

Bellway Homes Ltd

Church Lane, Ashington

Phase 1 and Phase 2 Geo-environmental Factual and Interpretive Report

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RSK GEOSCIENCES

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RSK GENERAL NOTES

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

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1 INTRODUCTION

1.1 Commissioning

RSK Environment Limited (RSK) was commissioned by Bellway Homes Ltd to carry out a Phase 1 and Phase 2 Geo-environmental Factual and Interpretive Report of the land at Church Lane, Ashington Church Lane, Ashington RH20 3JX. The project was carried out to an agreed brief as set out in RSK's proposal (Ref. T52368, dated 2nd November 2021).

RSK's service constraints are shown in Appendix A.

The Site in question is being considered for development for residential use. Plans for the development have been included in Appendix B.

1.2 Objectives

The objective of the work is:

- to identify any land contamination and/or geotechnical constraints to the proposed development and to support discharge of relevant planning conditions and relevant building control requirements
- to identify the need for any additional investigation or remediation works to demonstrate that the site is suitable for its proposed use

1.3 Scope of works

The scope of this assessment has been developed in accordance with relevant British Standards and authoritative technical guidance as referenced through the report. The assessment of the contamination status of the site is in line with the technical approach presented in Land Contamination Risk Management (LCRM) (Environment Agency, 2021) – which supersedes CLR11 Model Procedures for Land Contamination – and in general accordance with BS 10175: 2011 + A2 2017 (BSI, 2017). It is also compliant with relevant planning policy and guidance.

The scope of the intrusive investigation has been designed in line with the recommendations of BS5930:2015+A1:2020 Code of practice for ground investigations (BSI, 2020), which maintains compliance with BS EN 1997-1 and 1997-2 and their related standards. It has also been developed in general accordance with BS 10175: 2011 + A2 2017. Ground gas assessment has been undertaken in general accordance with BS8576: 2013 and BS 8485:2015+A1:2019.

A brief summary of relevant legislation and policy relating to land contamination is given in Appendix C.

The scope of works for the assessment has included the following:

Desk Study:

- review of the history of development on the site and surroundings
- assessment of local geology, hydrogeology and hydrology

- completion of a site reconnaissance survey to assess the visual condition of the site
- development of an initial conceptual site model (CSM)
- preliminary consideration of geotechnical constraints and hazards

Intrusive Investigation

- design and implementation of an intrusive investigation, in situ testing, soil sampling, laboratory geo-environmental and geotechnical testing, groundwater and ground gas monitoring of installed boreholes
- interpretation of data to develop a refined conceptual site model (CSM)
- generic quantitative risk assessment (GQRA) of relevant contaminant linkages
- interpretation of ground conditions and geotechnical data to provide preliminary recommendations with respect to foundations and infrastructure design
- preparation of this factual and/or interpretative report.

1.4 Existing reports

No existing reports relevant to the site assessment have been provided to RSK.

2 SITE DETAILS

2.1 Site location

Site location details are presented in Table 1 and a site location plan is provided on Figure 1.

Table 1 Site location details

Site name	Church Lane, Ashington
Full site address and RH20 3JX	Church Lane, Ashington RH20 3JX
National Grid reference (centre of site)	TQ126160

2.2 Site description

The Site boundary and current site layout are shown on Figure 2. The Site covers an area of c. 15.35 hectares. It is currently occupied by open agricultural fields bounded by hedgerow, with some wooded areas in the north west of the site.

2.3 Surrounding land uses

The Site is located in Ashington, within a predominantly agricultural setting. Immediate surrounding land uses are described in Table 2.

Table 2 Surrounding land uses

North	Private residential properties and open scrubland.
East	Private residential properties and a school.
South	Open agricultural fields and woodland further afield.
West	Open agricultural fields.

2.4 Development plans

The proposed layout of the site, at the time of preparing this report, is shown in Appendix B. The proposed development comprises private residential homes with associated driveways, soft landscaping frontage and rear gardens, as well as areas of public open space and sports pitches.

3 DESK-BASED ASSESSMENT

The desktop study was designed generally to meet the objectives of a preliminary (phase 1) investigation, as defined by BS 10175:2011 + A2 2017 (BSI, 2017) and this assessment relates to LCRM Stage 1, Tier 1 preliminary risk assessment. The "vicinity" of the site for the purposes of this report is defined as locations situated within an approximate 250 m radius of the site, although certain sources and/ or sensitive targets further than 250 m may also have been considered.

The study aims principally to identify and assess the potential risks and liabilities associated with contamination of the ground, on and in the vicinity of the site. While this includes consideration of current operations and housekeeping on the site, the report does not constitute a comprehensive environmental audit of the site, as covered under ISO 14001.

3.1 Site history

3.1.1 Historical development record

The development history of the site and surrounding area based upon assessment of historical plans and records is detailed in Table 3. The historical maps reviewed are shown within the environmental database report in Appendix D.

Table 3 Summary of historical development

Date from	Date to	Historical Land Use (on-site)	Area of site
1879	Present	Open agricultural fields bounded by hedgerow and small wooded areas.	Entire site
1982	Present	Concrete track entering the site from Church Lane to the east.	Eastern most portion of the site
Date from	**Date to**	**Historical Land Use (off-site)**	**Distance (m) and orientation**
1879	Present	Open agricultural fields bounded by hedgerow and small wooded areas, with sparse farmyards and houses. Several nurseries appearing from 1960s onwards.	0m – 1000m+ north, north east, south, south west, west and north west.
1948	Present	Penn gardens private residential housing.	0m – 100m north
1952	Present	Tank / reservoir.	0m north
1879	2000	School	100m north east

1879	Present	Ashington village – private residential homes and associated infrastructure gradually expanding over time until 2006. Most of the development took place between 1952 and 2006.	0m – 400m north east, east, south east.
2006	Present	School	50m east
2006	Present	Pond appears	Adjacent to the north east
1879	Present	Heath Common village – private residential homes and associated infrastructure gradually expanding over time until 1982. Most of the development took place between 1961 and 1982.	1000m+ south west
1879	Present	A24 London Road, appears to have expanded in the 1980s.	200+ m south east
Relevant information sources: Historical OS maps ☒ Town plans ☐ Information from the Local Planning Authority ☐ Aerial photography ☐ Previous reports ☐			
Note: Reference to published historical maps provides invaluable information regarding the land use history of the site, but historical evidence may be incomplete for the period pre-dating the first edition and between successive maps.			

A review of the historical maps indicates that the site and the surrounding area have been utilised as agricultural land since the earliest ordnance survey map issued in 1879. As Agricultural land there is the potential for contamination from the historical use of pesticides and herbicides. No other potential sources of contamination have been identified from the map records.

Immediately off site a number of potential receptors have been identified including private residential and a school.

3.1.2 Unexploded ordnance

A review of publicly available unexploded ordnance (UXO) risk maps indicates that the site is located in an area with 'low' potential for wartime bombs to be present (Zetica, 2021).

3.2 Information from environmental database report

Relevant environmental permits and incidents detailed within the environmental database report (see Appendix D) are summarised below in Table 4.

Table 4 Summary of environmental permits, landfills and incidents

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Agency and hydrological				
Environmental permits – incorporating Integrated Pollution Prevention and Control, Integrated Pollution Controls, Local Authority Integrated Pollution Prevention and Control	-	-	-	n/a
Enforcement and prohibition notices	-	-	-	n/a

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Pollution incidents to controlled waters, Prosecutions relating to controlled waters, Substantiated pollution incident register, Water Industry Act referrals	-	5	-	Off-site <250m: Sewage pumping station 87m north, sewage overflowing manhole into stream 27.06.1997, ref: 2181. Sewage pumping station 101m north, crude sewage entering watercourse 30.12.1997, ref: 2355. Sewage pumping station 106m north, pumping main burst crude sewage entering watercourse 20.05.1996, ref: 1690. Sewage pumping station 149m north, containment failure crude sewage entering watercourse 12.10.1999, ref: 3256. Sewage pumping station 154m north, sewage discharge surcharging manhole 03.10.1995, ref: 1509.

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Discharge consents	-	3	-	Off-site <250m: Pumping station on sewerage network 73m east, sewerage discharges into an unnamed tributary of Lancing Brook, ref: P07398. School/college 206m east, discharge of other matter surface water to freshwater river, ref: S01822, revoked: 01.07.1991 Domestic property sewage discharge – treated effluent into soakaway 232m south, ref: P07477
Registered radioactive substances	-	-	-	n/a
Landfill and waste				
Active landfills	-	-	-	n/a
Historic / closed landfills	-	-	-	n/a
Other waste management licences	-	-	-	n/a

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Potentially in-filled land (pit, quarry, pond, marsh, river, stream, dock etc)	-	2	-	Off-site <250m of relevance: 54m east, unknown filled ground (pond, marsh, river, stream, dock etc.), mapped 1961. 228m south east, unknown filled ground (pond, marsh, river, stream, dock etc.), mapped 1961.
Hazardous substances/ industrial land uses				
Control of Major Accident Hazards (COMAH) sites	-	-	-	n/a
Explosives sites, Notification of Installations Handling Hazardous Substances (NIHHS), Planning hazardous substance consents/ enforcements	-	-	-	n/a
Contaminated land Part 2A register entries and notices	-	-	-	n/a
Contemporary trade directory entries	-	-	-	None within 500m with contaminative potential.
Fuel station entries	-	-	-	n/a
Note: Entries have only been included within the table where they are located within a 250m radius of the site or, where they fall outside of this radius but are considered to comprise a significant entry.				

3.3 Site geology

3.3.1 Anticipated geological sequence

Published records (British Geological Survey, 2021) for the area and available historical borehole logs indicate the presence of superficial head deposits covering a large proportion of the north east side of the site while no superficial deposits are mapped on the south western half. The majority of the site is underlain by the bedrock of the Weald Clay Formation (both mudstone and sandstone units) with the Atherfield Clay Formation

mapped along the southern boundary. Alluvial deposits may also be present near the site entrance on the far east side of the site. The geology of the site to be characterised by the succession recorded in Table 5. An historical BGS borehole record (ref: TQ11NW1) located at NGR 512650,116400 approximately 250 m north of the site shows Weald Clay present from surface to the termination depth of the borehole at 46mbgl.

Table 5 Site geology

Strata	Description	Estimated thickness	Permeability
Superficial			
Head Deposits mapped across the north east corner of the site	Clay, silt, sand and gravel.	Variable.	Variable depending on composition.
Alluvium (potentially present on site near to the site entrance.	Clay, silt, sand and gravel	Variable.	Variable depending on composition.
Bedrock			
Atherfield Clay Formation mapped along the southern boundary	Yellowish brown to pale grey sandy mudstone, with an impersistent phosphatic pebble bed with vertebrate bones, gritty sandstone or very shelly sandy mudstone with glauconite, at the base.	18m	Low
Weald Clay Formation – mudstone (majority of the site) and sandstone (northern portion of the site only)	Dark grey thinly bedded mudstones (shales) and mudstones with subordinate siltstones, fine- to medium-grained sandstones, including calcareous sandstone, shelly limestones and clay ironstones.	122m – 460m	Low
Relevant information sources: BGS Geoindex ☒ BGS borehole logs ☒ Previous SI reports ☐			

While the site does not appear to have been developed at any point in time, anecdotal information provided by the landowner during the site walkover suggests that the nearby pond was once infilled, and its contents was then re-excavated in recent years. This relates to the potentially infilled pond 54m east of site. The material which was excavated from the pond was mounded west of the pond, just inside the site boundary. This area

forms the triangular shaped piece of land bordering the southernmost field. The mound is elevated approximately 2m to 3m above the surrounding landscape and is comprised of unknown material.

3.3.2 Radon

The environmental database report indicates that the site is not located within an 'Affected Area'. An 'Affected Area' is one with 1% or more homes above the radon Action Level of 200 Bq m^{-3}, and therefore the risk of significant ingress of radon into structures on-site is considered 'low' and protection measures are not necessary in the construction of non-domestic buildings.

Although the radon data used in production of the ukradon indicative atlas comes from measurements in homes, the maps indicate the likely extent of the local radon hazard in all buildings.

3.4 Mining and quarrying

Evidence has been sought to identify any mining, quarrying, landfilling and land reclamation operations, past and present, which have taken place within 500m of the site.

3.4.1 Coal mining area

An initial site appraisal has been carried out based on the information provided on the Coal Authority Interactive Viewer of the UK Coalfield areas.

This indicates the site lies outside the Coal Authority Consultation Area and is not located within a coalfield area.

3.4.2 Areas of other (rock or mineral) mining

The site does not lie in a non-coal mining area of the UK and has no history of mining of rocks or minerals of any sort.

3.5 Hydrogeology

A summary of the hydrogeological setting of the site, with respect to the anticipated geological sequence set out in Section 3.3 is presented below in Table 6.

Table 6 Summary of hydrogeological setting

Condition	Description
Aquifer characteristics	The northern and eastern portion of the site is underlain by a secondary undifferentiated aquifer relating to the aforementioned head deposits. The majority of the site is underlain by an unproductive strata relating to the Weald Clay Formation mudstone. Running parallel with the northern boundary of the site is a strip of land underlain by a secondary A aquifer relating to the Weald Clay Formation sandstone.

Condition	Description
	The presence of low permeability clay at relatively shallow depths beneath the site, while restricting downwards migration, may increase the potential for lateral migration of shallow groundwater (and therefore mobile contamination, if present).
Depth to groundwater and flow	BGS borehole record (ref: TQ11NW1) located at NGR 512650,116400 approximately 250 m north of the site has been used to estimate the potential depth to groundwater at the site. Based on groundwater observations made during the drilling of the borehole it is noted that strikes were recorded at 28mAOD (3mbgl), 20mAOD (11mbgl) and 14mAOD (16mbgl) with a resting water level of 27mAOD (4mbgl). The borehole is located at 31mAOD similar to the level of the site. Similar groundwater levels have therefore been assumed in the absence of onsite information. Shallow groundwater in the site area is anticipated to flow in a north easterly direction, i.e. towards and in the direction of flow of a tributary river of Lancing Brook which runs parallel with both the eastern and northern site boundaries.
Groundwater recharge/ attenuation	Most of the site is currently unsurfaced and will therefore drain to ground.
Licensed groundwater abstractions	The environmental database report indicates that there are three current licensed groundwater abstractions within a 1km radius of the site, none of which are public water supply boreholes. All three are associated with agricultural irrigation at the nearby Malthouse farm, 516m south of the site.
Source protection zones	Information available in the Envirocheck report indicates that the site does not lie within a currently designated groundwater Source Protection Zone (SPZ), with the nearest source protection zone (Zone III) being 618m north west.

3.6 Hydrology

A summary of the hydrology within the site area is summarised in Table 7.

Table 7 Summary of hydrology in site area

Condition	Description
Surface watercourses/features	A small stream begins in the south eastern portion of the site, running north towards a farm pond which is just outside of the eastern site boundary. The watercourse then flows out of the pond, north along the eastern site boundary. At the north eastern corner of the site, the stream takes a turn towards the west, where it runs parallel to the northern site boundary, roughly 20m within the site. The stream runs almost exclusively within ditches surrounded by overgrown hedgerow. The stream is very small and appears to fluctuate greatly depending on weather conditions.
Surface water abstractions	There are no surface water abstractions identified by the environmental database, within a 1 km radius of the site.
Site drainage	Surface drainage from the site appears to be discharged into drainage ditches bounding each field, which are all connected to the tributary stream of Lancing Brook, which runs along the eastern and northern site boundary.

Condition	Description
Preliminary flood risk assessment	The indicative floodplain map for the area, shows that the northern portion of the site lies within the designated floodplain of the tributary stream of Lancing Brook, which runs along the eastern and northern site boundary. Here, the risk of flooding from surface water is high, with a 30-year return. The majority of the site however is not at risk of flooding and the general area outside the tributary stream of Lancing Brook is classified as very low risk of flooding.

3.7 Sensitive land uses

Table 8 provides a summary of any environmentally sensitive areas identified within 250 m of the site based on the environmental database report.

Table 8 Environmentally sensitive areas

Feature	Present within 250m of site?	Details	Likely pathways from site?
International designations – Ramsar wetland, Special Area of Conservation (SAC), Special Protection Area (SPA)	No	n/a	n/a
National designations – Site of Special Scientific Interest (SSSI), National Nature Reserve (NNR), ancient woodland	No	n/a	n/a
Local designations – Local Nature Reserve, Site of Importance for Nature Conservation (SINC)	No	n/a	n/a
Nearest high sensitivity development, e.g. residential	Yes	Nearby school on eastern site boundary	Unlikely

4 SITE RECONNAISSANCE FINDINGS

A site reconnaissance survey was completed on 19th November 2021 by RSK. The characteristics of the site observed during the walkover and from current ordnance Survey maps are summarised in Table 9.

All areas of the site were accessible for the site reconnaissance survey, except from an overgrown area in the west of the site, where thick undergrowth limited access

A site plan is provided in Figure 2 with photographic records included in Appendix E detailing the main features identified below.

Whilst the walkover summary includes consideration of current operations and housekeeping on the site as potential sources of contamination, it does not constitute a comprehensive environmental audit of the site, as covered under ISO 14001.

Table 9 Site reconnaissance findings

Feature	Description
Physical characteristics	
Access constraints	None.
Site topography	The Site is essentially level, with a small mound noted in the east of the site near the farmyard, and drainage ditches at the edges of fields.
Surface cover	The site is covered mostly by agricultural fields and bounded by areas of hedgerow and woodland.
Site drainage	Surface drainage from the site appears to be discharged into drainage ditches bounding each field, which are all connected to the tributary stream of Lancing Brook, which runs along the eastern and northern site boundary.
Surface water	The nearest surface watercourse to the site appears to be the tributary stream of Lancing Brook, which runs through the site in the north, and adjacent to the site boundary in the east. There is also a large pond in the farmyard, adjacent to the south eastern site boundary. The aforementioned stream runs into the pond from the south and back out from the north. Water appeared clear and uncontaminated.
Trees and hedges	Vegetation present on-site comprises crops in agricultural fields bounded by hedgerows and areas of mature woodland, comprising various trees including some large oaks to the north of the site.
Invasive species	Based upon the walkover survey obvious evidence of Japanese Knotweed or other invasive species has not been identified on-site. However, it should be noted that a detailed survey of the possible presence or absence of invasive species is outside of the scope of investigation and consideration should be given to commissioning a specialist survey, as necessary. Caveat for time of year (Oct-Apr) if applicable due to dieback.
Existing buildings on-site	No buildings are present on-site, although a corner of a barn in the farmyard in the east of the site is included within the site boundary.

Feature	Description
Retaining walls and adjacent buildings on or close to site boundary	There are no such structures on or close to the site boundary.
Basements on-site	No evidence of existing or infilled basements was observed.
Made ground, earthworks and quarrying	None observed, except the access road in the east of the site.
Potentially unstable slopes on or close to site	None observed.
Buried and overhead services present	No evidence of buried services observed. Overhead services were noted crossing most of the field, running along the eastern boundary of the site.
Environmental characteristics	
Underground/ above ground storage tanks and pipework	None observed.
Potentially hazardous materials storage and use	None observed.
Asbestos-containing materials	No obvious asbestos construction materials were observed but a detailed survey of the buildings would be required to confirm the presence or otherwise of asbestos-containing materials.
Waste storage	None observed.
Fly-tipping	None observed.
Electricity sub-stations/ transformers	None observed on or close to site.
Evidence of possible land contamination on-site	None observed.
Potential off-site sources of ground contamination	None observed.

No potentially significant land contamination or geotechnical issues were identified during the site reconnaissance survey.

5 PRELIMINARY GEOTECHNICAL CONSTRAINTS

5.1 Preliminary geotechnical hazards assessment

A summary of commonly occurring geotechnical hazards associated with the anticipated geology outlined in Section 3.3 above is given in Table 10 together with an assessment of whether the site may be affected by each of the stated hazards.

Table 10 Summary of preliminary geotechnical risks that may affect site

Hazard category	Hazard status based on desk study findings and proposed development		Engineering considerations if hazard affects site
	Could be present and/or affect site	Unlikely to be present and/or affect site	
Sudden lateral changes in ground conditions associated with variable head deposits and bedrock and the potential for areas of deeper Made Ground.	☒	☐	Likely to affect ground engineering and foundation design and construction
Shrinkable clay soils associated with cohesive head deposits and underlying bedrock	☒	☐	Design to NHBC Standards Chapter 4 or similar
Highly compressible and low bearing capacity soils, (including peat and soft clay)	☒	☐	Likely to affect ground engineering and foundation design and construction
Silt-rich soils susceptible to rapid loss of strength in wet conditions	☒	☐	Likely to affect ground engineering and foundation design and construction
Running sand at and below water table potentially in granular lenses of the Head deposits.	☒	☐	Likely to affect ground engineering and foundation design and construction
Karstic dissolution features (including ‘swallow holes’ in Chalk terrain)	☐	☒	May affect ground engineering and foundation design and construction.
Evaporite dissolution features and/or subsidence	☐	☒	May affect ground engineering and foundation design and construction
Ground subject to or at risk from landslides	☐	☒	Likely to require special stabilisation measures

Hazard category	Hazard status based on desk study findings and proposed development		Engineering considerations if hazard affects site
	Could be present and/or affect site	Unlikely to be present and/or affect site	
Ground subject to peri-glacial valley cambering with gulls possibly present within the Weald Clay Formation	☒	☐	Likely to affect ground engineering and foundation design and construction
Ground subject to or at risk from coastal or river erosion	☐	☒	Likely to require special protection/stabilisation measures
High groundwater table (including waterlogged ground)	☒	☐	May affect temporary and permanent works
Rising groundwater table due to diminishing abstraction in urban area	☐	☒	May affect deep foundations, basements and tunnels
Geological faults, fissures and break lines	☐	☒	May affect ground engineering and foundation design and construction
Underground mining including shafts and adits (e.g. coal, mineral)	☐	☒	Likely to require further assessment including potentially special stabilisation measures
Effects of extreme temperature (e.g. cold stores or brick kilns/furnaces)	☐	☒	Likely to affect ground engineering and foundation design and construction
Existing sub-structures (e.g. tunnels, foundations, basements, and adjacent sub-structures)	☐	☒	Likely to affect ground engineering and foundation design and construction
Filled and made ground (including embankments, infilled ponds and quarries)	☒	☐	Likely to affect ground engineering and foundation design and construction
The Weald Clay is a Pyritic geology and therefore weathering of sulphides to sulphates creating adverse chemistry for foundations can be expected.	☒	☐	May affect ground engineering and foundation design and construction
Site topography	☐	☒	May affect ground engineering and foundation design and construction
Note: Seismicity is not included in the above table as this is not normally a design consideration in the UK.			

6 INITIAL CONCEPTUAL SITE MODEL

In the UK land contamination is assessed using a risk-based approach taking account of the magnitude (severity of the hazard) and likelihood (probability) of occurrence. A 'receptor' is something that could be adversely affected by contamination (e.g. people, an ecological system, property or a water body). A 'pathway' is a route or means by which a receptor is or could be exposed to or affected by a contaminant. A 'contaminant source' is a hazard but it can only pose a risk to a receptor where a pathway is present. The relationship between sources, pathways and receptors are referred to as a conceptual site model. A risk can only be released where a contaminant source, pathway and receptor are all in place, referred to as a 'pollutant linkage'.

In line with LCRM (Environment Agency, 2021) and BS 10175: 2011 + A2 2017 (BSI, 2017), RSK has used information in the preceding sections to identify hazards (sources of contaminants), receptors that may be impacted and plausible linking pathways. Where all three are present this is termed a potentially complete contaminant linkage and a qualitative risk estimation is made.

6.1 Potential soil, soil vapour and groundwater linkages

6.1.1 Potential sources of contamination

Potential sources of soil and groundwater contamination identified from current activities and the history of the site and surrounding area are presented in Table 11. Ground gas sources are addressed in the next section.

Table 11 Potential sources of soil and groundwater contamination

Potential sources	Contaminants of concern
On-site	
Made ground (i.e., fill material) - excavations from formerly infilled pond.	Unknown fill material but potentially including brick, ash and clinker and containing toxic and phytotoxic metals, inorganics, polycyclic aromatic hydrocarbons (PAHs), asbestos.
Agricultural land use - Herbicides and pesticide	Herbicides and pesticide
Off-site	
-	n/a

6.1.2 Sensitive receptors and linking exposure/ migration pathways

Sensitive receptors identified at or in the vicinity of the site that could be affected by the potential sources identified above comprise:

- future site users – residential users [oral, dermal and inhalation exposure with impacted soil, soil vapour and dust/fibres, ingestion of home-grown produce, inhalation of vapours from groundwater]

- current adjacent site users – School, residential and public open space users [migration of contamination via dust/fibre deposition, vapour or groundwater migration combined with inhalation]
- future buildings and services [direct contact with contaminated soils or groundwater and chemical attack]
- future vegetation [direct contact with contaminated soils or groundwater and root uptake leading to phytotoxicity]
- groundwater in secondary undifferentiated aquifer within the head deposits and secondary A aquifer within the Weald Clay Formation (sandstone) from soils/ percolation to aquifer/ lateral migration of dissolved phase]
- on site surface water course (tributary to Lancing Brook) [lateral migration of dissolved phase/ site run-off/ drainage]

Potential linking pathways are show in brackets for each item above.

