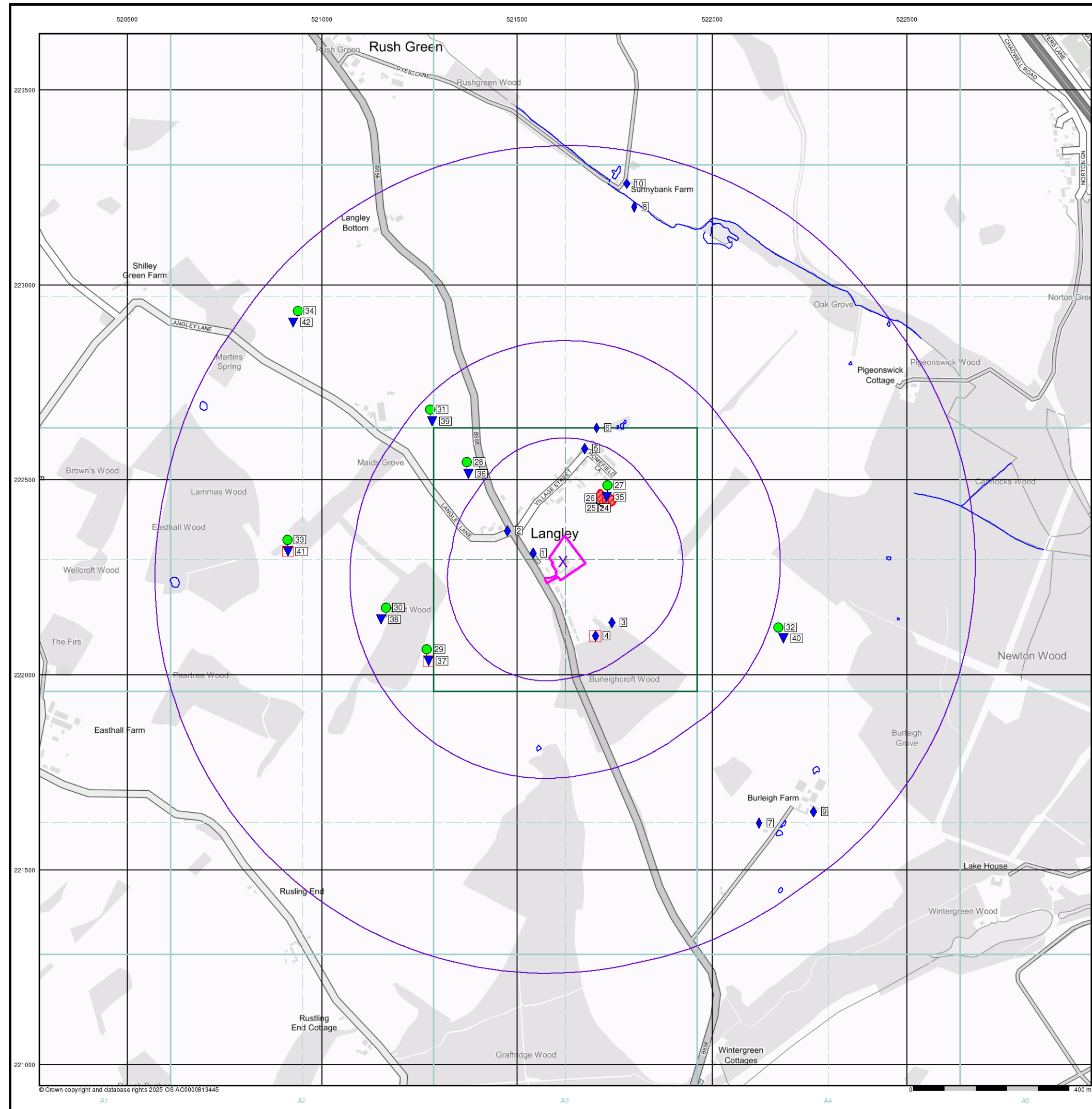
Landmark

INFORMATION GROUP

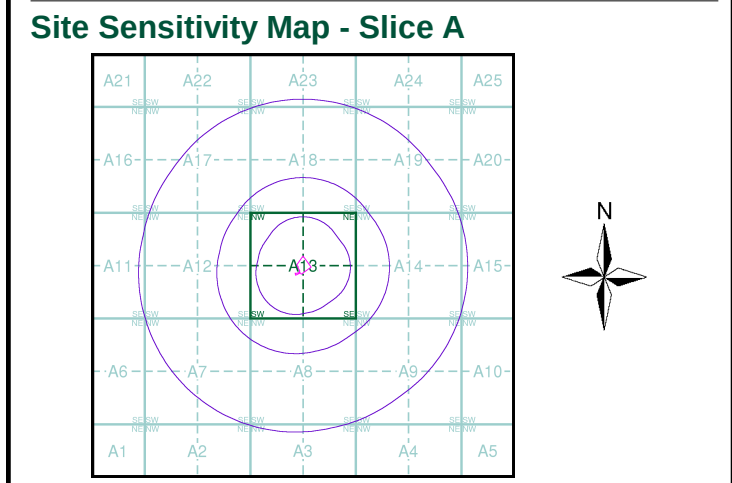
Tel: 0844 844 9952
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Web: www.envirocheck.co.uk

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- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Historical Prosecutions
 - Prosecutions
 - Registered Radioactive Substance
 - River Network or Water Feature
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Waste**
- BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
 - Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Landfill Boundary)
 - Licensed Waste Management Facility (Location)
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Registered Landfill Site
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Hazardous Substances**
- COMAH Site
 - Explosive Site
 - NIHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
- Geological**
- BGS Recorded Mineral Site



Order Details

Order Number: 367757308_1_1
 Customer Ref: STX6902
 National Grid Reference: 521620, 222290
 Slice: A
 Site Area (Ha): 0.58
 Search Buffer (m): 1000

Site Details
 Greenside

Industrial Land Use Map

General

Specified Site

Specified Buffer(s)

Bearing Reference Point

Slice

Map ID

Industrial Land Use

Contemporary Trade Directory Entry

Fuel Station Entry

Points of Interest - Commercial Services

Points of Interest - Education and Health

Points of Interest - Manufacturing and Production

Points of Interest - Public Infrastructure

Points of Interest - Recreational and Environmental

Underground Electrical Cables

Industrial Land Use Map - Slice A

Order Details

Order Number:

367757308_1_1

Customer Ref:

STX6902

National Grid Reference:

521620, 222290

Slice:

A

Site Area (Ha):

0.58

Search Buffer (m):

1000

Site Details
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Landmark

INFORMATION GROUP

Tel:

0844 844 9952

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Web:

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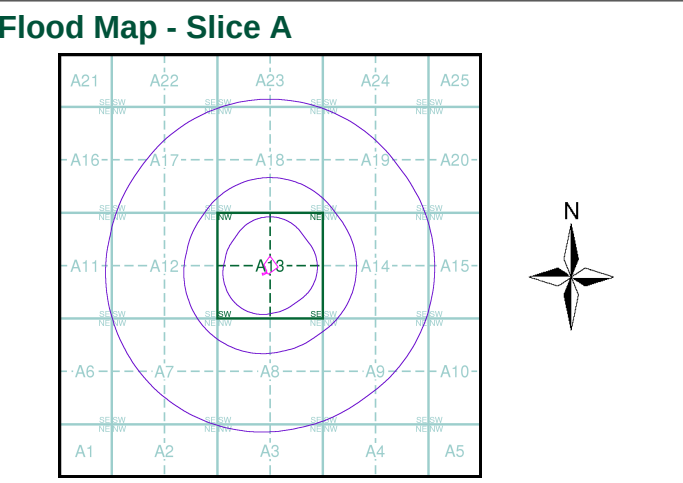
A Landmark Information Group Service v50.0 21-Jan-2025 Page 2 of 7

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

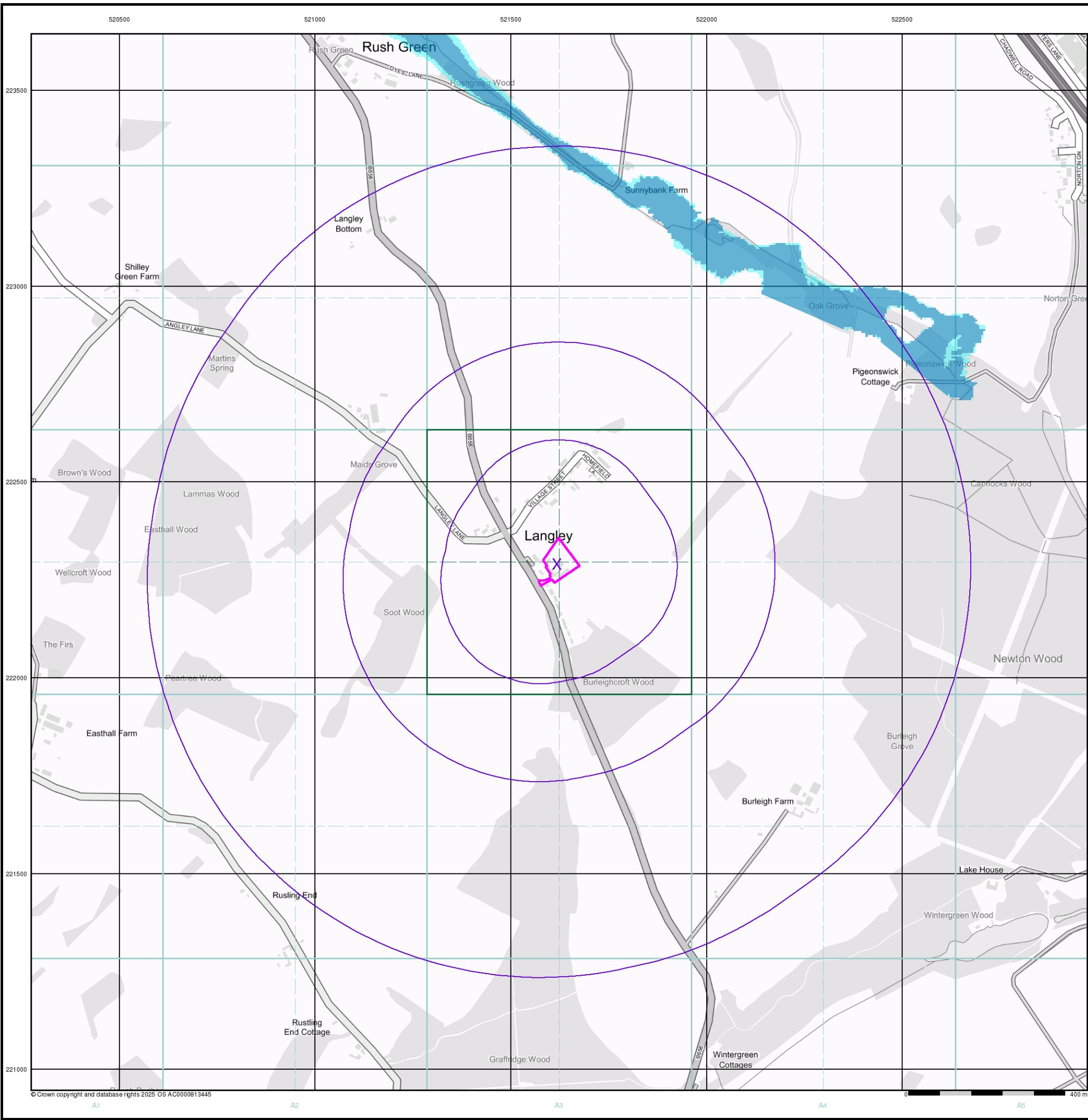


Order Details

Order Number:	367757308_1_1
Customer Ref:	STX6902
National Grid Reference:	521620, 222290
Slice:	A
Site Area (Ha):	0.58
Search Buffer (m):	1000

Site Details

Greenside



General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

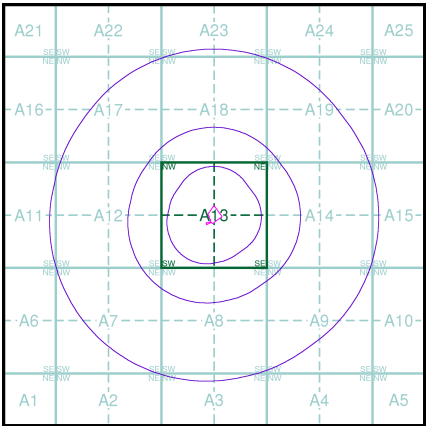
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A

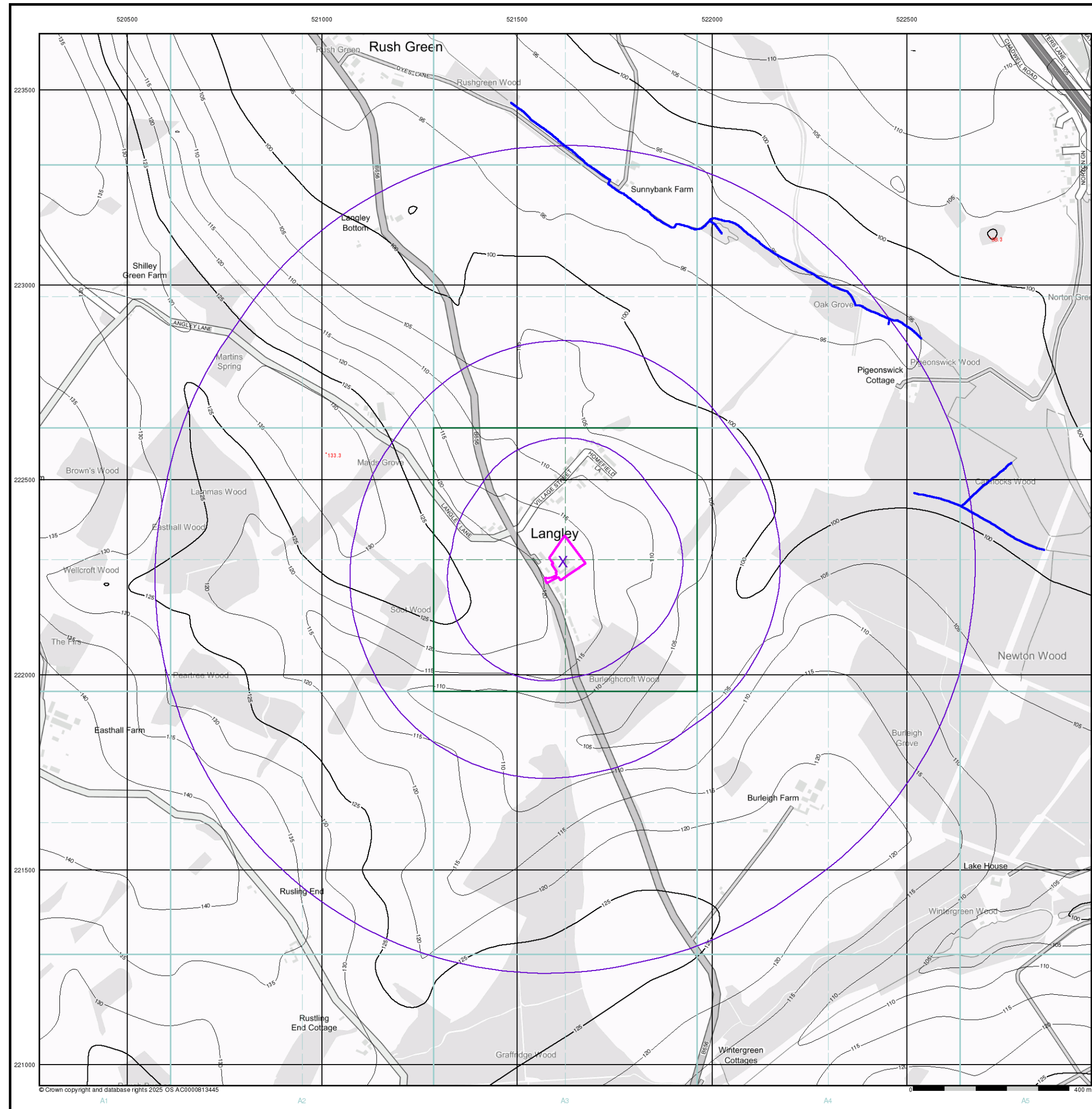


Order Details

Order Number: 367757308_1_1
Customer Ref: STX6902
National Grid Reference: 521620, 222290
Slice: A
Site Area (Ha): 0.58
Search Buffer (m): 1000