Please note that construction workers and future maintenance workers have not been identified in the conceptual model as receptors because risks are considered to be managed through health and safety procedures according to the CDM Regulations.

Ecological receptors are only considered within the conceptual model in the context of statutory protected sites.

6.2 Potential ground gas linkages

6.2.1 Ground gas generation potential

Potential ground gas sources identified for the site and surrounding are shown in Table 12.

Table 12 Potential ground gas sources

Potential sources	Indicative ground gas generation potential (CIEH, 2008)	Additional information
On-site		
Made ground (i.e., fill material) - excavations from formerly infilled pond. with a potential TOC up to 6%	Low to very low	

No significant potential sources of ground gas generation have been identified therefore this potential issue has not been taken forward. Notwithstanding the above it is advised that a preliminary confirmatory round of ground gas monitoring is undertaken to confirm this assessment and that it should target this area of potential deeper made ground adjacent to the pond in the north east corner of the site.

Construction workers have not been identified as receptors for the purposes of this assessment. Risks may still be present to construction workers especially where works include the entry into excavations within the ground. Construction workers should undertake appropriate risk assessments and risks should be managed through health and safety procedures and the use of PPE.

6.3 Preliminary risk assessment

The preliminary risk assessment findings and potentially complete contaminant linkages are shown in Table 13 overleaf. The risk classification based on the combination of hazard consequence and probability using a risk matrix from CIRIA C552 (Rudland et al., 2001), a summary of which is included in Appendix F. This relates to Tier 1 preliminary risk assessment in LCRM (Environment Agency, 2021).

Table 13 Risk estimation for potentially complete contaminant linkages

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
Made ground i.e., fill material - excavations from formerly infilled pond. Agricultural land use - Herbicides and pesticide	Future site users – residential users	Oral, dermal and inhalation exposure with impacted soil, soil vapour and dust/fibres, ingestion of home-grown produce, inhalation of vapours from groundwater	Low likelihood	Medium	Moderate/ Low	Potential for significant impact within soil at the site is considered low, however if present, it is possible that future site users may come into contact through areas of soft landscaping.
	Current adjacent site users – residential and public open space users	Migration of contamination via dust/fibre deposition, vapour or groundwater migration combined with inhalation	Low likelihood	Medium	Moderate/ Low	Potential for significant impact within soil at the site is considered low, however if present, it is possible that current adjacent site users may come into contact through areas of soft landscaping.
	Future buildings and services	Direct contact with contaminated soils or groundwater and chemical attack	Low likelihood	Mild	Low	Potential for significant impact within soil at the site is considered low, however if present, it is possible that buried concrete or potable water supply pipes may be affected. The Weald Clay Formation is Pyritic and thus weathering of sulphides to sulphates can have adverse consequences for below ground structures.

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
	Future vegetation	direct contact with contaminated soils or groundwater and root uptake leading to phytotoxicity	low likelihood	minor	Very low	It is considered unlikely that future vegetation would come in contact with made ground present on site and would instead be planted in a suitable growing medium. The severity of potential harm caused is considered to be minor.
	Groundwater in secondary undifferentiated aquifer within the head deposits and secondary A aquifer within the Weald Clay Formation (sandstone)	Leaching from soils/ percolation to aquifer/ lateral migration of dissolved phase	Low likelihood	Mild	Low	Potential for significant impact within soil at the site is considered low, however if present, it is possible that the secondary undifferentiated aquifer within the head deposits could be affected.
	On site surface water course (tributary to Lancing Brook)	Lateral migration of dissolved phase/ site run-off/ drainage	Low likelihood	Mild	Low	Potential for significant impact within soil at the site is considered moderate/ low, however if present, it is possible that the stream in the north of the site could be affected.

Risk matrix		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very low	Very low

Potentially complete contaminant linkages with a potential risk of moderate to low or higher identified in in Table 13 comprise:

- future site users – residential users [oral, dermal and inhalation exposure with impacted soil, soil vapour and dust/fibres, ingestion of home-grown produce, inhalation of vapours from groundwater]
- current adjacent site users – residential and public open space users [migration of contamination via dust/fibre deposition, vapour or groundwater migration combined with inhalation]

These potentially complete contaminant linkages need to be assessed further through appropriate site investigation to target the identified sources of potential contamination and assess the feasibility of identified pathways.

7 SITE INVESTIGATION STRATEGY & METHODOLOGY

7.1 Introduction

RSK carried out intrusive investigation works and subsequent monitoring of boreholes between November 2021 and December 2021.

7.2 Objectives

The specific objectives of the investigation are as follows:

- to establish the ground conditions underlying the site including the extent and thickness of any made ground
- to investigate specific potential sources of contamination identified in initial CSM
- to determine the presence and depth of groundwater
- to determine the ground gas regime underlying the site
- to assess geotechnical properties of soils

7.3 Selection of investigation methods

The techniques adopted for the investigation were chosen with consideration of the objectives and site constraints, which are described below:

- 15no.mechanically excavated trial pits to a maximum depth of 3.00 mbgl, including hand vane tests at regular intervals where possible. 3no. selected trial pit locations were chosen to undertake soakaway testing.
- 5no. window sample boreholes were progressed to a maximum depth of 4.00 mbgl. Standard penetration testing (SPT) and hand vane tests were undertaken at regular intervals. Allowance was made to install 5no. borehole locations with monitoring wells to allow for future groundwater and ground gas sampling.
- 10no. Dynamic Cone Penetrometer (DCP) tests for determining CBR values were undertaken.
- 5no. hand dug pits to a maximum of 0.50 mbgl to collect bulk samples at shallow depths for CBR testing.

Prior to conducting intrusive works, utility service plans were obtained, and buried service clearance undertaken in line with RSK's health and safety procedures.

7.4 Investigation strategy

The ground investigation was carried out using intrusive ground investigation techniques in general accordance with the recommendations of BS5930:2015+A1:2020. Whilst every attempt was made to record full details of the strata encountered in the boreholes,

techniques of hole formation and sampling will inevitably lead to disturbance, mixing or loss of material in some soils and rocks.

Details of the investigation locations, installations and rationale are presented in Table 14. Logs have been included in Appendix G and an exploratory hole location plan is included as Figure 2.

Table 14 Exploratory hole and monitoring well location rationale

Investigation type	Number	Designation	Monitoring well installation	Rationale examples below
Boreholes by dynamic/ windowless sampling methods	5	WS1 to WS5	Gas and groundwater	To prove the geological succession beneath the site and obtain geotechnical data and to determine the contamination status of the ground beneath the site. Each location was installed with a dual-purpose groundwater and gas monitoring well to allow future groundwater and ground gas monitoring visits. Insitu SPT tests undertaken at 1.00m intervals. Hand vane tests were undertaken at regular intervals.
Trial-pits excavated by mechanical excavator	15	TP1 to TP15, TPS1 to TPS3	n/a	To prove the geological succession beneath the site and obtain geotechnical data and to determine the contamination status of the ground beneath the site. Hand vane tests were undertaken at regular intervals.
Trial pit soakage tests in general accordance with BRE 365	3	TPS1 to TPS3	n/a	To determine the soakage characteristics of the shallow geology and provide infiltration parameters for soakaway design.
Trial-pits excavated by hand	5	HP1 – HP5	n/a	To accurately log the upper strata in targeted locations beneath the site at locations

Investigation type	Number	Designation	Monitoring well installation	Rationale examples below
				beneath the proposed roads. Bulk samples were collected at each location for laboratory determination of the California Bearing Ration (CBR) of a compacted soil
In-situ testing (Dynamic Cone Penetrometer)	10	DCP1 – DCP10	n/a	To determine the subgrade strength for road and pavement design (i.e. California Bearing Ratio %).

7.4.1 Implementation of investigation works

The exploratory holes were logged by an engineer in general accordance with the recommendations of BS5930:2015+A1:2020 (which incorporates the requirements of BS EN ISO 14688-1, 14688-2 and 14689-1).

The monitoring well construction and associated response zones are detailed on the exploratory hole records in Appendix G.

The soil sampling and analysis strategy was designed to characterise each encountered soil strata, permit an assessment of the potential contaminant linkages identified and investigate the geotechnical characteristics. In addition, samples were taken to allow for geo-environmental and geotechnical testing to be undertaken.

Soils collected for laboratory analysis were placed in a variety of containers appropriate to the anticipated testing suite required. They were dispatched to the laboratory in cool boxes under chain of custody documentation. Samples were stored in accordance with the RSK quality procedures to maintain sample integrity and preservation and to minimise the chance of cross contamination.

Selected samples were placed in polythene bags for headspace screening with a photo-ionisation detector (PID) fitted with a 10.6 eV bulb. The PID screening results are presented on the exploratory hole records.

7.5 Monitoring programme

7.5.1 Ground gas monitoring

Three monitoring rounds have been undertaken to provide an initial assessment of ground gas risks.

A calibrated infrared gas meter was used to measure gas flow, concentrations of carbon dioxide (CO_2), methane (CH_4) and oxygen (O_2) in percentage by volume, while hydrogen sulphide (H_2S) and carbon monoxide (CO) were recorded in parts per million.

The atmospheric pressure before and during monitoring, together with the weather conditions, were recorded. The monitoring included periods of falling atmospheric pressures and after/during rainfall.

All ground gas monitoring results together with the temporal conditions are contained within Appendix G. Equipment calibration certificates are available on request.

7.6 Laboratory testing

Laboratory testing was undertaken at a UKAS accredited laboratory with ISO17025 and MCERTS accredited test methods were specified where applicable for contamination testing and as shown in the laboratory test certificates appended.

7.6.1 Chemical analysis of soil samples

The programme of chemical tests undertaken on soil samples obtained from the intrusive investigation is presented in Table 15 with the laboratory testing results contained in Appendix I.

Table 15 Summary of chemical testing of soil samples

Stratum	Tests undertaken	No. of tests
Made ground / topsoil	Metals (As, Cd, Cr, Cu, Hg, Pb, Ni, Se, Zn) and pH	12
	Total Organic Carbon (TOC)	6
	Speciated Total Petroleum Hydrocarbons (TPH C6-C40)	6
	Speciated Polyaromatic Hydrocarbons (PAH)	12
	Asbestos soil screen	12
	Hazardous Waste Suite (minimum suite) - pH, Metals, TPH with ID, PAH 17, Moisture content & Asbestos screen	1
	Full 1 batch waste suite - (Inert, SNRHW and Hazardous Landfill suite)	1
	Pesticide C suite - Combined organochlorine and organophosphorus	3
	Herbicides (Triazine herbicides)	3
	BRE Brownfield Pyritic (Soil) , total SO4 BRE and Total S	5

7.6.2 Geotechnical analysis of soils

Where appropriate disturbed, bulk and undisturbed soil samples were taken for geotechnical classification testing with the depth and nature of samples detailed within the exploratory hole records.

Where appropriate, testing was undertaken in accordance with BS 1377:1990 Method of Tests for Soils for Civil Engineering Purposes or, where superseded, by the relevant part of BS EN ISO 17892:2014 Geotechnical investigation and testing - Laboratory Testing of Soil. Tests carried out in order to classify the concrete class required on-site have been undertaken following the procedures within BRE SD1:2005.

The programme of geotechnical tests undertaken on samples obtained from the intrusive investigation is presented in Table 16. The results and UKAS accreditation of tests methods are shown in Appendix J.

Table 16 Summary of geotechnical testing undertaken

Strata	Tests undertaken	No. of tests
Atherfield Clay Formation / Weald Clay Formation	Moisture Content %	15
	Liquid/Plastic Limits %	15
	2.5kg Compaction	5
	California Bearing Ration (CBR) of a 4kg compacted sample (soaked)	5
	BRE suite pyritic geology	5

7.6.3 Infiltration testing

Infiltration tests were carried out in trial pits, TPS1 – TPS3 to establish the infiltration rate of the Weald Clay underlying the site. The tests were carried out generally in accordance with the method described in BRE Digest 365 (BRE, 2016). This involved filling the pits with water from a tanker and recording the drop in water level with time as the water soaked into the ground.

Copies of the testing records are included in Appendix G.

8 SITE INVESTIGATION FACTUAL FINDINGS

The results of the intrusive investigation and subsequent geo-environmental and geotechnical laboratory analysis undertaken are detailed below.

8.1 Ground conditions encountered

The descriptions of the strata encountered, notes regarding visual or olfactory evidence of contamination, list of samples taken, field observations of soil and groundwater, in-situ testing and details of monitoring well installations are included on the exploratory hole records presented in Appendix G.

The exploratory holes revealed that the site is underlain by a variable thickness of topsoil over either Atherfield or Weald Clay. This appears to confirm the stratigraphical succession described within the preliminary CSM, although it should be noted made ground was encountered at several locations where it was not expected.

For the purpose of discussion, the ground conditions encountered during the fieldworks are summarised in Table 17 with the strata discussed in subsequent subsections.

Table 17 General succession of strata encountered

Stratum	Exploratory holes encountered	Depth to top of stratum m bgl	Proven thickness (m)
Made ground	TP1, TP2,TP4, WS1 and TPS1	Ground level to 0.50m	0.3m to >3.0m (depth not proven in TP2)
Cultivated Topsoil	All except TP1, TP2, WS1, TPS1	Ground Level	0.2m to 0.4m
Weald Clay Formation	All	0.2m to 2.1m	2.8m (proven to maximum depth of investigation.

8.1.1 Made ground

The made ground encountered in TP1, TP2, WS1,TPS1 and beneath the topsoil in TP4. The unit generally comprised a gravelly silty sand with glass and brick fragments and ranged in thickness from 0.3m to 2.1m where proven. The depth of the made ground extended beyond the termination depth of 3.0m in TP2. The four locations where made ground was encountered are all in the south eastern portion of the site near to the access road. Made ground was encountered to a greater depth in TP2 and WS1, adjacent to the pond in the north east.

8.1.2 Cultivated Topsoil

Topsoil deposits encountered across the remainder of the site comprised a clay rich soil comprising soft brown silty clay with frequent rootlets, ranging in thickness between 0.2 m and 0.4 m.

8.1.3 Weald Clay Formation

These strata were encountered at a depth of between 0.2m and 2.1m below ground level and have been proven to extend beyond the maximum investigation depth of 3m, with a maximum thickness of 2.8m observed. These units comprised mostly cohesive strata, with granular siltstone and mudstone bands observed at depth.

A summary of the in-situ and laboratory test results recorded in the stratum are presented in Table 18.

Table 18 Summary of in-situ and laboratory test results for cohesive unit

Soil parameters	Min. Value	Max. Value	Reference
Moisture content (%)	17	32	Appendix J
Modified moisture content (%)	20	77	Appendix J
Liquid limit (%)	38	78	Appendix J
Plasticity limit (%)	20	31	Appendix J
Plasticity index (%)	18	47	Appendix J
Modified plasticity index (%)	9	46	Appendix J
Plasticity term	Intermediate	Very High	NA
Volume change potential	Low	High	NA
SPT 'N' values	4	50	Appendix G
Undrained shear strength inferred from SPT 'N' values (kN/m^2)*	17.2	215	Appendix G
Undrained shear strength measured by shear vane testing (kN/m^2)	28	87	Appendix G
Consistency term from field description	Soft	Very stiff	Appendix G
Strength term? (based on shear vane testing)	Low	High	Appendix G
Compaction results			
Maximum dry density	1.53	1.69	Appendix J
Optimum moisture content	14.1	20.8	Appendix J
Notes: *derived using a Stroud Factor of 4.3.			

8.1.4 Visual/olfactory evidence of soil contamination

The maximum recorded PID result was 0.4ppm recorded in WS01-ES03 at 1.2m. All other samples recorded PID results below the equipment limit of detection (<0.1ppm).

The majority of the site was underlain by a nominal thickness of topsoil and or made ground. Deeper made ground was identified in the vicinity of TP2 (>3.00m depth) and WS1 (2.10m depth). Based on anecdotal information provided by the land owner it is understood that this material originates from the excavation of the pond adjacent to the north eastern boundary of the site. The made ground in this location is described as gravelly clay containing varying amounts of anthropogenic material including brick, clinker, ceramic, glass, wood and gravel of flint and chalk. Decaying organic material was noted in TP02 from 1.80m to 3.00m.

8.2 Groundwater and surface water

8.2.1 Groundwater encountered during intrusive works

Water seepage were noted in TP02, TP06, TP11 and TPS01 at depths between 1.5m and 2.4m bgl. The remaining locations remained dry during the intrusive investigation.

8.2.2 Groundwater encountered during monitoring

Rest groundwater levels recorded during the monitoring programme are summarised in Table 19 based on the data provided in Appendix H.

Table 19 Summary of groundwater monitoring results

Monitoring well	Response zone depth (m)	TOC elevation (m AOD)	Depth to water (mb TOC)	Depth to base (m)	Notes
WS01	1.0 to 3.0	33.07	2.5	4.60	Water is thought to represent rainwater / perched water rather than a continuous waterbody.
			0.66		
			0.88		
WS02	1.0 to 3.5	28.23	2.90	3.45	
			0		
			0.09		
WS03	1.0 to 3.5	26.88	1.15	2.70	
			0.21		
			0.91		
WS04	2.0 to 4.0	26.88	DRY	3.50	
			0.16		
			0.34		
WS05	1.0 to 4.0	27.18	3.5	3.60	
			0.34		
			0.30		

8.3 Chemical laboratory results

The soil testing results are presented in Appendix I.

No asbestos was detected in soil screening.

8.4 Geotechnical laboratory results

The results of the geotechnical testing are discussed in Section 11 and presented in Appendix J.

8.5 Ground gas monitoring

The results of the ground gas monitoring and testing carried out are given in Appendix H and discussed in 9.4.

All three groundwater and ground gas monitoring rounds have been completed. A peak CO2 of 6.6 %/vol in WS1, peak Methane of <0.1%/vol and peak flow of 0.8 Litres a second were recorded in WS5.

It should be noted that the response zones of each well were flooded in all locations during rounds 2 and 3 which can lead to erroneous results.

9 GEO-ENVIRONMENTAL ASSESSMENT

9.1 Refinement of initial CSM

The published geological records of the area indicate that the site is underlain by Head deposits over both the Weald Clay Formation and the Atherfield Clay Formation. The investigation identified topsoil and or made ground overlying predominately cohesive units with occasional bands of granular material and occasional mudstone and siltstone bands at depth. Water seepage were noted in TP02, TP06, TP11 and TPS01 at depths between 1.5m and 2.4m bgl. The remaining locations remained dry during the intrusive investigation.

The initial CSM identified potential sources of ground contamination at the site associated with Made Ground. The investigation identified deeper made ground in the vicinity of TP01, TP02, TP4, TPS1 and WS01 ranging from 0.5mbgl to greater than 3.00m in TP02 where the full depth of made ground was not proven. The made ground in TP02 was noted to comprise slightly gravelly silty clay with occasional brick fragments, whole bricks, plastic, rare wood, cable, glass and decaying organic matter between 1.80mbgl to 3.00mbgl. The maximum recorded PID result was 0.4ppm recorded in WS01-ES03 at 1.2m. All other samples recorded PID results below the equipment limit of detection (<0.1ppm).

All three groundwater and ground gas monitoring rounds have been completed. A peak CO2 of 6.6 %/vol in WS1, peak Methane of <0.1%/vol and peak flow of 0.8 Litres a second were recorded in WS5.

The information and results gathered from the preliminary risk assessment and ground investigation undertaken at the site to date generally confirms the initial CSM. Notwithstanding the above the slightly elevated CO2 readings recorded in WS1 suggests the possibility of ground gas risk which will be discussed in Section 9.4.

9.2 Linkages for assessment

As described in LCRM (Environment Agency, 2021), there are two stages of quantitative risk assessment (QRA), Tier 2 generic (GQRA) and Tier 3 detailed (DQRA). The GQRA comprises the comparison of soil, groundwater, soil gas and / or ground gas results with generic assessment criteria (GAC) that are appropriate to the linkage being assessed. This comparison can be undertaken directly against the laboratory results or following statistical analysis depending upon the sampling procedure that was adopted. This assessment relates to LCRM Stage 1, Tier 2 generic quantitative risk assessment

Following the refinement of the CSM, the potentially complete contaminant linkages that require further assessment and the methodology of assessment are presented in Table 20.

Table 20 Linkages for GQRA

Potentially relevant contaminant linkage	Assessment method
Human health and phytotoxic-related linkages	
H1. Oral, dermal and inhalation exposure with impacted soil, soil vapour and dust by future residents	Human health GAC in Appendix K for a proposed residential end use with home-grown produce since the proposed end use includes residential gardens.
H2. Inhalation exposure of future residents to asbestos fibres	Qualitative assessment based on the asbestos minerals present, their form, concentration, location and the nature of the proposed development.
H3. Uptake of contaminants by vegetation potentially impacting plant growth (phytotoxicity)	Comparison of soil data to GAC in Appendix L for phytotoxicity.
H4. Organic contaminants permeating potable water supply pipes	Comparison of soil data to GAC in Appendix M for plastic water supply pipes using UKWIR (2010) guidance.
Controlled waters-related linkages	
W1. Leaching of soil contaminants and dissolved phase migration to wider principal/secondary aquifer* - undifferentiated aquifer relating to the aforementioned head deposits. - Running parallel with the northern boundary of the site is a strip of land underlain by a secondary A aquifer relating to the Weald Clay Formation sandstone. W2. Migration of dissolved phase contaminants to surface waters (tributary to Lancing Brook))	Since no surface water, groundwater or leachate data is available the potential for leaching of contaminants to groundwater of overland flow into surface water has been considered qualitatively using soil chemical results.
Ground gas-related linkages	
G1. Concentrations of methane and carbon dioxide in ground gas entering and accumulating in enclosed spaces or small rooms in new buildings, which could affect future site users. For methane this could create a potentially explosive atmosphere, while death by asphyxiation could result from carbon dioxide.	Borehole hazardous gas flow rates (Qhg) have been calculated using maximum (peak) methane and carbon dioxide concentrations and steady state flow rates in accordance with BS8485. This is subject to interpretation and use of professional judgement to designate the site or zones of the site characteristic situation by comparison to a Gas Screening Value (GSV) as appropriate and in line with the CSM.

9.3 Methodology and assessment of human health and phytotoxic-related linkages

9.3.1 H1. Oral, dermal and inhalation exposure with impacted soil by future occupants/site users

In order to assess the soil results against the appropriate GAC, the soil results have been split into appropriate data sets relevant to the oral, dermal and inhalation linkage.

As an initial assessment of each dataset, all soil results in each dataset have been directly compared against the GAC for residential with home-grown produce. These values are considered most appropriate given the proposed end use. The GAC for human health (together with details of their derivation) used in this assessment are included in Appendix K

The soil samples were tested for a range of potential contaminants, including metals, petroleum hydrocarbons (TPH), speciated polycyclic aromatic hydrocarbons (PAH), herbicides and pesticides.

Of the 12no. samples submitted for metals (As, Cd, Cr, Cu, Hg, Pb, Ni, Se, Zn), lead concentrations in made ground samples from TP02 at 0.30mbgl (360mg/kg) and WS01 at 0.20mbgl (252mg/kg) exceeded the GAC of 200mg/kg. Notwithstanding the above under the proposed development this area is likely to be public open space (POS) and the results do not exceed the GAC for POS. Therefore the above should be considered a conservative approach.

In regard to speciated PAH compounds 12no samples were submitted for chemical testing, with the exception of TP02 at 0.30mbgl and WS01 at 0.20mbgl chemical test results were below the laboratory limits of detection (LLD). While PAH compounds were recorded above the LLD in both these samples none exceeded the GAC.

In total six samples were submitted for speciated TPH and one sample for total TPH. Total TPH concentrations above the LLD were found in two samples including TP1 (0.0m to 0.3m) and WS01 (0.60m) with concentrations of 145mg/kg and 60mg/kg respectively. Where identified these appear to be within the aliphatic/aromatic C16 to C40 range, indicative of 'heavy fuel oils' and PAHs. No evidence of fuel oils was encountered during the site investigation. While TPH compounds were recorded above the LLD in both these samples none exceeded the GAC.