Site Details

Greenside



- General
- Specified Site

Specified Buffer(s)

Bearing Reference Point

- OS Water Network Data
- Canal

Reservoir

Foreshore

Marsh

Tidal River

Inland River

Drain

Other

Lake

Transfer

Lock Or Flight Of Locks

Sea

- Contours (height in meters)
- Standard Contour

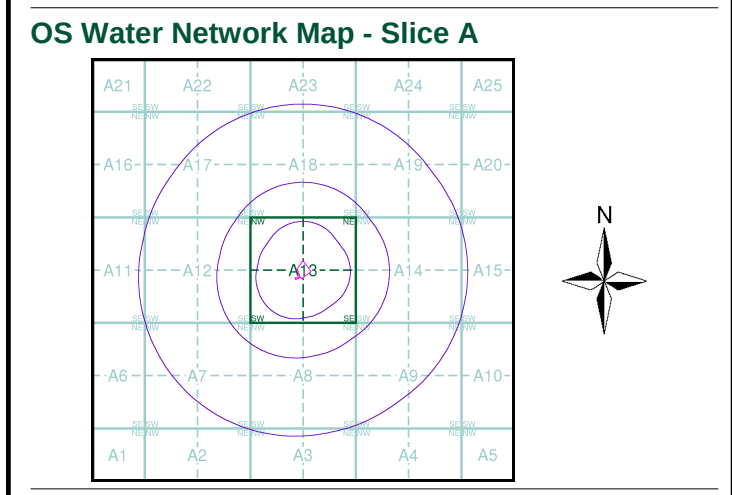
Master Contour

Spot Height
- 105

100

95
- Mean Low Water

Mean High Water
- 167.3



Order Details

Order Number:

Customer Ref:

National Grid Reference:

Slice:

Site Area (Ha):

Search Buffer (m):

367757308_1_1

STX6902

521620, 222290

A

0.58

1000

Site Details

Greenside

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Risk of Flooding from Surface Water

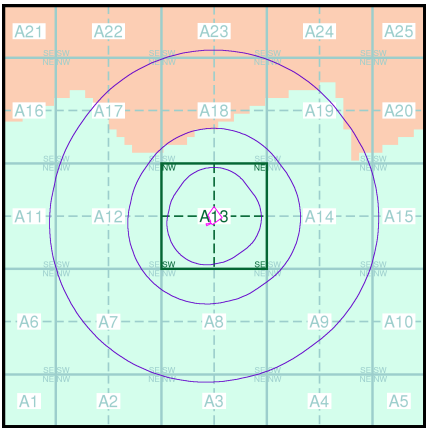
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

- National to county
- County to town
- Town to street
- Street to parcels of land
- Property

EAN/RW Suitability Map - Slice A

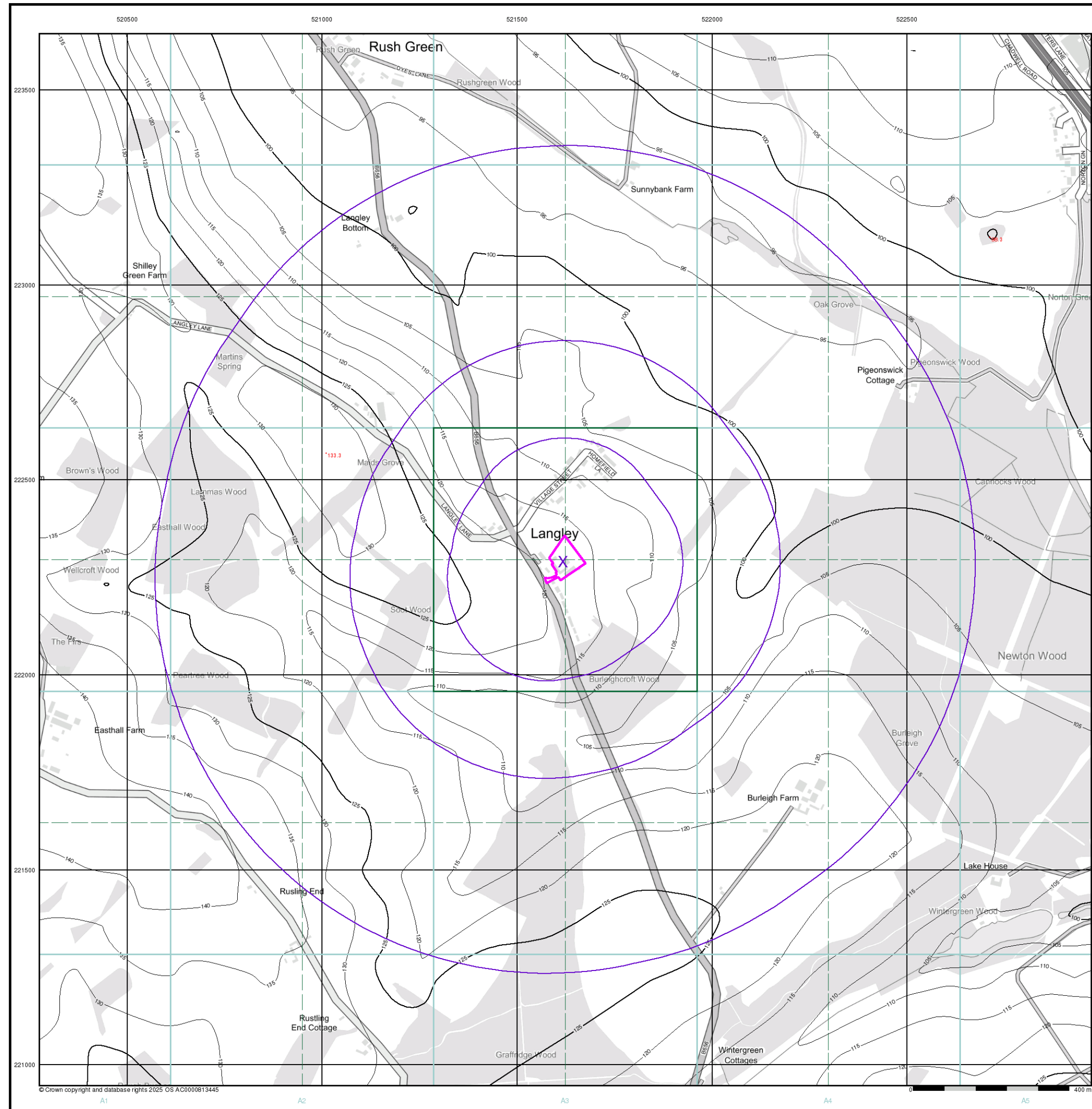


Order Details

Order Number: 367757308_1_1
Customer Ref: STX6902
National Grid Reference: 521620, 222290
Slice: A
Site Area (Ha): 0.58
Search Buffer (m): 1000

Site Details

Greenside



WFD Surface Waters Map

General

Specified Site

Specified Buffer(s)

Bearing Reference Point

Slice

Map ID

Water Framework Directive - Surface Water Quality

High

Good

Moderate

Poor

Bad

Contours (height in meters)