Three samples were submitted for a suite of organochlorine pesticides, organophosphorous pesticides and Triazine herbicides from across the site at shallow depth including TP3 (ground level to 0.20mbgl), TP6 (ground level to 0.20mbgl), TP11 (ground level to 0.10mbgl). All were found to be at concentrations below LLD suggesting that historical herbicide and pesticide use on site has not caused significant contamination.

The chemical test results indicate that with the exception of the deeper made ground in the vicinity of TP2 and WS1, no potentially significant risks associated with the soil contamination have been identified and it is considered that the site may be regarded as suitable for the proposed end use.

In regard to the made ground within TP2 and WS1 this material would be chemically and physically unsuitable based on the test results and presence of anthropogenic material including brick, glass, plastic for use in private gardens. Based on the proposed development plans this area will remain public open space (POS). The chemical results do not exceed the GAC for POS therefore at this stage no remediation would be required. Notwithstanding the above, given the limited number of exploratory locations completed as wells as the heterogeneity of materials encountered and anecdotal evidence regarding material provenance, the potential for previously unforeseen ground conditions remains. On this basis, it would be prudent to supplement existing data with a shallow exploratory works (hand pitting exercise) to accurately defined prevailing shallow ground conditions and soil suitability.

9.3.2 H2. Inhalation exposure of future occupants/site users to asbestos fibres

The visual inspection at the laboratory identified no materials suspected of potentially containing asbestos and the scheduled laboratory screening for asbestos found no detectable asbestos fibres within the samples of made ground or topsoil across the site.

9.3.3 H3. Uptake of contaminants by vegetation potentially inhibiting plant growth (phytotoxicity)

As for the human health assessment above, samples from the Made Ground have been used to undertake a statistical analysis for the phytotoxic metals zinc, copper, nickel, lead, cadmium and mercury.

Comparison of the recorded values to the GAC presented in Appendix L for this linkage indicates that the Made Ground in the vicinity of WS1 and TP2 contains concentrations of lead above the GAC (300mg/kg) therefore a relevant contaminant linkage may associated with phytotoxic effects. Notwithstanding visual inspection of vegetation at this location and across the site has not indicated signs of vegetative distress.

All other samples were found to be below the relevant GAC.

The above indicates that a pollutant linkage is unlikely to exist outside areas of deeper made ground. The made ground in the vicinity of WS1 and TP2 is unlikely to be a suitable medium for future planting.

9.3.4 H4. Organic contaminants permeating potable water supply pipes

For initial assessment purposes, the results of the investigation have been compared with the GAC presented in Appendix M for this linkage, which are reproduced from *UKWIR Report 10/WM/03/21. Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites* (UKWIR, 2010).

The results indicate that a relevant linkage is unlikely to exist associated with organic contaminants and therefore pollutant polyethylene (PE) and/or polyvinyl chloride (PVC) water supply pipes are expected to be suitable for use on the development.

It should be noted that at the time of this investigation the future routes of water supply pipes had not been established, hence the investigation and sampling strategy may not be fully compliant with UKWIR recommendations. Consequently, a targeted investigation and specific sampling/analytical strategy may be required at a later date once the route(s)

of the supply pipe(s) are known. It has been assumed that future potable water supplies lines will not traverse areas of deeper made ground identified in the vicinity of WS1 and TP2.

In addition, it is recommended that the relevant water supply company be contacted at an early stage to confirm its requirements for assessment, which may not necessarily be the same as those recommended by UKWIR.

9.3.5 W1 Leaching of soil contaminants and dissolved phase migration to wider principal/ secondary aquifer* / Migration of dissolved phase contaminants to surface waters

With the exception of the deeper made ground in the vicinity of TP2 and WS1 all soil samples submitted for analysis were found to below the corresponding Generic Assessment Criteria (GAC) in regard to human health, phytotoxicity and potable water supply pipes. Based on this assessment and observations of the made ground and cohesive natural soils made during the site investigation no potentially significant risks associated with the migration of dissolved phase contaminants to the wider Secondary A aquifer have been identified.

9.4 G1: Methodology and assessment of ground gas-related linkages

9.4.1 Appropriate guidance

The risks to development from ground gases have been assessed in accordance with BS8485:2015+A1:2019 (BS8485), which provides guidance on ground gas (methane and carbon dioxide) characterisation and hazard assessment, as well as providing a framework for the prescription of protection measures within new buildings.

The process involves characterising the gas hazard from combining the qualitative assessment of risk (using the CSM) with ground investigation data so that a 'characteristic situation' (CS) can be derived for the site or zones within the site. Characteristic situations range from CS1 to CS6, the higher the CS, the higher the hazard potential. Gas protection measures within new buildings can be prescribed using a point scoring system, taking into consideration the CS and the proposed building type.

BS8485 indicates that the gas hazard can be characterised using the following methods:

- an empirical semi-quantitative approach using gas monitoring data to determine the 'characteristic situation' of the site (or zones of the site) and subsequent protective measures (Wilson and Card approach).
- an empirical semi-quantitative approach using TOC data to determine the 'characteristic situation' of the site (or zones of the site) and subsequent protective measures (CL:AIRE RB17 approach) or
- detailed quantitative assessment methodologies.

For the purpose of this assessment, the empirical semi-quantitative approach above has been used to characterise the gas hazard and provide advice on the protective measures likely to be required within new buildings at the site.

9.4.2 Empirical semi-quantitative approach using borehole monitoring data

The empirical semi quantitative approach using gas monitoring data requires the designation of a gas screening value (GSV) for the entire site or zones within the site, which informs the hazard potential and associated prescribed ground gas protection measures within new buildings (where necessary). BS8485 defines the GSV as the *'flow rate (l/hr) of a specific hazardous gas* ***representative of a site or zone****, derived from assessment of borehole concentration and flow rate measurements and taking account of all other influencing factors, in accordance with a conceptual site model'.*

BS8485 Section 6.3.1 outlines the process for developing a GSV for the site or a zone as follows:

- Borehole hazardous gas flow rate (Q_{hg}) is calculated for each borehole standpipe for each monitoring event. The borehole hazardous gas flow rate is defined in BS8485 as the '*flow rate of a specific hazardous gas, either methane or carbon dioxide, from a borehole standpipe'*. The Q_{hg} is calculated from individual borehole measurements of total gas flow and the concentration of the specific hazardous gas. BS8485 states in Section 6.3.4 that the **maximum** gas concentration recorded during the monitoring event should be used, together with **steady-state** values of gas flows;
- The reliability of the measured gas flow rates and concentrations are assessed taking into account borehole construction;
- Decisions are made about how to deal with any temporal or spatial shortages in the data; and
- Judgements are made about what GSV to designate for use for design purposes taking all relevant information and the conceptual site model into account.

Once the Q_{hg} has been calculated for methane and carbon dioxide, individual borehole measurements are compared to the thresholds presented in Table 2 of BS8485 which inform the CS that directly relates to each individual measurement. Taking into account the site data (i.e. borehole gas concentration and flow rate to calculate the Q_{hg}) and all other influencing factors in accordance with the CSM, a decision can then be made regarding the GSV that is considered to be representative of the site or a zone within it.

Typical threshold concentrations of methane (1% v/v) and carbon dioxide (5% v/v), and flow rates (>70 l/h), are also considered when designating the GSV for the site or zone, which in turn dictates the hazard potential and CS. It is important to note that the site or zone characteristic GSV and maximum concentration or flow thresholds are guideline values and not absolute. The thresholds may be exceeded in certain circumstances, if the CSM indicates it is safe to do so.

The results of the ground gas monitoring and testing undertaken, alongside site conditions at the time of monitoring, are given in Appendix H.

A summary of the maximum recorded concentrations per borehole (or minimum for oxygen) is presented in **Table 21** overleaf. This table also presents details of the response zone, maximum recorded initial and steady state flow rates and minimum recorded depth to water across all monitoring rounds.

The range of atmospheric pressure over the monitoring rounds was 992 to 1030mbar.

Table 21 Summary of ground gas monitoring results all data/ excluding entirely flooded response zones*

Exploratory position ID	Response zone (mbgl)	Response zone geological unit	monitoring round	monitoring round date	Peak CH_4 max. (%/vol)	Steady-state CH_4 max. (%/vol)	Peak CO_2 max. (%/vol)	Steady-state CO_2 max. (%/vol)	Oxygen min. (%/vol)	Peak gas flow max. (l/hr)	Steady-state gas flow max. (l/hr)	Atm. pressure (mb)
WS1	0.60 to 4.00	Natural and Made ground	1	1/12/2021	<0.1	<0.1	6.6	-	17.1	0.0	0.0	998 to 997
			2	8/12/2021	<0.1	<0.1	0.6	0.1	21.5	0.0	0.0	992 to 993
			3	15/12/2021	<0.1	<0.1	0.5	0.1	21.0	0.4	0.0	1030
WS2	0.45 to 3.45	Natural	1	1/12/2021	<0.1	<0.1	0.4	0.4	21.3	0.0	0.0	998 to 997
			2	8/12/2021	<0.1	<0.1	0.3	-	21.0	0.0	0.0	992 to 993
			3	15/12/2021	<0.1	<0.1	0.1	0.1	21.0	0.0	0.0	1030
WS3	0.37 to 2.70	Natural	1	1/12/2021	<0.1	<0.1	1.2	1.2	20.3	0.0	0.0	998 to 997
			2	8/12/2021	<0.1	<0.1	0.2	0.1	21.1	0.0	0.0	992 to 993
			3	15/12/2021	<0.1	<0.1	1.0	0.7	18.9	0.5	0.0	1030
WS4	1.45 to 3.45	Natural	1	1/12/2021	<0.1	<0.1	1.3	1.3	20.5	0.0	0.0	998 to 997
			2	8/12/2021	<0.1	<0.1	0.2	0.1	21.0	0.0	0.0	992 to 993
			3	15/12/2021	<0.1	<0.1	0.1	0.1	20.8	0.6	0.0	1030
WS5	0.45 to 3.45	Natural	1	1/12/2021	<0.1	<0.1	0.2	0.2	21.2	0.0	0.0	998 to 997
			2	8/12/2021	<0.1	<0.1	0.2	0.1	21.1	0.0	0.0	992 to 993
			3	15/12/2021	<0.1	<0.1	0.1	0.1	21.0	0.8	0.0	1030

A peak CO2 of 6.6 %/vol in WS1 during round 1, peak Methane of <0.1%/vol and peak flow of 0.8 Litres a second were recorded in WS5 during round 3.

It should be noted that the response zones of each well were flooded in all locations during rounds 2 and 3 which can lead to erroneous results.

Therefore a peak CO2 of 6.6 %/vol, peak Methane of <0.1%/vol and peak flow of <0.1 Litres a second have been used to calculate.

In accordance with BS8485, a 'worst case' scenario has been calculated for the site by multiplying the maximum recorded flow from any monitoring round by the maximum recorded methane or carbon dioxide concentration.

The gas monitoring data has identified a maximum methane concentration of <0.1% and a maximum concentration of carbon dioxide of 6.6%. A maximum steady gas flow rate of 0.1 l/hr has been recorded. The calculated GSV for methane (based on limits of detection) is 0.0001 l/hr and for carbon dioxide is 0.066. Based on the GSVs alone the site would be classified as Characteristic Situation 1 (Very Low Risk).

However, based upon the maximum recorded concentrations of carbon dioxide, which exceed a provisional upper threshold of 5% for a Characteristic Situation 1 classification, a more robust monitoring data set would be required to adequately characterise the site. On this basis, the site classification should provisionally be increased to Characteristic Situation 2 until further monitoring has been undertaken to characterise the site.

Notwithstanding the above the risk is associated with deeper made ground on an area of the site that will be set aside as POS. In addition to this the made ground is raised above the rest of the site and is underlain by cohesive soils of the Warhurst Clay Formation. Based on the ground conditions, position of the waste, its elevation above the site and the results of the ground gas monitoring the risk posed by groundgas on site has been ruled out and no further assessment is required in terms of groundgas.

9.5 Uncertainties and implications in refined CSM and GQRA

In accordance with good practice, data gaps and uncertainties in the refined CSM have been identified at this stage. These are summarised in Table 22 along with the likely implications.

Table 22 Data gaps and uncertainties

Data gap/ uncertainty	Details	Implications
The area on the south west corner of the site was heavily vegetated and not accessible for investigation.	Under proposed development plans while this area lies within the site boundary it is not shown to be developed.	There is a gap in coverage for soil for this area. Notwithstanding the above the development plans available to RSK do not show development in this area so no further investigation is proposed at this stage.
Asbestos not found in made ground samples tested	Although not encountered to date, asbestos containing material (ACM) could still be present in discrete locations	Vigilance should be maintained for any potential ACM or fibrous material during below ground works especially in areas of deeper made ground (TP2 and WS1)
Only three rounds of ground gas monitoring has been completed to date. In addition the response zones during rounds 2 and 3 were flooded and therefore the data has been omitted from the ground gas assessment.	The worst case conditions for gas flow are unlikely to have been characterised, limiting the risk assessment.	The likely worst case gas regime has not been used and thus ground gas mitigation measures may be underestimated without further ground gas monitoring during a period of falling pressure
No groundwater and surface water samples were collected as part of the investigation	While water seepages were identified in a number of locations these are not thought to represent a continuous groundwater body rather perched water trapped in made ground / granular bands. Therefore it has not been possible to sample and test groundwater. Surface water sampling and testing of onsite surface water features was not included as part of the scope.	The initial risk to controlled waters and surface water has been based on soil chemical results rather than direct sampling of surface and or groundwater. Testing of surface water or groundwater samples would be a more robust assessment. Notwithstanding the above the risk to surface and controlled waters is deemed low based on the assessment undertaken and further sampling and testing is not recommended at this stage.

10 PRELIMINARY WASTE ASSESSMENT

In accordance with the definition provided in the Waste Framework Directive (WFD), materials are only considered waste if 'they are discarded, intended to be discarded or required to be discarded, by the holder'. Naturally occurring soils are not considered waste if reused on the site of origin for the purposes of development. Soils such as made ground that are not of clean and natural origin (irrespective of whether they are contaminated or not) and other materials such as recycled aggregate, do not become waste until the criteria above are met. Further background information is provided in Appendix F.

Excavation arisings from the development may therefore be classified as waste if surplus to requirements or unsuitable for reuse. The following assessments assume the material tested is classified subsequently as waste.

10.1 Hazardous waste assessment

Technical Guidance WM3 (EA, 2018) sets out in its Appendix D requirements for waste sampling. It is a legal requirement to correctly assess and classify waste. The level of sampling should be proportionate to the volume of waste and its heterogeneity. The preliminary assessment provided below is based only upon the available sample results and may not be sufficient to adequately classify the waste.

10.1.1 Chemical contaminants

Envirolab, an RSK company, has developed a waste soils characterisation assessment tool (HASWASTE), which follows the guidance within Technical Guidance WM3. The analytical results have been assessed using this tool to assess the hazardous properties to support potential off-site disposal of materials in the future. A copy of the assessment has been included in Appendix N. Note that it is ultimately for landfills to confirm what wastes they are able to accept within the constraints of their permit.

No samples were found to have hazardous properties based on this assessment. This suggests that if applicable the waste would require disposal at a suitably permitted inert or non-hazardous waste landfill.

10.1.2 Asbestos within waste soils

Technical Guidance WM3 requires that within a mixed waste the separately identifiable wastes be assessed separately.

For instance, where waste soil contains identifiable pieces of asbestos (visible to the naked eye) the asbestos should, where feasible, be separated from the soil and classified separately. This should be disposed of within a hazardous, stable non-reactive hazardous waste landfill or a special cell in a non-hazardous waste landfill.

As noted above the visual inspection on site and at the laboratory identified no materials suspected of potentially containing asbestos and the scheduled laboratory screening for asbestos found no detectable asbestos fibres within the samples of made ground or topsoil across the site. Notwithstanding the above asbestos containing materials may still be present in discrete areas of site and particular care and attention should be taken when excavating in areas of deeper made ground.

10.2 WAC assessment

A sample from 0.60mbgl in WS01 was submitted for waste acceptance criteria (WAC) testing, the results of which are presented in Appendix I.

The results of the WAC testing indicate that the leaching limit values for inert waste have been exceeded and therefore the waste is not suitable for disposal within an inert landfill but should be disposed of at a landfill or treatment facility which is permitted to take non-hazardous waste.

RSK recommends that a Sampling Plan be prepared to support any waste classifications and hazardous waste assessments, prior to any material being excavated. Given the level of data obtained, scale of the development and heterogeneity of the site soils, the following assessment should be considered indicative and further assessment should be undertaken following the preparation of a waste sampling plan.

11 GEOTECHNICAL ASSESSMENT

11.1 Proposed development

The proposed layout of the site, at the time of preparing this report, is shown in Appendix B. The proposed development comprises private residential homes with associated driveways, soft landscaping frontage and rear gardens, as well as areas of public open space and sports pitches. It has been assumed the ground-bearing floor slabs will not be required and that beam and block flooring will be utilised.

11.2 Key geotechnical hazards/development constraints

The key risks identified from the available ground investigation data are discussed below:

- presence of shrinkable clay soils associated with the weathered portion of Weald Clay Formation and Arthfield Clay;
- pyritic ground conditions associated with the underlying geology;
- lateral and vertical variable ground conditions;
- variable silt content associated with the underlying ground conditions;
- deep made ground in the vicinity of TP2 and WS1

11.3 Foundations

11.3.1 Foundation options

Given the presence of competent natural soils at a relatively shallow depth it is considered that traditional spread footings will be suitable for the proposed development.

Given the significant depth of made ground encountered in the vicinity of TP2 and WS1 spread footings are unlikely to be suitable for the development unless it is proposed to reduce the level of the site in this area as part of the proposed development.

The adoption of traditional spread foundations to support the predominantly low-rise residential development appears technically feasible. However, the deep made ground recorded to the south, together with locally low strength soils (inferred from in-situ test results and field descriptions) is likely to dictate the requirement for some of the proposed foundations to be significantly deepened. Furthermore, the presence of potentially desiccated clay soils in the vicinity of existing trees/hedges (notably to the west of the site densely populated with trees) may exist. The foundation design therefore needs to take account of the potential for damaging ground movements to occur as a result of shrinkage of the clay soils close to existing trees and the subsequent swelling where trees maybe be removed.

Whilst recommendations for the design and construction of spread foundation is provided in Section 11.3.2, it is recommended that further investigations be conducted to provide greater confidence that traditional spread foundations will prove economically viable given the likely requirement to locally deepen and support foundation excavations. Alternatively, prior treatment, such as vibro-compaction/replacement may prove a more cost effective

solution to enable the adoption of shallow foundations. However, it is recommended that advice be sought from a ground improvement specialist to confirm suitability of the ground conditions for treatment and achievable bearing capacities.

Notwithstanding the above, recourse to piled foundations could also be adopted, subject to further deeper investigations confirming design parameters.

11.3.2 Spread foundations

The recommendations for the design and construction of spread foundations in relation to the ground conditions are set out in Table 23.

Table 23 Design and construction of spread foundations

Design/construction considerations	Design/construction recommendations
Founding stratum	Weald Clay Formation
Depth	Foundations should be taken to a minimum depth of 1.0m below the final or existing ground level, whichever is lower, and at least 0.2m into the founding stratum below any overlying made ground or to any greater depth required in respect of the special design considerations given below.
Special design considerations	
Shrinkable soils	Owing to the presence of shrinkable clay soils, foundations should be designed taking into account all the normal precautions, including minimum founding depths, to minimise the risk of future foundation movements in accordance with NHBC standards or similar. The findings of the ground investigation indicate that foundations should be designed for shrinkable soils of low to high volume change potential.
Presumed bearing capacity	Strip/trench fill foundations with a width of upto 1.0m and constructed on the firm to stiff clay at a minimum depth of 1.0m may be designed using a presumed bearing capacity of 90 kN/m$^{2.}$ The presumed bearing capacity includes a partial factor on bearing resistance of 3 against bearing capacity failure. Total settlements associated with the presumed bearing pressure are anticipated to be less than 25 mm.
Construction considerations	All foundation excavations should be inspected, and any made ground and soft, organic or otherwise unsuitable materials removed and replaced with mass concrete. The proposed founding stratum is a relatively silt-rich soil, hence susceptible to rapid softening once exposed. Hence all foundation excavations should immediately be blinded with concrete or the full foundation constructed.

11.4 Roads and hardstanding

In the 1 m to 1.5 m below the proposed finished ground level the exploratory holes have revealed a soil profile comprising topsoil and or mage ground overlying initially soft

becoming firm to stiff clay. The potentially poorest sub-grade material within this profile is the made ground.

In pavement design terms, the groundwater conditions are anticipated to comprise a low water table, i.e. at least 1 m below the pavement formation level.

The estimated minimum, equilibrium soil-suction, California bearing ratio (CBR) value for the soils and groundwater conditions described above under a completed pavement is 2 %, based upon Table C1 in TRRL (1984) Report LR1132.

The results of in-situ testing are summarised in Table 24.

Table 24 Summary of CBR values derived from in-situ and ex-situ methods

Test location	Material type	Minimum CBR value determined at or just below anticipated formation level
Laboratory test in line with BS1337:4 clause 7 (seating 10N and surcharge 4kg)		
HP01 0.40-0.60m	Yellowish brown slightly sandy CLAY with roots	2.8 % to 5.8 %
HP02 0.50m	Yellowish brown mottled dark brown slightly sandy CLAY.	3.7% to 4.9%
HP03 0.50m	Yellowish brown mottled grey slightly sandy CLAY.	2.3% to 3.5%
HP04 0.50m	Greyish brown slightly sandy CLAY.	1.2% to 1.6%
HP05 0.50-0.60	Yellowish brown slightly sandy CLAY with rare gravel. Gravel is fine to medium.	2.4% to 3.2%
In-Situ Dynamic Cone Penetrometer		
DCP1 (0.50) to DCP10 (0.50)	NA	3% to 10%

The recommended sub-grade soil CBR value for road pavement design is therefore 3 %. This value assumes that during construction the formation level will be carefully compacted and any soft spots removed and replaced with well-compacted granular fill.

The sub-grade soils can be regarded as potentially frost-susceptible, based upon the criteria given in Appendix 1 of TRRL (1970) Report Road Note 29. When the sub-grade is frost-susceptible the thickness of sub-base must be sufficient to give a total thickness of non-frost-susceptible pavement construction over the soil of not less than 450 mm.

11.5 Excavations for foundations and services

Generally, the trial pits remained stable during excavation which indicates that foundation excavations should also remain stable in the short term. In the event that excavations are to remain open for longer periods, consideration should be given to the use of trench support systems.

Man entry into any excavations should not be undertaken without provision of suitable shoring and support and dewatering or suitable regrading and battering of side slopes to safe angles. Confined spaces protocols for the Health and Safety of personnel should always be used where man entry into excavations is to be undertaken as low oxygen conditions may be present.

Groundwater was encountered at 1.5m in TPS1 and 2.0m in TP2. Notwithstanding the above the recommendations are expected to remain relatively dry in the short term and dewatering is not thought to be required unless pits unless excavations are likely to remain open.

The cohesive nature of the soils encountered suggests that pumping from open sumps if required should be sufficient to keep the excavations reasonably dry.

11.6 Chemical attack on buried concrete

This assessment of the potential for chemical attack on buried concrete at the site is based on BRE Special Digest 1: Concrete in aggressive ground, which represents the most up-to-date guidance on this topic currently available in the UK.

The desk study and site reconnaissance indicate that, for the purposes of assessing the aggressive chemical environment of the site, the site should be considered as comprising natural ground and some made ground likely to contain pyrite.

Based on testing results, Table 25 gives the characteristic pH, water-soluble and total sulphate content values for soils from each of the geological units and groundwater encountered on-site.

The two samples of made ground taken from 0.20m and 1.20m have been excluded from the assessment. This area under the proposed development is POS and therefore the made ground in this location will not come into contact with foundations.

Table 25 Characteristic pH, water soluble sulphate and total sulphate values

Stratum	pH	Water Soluble Sulphate (mg/l)	Total Potential Sulphate (mg/l)
Cultivated topsoil	6.6 to 7.2	10 to 55	0.06 to 0.09
Weald Clay Formation	6.06 to 8.21	<10 to 481	0.03 to 0.18

Based on the results above and following the steps outlined in the BRE guidance, the Design Sulphate Classes and Aggressive Chemical Environment for Concrete classifications are summarised in Table 26, on the basis of water soluble sulphate and total potential sulphate, respectively.