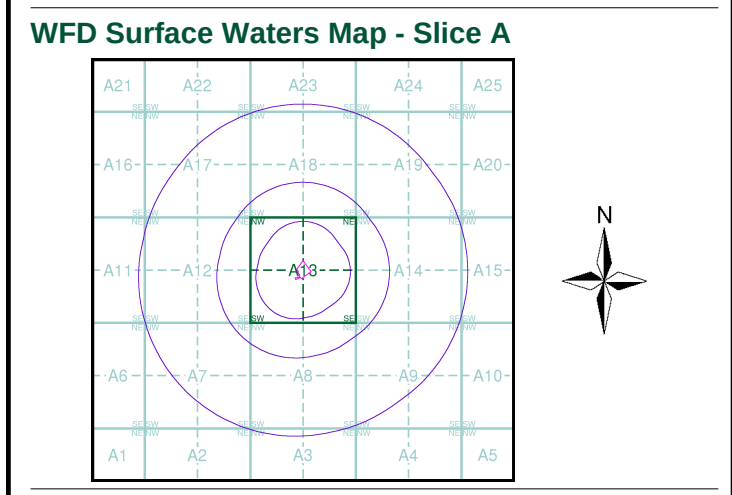
Standard Contour

Master Contour

Spot Height

Mean Low Water

Mean High Water



Order Details

Order Number:

Customer Ref:

National Grid Reference:

Slice:

Site Area (Ha):

Search Buffer (m):

367757308_1_1

STX6902

521620, 222290

A

0.58

1000

Site Details

Greenside

General

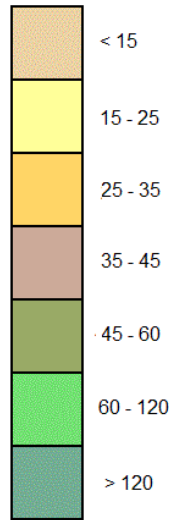
 Specified Site

 Specified Buffer(s)

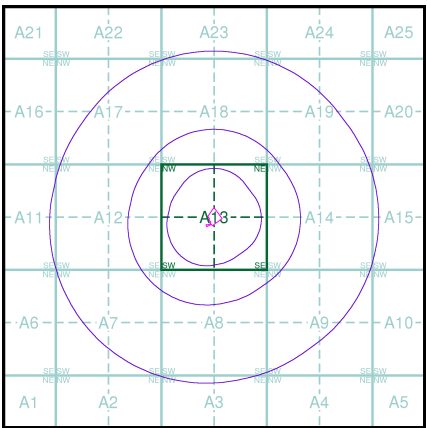
 Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg



Estimated Soil Chemistry Arsenic - Slice A



Order Details

Order Details: 367757308_1_1
Customer Ref: STX6902
National Grid Reference: 521620, 222290
Slice: A
Site Area (Ha): 0.58
Search Buffer (m): 1000

Site Details

Greenside

General

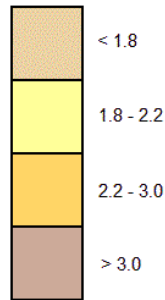
 Specified Site

 Specified Buffer(s)

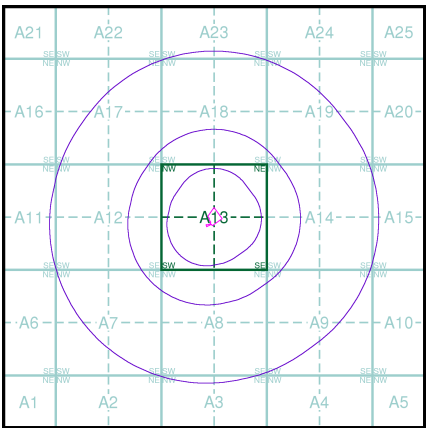
 Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg



Estimated Soil Chemistry Cadmium - Slice A



Order Details

Order Details: 367757308_1_1
Customer Ref: STX6902
National Grid Reference: 521620, 222290
Slice: A
Site Area (Ha): 0.58
Search Buffer (m): 1000

Site Details

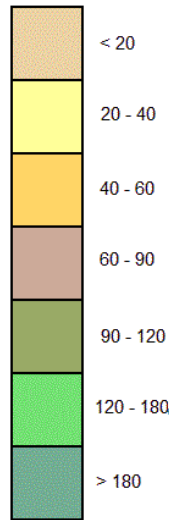
Greenside

General

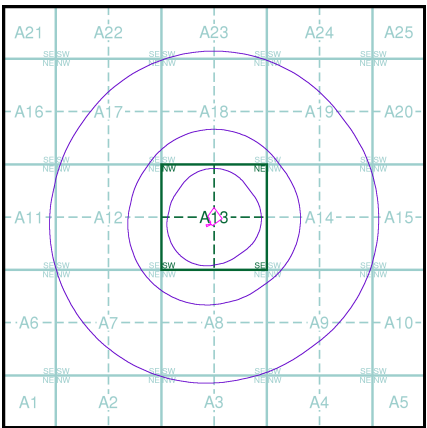
-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg



Estimated Soil Chemistry Chromium - Slice A



Order Details

Order Details:

Customer Ref:

National Grid Reference:

Slice:

Site Area (Ha):

Search Buffer (m):

367757308_1_1

STX6902

521620, 222290

A

0.58

1000

Site Details

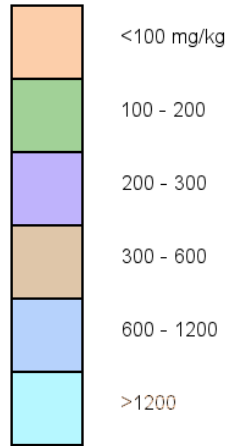
Greenside

General

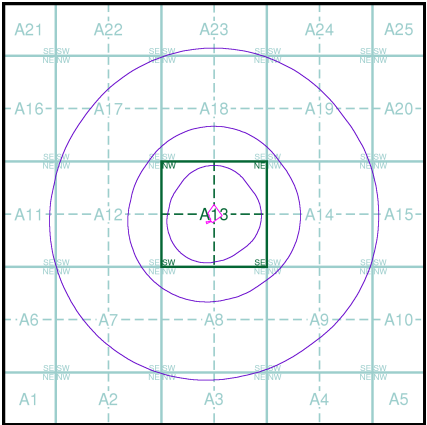
-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg



Estimated Soil Chemistry Lead - Slice A



Order Details

Order Details:

Customer Ref:

National Grid Reference:

Slice:

Site Area (Ha):

Search Buffer (m):

367757308_1_1

STX6902

521620, 222290

A

0.58

1000

Site Details

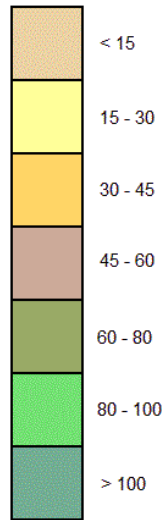
Greenside

General

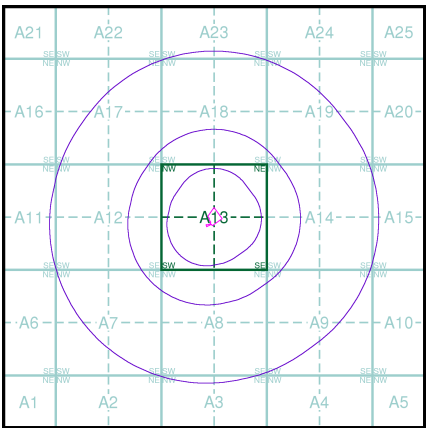
-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg



Estimated Soil Chemistry Nickel - Slice A



Order Details

Order Details:

Customer Ref:

National Grid Reference:

Slice:

Site Area (Ha):

Search Buffer (m):