Table 26 Concrete design class

Stratum	Ground water	Water Soluble Sulphate		Total Potential Sulphate	
		DS Class	AC Class	DS Class	AC Class
Cultivated topsoil	Static	DS-1	AC-1s	DS-1	AC-1s
Weald Clay Formation	Static	DS-1	AC-1s	DS-1	AC-1s

From consideration of results for pyritic, Design Sulphate Class of DS-1, may be adopted for the site. It has been assumed that groundwater conditions are static. From consideration of the characteristic pH value, an Aggressive Chemical Environment for Concrete classification of AC-1s may be assumed for design purposes.

11.7 Infiltration drainage

Soakage testing was carried out in general accordance with BRE 365 within four of the trial pits, designated TPS1, TPS2 and TPS3. However due to the slow infiltration, the tests were carried out only once at each location, rather than the three times prescribed within BRE 365. Further, the slow soakage dictated that infiltration rates for all of the exploratory holes could not be determined between the full 75% and 25% range of the effective depth as suggested in BRE 365. Therefore the low permeability clays encountered at shallow depth do not appear suitable for the discharge of surface waters via traditional chamber soakaways. However consideration may be given to alternatives, such as sustainable urban drainage systems.

12 CONCLUSIONS AND RECOMMENDATIONS

12.1 Environmental

As an initial assessment of each dataset, all soil results in each dataset have been directly compared against the GAC for residential with home-grown produce.

The chemical test results indicate that with the exception of the deeper made ground in the vicinity of TP2 and WS1, no potentially significant risks associated with the soil contamination have been identified and it is considered that the site may be regarded as suitable for the proposed end use.

In regard to the made ground within TP2 and WS1 this material would be chemically and physically unsuitable based on the test results and presence of anthropogenic material including brick, glass, plastic for use in private gardens. Based on the proposed development plans this area will remain public open space (POS). The chemical results do not exceed the GAC for POS therefore at this stage no remediation would be required. Notwithstanding the above, given the limited number of exploratory locations completed as wells as the heterogeneity of materials encountered and anecdotal evidence regarding material provenance, the potential for previously unforeseen ground conditions remains. On this basis, it would be prudent to supplement existing data with a shallow exploratory works (hand pitting exercise) to accurately defined prevailing shallow ground conditions and soil suitability.

While ACM were not encountered during the investigation the presence of discrete asbestos fragments cannot be ruled out and may be encountered during more extensive groundworks within the made ground on site. Vigilance should be maintained for any potential ACM or fibrous material during below ground works.

A pollutant linkage is unlikely to exist in regards to phytotoxicity outside areas of deeper made ground. The made ground in the vicinity of WS1 and TP2 is unlikely to be a suitable medium for future planting.

The results indicate that a relevant linkage is unlikely to exist associated with organic contaminants and therefore pollutant polyethylene (PE) and/or polyvinyl chloride (PVC) water supply pipes are expected to be suitable for use on the development. It has been assumed at this stage that groundwater supply pipes would not be placed in areas of deep made ground.

Based on chemical test results and the soil and groundwater conditions encountered no potentially significant risks associated with the migration of dissolved phase contaminants to the wider Secondary A aquifer have been identified.

Three rounds of ground gas monitoring has been conducted to date which has locally receded elevated concentrations of carbon dioxide above the 5% threshold suggested for a very low risk Characteristic Situation 1 regime. Notwithstanding the above based on the ground conditions, position of the waste, its elevation above the site and the results of the ground gas monitoring the risk posed by groundgas has been discounted and the site can be classified as Characteristic Situation 1 for which no gas protection measures are required.

Results of the preliminary waste classification suggest made ground soils unlikely to be considered inert based on current understanding of physical constituents as well as preliminary WAC data.

Should ground conditions of concern be encountered during site development then appropriate advice must be sought from a geo-environmental consultant.

12.2 Geotechnical

Given the presence of competent natural soils at a relatively shallow depth, it is considered that spread foundations are suitable for the proposed development. Locally recourse to piled foundations may more economical where foundations need to be deepened for tree influence in line with NHBC guidance for building in cohesive soils with a high volume change potential. Should a piled foundation solution be required, then additional boreholes will be required to determine the parameters for piled foundation design.

The recommended sub-grade soil CBR value for preliminary road pavement design is 2%. The sub-grade soils can be regarded as frost-susceptible. When the sub-grade is frost-susceptible the thickness of sub-base must be sufficient to give a total thickness of non-frost-susceptible pavement construction over the soil of not less than 450 mm.

It is recommended that buried concrete for spread foundations is designed in accordance with Design Sulphate Class DS-1 and Aggressive Chemical Environment for Concrete Class AC-1s.

Excavations within the cohesive units should remain stable during construction, but some localised dewatering/pumping and shoring may be required where shallow granular material was identified.

The ground conditions do not appear to be suitable for the use of pit soakaways.

12.3 Recommendations:

It is recommended that additional investigation to delineate the extent as well as the chemical and physical composition of the deep made ground identified in the vicinity of TP2 and WS1 be undertaken including:

- Shallow hand dug pits
- Chemical testing to refine suitability assessment and waste characterisation

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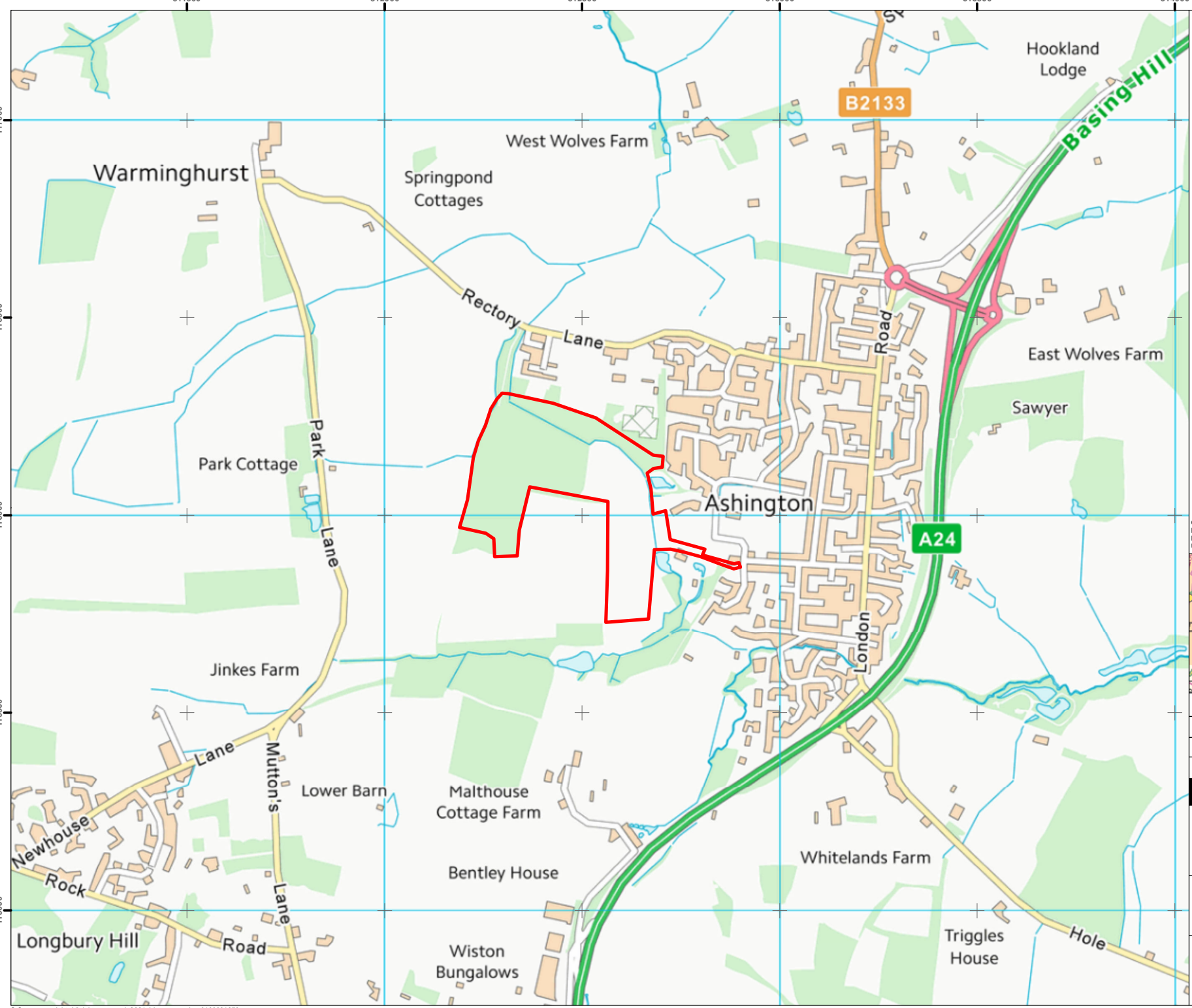
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FIGURES

FIGURE 1 SITE LOCATION PLAN



Legend:

Site Boundary

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



Rev	Date	Description	Drn	Chk	App
00	02/12/2021	First Draft	DR	JC	JC

Bellway Homes Limited
Church Lane, Ashington

RSK GEOSCIENCES

TITLE:
Figure 1:
Site Location Plan

0 100 200
Metres

SCALE: 1:12,500 @ A4

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Document Path: C:\Users\droberts\Desktop\Workings\52368 - Church Lane, Ashington\01 - GIS\Figure 1 - Site Location Plan - A4.mxd

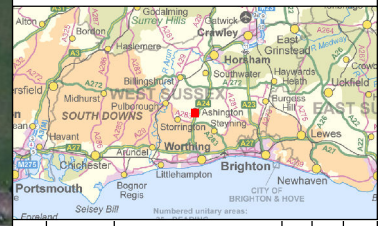
FIGURE 2 SITE LAYOUT PLAN



Legend:

- Site Boundary
- Hand Dug Pits
- Trial Pit
- Trial Pit (Soakaway)
- Window Sample
- DCP

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



Rev	Date	Description	Drn	Chk	App
00	10/12/2021	First Draft	DR	JC	JC

Bellway Homes Limited
Church Lane, Ashington

RSK GEOSCIENCES

TITLE:
Figure 2:
Site Layout Plan

0 50 100
Metres
SCALE: 1:3,500 @ A4

N
W E
S

REV 00

Document Path: C:\Users\droberts\Desktop\Workings\52368 - Church Lane, Ashington\01 - GIS\Figure 2 - Site Layout Plan - A4.mxd

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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

APPENDICES

APPENDIX A
SERVICE CONSTRAINTS

1. This report and the site investigation carried out in connection with the report (together the "Services") were compiled and carried out by RSK Environment Limited (RSK) for Bellway Homes Ltd (the "Client") in accordance with the terms of a contract RSK Environment Standard Terms and Conditions between RSK and the Client.. The Services were performed by RSK with the reasonable skill and care ordinarily exercised by an environmental consultant at the time the Services were performed. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the Client.
2. Other than that, expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services.
3. Unless otherwise agreed in writing, the Services were performed by RSK exclusively for the purposes of the Client. RSK is not aware of any interest of or reliance by any party other than the Client in or on the Services. Unless expressly provided in writing, RSK does not authorise, consent or condone any party other than the client relying upon the Services. Should this report or any part of this report, or otherwise details of the Services or any part of the Services be made known to any such party, and such party relies thereon that party does so wholly at its own and sole risk and RSK disclaims any liability to such parties. **Any such party would be well advised to seek independent advice from a competent environmental consultant and/or lawyer.**
4. It is RSK's understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the report is used, or the proposed use of the site change, this report may no longer be valid and any further use of or reliance upon the report in those circumstances by the client without RSK 's review and advice shall be at the client's sole and own risk. Should RSK be requested to review the report after the date of this report, RSK shall be entitled to additional payment at the then existing rates or such other terms as agreed between RSK and the client.
5. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the report in the future shall be at the Client's own and sole risk. Should RSK be requested to review the report in the future, RSK shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between RSK and the client.
6. The observations and conclusions described in this report are based solely upon the Services which were provided pursuant to the agreement between the Client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out or required by the contract between the client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, RSK did not seek to evaluate the presence on or off site of asbestos, invasive plants, electromagnetic fields, lead paint, heavy metals, radon gas, persistent, bioaccumulative or toxic chemicals (including PFAS/ PFOS) or other radioactive or hazardous materials, unless specifically identified in the Services.
7. The Services are based upon RSK's observations of existing physical conditions at the Site gained from a visual inspection of the site together with RSK's interpretation of information, including documentation, obtained from third parties and from the Client on the history and usage of the site, unless specifically identified in the Services or accreditation system (such as UKAS ISO 17020:2012 clause 7.1.6):
    a. The Services were based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely.

b. The Services were limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the visual inspection.

c. The Services did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services.

RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK and including the doing of any independent investigation of the information provided to RSK save as otherwise provided in the terms of the contract between the Client and RSK.

8. The intrusive environmental site investigation aspects of the Services are a limited sampling of the site at pre-determined locations based on the known historic / operational configuration of the site. The conclusions given in this report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the properties of the materials adjacent and local conditions, together with the position of any current structures and underground utilities and facilities, and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters (as stipulated in the scope between the client and RSK, based on an understanding of the available operational and historical information) and it should not be inferred that other chemical species are not present.

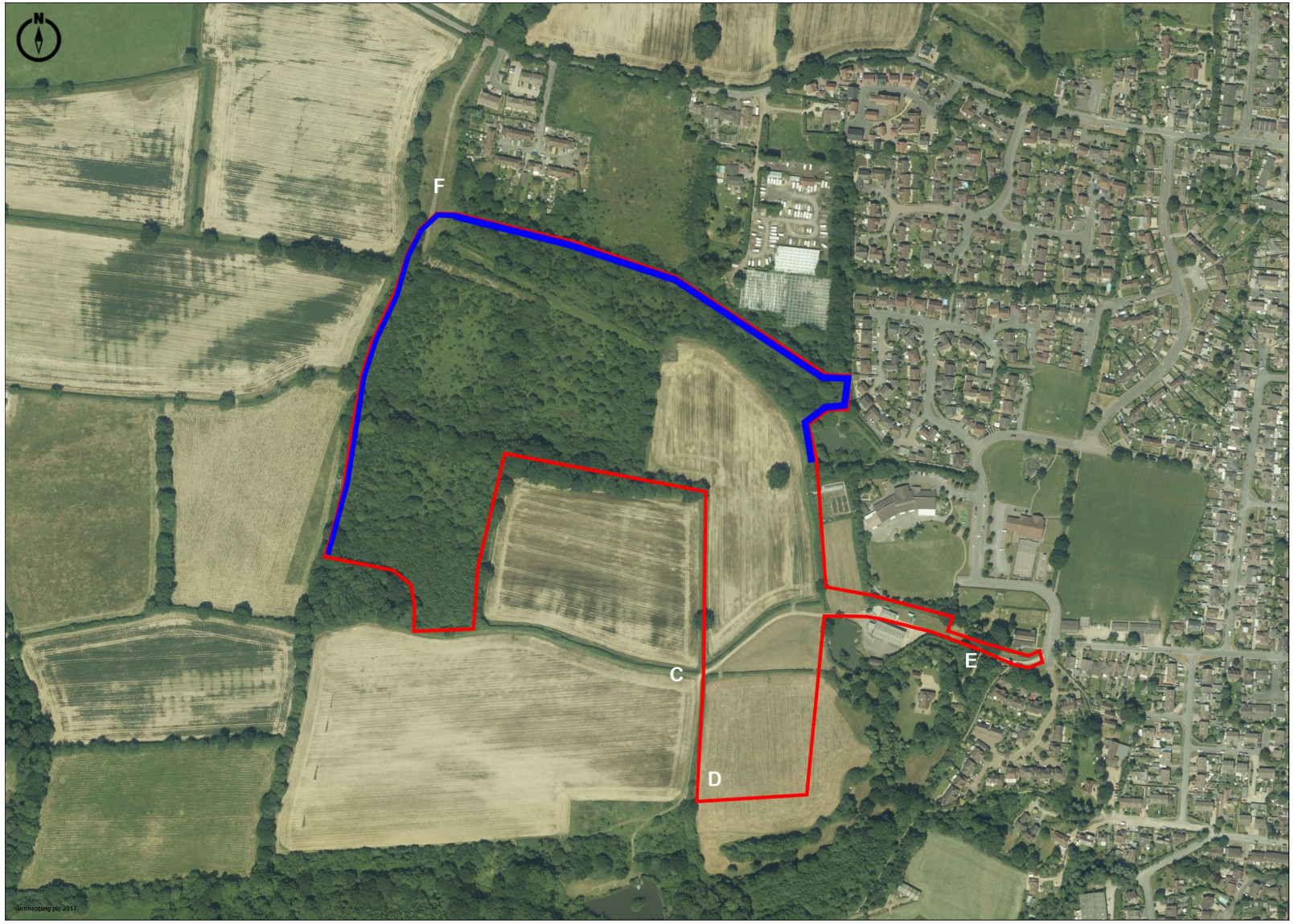
9. Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (intrusive and sample locations etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for setting out and should be considered indicative only.

10. The comments given in this report and the opinions expressed are based on the ground conditions encountered during the site work and on the results of tests made in the field and in the laboratory. However, there may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account. In particular, it should be noted that there may be areas of made ground not detected due to the limited nature of the investigation or the thickness and quality of made ground across the site may be variable. In addition, groundwater levels and ground gas concentrations and flows, may vary from those reported due to seasonal, or other, effects and the limitations stated in the data should be recognised.

11. Asbestos is often observed to be present in soils in discrete areas. Whilst asbestos-containing materials may have been locally encountered during the fieldworks or supporting laboratory analysis, the history of brownfield and demolition sites indicates that asbestos fibres may be present more widely in soils and aggregates, which could be encountered during more extensive ground works.

12. Unless stated otherwise, only preliminary geotechnical recommendations are presented in this report and these should be verified in a Geotechnical Design Report, once proposed construction and structural design proposals are confirmed.

APPENDIX B
DEVELOPMENT DRAWINGS



Promap
LANDMARK INFORMATION

Getmapping plc 2017.
Plotted Scale - **1:6000**. Paper Size - **A4**

Bellway

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Do not scale other than for Local Authority Planning purposes.

Church Farm Parcel, Land West of Ashington

SCHEDULE OF ACCOMMODATION

Housetype	Description	Qty	Floor Area - structure *		Floor Area - finish #	
Private Houses			Sq FT	Total	Sq FT	Total
SG (SO)	The Souter - 1 Bed Ground Floor Maisonette - 1B2P - M4(2)	2	549	1098	541	1082
SG (GV)	The Glover - 2 Bed First Floor Maisonette - 2B3P	2	699	1398	687	1374
HP	The Hooper - 2 Bed House - 2B3P - M4(2)	14	790	11060	776	10864
CN	The Coiner - 2 Bed House - 2B4P - M4(2)	15	876	13140	861	12915
WR	The Warrener - 3 Bed House - 3B4P - M4(2)	7	948	6636	934	6538
CS	The Coppersmith - 3 Bed House - 3B4P - M4(2)	4	1026	4104	1011	4044
BM	The Blemmere - 3 Bed House - 3B5P - M4(2)	5	1026	5130	1010	5050
HA	The Harper - 3 Bed House - 3B5P - M4(2)	7	1026	7182	1010	7070
HI	The Hillard - 3 Bed House - 3B5P - M4(2)	18	1052	18936	1036	18648
FM	The Framer - 3 Bed House - 3B4P - M4(2)	27	1053	28431	1037	27999
SR	The Sculptor - 4 Bed House - 4B6P - M4(2)	2	1289	2578	1271	2542
RE	The Reedmaker - 4 Bed House - 4B5P - M4(2)	6	1309	7854	1292	7752
PG	The Pargeter - 4 Bed House - 4B5P - M4(2)	7	1356	9492	1338	9366
AR	The Arkwright - 4 Bed House - 4B6P - M4(2)	1	1507	1507	1489	1489
Private Total		117		118546		116733
			Floor Area - structure *		Floor Area - finish #	
Affordable Houses			Sq FT	Total	Sq FT	Total
BA	The Baker - 2 Bed House - 2B4P - M4(2)	12	876	10512	861	10332
TI	The Tillman - 3 Bed House - 3B5P - M4(2)	14	1026	14364	1010	14140
PW	The Ploughwright - 3 Bed House - 3B5P - M4(2)	4	1026	4104	1010	4040
CT	The Cartographer - 4 Bed House - 4B5P - M4(2)	6	1096	6576	1081	6486
Affordable Apartments						
	1 Bed Apartment - 1B2P - The Burnisher	6	558	3348	550	3300
	1 Bed Apartment - 1B2P - The Pitcher	7	562	3934	554	3878
	1 Bed Apartment - 1B2P - The Burr	6	573	3438	564	3384
	2 Bed Apartment - 2B4P - The Lathe	8	771	6168	761	6088
Affordable Total		63		52444		51648
Overall Total		180		170990		168381

* Floor Areas measured from structure to structure

\# Floor Areas measured from notional plaster to plaster

062009-BEL.SL-AP04-180 UNITS--07.07.21-PI.PW

Proposed Sports Pitches

Allotments

Open Space

Existing School

60m 50m 40m 30m 20m 10m 1:500

10m 20m 30m 40m 50m 60m

appraisal layout

dha architecture

dha architecture ltd
Brooklands Farm Business Park
Bottle Lane
Binfield
Berkshire
RG42 5QX
t. 0118 934 9666
e. *surname*@dhaarchitecture.co.uk
w. www.dhaarchitecture.co.uk

land west of ashington, west sussex

Appraisal Layout

07.07.2021 created
1:500 @ A0 scaling
PI/DJ contact

reference 062009-BEL-SL-AP04 - revision

rev date by details

APPENDIX C
SUMMARY OF LEGISLATION AND POLICY RELATING TO LAND CONTAMINATION

Part IIA of the Environmental Protection Act 1990

Part IIA of the Environmental Protection Act 1990 (Part IIA) and its associated Contaminated Land Regulations 2000 (SI 2000/227), which came into force in England on 1 April 2000, formed the basis for the current regulatory framework and the statutory regime for the identification and remediation of contaminated land. Part IIA of the EPA 1990 defines contaminated land as 'any land which appears to the Local Authority in whose area it is situated to be in such a condition by reason of substances in, on or under the land, that significant harm is being caused, or that there is significant possibility of significant harm being caused, or that pollution of controlled waters is being or is likely to be caused'. Controlled waters are considered to include all groundwater, inland waters and estuaries.

In August 2006, the Contaminated Land (England) Regulations 2006 (SI 2006/1380) were implemented, which extended the statutory regime to include Part IIA of the EPA as originally introduced on 1 April 2000, together with changes intended chiefly to address land that is contaminated by virtue of radioactivity. These have been replaced subsequently by the Contaminated Land (England) (Amendment) Regulations 2012, which now exclude land that is contaminated by virtue of radioactivity.

The intention of Part IIA is to deal with contaminated land issues that are considered to cause significant harm on land that is not undergoing development (see Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance, April 2012). This document replaces Annex III of Defra Circular 01/2006, published in September 2006 (the remainder of this document is now obsolete).

Planning Policy

Land contamination is often addressed via the planning process during redevelopment of sites. This approach was documented in Planning Policy Statement: Planning and Pollution Control PPS23, which states that it remains the responsibility of the landowner and developer to identify land affected by contamination and carry out sufficient remediation to render the land suitable for use. PPS23 was withdrawn early in 2012 and has been replaced by much reduced guidance within the National Planning Policy Framework (NPPF), reference ISBN: 978-1-5286-1033-9, July 2021. For sites in Wales, reference should be made to Planning Policy Wales (Welsh Government. Edition 11, February 2021).

The new framework has limited guidance on contaminated land, as follows:

Chapter 11. Making effective use of land

117 Planning policies and decisions should promote an effective use of land in meeting the need for homes and other uses, while safeguarding and improving the environment and ensuring safe and healthy living conditions. Strategic policies should set out a clear strategy for accommodating objectively assessed needs, in a way that makes as much use as possible of previously-developed or 'brownfield' land.

118. Planning policies and decisions should:

c) give substantial weight to the value of using suitable brownfield land within settlements for homes and other identified needs, and support appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land.

Chapter 15. Conserving and enhancing the natural environment

170. Planning policies and decisions should contribute to and enhance the natural and local environment by:

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Ground conditions and pollution

178. Planning policies and decisions should ensure that:

a) a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation);

b) after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part 2A of the Environmental Protection Act 1990; and

c) adequate site investigation information, prepared by a competent person, is available to inform these assessments.

179. Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner.

Water Resources Act (WRA)

The Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2009 updated the Water Resources Act 1991, which introduced the offence of causing or knowingly permitting pollution of controlled waters. The Act provides the Environment Agency with powers to implement remediation necessary to protect controlled waters and recover all reasonable costs of doing so.