367757308_1_1

STX6902

521620, 222290

A

0.58

1000

Site Details

Greenside

Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



Large-Scale National Grid Data 1:2,500 and 1:1,250



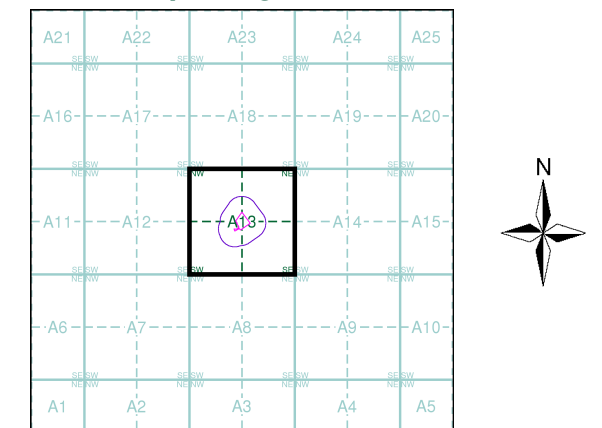
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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Hertfordshire	1:2,500	1881	2
Hertfordshire	1:2,500	1898	3
Hertfordshire	1:2,500	1923 - 1924	4
Ordnance Survey Plan	1:2,500	1972	5
Additional SIMs	1:2,500	1990	6
Large-Scale National Grid Data	1:2,500	1993	7
Historical Aerial Photography	1:2,500	2000	8

Historical Map - Segment A13



Order Details

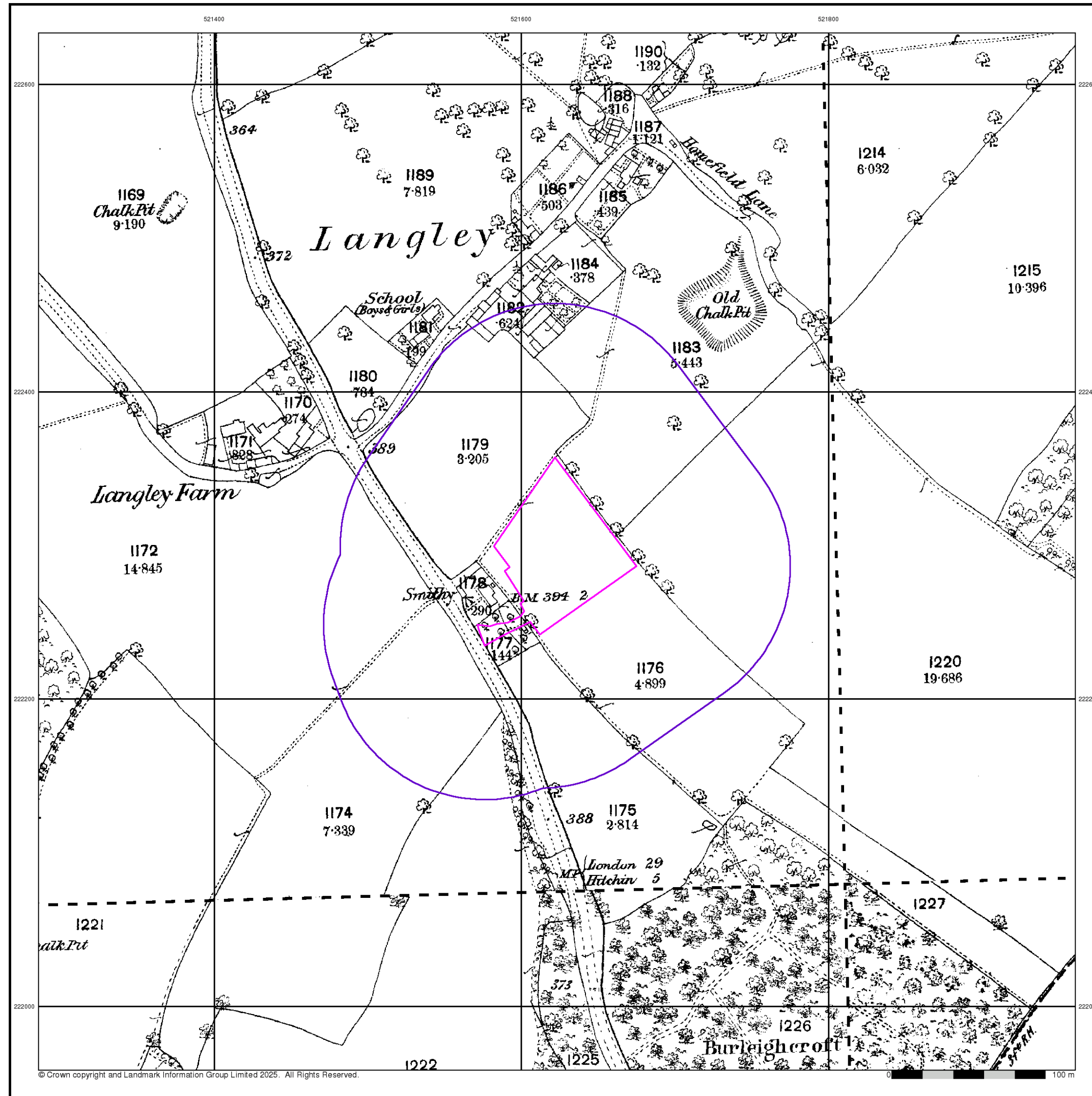
Order Number: 367757308_1_1
Customer Ref: STX6902
National Grid Reference: 521620, 222290
Slice: A
Site Area (Ha): 0.58
Search Buffer (m): 100

Site Details

Greenside

Landmark
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Hertfordshire

Published 1881

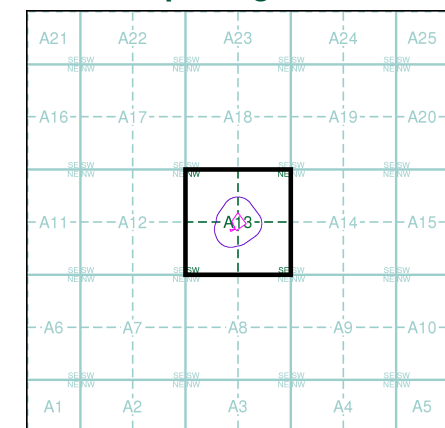
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