Water Framework Directive (WFD)

The Water Framework Directive 2000/60/EC is designed to:

- enhance the status and prevent further deterioration of aquatic ecosystems and associated wetlands that depend on the aquatic ecosystems
- promote the sustainable use of water
- reduce pollution of water, especially by ‘priority’ and ‘priority hazardous’ substances
- ensure progressive reduction of groundwater pollution.

The WFD requires a management plan for each river basin be developed every six years.

Groundwater Directive (GWD)

The 1980 Groundwater Directive 80/68/EEC and the 2006 Groundwater Daughter Directive 2006/118/EC of the WFD are the main European legislation in place to protect groundwater. The 1980 Directive is due to be repealed in December 2013. The European legislation has been transposed into national legislation by regulations and directions to the Environment Agency.

Priority Substances Directive (PSD)

The Priority Substances Directive 2008/105/EC is a 'Daughter' Directive of the WFD, which sets out a priority list of substances posing a threat to or via the aquatic environment. The PSD establishes environmental quality standards for priority substances, which have been set at concentrations that are safe for the aquatic environment and for human health. In addition, there is a further aim of reducing (or eliminating) pollution of surface water (rivers, lakes, estuaries and coastal waters) by pollutants on the list. The WFD requires that countries establish a list of dangerous substances that are being discharged and EQS for them. In England and Wales, this list is provided in the River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010. In order to achieve the objectives of the WFD, classification schemes are used to describe where the water environment is of good quality and where it may require improvement.

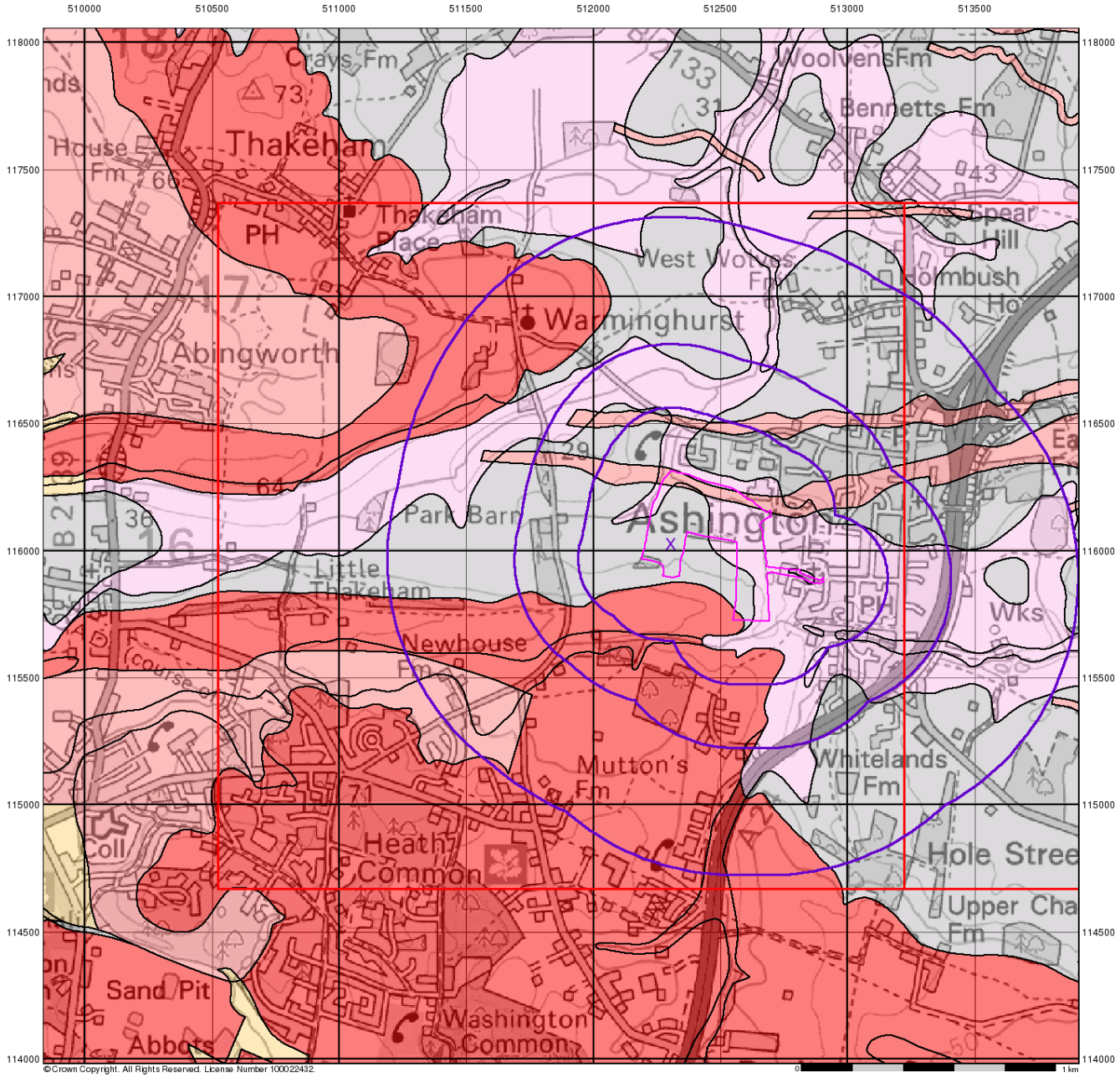
Environmental Permitting Regulations (EPR)

The Environmental Permitting (England and Wales) Regulations 2016 (as amended) provide a single regulatory framework that streamlines and integrates waste management licensing, pollution prevention and control, water discharge consenting, groundwater authorisations, and radioactive substances regulation. Schedule 22, paragraph 6 of EPR 2016 states: 'the regulator must, in exercising its relevant functions, take all necessary measures - (a) to prevent the input of any hazardous substance to groundwater; and (b) to limit the input of non-hazardous pollutants to groundwater so as to ensure that such inputs do not cause pollution of groundwater.'

Notes:

1. *The above information is provided for background but does not constitute site-specific advice*
2. *The above summary applies to England only. Variations exist within other countries of the United Kingdom*

APPENDIX D
ENVIRONMENTAL DATABASE REPORT



Groundwater Vulnerability

General

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

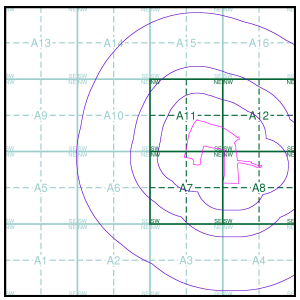
Agency and Hydrological

Bedrock Aquifers	Superficial Aquifers
High Vulnerability, Principal Aquifer	High Vulnerability, Principal Aquifer
High Vulnerability, Secondary Aquifer	High Vulnerability, Secondary Aquifer
Medium Vulnerability, Principal Aquifer	Medium Vulnerability, Principal Aquifer
Medium Vulnerability, Secondary Aquifer	Medium Vulnerability, Secondary Aquifer
Low Vulnerability, Principal Aquifer	Low Vulnerability, Principal Aquifer
Low Vulnerability, Secondary Aquifer	Low Vulnerability, Secondary Aquifer

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A



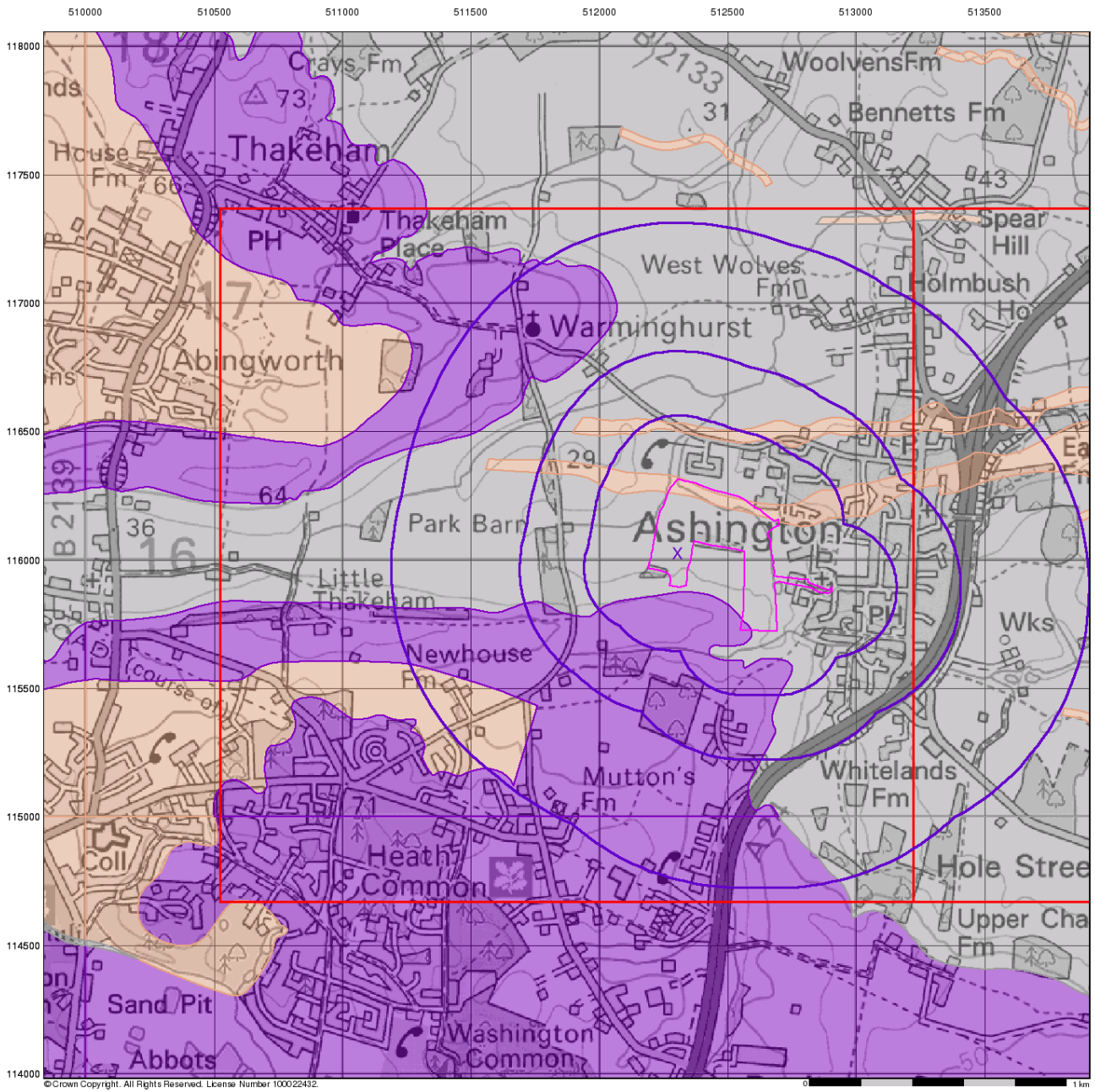
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Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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



Bedrock Aquifer Designation

General

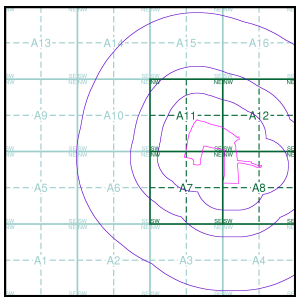
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

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

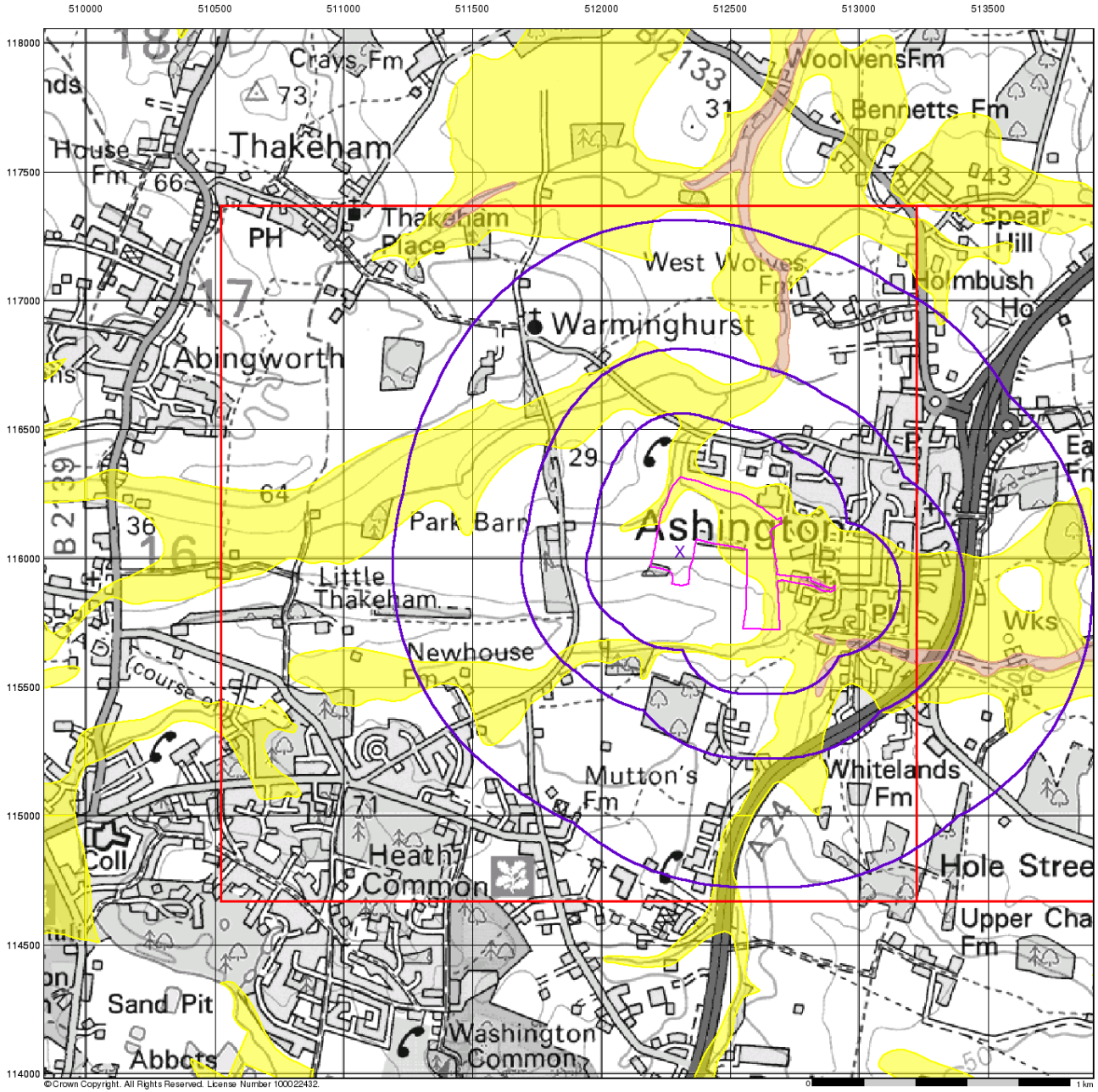


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Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX



RSK

Superficial Aquifer Designation

General

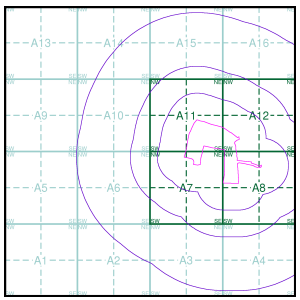
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

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

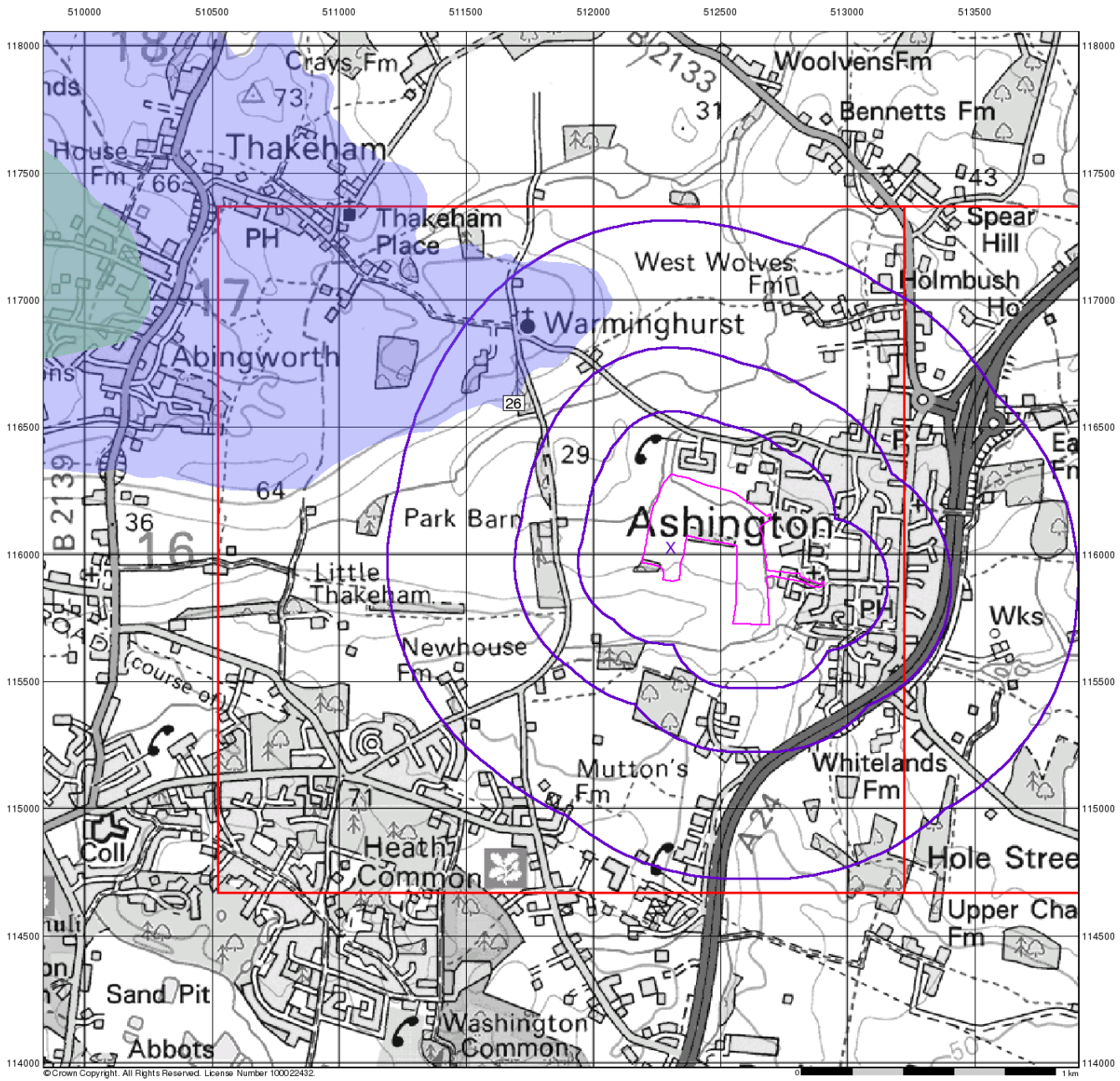


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Site Details

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Source Protection Zones

General

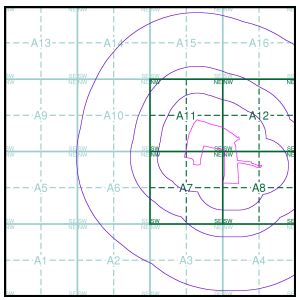
Specified Site | Specified Buffer(s) | Bearing Reference Point

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

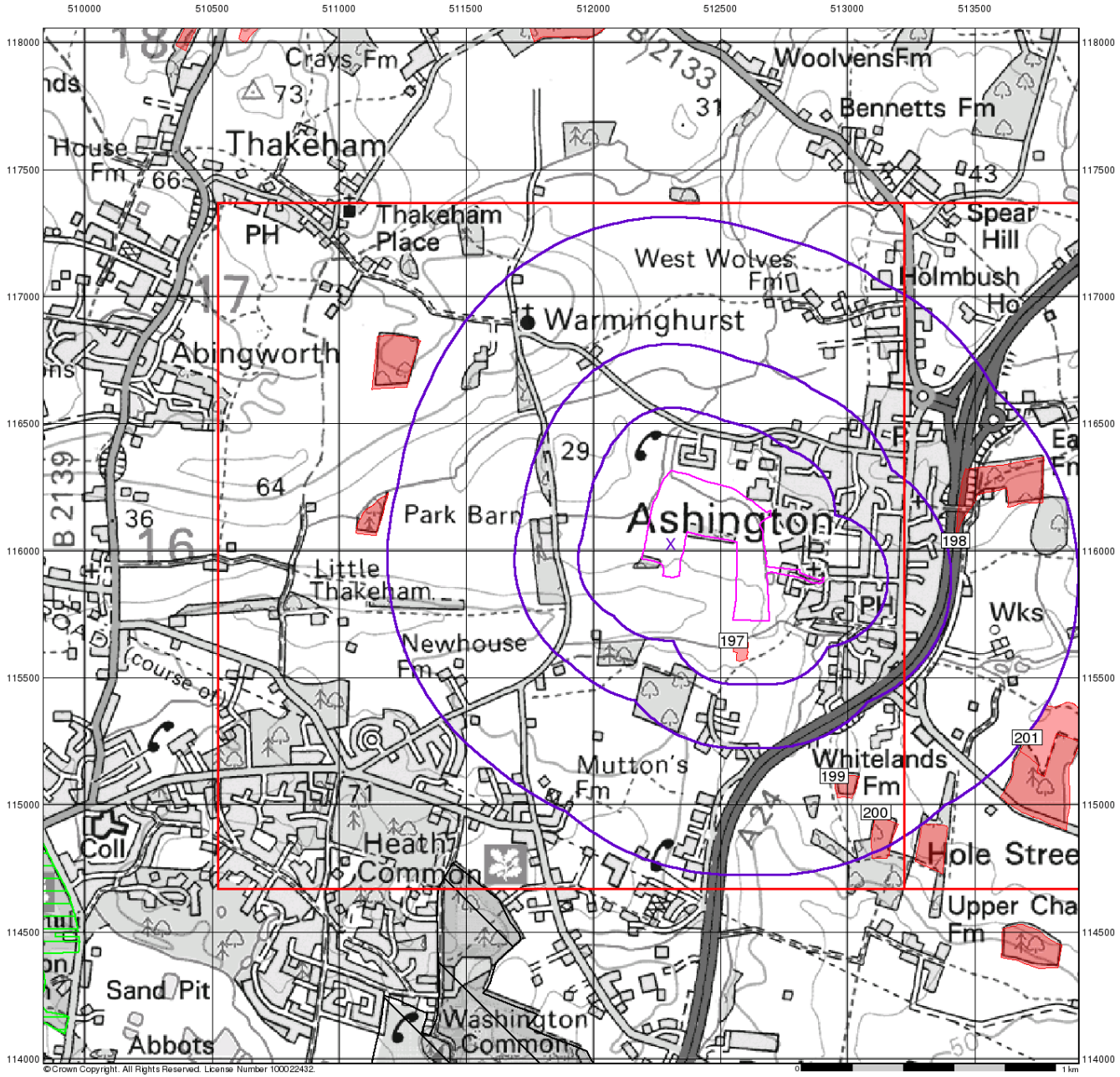
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Landmark INFORMATION GROUP

Tel: 0844 844 9952
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Sensitive Land Uses