020_02 1881 1:2,500	020_03 1881 1:2,500
020_06 1881 1:2,500	020_07 1881 1:2,500

Historical Map - Segment A13

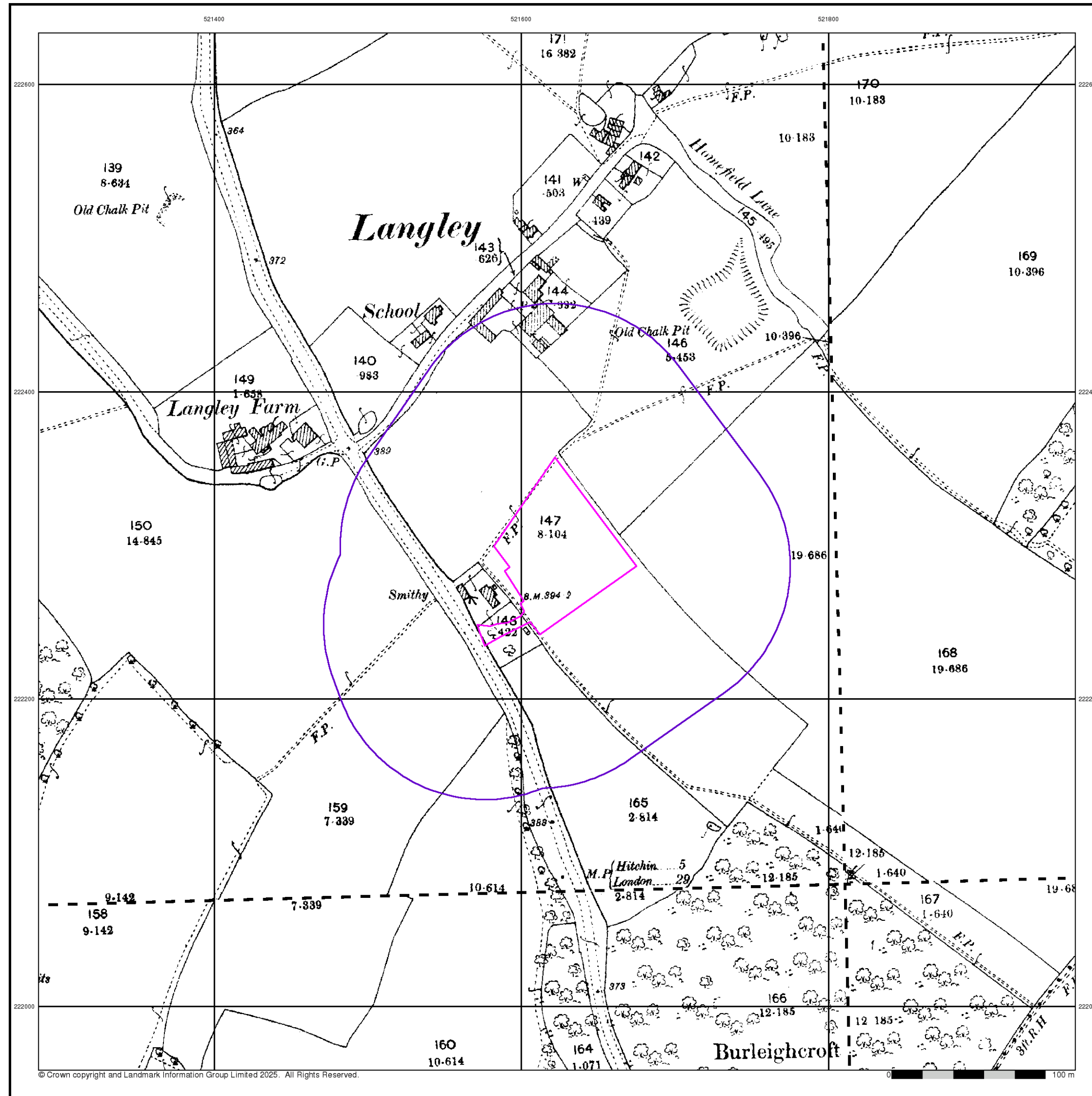


Order Details

Order Number: 367757308_1_1
Customer Ref: STX6902
National Grid Reference: 521620, 222290
Slice: A
Site Area (Ha): 0.58
Search Buffer (m): 100

Site Details

Greenside



Hertfordshire

Published 1898

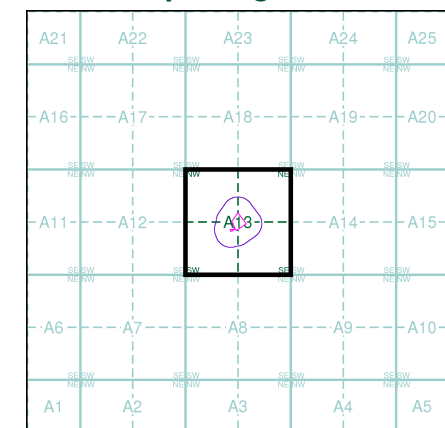
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

020_02 1898 1:2,500	020_03 1898 1:2,500
020_06 1898 1:2,500	020_07 1898 1:2,500

Historical Map - Segment A13

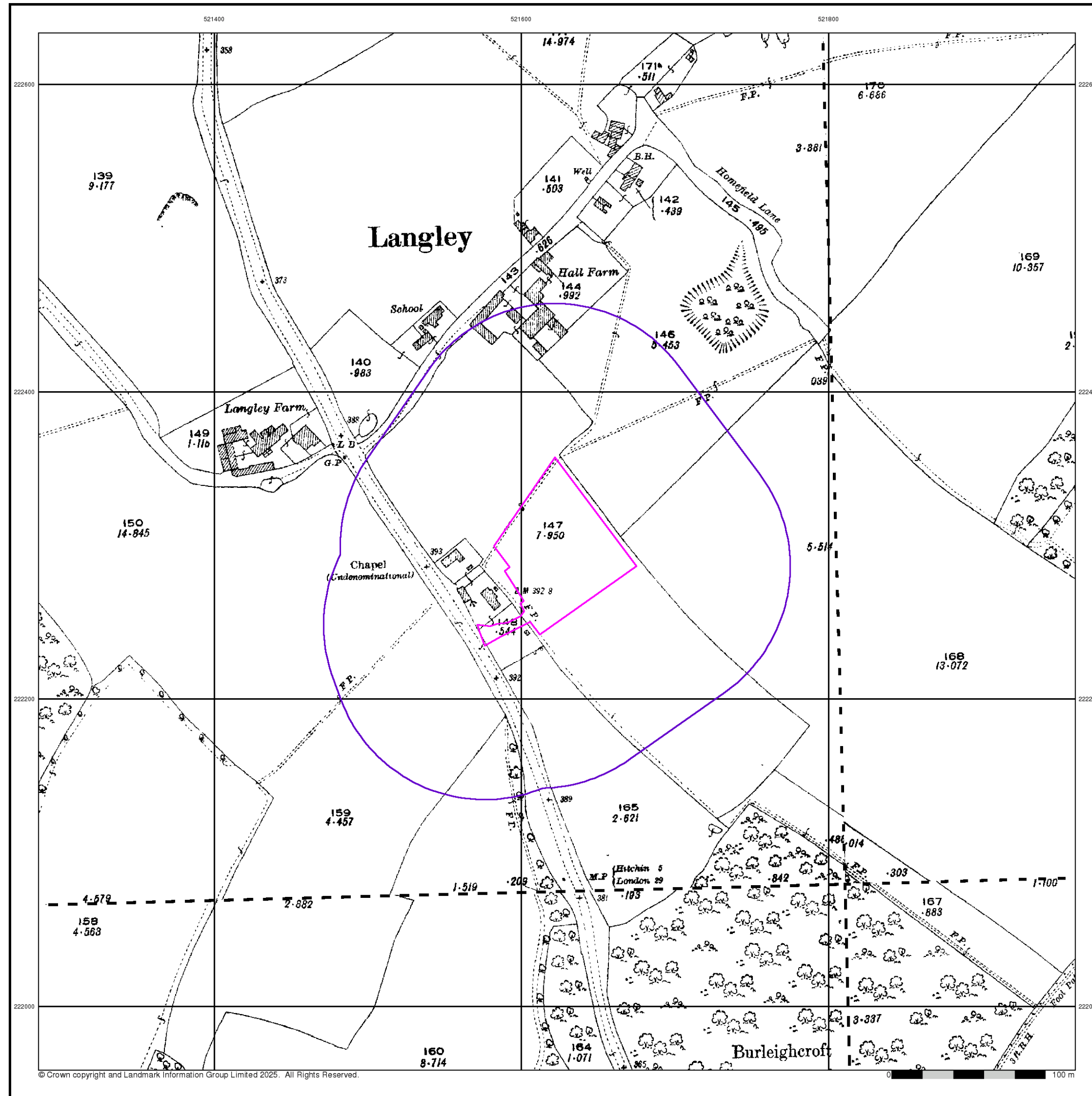


Order Details

Order Number: 367757308_1_1
Customer Ref: STX6902
National Grid Reference: 521620, 222290
Slice: A
Site Area (Ha): 0.58
Search Buffer (m): 100

Site Details

Greenside



Hertfordshire

Published 1923 - 1924

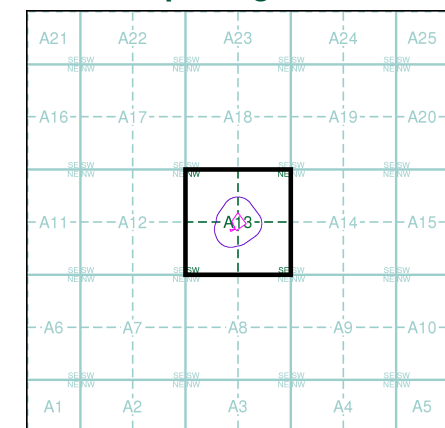
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

020_02 1924 1:2,500	020_03 1923 1:2,500
020_06 1924 1:2,500	020_07 1924 1:2,500

Historical Map - Segment A13

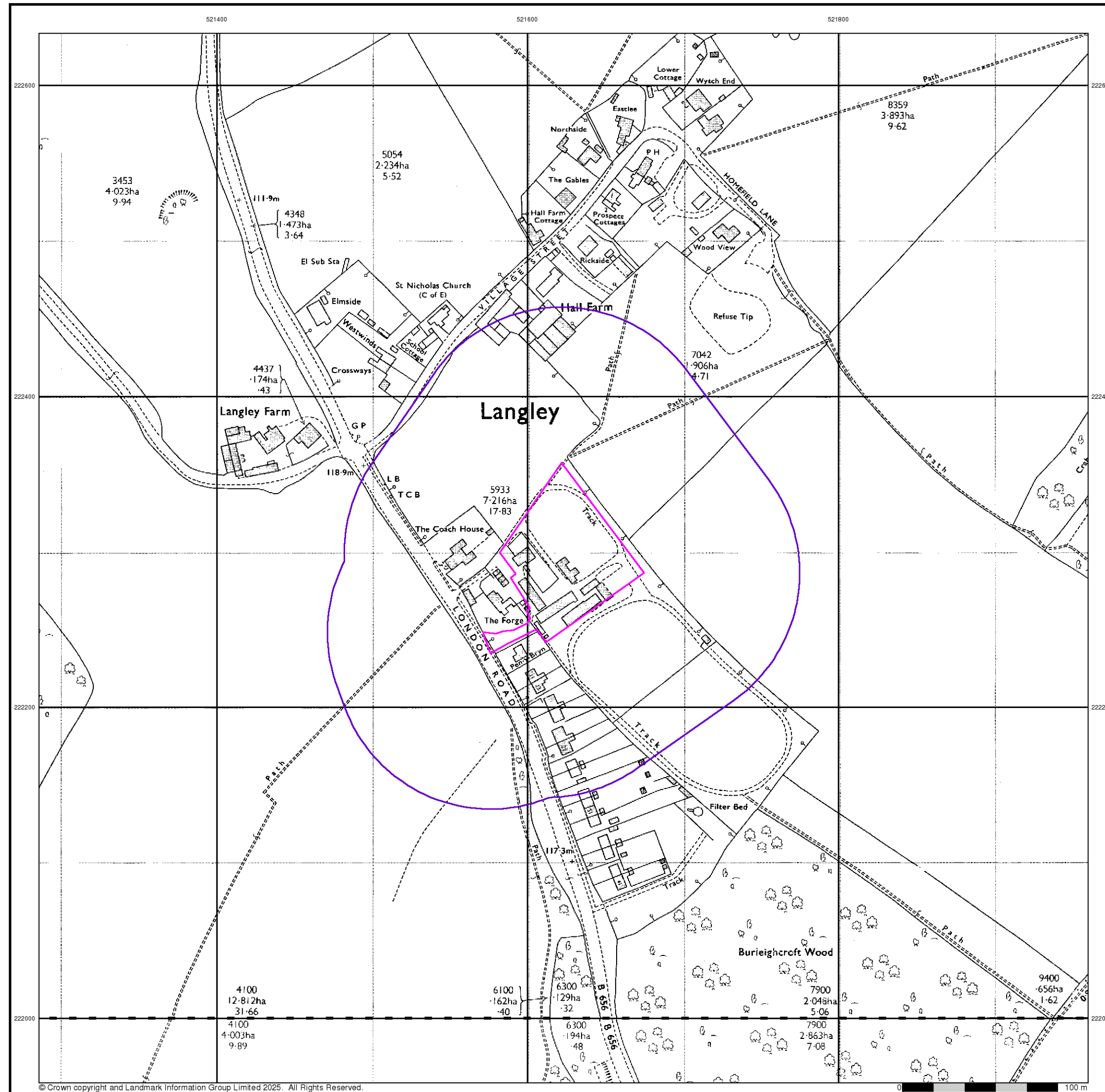


Order Details

Order Number: 367757308_1_1
Customer Ref: STX6902
National Grid Reference: 521620, 222290
Slice: A
Site Area (Ha): 0.58
Search Buffer (m): 100

Site Details

Greenside



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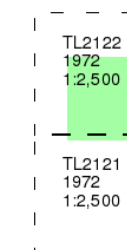
Ordnance Survey Plan

Published 1972

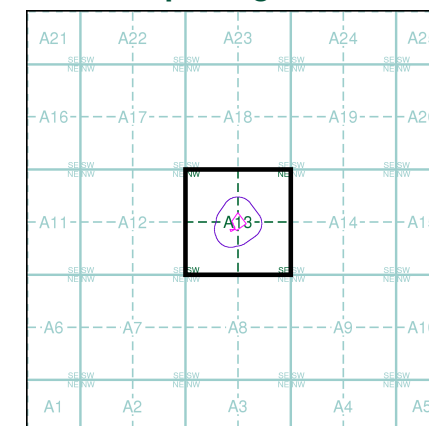
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 367757308_1_1
Customer Ref: STX6902
National Grid Reference: 521620, 222290
Slice: A
Site Area (Ha): 0.58
Search Buffer (m): 100

Site Details

Greenside



Additional SIMs
Published 1990
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