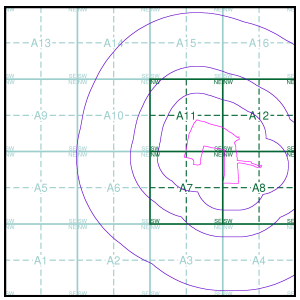
General

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



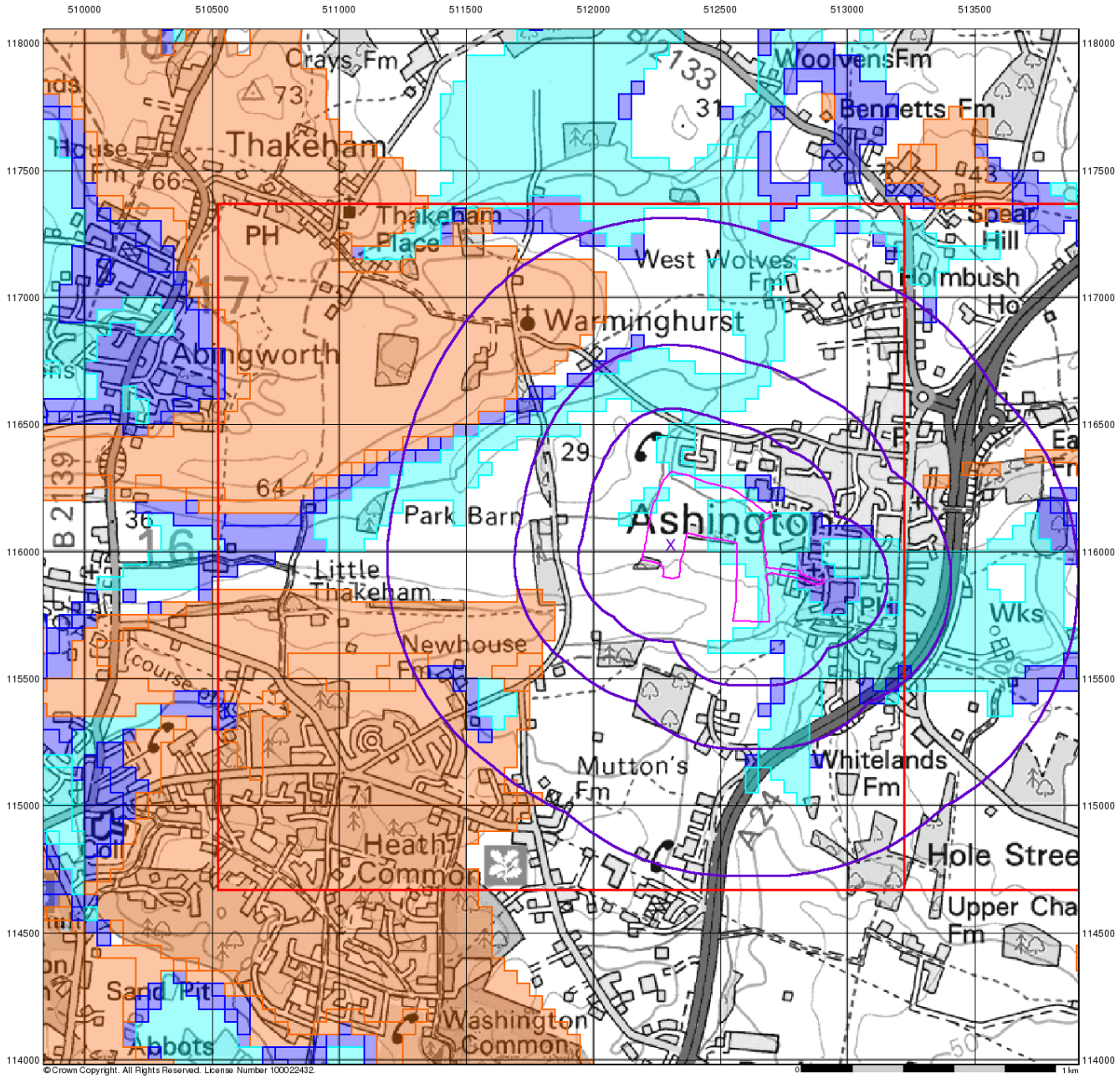
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Fax: 0844 844 9951
Web: www.envirocheck.co.uk



RSK

BGS Flood GFS Data

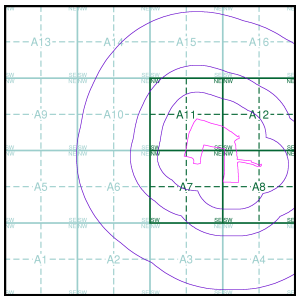
General

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:	287518451_1_1
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Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
287518451_1_1

Customer Reference:
52368

National Grid Reference:
512310, 116030

Slice:
A

Site Area (Ha):
15.35

Search Buffer (m):
1000

Site Details:

Firle, Church Lane
Ashington
PULBOROUGH
RH20 3JX

Client Details:

Miss S Gower
RSK Environment Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Contents

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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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Summary

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	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 2		3	4	13
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
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 6	Yes			
Pollution Incidents to Controlled Waters	pg 7		6	1	1
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 8			1	1
Water Abstractions	pg 8				3 (*6)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 10	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 13	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 13	Yes	n/a	n/a	n/a
Source Protection Zones	pg 13				1
Extreme Flooding from Rivers or Sea without Defences	pg 13		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 13		Yes	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 13	7	48	24	63

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 30	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 30				1
Potentially Infilled Land (Water)	pg 30		2		5
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					

Summary

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 31	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 31	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites					
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 32	Yes	Yes	n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 32	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 33	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 33	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 33	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 33	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas			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 35		1	6	8
Fuel Station Entries					
Points of Interest - Commercial Services	pg 36			1	4
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 36			1	2
Points of Interest - Public Infrastructure					
Points of Interest - Recreational and Environmental	pg 37		5		
Gas Pipelines					
Underground Electrical Cables					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 38		1		4
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
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					
Ramsar Sites					
Sites of Special Scientific Interest					
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: Potential for Groundwater Flooding to Occur at Surface	A11SE (NE)	0	1	512400 116250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (E)	0	1	512800 116000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12SW (NE)	0	1	512600 116200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A11SE (N)	0	1	512306 116300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A11SE (NW)	0	1	512250 116150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A11SE (E)	0	1	512450 116026
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SW (NE)	20	1	512600 116250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A11SW (NW)	67	1	512150 116100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8SW (SE)	75	1	512700 115650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8SW (SE)	225	1	512700 115500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (E)	257	1	513150 115800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8SW (SE)	325	1	512650 115400
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A6NE (SW)	379	1	511850 115800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8SE (SE)	403	1	513050 115500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SW (N)	439	1	512100 116700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8SE (SE)	441	1	513200 115550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8SE (SE)	450	1	513150 115500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NW (NW)	456	1	512000 116650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8SE (SE)	493	1	513150 115450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SW (N)	498	1	512200 116800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**Discharge Consents** Operator: Southern Water Services Ltd Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Willard Way Ashington Wps Waste Pumping Station, Willard Way, Ashington, West Sussex, Rh20 3pq Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: P07398 Permit Version: 1 Effective Date: 12th May 1999 Issued Date: 12th May 1999 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Unnamed Trib Of Lancing Brook **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A12SW (E)	73	2	512750 116080
2	**Discharge Consents** Operator: West Sussex County Council Property Type: EDUCATION/NURSERY/SCHOOL/COLLEGE/UNI/TRAINING VENUE Location: School In Rectory Lane, Ashington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01822 Permit Version: 1 Effective Date: 24th March 1969 Issued Date: 24th March 1969 Revocation Date: 1st July 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 100m	A12SE (E)	206	2	512890 116230
3	**Discharge Consents** Operator: Mr John Gilbert Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: Mitchbourn Farmhouse & The Barn, Mitchbourn Farm, Malthouse, Asington, W Sx Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P07477 Permit Version: 1 Effective Date: 22nd February 1999 Issued Date: 22nd February 1999 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Land/Soakaway Receiving Water: Into Land **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A7SE (S)	232	2	512500 115500
4	**Discharge Consents** Operator: Washington Estates Ltd. Property Type: CONSTRUCTION OF BUILDINGS Location: Residential Development, Fairfield Road, Ashington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: S01418 Permit Version: 1 Effective Date: 3rd September 1965 Issued Date: 3rd September 1965 Revocation Date: 1st July 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 100m	A8NE (E)	264	2	513100 115700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	**Discharge Consents** Operator: Monza Sports Timing Property Type: WAREHOUSING + SUPPORT ACTIVITIES FOR TRANSPORTATION Location: Bridge Garage, Ashington Bridge Garage, Ashington, Pulborough, West Sussex, Rh20 3dd Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: N01497 Permit Version: 1 Effective Date: 5th June 1981 Issued Date: 5th June 1981 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 100m	A8SE (SE)	384	2	513190 115620
6	**Discharge Consents** Operator: Paul E Murray Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: Park Barn, Park Lane, Warminghurst, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P07106 Permit Version: 1 Effective Date: 11th March 1998 Issued Date: 11th March 1998 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A10SE (W)	418	2	511790 116090
7	**Discharge Consents** Operator: Mr Maarten Boers Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: Wortley Cottage Ashington Wortley Cottage, Malthouse Lane, Ashington, West Sussex, Rh20 3bu Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: P12977 Permit Version: 1 Effective Date: 5th January 2007 Issued Date: 5th January 2007 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: The River Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A3NE (S)	431	2	512440 115310
8	**Discharge Consents** Operator: Southern Water Services Limited. + Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Residential Development, Ashington Residential Development At, Rectory Close, Ashington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P06585 Permit Version: 1 Effective Date: 5th June 1997 Issued Date: 5th June 1997 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A12NE (NE)	607	2	513090 116620

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	**Discharge Consents** Operator: Mr A Spencer Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: 1 Oast House Barn, Ashington 1 Oast House Barn, Billingshurt Road, Ashington, West Sussex, Rh20 3az Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: P12149 Permit Version: 1 Effective Date: 27th July 2004 Issued Date: 27th July 2004 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Unnamed Trib. River Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A12NE (NE)	657	2	513120 116660
9	**Discharge Consents** Operator: A.D. Harris Esq. Property Type: Undefined Or Other Location: New House Farm, Warminghurst, THAKEHAM , West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01966 Permit Version: 1 Effective Date: 7th December 1970 Issued Date: 7th December 1970 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 100m	A6SE (SW)	628	2	511760 115510
10	**Discharge Consents** Operator: Sylvia Louise Seymour Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: Land At Astor Cottage, Ivy Lane, Ashington , Pulborough West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: P02298 Permit Version: 1 Effective Date: 15th June 1989 Issued Date: 15th June 1989 Revocation Date: Not Supplied Discharge Type: Non Water Company (Private) Sewage Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 100m	A12NE (NE)	640	2	513160 116600
11	**Discharge Consents** Operator: Mr C M Yule Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: 2 Oast House Farm, Ashington 2 Oast House Farm, Billingshurst Road, Ashington, West Sussex, Rh20 3az Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: P12150 Permit Version: 1 Effective Date: 27th July 2004 Issued Date: 27th July 2004 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Unnamed Trib. River Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A12NE (NE)	658	2	513120 116661

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	**Discharge Consents** Operator: Mr J Turrell / Mr Woolgrove Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: Jan-Da-Mia & The Pines, Billingshurst Rd, Shington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P09376 Permit Version: 1 Effective Date: 4th December 2000 Issued Date: 4th December 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 10m	A12NE (NE)	671	2	513210 116590
13	**Discharge Consents** Operator: Jonathan Layton Prichard Property Type: FARMS (NOT HOUSE)/CROP + ANIMAL REARING/PLANT NURSERY Location: The Old Courtyard & Whitelands Farm, Hole Street, Ashington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: P11105 Permit Version: 1 Effective Date: 29th January 2003 Issued Date: 29th January 2003 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Onto Land/Into Watercourse Receiving Water: Trib Of River Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A4NE (SE)	701	2	513200 115240
14	**Discharge Consents** Operator: Mr & Mrs R I Cahn Property Type: Undefined Or Other Location: Lower Barn, Muttons Farm, Ashington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: P04031 Permit Version: 1 Effective Date: 16th December 1991 Issued Date: 16th December 1991 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A3NW (S)	705	2	512000 115250
15	**Discharge Consents** Operator: Frankham Real Estates Limited Property Type: HOLIDAY ACCOM/CAMP SITE/CARAVAN SITE/HOTEL/HOSTEL Location: Luckista Caravan Site, West Wolves, Billingshurst Road, Ashington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: P09780 Permit Version: 2 Effective Date: 5th August 2003 Issued Date: 5th August 2003 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Unnamed Trib Of River Adur **Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A16SW (NE)	754	2	512880 116920

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
15	**Discharge Consents** Operator: David Crouch Property Type: HOLIDAY ACCOM/CAMP SITE/CARAVAN SITE/HOTEL/HOSTEL Location: Luckista Caravan Site, West Wolves, Billingshurst Road, Ashington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: P09780 Permit Version: 1 Effective Date: 10th August 2001 Issued Date: 10th August 2001 Revocation Date: 4th August 2003 Discharge Type: Sewage And Trade Combined - Unspecified Discharge Environment: Freshwater Stream/River Receiving Water: Unnamed Trib Of River Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A16SW (NE)	754	2	512880 116920
16	**Discharge Consents** Operator: Mr Daniel Aggs Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Stw Serving Farm Buildings Warminghurst Farm, Park Lane, Ashington - Pulborough, West Sussex, Rh20 3aw Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P10028 Permit Version: 1 Effective Date: 17th October 2001 Issued Date: 17th October 2001 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 10m	A14SE (NW)	894	2	511660 116930
17	**Discharge Consents** Operator: West Sussex County Council Property Type: Undefined Or Other Location: A24 Washington, Spring Cotts/Kensetts C, Ashington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01795 Permit Version: 1 Effective Date: 10th February 1969 Issued Date: 10th February 1969 Revocation Date: Not Supplied Discharge Type: Miscellaneous Discharges - Highway Drainage Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 10m	A3SE (S)	926	2	512520 114800
17	**Discharge Consents** Operator: West Sussex County Council Property Type: Undefined Or Other Location: A24 Washington, Spring Cotts/Kensetts C, Ashington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01795 Permit Version: 1 Effective Date: 10th February 1969 Issued Date: 10th February 1969 Revocation Date: Not Supplied Discharge Type: Miscellaneous Discharges - Highway Drainage Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 10m	A3SE (S)	929	2	512480 114800
	Nearest Surface Water Feature	A12SW (E)	0	-	512652 116112

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
18	**Pollution Incidents to Controlled Waters** Property Type: Private Sewage (Non-PLC): Pumping Station Location: Adjacent Penn Gardens Ps, ASHINGTON Authority: Environment Agency, Southern Region Pollutant: Crude Sewage Note: Sewage, Overflowing From Manhole To Stream Incident Date: 27th June 1997 Incident Reference: 2181 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Plc Sewage Other Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A11NE (N)	87	2	512300 116400
19	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Pumping Station Location: ASHINGTON Authority: Environment Agency, Southern Region Pollutant: Crude Sewage Note: Sewage Entering Water Course Incident Date: 30th December 1997 Incident Reference: 2355 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A11NE (N)	101	2	512400 116395
19	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Pumping Station Location: ASHINGTON Authority: Environment Agency, Southern Region Pollutant: Crude Sewage Note: Sewage Entering Watercourse Incident Date: 30th December 1997 Incident Reference: Not Supplied Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A11NE (N)	103	2	512405 116395
20	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Foul Sewer Location: Penn Gardens, /Rectory Lane, ASHINGTON Authority: Environment Agency, Southern Region Pollutant: Crude Sewage Note: Pumping Main Burst Incident Date: 20th May 1996 Incident Reference: 1690 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Sewage Works Effluent Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A11NE (N)	106	2	512400 116400
20	**Pollution Incidents to Controlled Waters** Property Type: WSC Sewage, Sewerage & Supply Location: Penn Gardens, ASHINGTON Authority: Environment Agency, Southern Region Pollutant: General Biodegradable : Crude Sewage & Sewerage Material Note: Not Supplied Incident Date: 12th October 1999 Incident Reference: 3256 Catchment Area: Adur Receiving Water: Potential River Cause of Incident: Containment Failure : Culvert / Screen Blockage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m	A11NE (N)	149	2	512400 116445
20	**Pollution Incidents to Controlled Waters** Property Type: Private Sewage (Non-PLC): Other Location: Rectory Lane, Opposite Penn Gardens, ASHINGTON Authority: Environment Agency, Southern Region Pollutant: Crude Sewage Note: Sewage Discharge Surcharging Manhole; Private Sewage (Non-Plc): Foul Sewer Incident Date: 3rd October 1995 Incident Reference: 1509 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Water Company STW Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A11NE (N)	154	2	512400 116450

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	**Pollution Incidents to Controlled Waters** Property Type: Domestic/Residential Location: Swan Cottage, London Road, ASHINGTON Authority: Environment Agency, Southern Region Pollutant: General Biodegradable : Crude Sewage & Sewerage Material Note: Not Supplied Incident Date: 19th August 1999 Incident Reference: 2145 Catchment Area: Adur Receiving Water: Potential River Cause of Incident: Climatic Conditions : Localised High Rainfall Incident Severity: Category 3 - Minor Incident Positional Accuracy: Approximate location provided by supplier	A8SE (SE)	373	2	513200 115650
22	**Pollution Incidents to Controlled Waters** Property Type: Miscellaneous Premises: Unknown Location: Ditch, Sparrows Lane, ASHINGTON Authority: Environment Agency, Southern Region Pollutant: Chemicals - Paints / Dyes Note: Florescent Green Water Incident Date: 19th August 1996 Incident Reference: 1838 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NE)	598	2	513100 116600
23	**Substantiated Pollution Incident Register** Authority: Environment Agency - Southern Region, Solent and South Downs Incident Date: 9th January 2019 Incident Reference: 1673001 Water Impact: Category 1 - Major Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Pollutant Not Identified: Not Identified	A8SE (SE)	352	2	513166 115642
24	**Substantiated Pollution Incident Register** Authority: Environment Agency - Southern Region, Solent and South Downs Incident Date: 5th March 2003 Incident Reference: 141095 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Organic Chemicals/Products: Pesticides And Biocides	A6SW (SW)	870	2	511522 115410
25	**Water Abstractions** Operator: Mr A Allan Licence Number: 10/41/331101 Permit Version: 102 Location: Malthouse Farm Ashington Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Malthouse Farm, Ashington, See Licence Map Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 8th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A4NW (S)	516	2	512580 115210
25	**Water Abstractions** Operator: Mr R I Cahn Licence Number: 10/41/331101 Permit Version: 101 Location: Malthouse Farm Ashington Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Malthouse Farm, Ashington, See Licence Map Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 13th November 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A4NW (S)	516	2	512580 115210

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
25	**Water Abstractions** Operator: R I Cahn Esq Licence Number: 10/41/331101 Permit Version: 100 Location: Malthouse Farm Ashington Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Malthouse Farm, Ashington, See Licence Map Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 19th July 1984 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A4NW (S)	516	2	512580 115210
	Water Abstractions Operator: R Muntz Licence Number: 10/41/331102 Permit Version: 100 Location: Barnards Nursery Authority: Environment Agency, Southern Region Abstraction: Horticulture and Nurseries: Animal Watering & General Use (Non Agricultural) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land And Buildings At Barnards Nursery, Rock Road Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 20th January 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(S)	1261	2	511910 114640
	Water Abstractions Operator: Mr G.K Quick Licence Number: 23/072 Permit Version: 1 Location: The Bungalow, Washington Authority: Environment Agency, Southern Region Abstraction: Aquaculture: Fish Farm/Cress Pond Throughflow Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Outlined On Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 3rd December 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1340	2	512300 114410
	Water Abstractions Operator: D J Squire & Company Ltd Licence Number: 23/073 Permit Version: 3 Location: Washington Garden Centre Authority: Environment Agency, Southern Region Abstraction: Aquaculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Outlined In Black On Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1516	2	512250 114240

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Shoots Washington Ltd Licence Number: 23/073 Permit Version: 2 Location: Washington Garden Centre Authority: Environment Agency, Southern Region Abstraction: Aquaculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Outlined In Black On Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 16th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1516	2	512250 114240
	Water Abstractions Operator: Caffyn-Parsons Ltd Licence Number: 23/073 Permit Version: 1 Location: Washington Garden Centre Authority: Environment Agency, Southern Region Abstraction: Aquaculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Outlined In Black On Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1516	2	512250 114240
	Water Abstractions Operator: Messrs Ip&Ri Golds Licence Number: 10/41/331105 Permit Version: 100 Location: Rock House Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Rock House Nurseries, See Licence Map Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 29th June 1982 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(S)	1973	2	512290 113770
	Groundwater Vulnerability Map Combined Classification: Principle Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A7NE (S)	0	3	512314 115875

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A11SE (N)	0	3	512339 116251
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Unproductive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A11SE (NE)	0	3	512411 116276
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Unproductive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A11SE (NW)	0	3	512238 116137
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Unproductive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A11SE (E)	0	3	512453 116044

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A11SE (N)	0	3	512315 116254
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Unproductive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A7NE (E)	0	3	512477 116000
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Unproductive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A8NW (E)	0	3	512769 115920
	Groundwater Vulnerability Map Combined Classification: Unproductive Aquifer (may have productive aquifer beneath) Combined Vulnerability: Unproductive Combined Aquifer: Unproductive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A7NE (S)	0	3	512306 116000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Unproductive Aquifer (may have productive aquifer beneath) Combined Vulnerability: Unproductive Combined Aquifer: Unproductive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A11SE (W)	0	3	512306 116026
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A7NE (S)	0	3	512314 115875
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A11SE (N)	0	3	512339 116251
	Bedrock Aquifer Designations Aquifer Designation: Unproductive Strata	A11SE (W)	0	3	512306 116026
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A11SE (NW)	0	3	512238 116137
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A8NW (E)	0	3	512769 115920
26	**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.	A10NE (NW)	618	2	511689 116594
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A8SW (SE)	194	2	512865 115635
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A8SW (SE)	194	2	512860 115625
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
27	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 250.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A11SE (N)	0	4	512271 116264
28	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A11SE (N)	0	4	512315 116287

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
29	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 188.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A11SE (N)	0	4	512316 116290
30	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 419.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A11SE (NE)	0	4	512416 116232
31	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 137.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A12SW (E)	0	4	512670 116042
32	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8NW (E)	0	4	512688 115913
33	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 250.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A11SE (NW)	0	4	512222 116149
34	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A12SW (E)	2	4	512661 116093
35	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 42.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A12SW (E)	2	4	512662 116089
36	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 29.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A12SW (E)	2	4	512670 116048
37	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 70.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8NW (E)	6	4	512690 115906

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
38	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 193.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8NW (SE)	13	4	512707 115753
39	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 53.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A12SW (E)	14	4	512678 116081
40	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 45.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8NW (E)	25	4	512782 115875
41	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A12SW (E)	32	4	512700 116049
42	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 4.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8NW (SE)	37	4	512722 115702
43	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 100.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8NW (SE)	37	4	512766 115780
44	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A12SW (E)	37	4	512705 116048
45	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 136.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8SW (SE)	38	4	512595 115644
46	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 4.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8NW (SE)	39	4	512719 115695

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 140.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A12SW (E)	39	4	512707 116047
48	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 3.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8NW (SE)	40	4	512722 115698
49	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 49.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8NW (SE)	42	4	512726 115699
50	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 54.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8NW (E)	43	4	512730 115855
51	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 70.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8NW (SE)	60	4	512768 115779
52	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 79.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8SW (SE)	76	4	512551 115648
53	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8NW (SE)	79	4	512771 115710
54	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 60.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8SW (SE)	81	4	512595 115644
55	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 154.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8NW (SE)	85	4	512777 115710

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
56	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 26.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A7SE (SE)	103	4	512529 115625
57	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A11SW (NW)	114	4	512106 116123
58	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 251.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A11SW (NW)	123	4	512097 116123
59	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 5.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A7SE (SE)	126	4	512510 115607
60	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 71.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A7SE (S)	126	4	512439 115619
61	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 89.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A12SW (E)	130	4	512847 116056
62	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 28.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A7SE (SE)	131	4	512506 115603
63	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 12.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8SW (SE)	138	4	512575 115588
64	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 23.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8SW (SE)	138	4	512575 115588

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
65	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 256.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A7SE (S)	155	4	512315 115654
66	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A11NE (N)	159	4	512356 116467
67	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A11NE (N)	159	4	512356 116467
68	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 8.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A11NE (N)	161	4	512351 116470
69	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 8.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A11NE (N)	162	4	512357 116470
70	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 232.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A11NE (N)	171	4	512361 116478
71	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 15.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A12SE (E)	179	4	512916 116074
72	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A12SE (E)	181	4	512914 116075
73	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 15.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8SE (SE)	213	4	512917 115659

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 2.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8SE (SE)	213	4	512932 115661
75	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8SE (SE)	213	4	512934 115661
76	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 139.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8SE (SE)	215	4	512925 115652
77	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 57.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8SE (SE)	215	4	512937 115660
78	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 33.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8SE (SE)	235	4	512993 115659
79	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 268.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8SW (SE)	240	4	512863 115556
80	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 173.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8SW (SE)	240	4	512863 115556
81	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 233.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8SE (SE)	247	4	513026 115662
82	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 99.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A7SW (S)	260	4	512206 115648

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
83	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 399.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A7SW (S)	260	4	512206 115648
84	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 429.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A11NE (N)	337	4	512427 116633
85	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 31.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A12NW (NE)	353	4	512797 116504
86	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A7SW (S)	355	4	512159 115564
87	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 20.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A11NE (N)	357	4	512489 116635
88	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A7SW (S)	360	4	512157 115560
89	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.6 Watercourse Level: Underground Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A11NE (N)	367	4	512509 116639
90	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 326.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A11NW (N)	369	4	512103 116622
91	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.5 Watercourse Level: Underground Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A11NW (N)	369	4	512110 116625