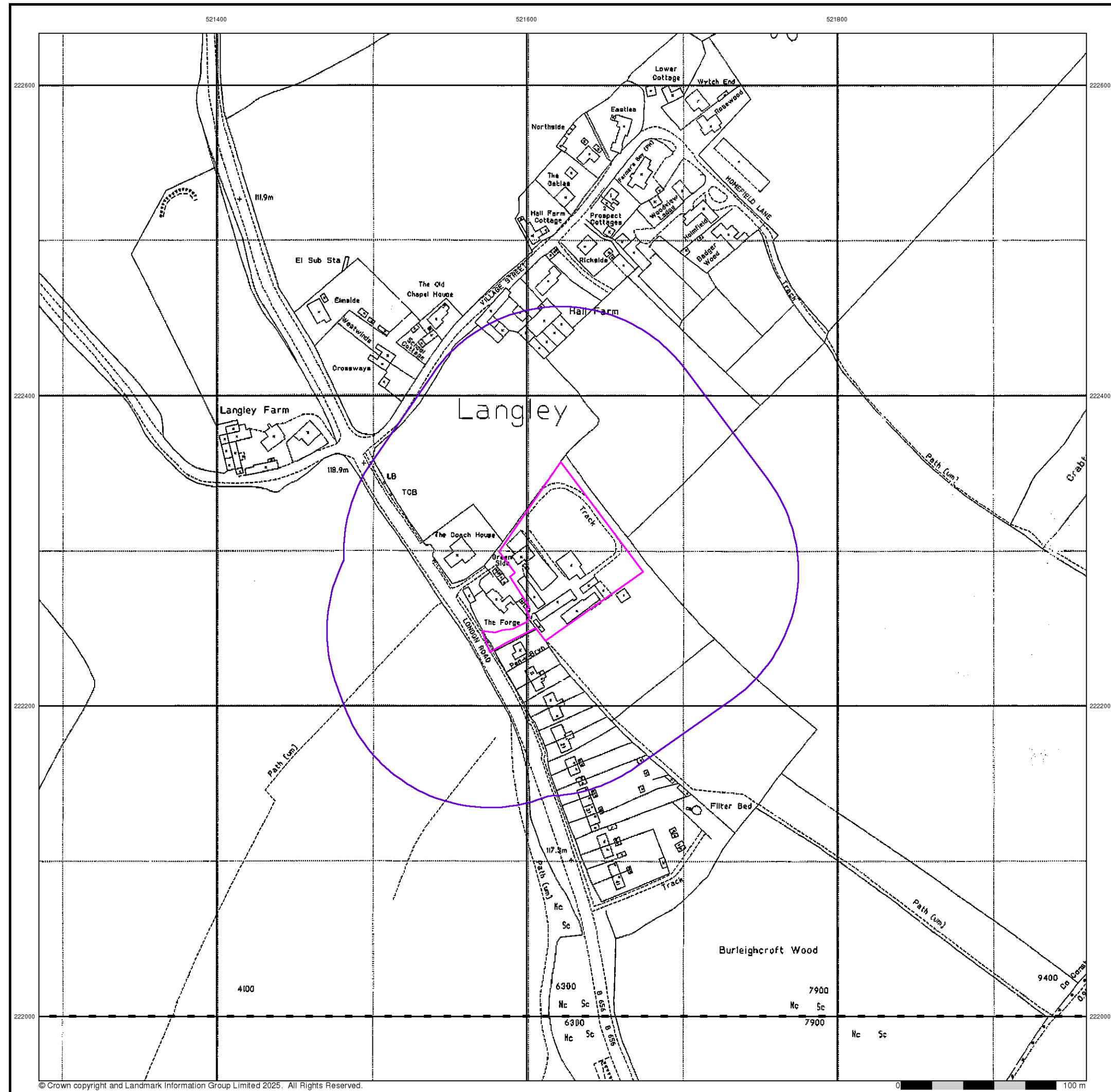
TL2122
1990
1:2,500

Historical Map - Segment A13

A21	A22	A23	A24	A25
A16	A17	A18	A19	A20
A11	A12	A13	A14	A15
A6	A7	A8	A9	A10
A1	A2	A3	A4	A5

Order Details

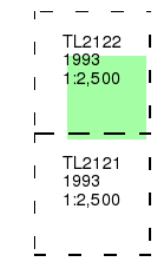
Order Number: 367757308_1_1
Customer Ref: STX6902
National Grid Reference: 521620, 222290
Slice: A
Site Area (Ha): 0.58
Search Buffer (m): 100



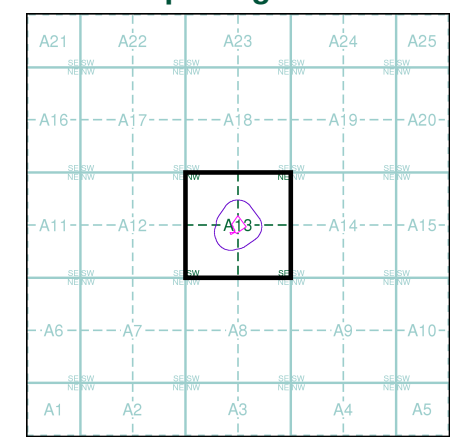
Large-Scale National Grid Data
Published 1993
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

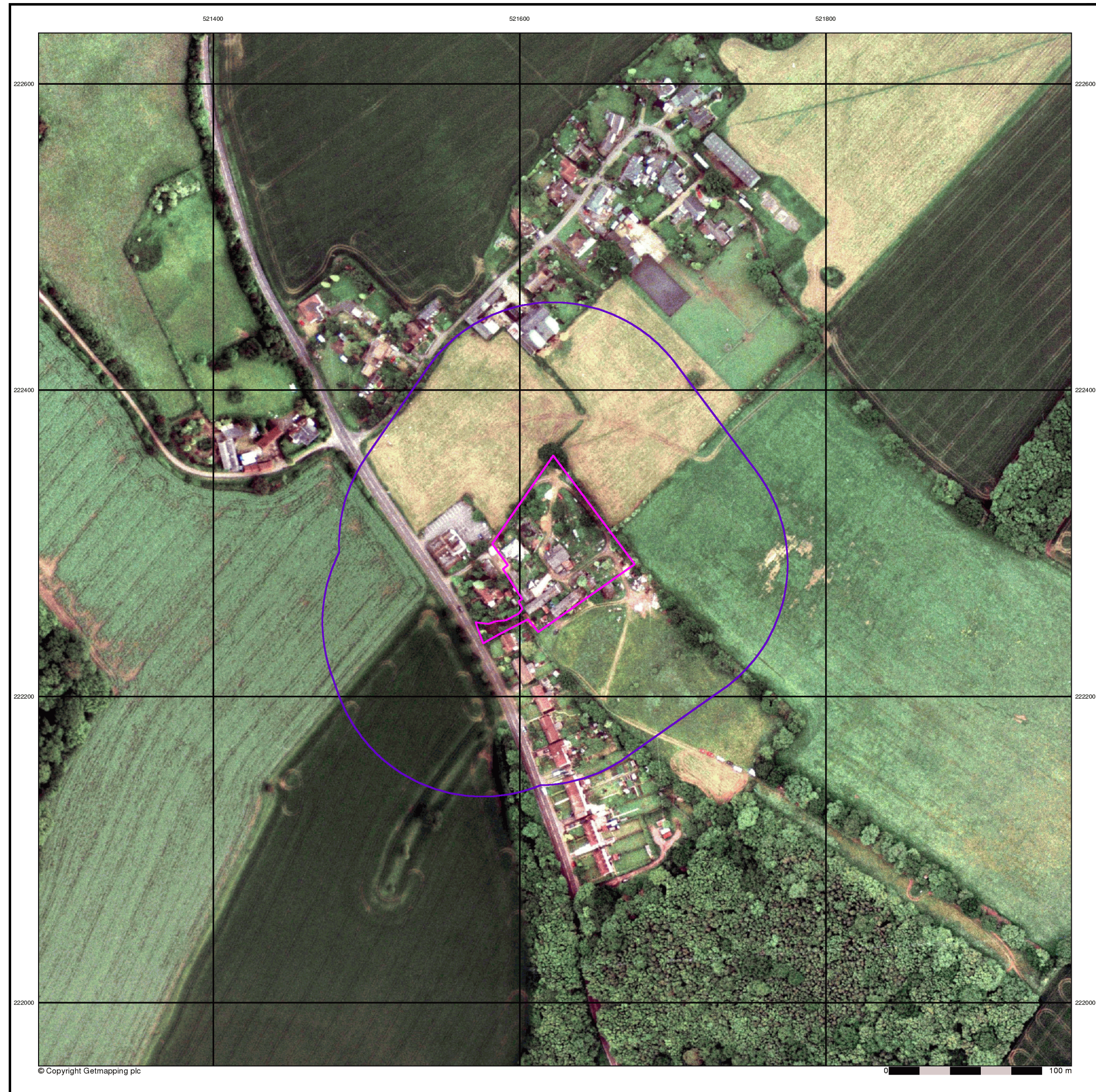


Historical Map - Segment A13



Order Details
Order Number: 367757308_1_1
Customer Ref: STX6902
National Grid Reference: 521620, 222290
Slice: A
Site Area (Ha): 0.58
Search Buffer (m): 100

Site Details
Greenside

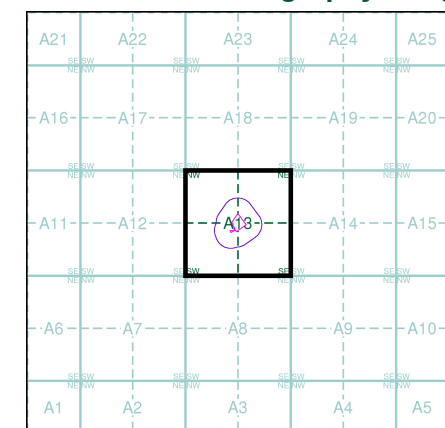


Historical Aerial Photography

Published 2000

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



Order Details

Order Number: 367757308_1_1
Customer Ref: STX6902
National Grid Reference: 521620, 222290
Slice: A
Site Area (Ha): 0.58
Search Buffer (m): 100

Site Details

Greenside



For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.



Ms S Ltd, Soiltechnics Limited, Cedar Barn, White Lodge,
Walgrave, Northampton, NN6 9PY

Order Number:	367757308_1_1
Customer Ref:	STX6902
National Grid Reference:	521620, 222290
Site Area (Ha):	0.58
Search Buffer (m):	1000

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