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
92	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 201.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A11NE (N)	371	4	512514 116641
93	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A10SE (W)	371	4	511849 116144
94	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 113.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A10SE (W)	372	4	511835 116081
95	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 39.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A10SE (W)	373	4	511847 116148
96	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 20.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A12NW (NE)	382	4	512813 116529
97	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 99.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A8SW (SE)	385	4	512827 115364
98	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A10SE (W)	390	4	511836 116184
99	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 164.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A12NW (NE)	403	4	512823 116547
100	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 120.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A4NW (SE)	464	4	512788 115270

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
101	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A4NW (SE)	464	4	512791 115272
102	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 40.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A4NW (SE)	467	4	512790 115268
103	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 138.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A12NW (NE)	477	4	512729 116692
104	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 217.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A12NW (NE)	477	4	512782 116659
105	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 88.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 2	A10NE (NW)	494	4	511818 116460
106	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 8.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 2	A10NE (NW)	502	4	511808 116458
107	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SE (SW)	503	4	511851 115597
108	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SE (SW)	503	4	511851 115597
109	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 11.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A4NW (SE)	507	4	512798 115229

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
110	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 631.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 2	A10NE (NW)	507	4	511801 116454
111	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 115.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SE (SW)	509	4	511844 115595
112	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 13.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A16SW (NE)	509	4	512671 116739
113	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 62.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A4NW (S)	510	4	512614 115215
114	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A4NW (S)	511	4	512606 115214
115	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A4NW (S)	511	4	512609 115214
116	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A4NW (S)	511	4	512614 115215
117	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A4NW (S)	511	4	512600 115214
118	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 18.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A4NW (SE)	512	4	512691 115213

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
119	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 231.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A4NW (SE)	513	4	512790 115221
120	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.2 Watercourse Level: Underground Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A16SW (NE)	522	4	512677 116751
121	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 13.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A4NW (SE)	522	4	512674 115204
122	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 119.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A16SW (NE)	527	4	512679 116756
123	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A4NW (SE)	533	4	512669 115192
124	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 5.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A4NW (SE)	537	4	512657 115187
125	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A10NE (NW)	540	4	511803 116532
126	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.5 Watercourse Level: Underground Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A10NE (NW)	547	4	511793 116531
127	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 78.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A10NE (NW)	554	4	511786 116531

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
128	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.4 Watercourse Level: Underground Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A10NE (NW)	616	4	511709 116516
129	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 231.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A10NE (NW)	620	4	511704 116515
130	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 336.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SE (SW)	623	4	511768 115510
131	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 13.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SE (SW)	623	4	511768 115510
132	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.5 Watercourse Level: Underground Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A16SW (NE)	634	4	512699 116861
133	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 23.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SE (SW)	636	4	511759 115500
134	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 67.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A16SW (NE)	636	4	512702 116862
135	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 162.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A3NW (S)	655	4	512023 115295
136	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 15.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SE (SW)	660	4	511741 115485

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
137	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 296.6 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A4NW (S)	664	4	512626 115062
138	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SE (SW)	674	4	511727 115478
139	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 183.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SE (SW)	677	4	511725 115476
140	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 32.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A16SW (NE)	691	4	512721 116914
141	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A10SW (W)	715	4	511478 116030
142	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 11.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A10SW (W)	716	4	511477 116032
143	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A16SW (NE)	718	4	512713 116944
144	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A16SW (NE)	719	4	512704 116948
145	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A16SW (NE)	721	4	512712 116948

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
146	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 459.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A10SW (W)	727	4	511465 116029
147	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 170.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A16SW (NE)	727	4	512710 116954
148	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.4 Watercourse Level: Underground Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A10NW (NW)	741	4	511520 116380
149	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 300.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A10SW (W)	742	4	511508 116336
150	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SW (SW)	841	4	511457 115556
151	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 46.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SW (SW)	843	4	511454 115556
152	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 4.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SE (SW)	847	4	511558 115403
153	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 59.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SE (SW)	851	4	511550 115407
154	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 7.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SE (SW)	851	4	511550 115407

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
155	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 29.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SE (SW)	852	4	511554 115401
156	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 211.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A16NW (N)	879	4	512685 117119
157	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 91.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A16NW (N)	879	4	512685 117119
158	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 14.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SW (SW)	880	4	511529 115386
159	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 26.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SW (SW)	881	4	511409 115560
160	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 124.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A6SW (SW)	894	4	511523 115373
161	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A16NW (N)	939	4	512766 117158
162	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 229.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A3SE (S)	939	4	512512 114788
163	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 147.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A16NW (N)	943	4	512764 117163

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
164	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 74.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A10SW (W)	947	4	511282 116251
165	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 13.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A10SW (W)	947	4	511282 116251
166	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 386.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lancing Brook Catchment Name: Adur and Teville Primacy: 1	A16NW (N)	986	4	512562 117268
167	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A16NW (N)	986	4	512562 117268
168	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 238.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	A16NW (N)	988	4	512563 117270

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Landfill Coverage Name: Horsham District Council - Has supplied landfill data		0	5	512306 116026
	Local Authority Landfill Coverage Name: West Sussex County Council - Has supplied landfill data		0	6	512306 116026
169	**Potentially Infilled Land (Non-Water)** Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1982	A16SE (NE)	749	-	512912 116898
170	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1961	A8NW (E)	54	-	512747 115843
171	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1961	A8SE (SE)	228	-	512977 115659
172	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1961	A4NE (SE)	661	-	513114 115216
173	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1961	A4SW (S)	727	-	512564 114999
174	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A6SE (SW)	861	-	511544 115399
175	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1961	A14SW (NW)	905	-	511520 116772
176	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A6SW (SW)	906	-	511450 115445

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Wealden Group	A11SE (W)	0	1	512306 116026
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment 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	A8NW (E)	0	1	512769 115920
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment 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	A11SE (W)	0	1	512306 116026
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 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	A7NE (S)	0	1	512306 116000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 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	A11SE (NW)	0	1	512238 116137
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 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	A11SE (NE)	0	1	512411 116276
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment 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	A8NW (SE)	135	1	512826 115701

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: Sediment 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	A7NW (W)	190	1	512000 116000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment 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	A8SW (SE)	224	1	512873 115592
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment 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	A11NE (N)	391	1	512479 116674
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 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	A16SW (NE)	775	1	512724 117000
	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: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A11SE (W)	0	1	512306 116026
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A7NE (S)	0	1	512314 115875
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A11SE (N)	0	1	512339 116251
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A11NE (N)	181	1	512394 116483
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (W)	0	1	512306 116026

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A8NW (E)	0	1	512769 115920
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A8NW (SE)	135	1	512826 115701
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A8SE (SE)	200	1	512956 115681
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A8SW (SE)	224	1	512873 115592
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (W)	0	1	512306 116026
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A8NW (E)	0	1	512769 115920
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A8NW (SE)	135	1	512826 115701
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A8SE (SE)	200	1	512956 115681
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A8SW (SE)	224	1	512873 115592
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (W)	0	1	512306 116026
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (W)	0	1	512306 116026
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A7NW (SW)	120	1	512138 115851
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (NW)	0	1	512238 116137
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (W)	0	1	512306 116026
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A8NW (E)	0	1	512769 115920
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (N)	37	1	512414 116322
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A8NW (SE)	135	1	512826 115701
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A8SE (SE)	200	1	512956 115681
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A8SW (SE)	224	1	512873 115592
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SE (N)	0	1	512315 116254
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A11SE (W)	0	1	512306 116026

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A7NE (S)	0	1	512280 115944
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A7NE (S)	0	1	512314 115875
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (N)	0	1	512339 116251
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (N)	22	1	512247 116265
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A12SW (E)	61	1	512747 116193
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A7SE (S)	144	1	512282 115670
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11NE (N)	181	1	512394 116483
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11NE (N)	187	1	512425 116477
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11NE (N)	189	1	512303 116503
	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	A11SE (W)	0	1	512306 116026
	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	A11SE (W)	0	1	512306 116026

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
177	**Contemporary Trade Directory Entries** Name: A & D S Newland Cabinet Makers Location: 29, Hillcrest Drive, Ashington, Pulborough, West Sussex, RH20 3LB Classification: Furniture - Repairing & Restoring **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (E)	196	-	513076 115990
178	**Contemporary Trade Directory Entries** Name: Lansdowne Reproductions Location: London Road, Ashington, Pulborough, West Sussex, RH20 3DD Classification: Furniture - Reproduction **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (E)	313	-	513194 115756
179	**Contemporary Trade Directory Entries** Name: Aquaserve Water Coolers Ltd Location: 23, Warminghurst Close, Ashington, Pulborough, West Sussex, RH20 3QD Classification: Water Coolers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (NE)	322	-	512962 116341
179	**Contemporary Trade Directory Entries** Name: Aquaserve Water Coolers Location: 23, Warminghurst Close, Ashington, Pulborough, West Sussex, RH20 3QD Classification: Water Coolers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (NE)	322	-	512962 116341
180	**Contemporary Trade Directory Entries** Name: Kearney Electric Location: Glentoran, Hillcrest Drive, Ashington, Pulborough, West Sussex, RH20 3LB Classification: Washing Machines - Servicing & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (E)	355	-	513172 116130
181	**Contemporary Trade Directory Entries** Name: Tosspell Motors Location: London Rd, Ashington, Pulborough, West Sussex, RH20 3DD Classification: Car Dealers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8SE (SE)	388	-	513204 115631
181	**Contemporary Trade Directory Entries** Name: Monza Sports Tuning Location: London Road, Ashington, Pulborough, RH20 3DD Classification: Car Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (SE)	391	-	513175 115595
182	**Contemporary Trade Directory Entries** Name: Rda Pest Control Location: 10, Rectory Close, Ashington, Pulborough, West Sussex, RH20 3LP Classification: Pest & Vermin Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NE)	534	-	513133 116467
182	**Contemporary Trade Directory Entries** Name: R D A Pest Control Location: 10, Rectory Close, Ashington, Pulborough, West Sussex, RH20 3LP Classification: Pest & Vermin Control **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (NE)	534	-	513133 116467
183	**Contemporary Trade Directory Entries** Name: R A Henshaw Location: Feathers, London Road, Ashington, Pulborough, West Sussex, RH20 3JT Classification: Scrap Metal Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (E)	537	-	513221 116329
184	**Contemporary Trade Directory Entries** Name: Networks Centre Location: Bentley House, Wiston Business Park, London Road, Ashington, Pulborough, RH20 3DJ Classification: Fibre Optics **Status: Active** Positional Accuracy: Automatically positioned to the address	A3SE (S)	738	-	512455 114994

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
185	**Contemporary Trade Directory Entries** Name: Kate'S Cakes Ltd Location: Unit 3, Wiston Business Park, London Road, Ashington, Pulborough, West Sussex, RH20 3DJ Classification: Food Products - Manufacturers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A3SE (S)	814	-	512434 114920
186	**Contemporary Trade Directory Entries** Name: G R S Engineering Co (Sussex) Ltd Location: Unit 1, Wiston Business Park, London Road, Ashington, Pulborough, West Sussex, RH20 3DJ Classification: Sheet Metal Work **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A3SE (S)	942	-	512408 114794
186	**Contemporary Trade Directory Entries** Name: Grs Engineering Co (Sussex) Ltd Location: Unit 1, Wiston Business Park, London Road, Ashington, Pulborough, West Sussex, RH20 3DJ Classification: Sheet Metal Work **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A3SE (S)	942	-	512408 114794
186	**Contemporary Trade Directory Entries** Name: Bell Leisure Ltd Location: Bell Leisure House, London Road, Ashington, PULBOROUGH, West Sussex, RH20 3BT Classification: Swimming Pool Contractors, Repairers & Service **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A3SE (S)	980	-	512420 114755
187	**Points of Interest - Commercial Services** Name: Light Sussex Ltd Location: 1 Woelfs Close, London Road, Ashington, Pulborough, RH20 3JU Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A12SE (E)	413	7	513172 116209
188	**Points of Interest - Commercial Services** Name: R D A Pest Control Location: 10 Rectory Close, Ashington, Pulborough, RH20 3LP Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A12NE (NE)	531	7	513130 116466
189	**Points of Interest - Commercial Services** Name: R A Henshaw Location: Feathers, London Road, Ashington, Pulborough, RH20 3JT Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A12SE (E)	537	7	513221 116329
189	**Points of Interest - Commercial Services** Name: R A Henshaw Location: Feathers, London Road, Ashington, Pulborough, RH20 3JT Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A12SE (E)	537	7	513221 116329
190	**Points of Interest - Commercial Services** Name: Grs Engineering Co (Sussex) Ltd Location: Unit 1 Wiston Business Park, London Road, Ashington, Pulborough, RH20 3DJ Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A3SE (S)	942	7	512408 114794
191	**Points of Interest - Manufacturing and Production** Name: Tank Location: RH20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SE (SE)	272	7	512965 115608
192	**Points of Interest - Manufacturing and Production** Name: Wiston Business Park Location: RH20 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A3SE (S)	846	7	512422 114890

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
192	**Points of Interest - Manufacturing and Production** Name: Wiston Business Park Location: RH20 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A3SE (S)	846	7	512423 114890
193	**Points of Interest - Recreational and Environmental** Name: Skateboard Park Location: Church Close, RH20 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A8NE (E)	69	7	512901 115963
194	**Points of Interest - Recreational and Environmental** Name: Playground Location: Foster Lane, RH20 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A12SE (E)	160	7	512893 116062
194	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12SE (E)	174	7	512967 116057
195	**Points of Interest - Recreational and Environmental** Name: Play Area Location: RH20 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12SW (NE)	208	7	512864 116282
196	**Points of Interest - Recreational and Environmental** Name: Play Area Location: RH20 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12SE (E)	214	7	512912 116134

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
197	**Ancient Woodland** Name: Not Supplied Reference: 1478394 Area(m²): 3802.04 Type: Ancient and Semi-Natural Woodland	A8SW (SE)	79	8	512551 115645
198	**Ancient Woodland** Name: America Wood Reference: 1478903 Area(m²): 47148.24 Type: Ancient and Semi-Natural Woodland	(E)	537	8	513423 116041
199	**Ancient Woodland** Name: Not Supplied Reference: 1478395 Area(m²): 6913.94 Type: Ancient and Semi-Natural Woodland	A4NE (SE)	662	8	512947 115113
200	**Ancient Woodland** Name: Not Supplied Reference: 1478121 Area(m²): 12700.76 Type: Ancient and Semi-Natural Woodland	A4SE (SE)	863	8	513110 114970
201	**Ancient Woodland** Name: Not Supplied Reference: 1478899 Area(m²): 37048.13 Type: Plantation on Ancient Woodland	(SE)	998	8	513705 115266

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Horsham District Council - Environmental Health Department	February 2015	Annual Rolling Update
Environment Agency - Head Office	June 2020	Annually
Discharge Consents		
Environment Agency - Southern Region	July 2021	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Southern Region	March 2013	
Integrated Pollution Controls		
Environment Agency - Southern Region	January 2009	
Integrated Pollution Prevention And Control		
Environment Agency - South East Region - Solent & South Downs Area	July 2021	Quarterly
Environment Agency - Southern Region	July 2021	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Horsham District Council - Environmental Health Department	June 2015	Variable
Local Authority Pollution Prevention and Controls		
Horsham District Council - Environmental Health Department	June 2015	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
Horsham District Council - Environmental Health Department	June 2015	Variable
Nearest Surface Water Feature		
Ordnance Survey	August 2021	
Pollution Incidents to Controlled Waters		
Environment Agency - Southern Region	December 1999	
Prosecutions Relating to Authorised Processes		
Environment Agency - Southern Region	July 2015	
Prosecutions Relating to Controlled Waters		
Environment Agency - Southern Region	March 2013	
Registered Radioactive Substances		
Environment Agency - Southern Region	June 2016	Annually
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	April 2012	Annually
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	April 2012	Annually
Substantiated Pollution Incident Register		
Environment Agency - South East Region - Solent & South Downs Area	July 2021	Quarterly
Environment Agency - Southern Region - Solent and South Downs	July 2021	Quarterly
Environment Agency - Southern Region - Sussex Area	July 2021	Quarterly
Water Abstractions		
Environment Agency - Southern Region	July 2021	Quarterly
Water Industry Act Referrals		
Environment Agency - Southern Region	October 2017	Quarterly
Groundwater Vulnerability Map		
Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations		
Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations		
Environment Agency - Head Office	January 2018	Annually
Source Protection Zones		
Environment Agency - Head Office	May 2021	Bi-Annually

Agency & Hydrological	Version	Update Cycle
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2021	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2021	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	September 2021	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	September 2021	Quarterly
Flood Defences Environment Agency - Head Office	September 2021	Quarterly
OS Water Network Lines Ordnance Survey	July 2021	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	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	November 2002	Not Applicable
Historical Landfill Sites		
Environment Agency - Head Office	May 2021	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Southern Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - South East Region - Solent & South Downs Area	July 2021	Quarterly
Environment Agency - Southern Region - Solent and South Downs	July 2021	Quarterly
Environment Agency - Southern Region - Sussex Area	July 2021	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - South East Region - Solent & South Downs Area	July 2021	Quarterly
Environment Agency - Southern Region - Solent and South Downs	July 2021	Quarterly
Environment Agency - Southern Region - Sussex Area	July 2021	Quarterly
Local Authority Landfill Coverage		
Horsham District Council - Environmental Health Department	February 2003	Not Applicable
West Sussex County Council - Environment & Development	February 2003	Not Applicable
Local Authority Recorded Landfill Sites		
Horsham District Council - Environmental Health Department	October 2018	
West Sussex County Council - Environment & Development	October 2018	
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	
Registered Landfill Sites		
Environment Agency - Southern Region - Solent and South Downs	March 2006	Not Applicable
Environment Agency - Southern Region - Sussex Area	March 2006	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Southern Region - Solent and South Downs	April 2018	
Environment Agency - Southern Region - Sussex Area	April 2018	
Registered Waste Treatment or Disposal Sites		
Environment Agency - Southern Region - Solent and South Downs	June 2015	
Environment Agency - Southern Region - Sussex Area	June 2015	

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements		
Horsham District Council - Planning Department	August 2015	Variable
West Sussex County Council - Environment & Development	October 2006	Annual Rolling Update
Planning Hazardous Substance Consents		
Horsham District Council - Planning Department	August 2015	Variable
West Sussex County Council - Environment & Development	October 2006	Annual Rolling Update

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2021	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	As notified
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	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	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually
Industrial Land Use	**Version**	**Update Cycle**
Contemporary Trade Directory Entries Thomson Directories	July 2021	Quarterly
Fuel Station Entries Catalist Ltd - Experian	August 2021	Quarterly
Gas Pipelines National Grid	October 2021	Annually
Points of Interest - Commercial Services PointX	September 2021	Quarterly
Points of Interest - Education and Health PointX	September 2021	Quarterly
Points of Interest - Manufacturing and Production PointX	September 2021	Quarterly
Points of Interest - Public Infrastructure PointX	September 2021	Quarterly
Points of Interest - Recreational and Environmental PointX	September 2021	Quarterly
Underground Electrical Cables National Grid	May 2021	Annually

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	February 2021	Bi-Annually
Areas of Adopted Green Belt		
Horsham District Council - Planning Department	October 2020	Quarterly
South Downs National Park	October 2020	Quarterly
Areas of Unadopted Green Belt		
Horsham District Council - Planning Department	October 2020	Quarterly
South Downs National Park	October 2020	Quarterly
Areas of Outstanding Natural Beauty		
Natural England	January 2021	Bi-Annually
Environmentally Sensitive Areas		
Natural England	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	February 2021	Bi-Annually
Marine Nature Reserves		
Natural England	July 2019	Bi-Annually
National Nature Reserves		
Natural England	January 2021	Bi-Annually
National Parks		
Natural England	February 2018	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones		
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	April 2016	
Environment Agency - Head Office	June 2017	Bi-Annually
Ramsar Sites		
Natural England	August 2020	Bi-Annually
Sites of Special Scientific Interest		
Natural England	February 2021	Bi-Annually
Special Areas of Conservation		
Natural England	July 2020	Bi-Annually
Special Protection Areas		
Natural England	February 2021	Bi-Annually

Data Suppliers

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	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Stantec UK Ltd	

Useful Contacts

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.gov.uk
5	**Horsham District Council - Environmental Health Department** Park House, North Street, Horsham, Sussex, RH12 1RL	Telephone: 01403 215100 Fax: 01403 732790 Website: www.horsham.gov.uk
6	**West Sussex County Council - Environment & Development** County Hall, Tower hall, Chichester, West Sussex, PO19 1RH	Telephone: 01243 777100 Website: www.westsussex.gov.uk
7	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
8	**Natural England** County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.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** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.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
	WGR	Worked Ground (Undivided)	Void	Not Supplied - Holocene
	MGR	Made Ground (Undivided)	Artificial Deposit	Not Supplied - Holocene
	SLIP	Landslide Deposit	Clay	Not Supplied - Quaternary

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	AC	Atherfield Clay Formation	Mudstone	Not Supplied - Aptian
	LGS	Lower Greensand Group	Sandstone, Silty	Not Supplied - Aptian
	HY	Hythe Formation	Sandstone	Not Supplied - Aptian
	FIB	Fittleworth Member	Sandstone and Mudstone	Not Supplied - Aptian
	FO	Folkestone Formation	Sandstone	Not Supplied - Aptian
	MHC	Marehill Clay Member	Mudstone	Not Supplied - Aptian
	WC	Weald Clay Formation	Sandstone	Not Supplied - Hauterivian
	WC	Weald Clay Formation	Mudstone	Not Supplied - Hauterivian
	WC	Weald Clay Formation	Limestone	Not Supplied - Hauterivian
		Faults		

RSK

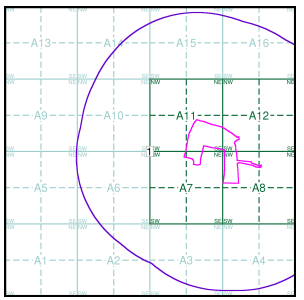
Geology 1:50,000 Maps

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:	**318**
Map Name:	**Brighton and W**
Map Date:	**2006**
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

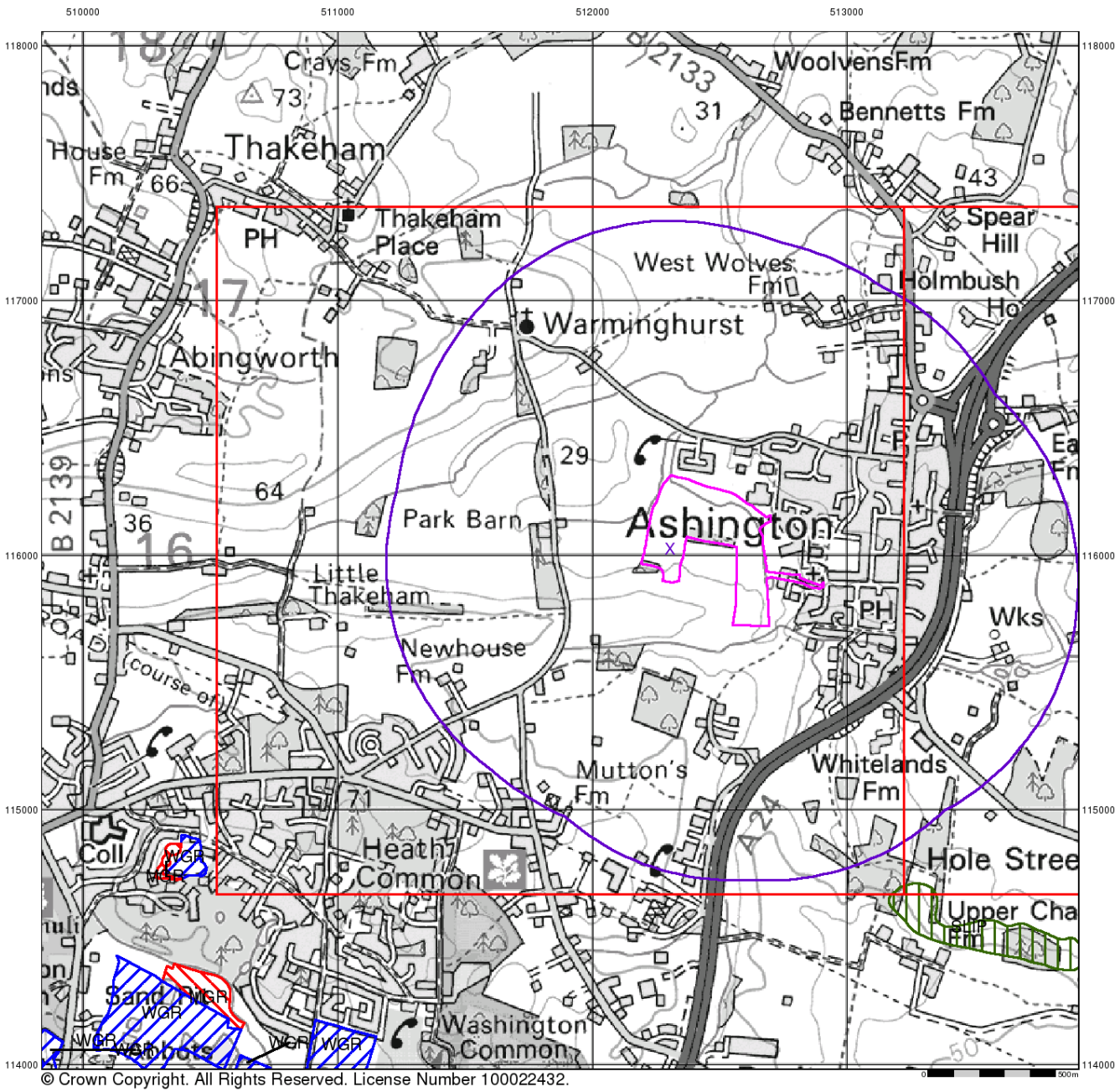


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Customer Reference:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details:

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX



Artificial Ground and Landslip

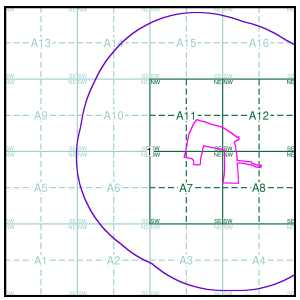
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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



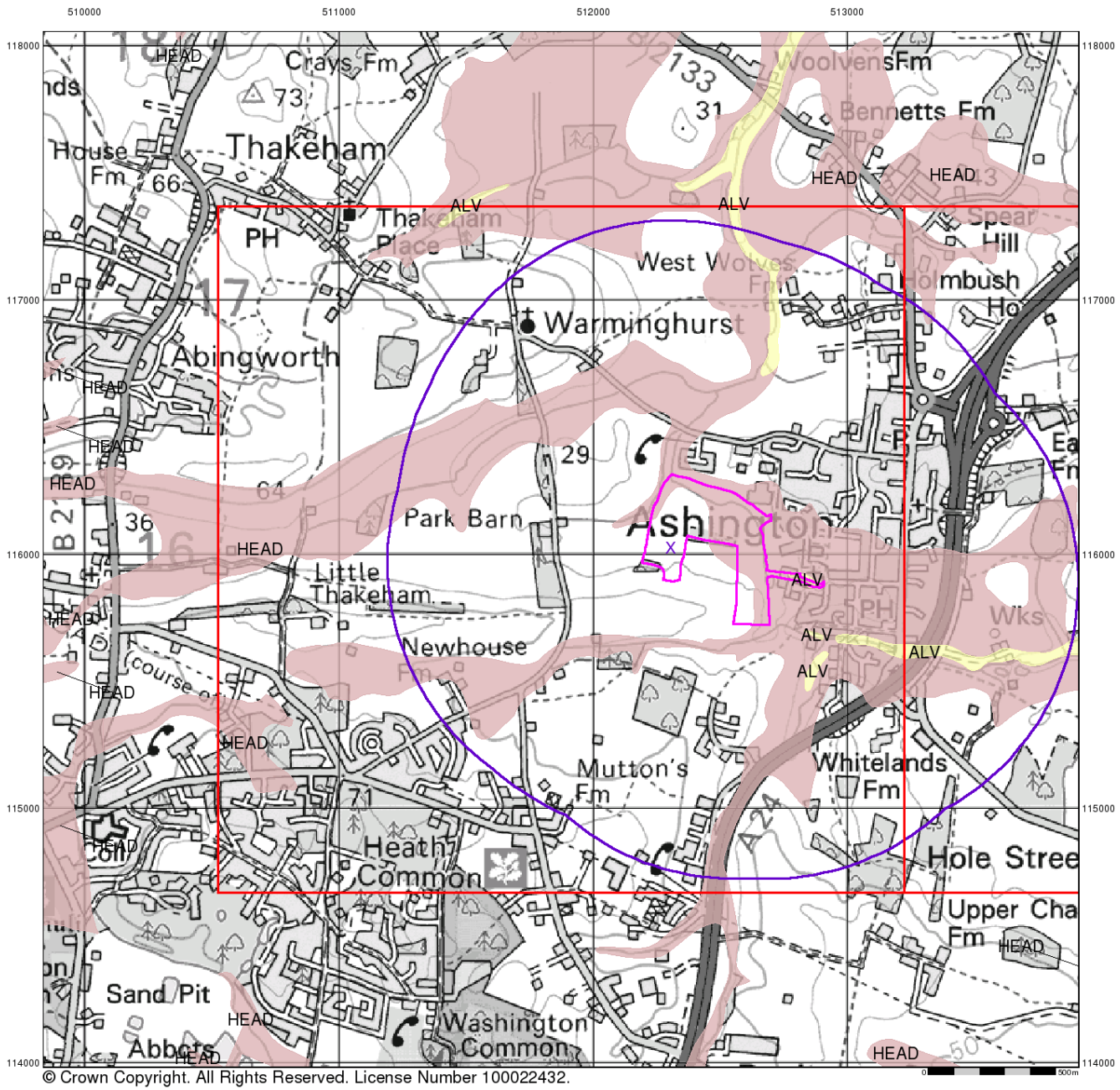
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Web: www.envirocheck.co.uk



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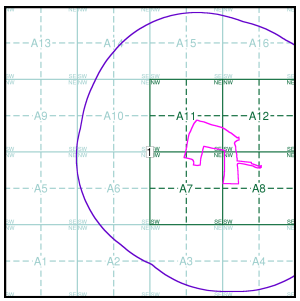
Superficial Geology

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



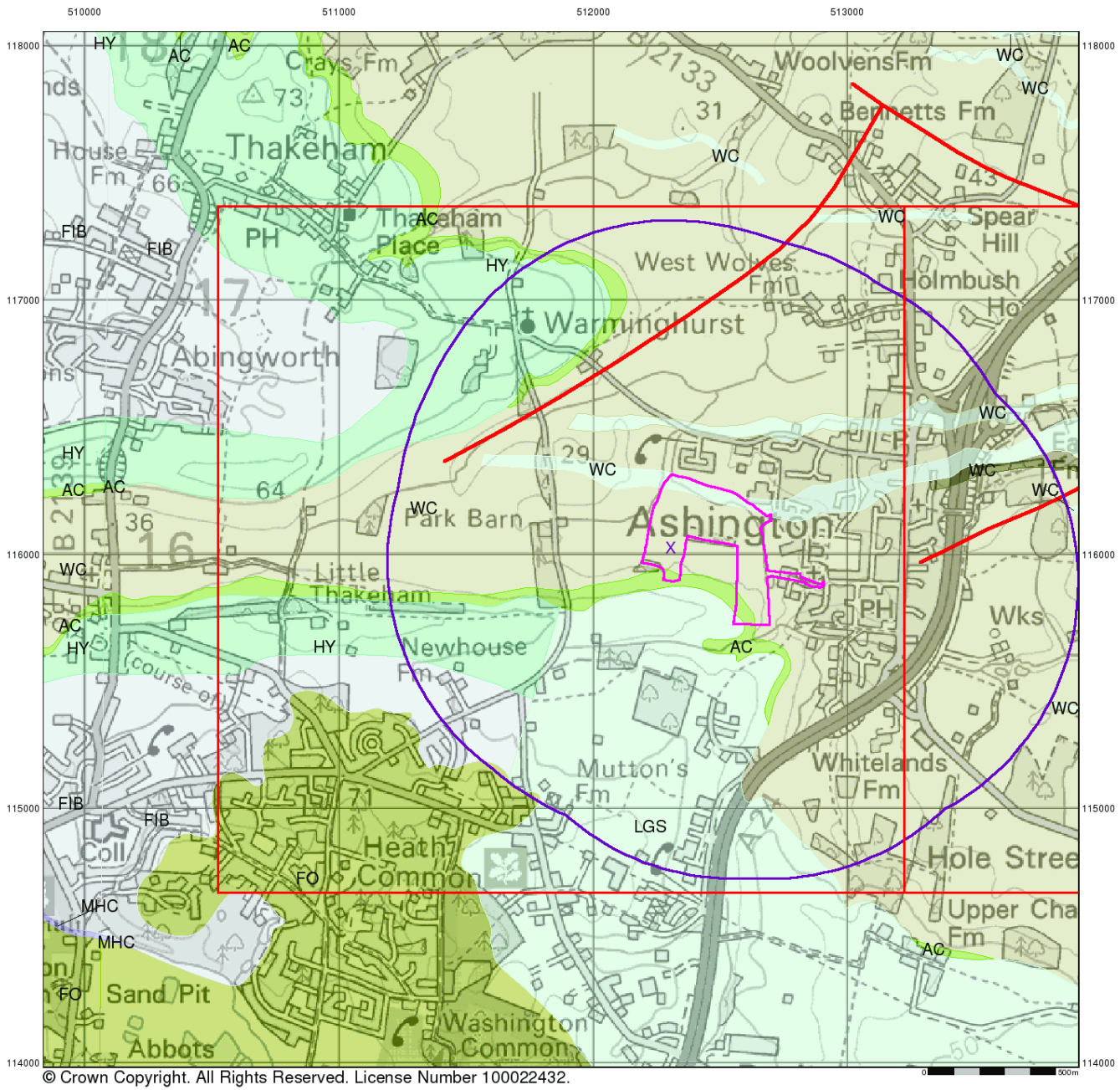
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Bedrock and Faults

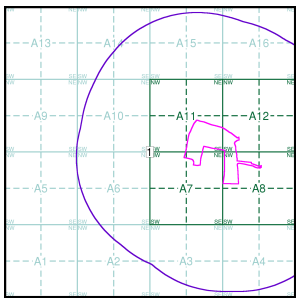
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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



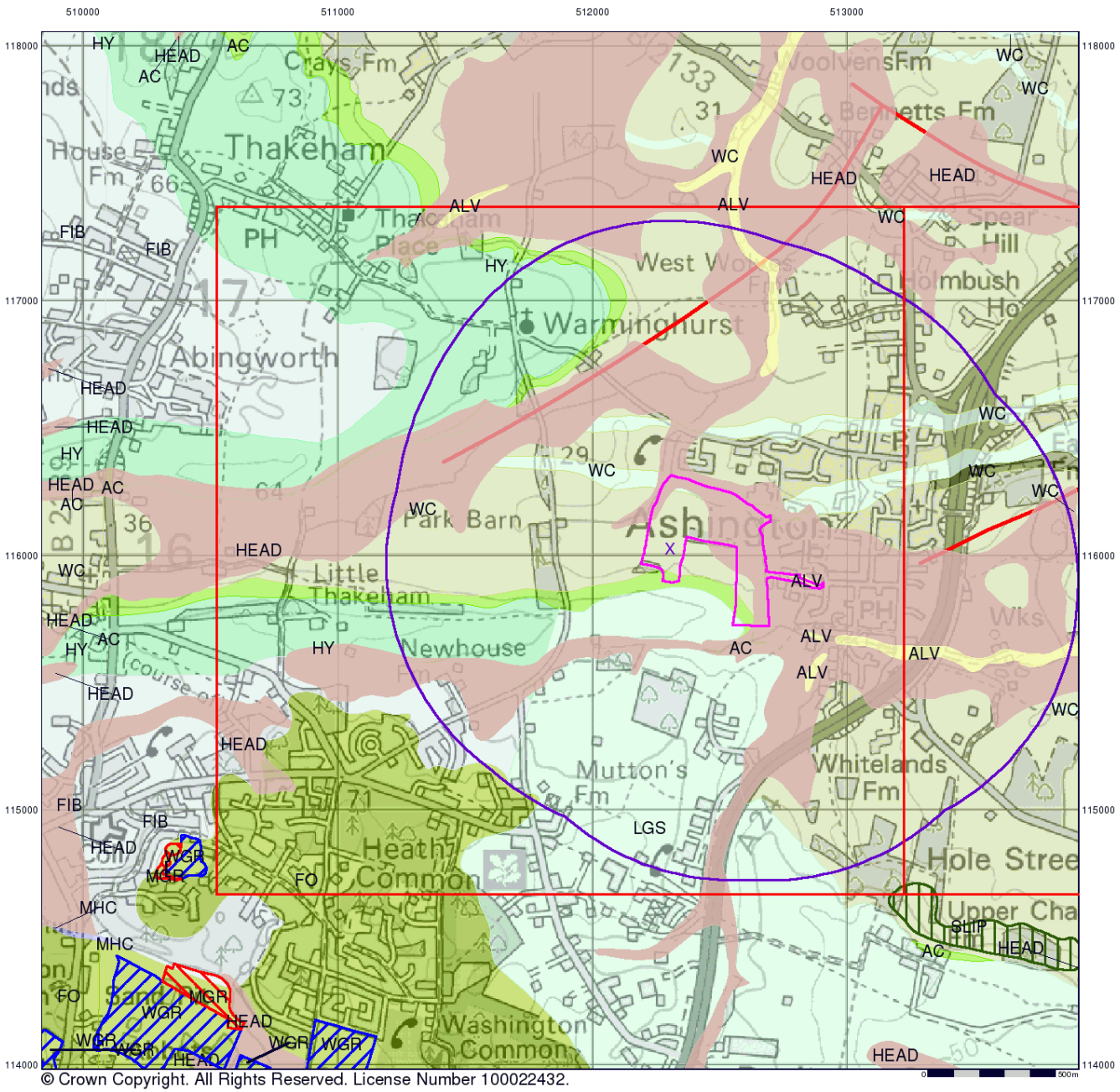
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RSK

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.

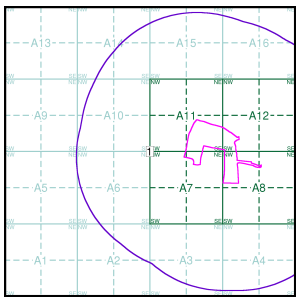
Additional Information

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



Order Details:

Order Number:	287518451_1_1
Customer Reference:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details:

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
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
Co. Boro. Bdy.
County Borough Boundary (England)
Co. Burgh Bdy.
County Burgh Boundary (Scotland)
R.D. Bdy.
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
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Pylon
Electricity Transmission Line
Sloping Masonry
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
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
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

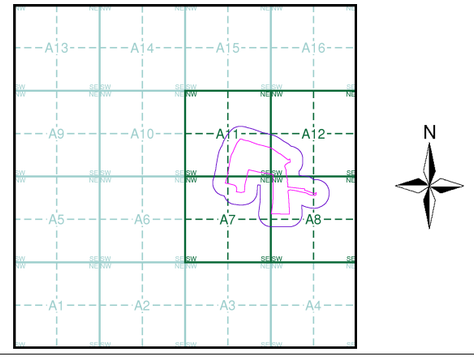
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Mud
Sand
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or 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
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m 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

RSK

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Sussex	1:10,560	1879	2
Sussex	1:10,560	1898	3
Sussex	1:10,560	1914	4
Sussex	1:10,560	1914	5
Historical Aerial Photography	1:10,560	1947 - 1948	6
Sussex	1:10,560	1952	7
Ordnance Survey Plan	1:10,000	1961	8
Ordnance Survey Plan	1:10,000	1971	9
Ordnance Survey Plan	1:10,000	1982	10
10K Raster Mapping	1:10,000	2000	11
10K Raster Mapping	1:10,000	2006	12
VectorMap Local	1:10,000	2021	13

Historical Map - Slice A



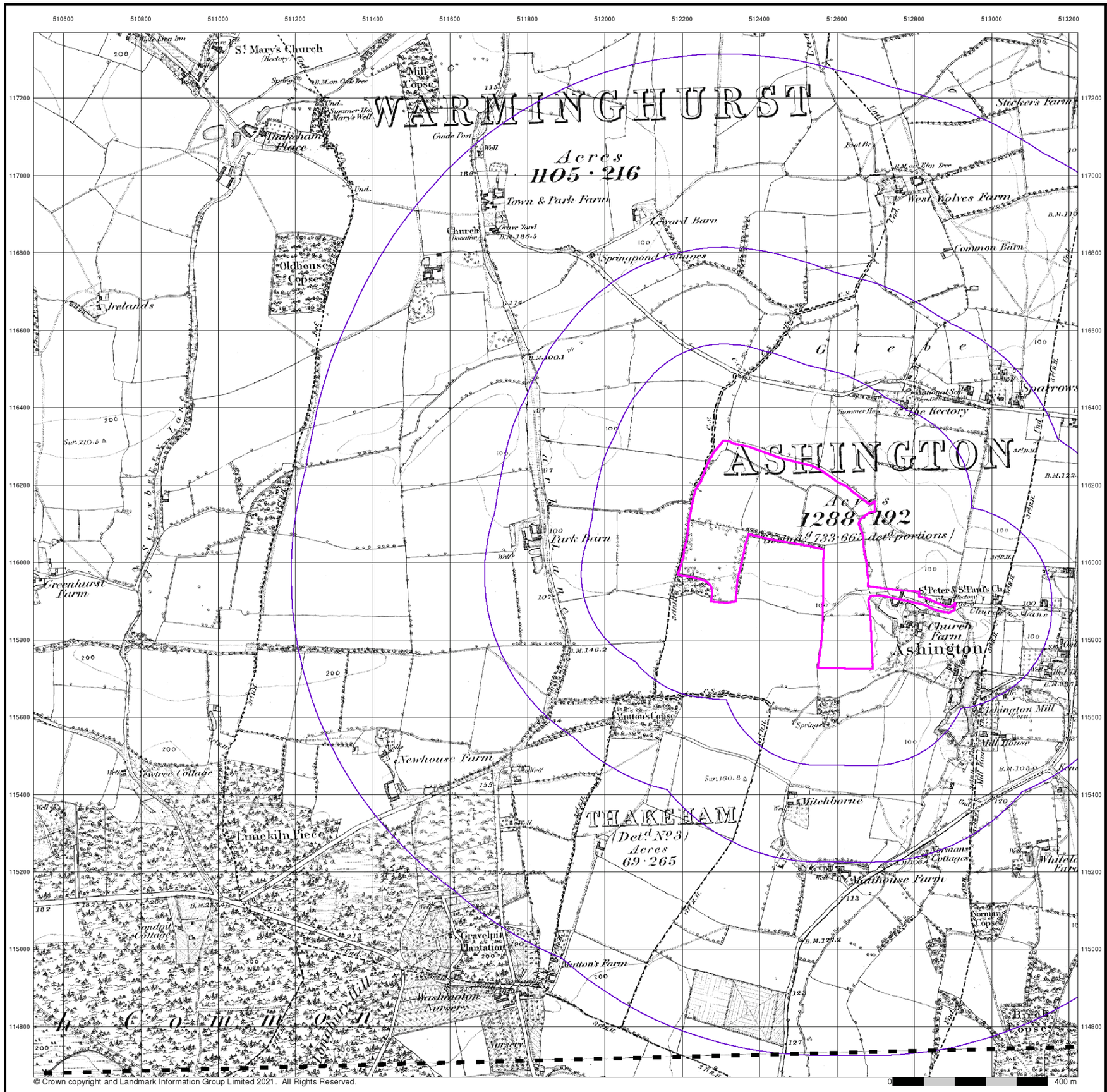
Order Details

Order Number: 287518451_1_1
Customer Ref: 52368
National Grid Reference: 512310, 116030
Slice: A
Site Area (Ha): 15.35
Search Buffer (m): 1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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Sussex

Published 1879

Source map scale - 1:10,560

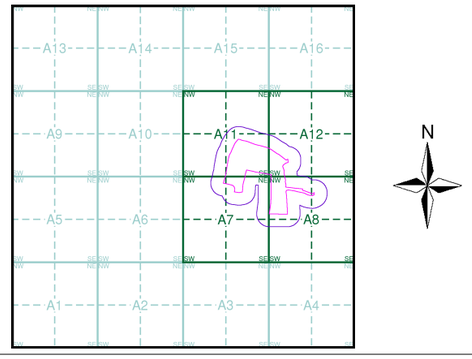
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some 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)

03700
1879
1:10,560

05100
1879
1:10,560

Historical Map - Slice A



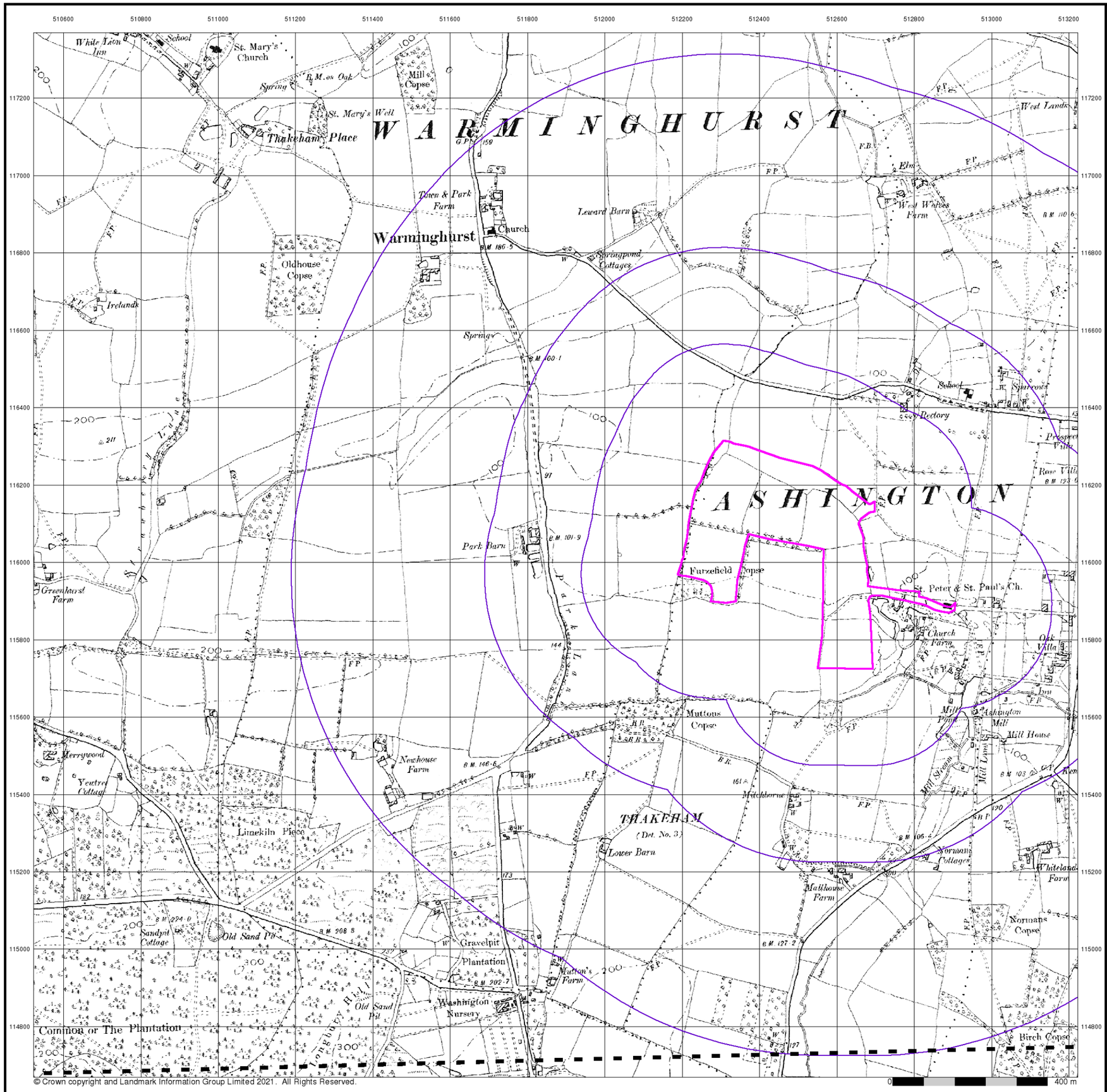
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Sussex

Published 1898

Source map scale - 1:10,560

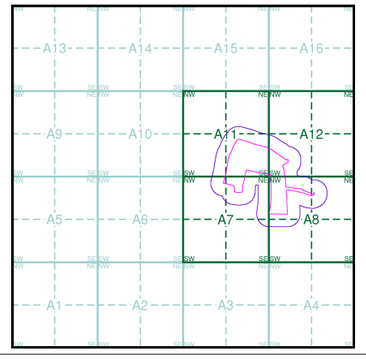
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Map Name(s) and Date(s)

037SW
1898
1:10,560

051NW
1898
1:10,560

Historical Map - Slice A



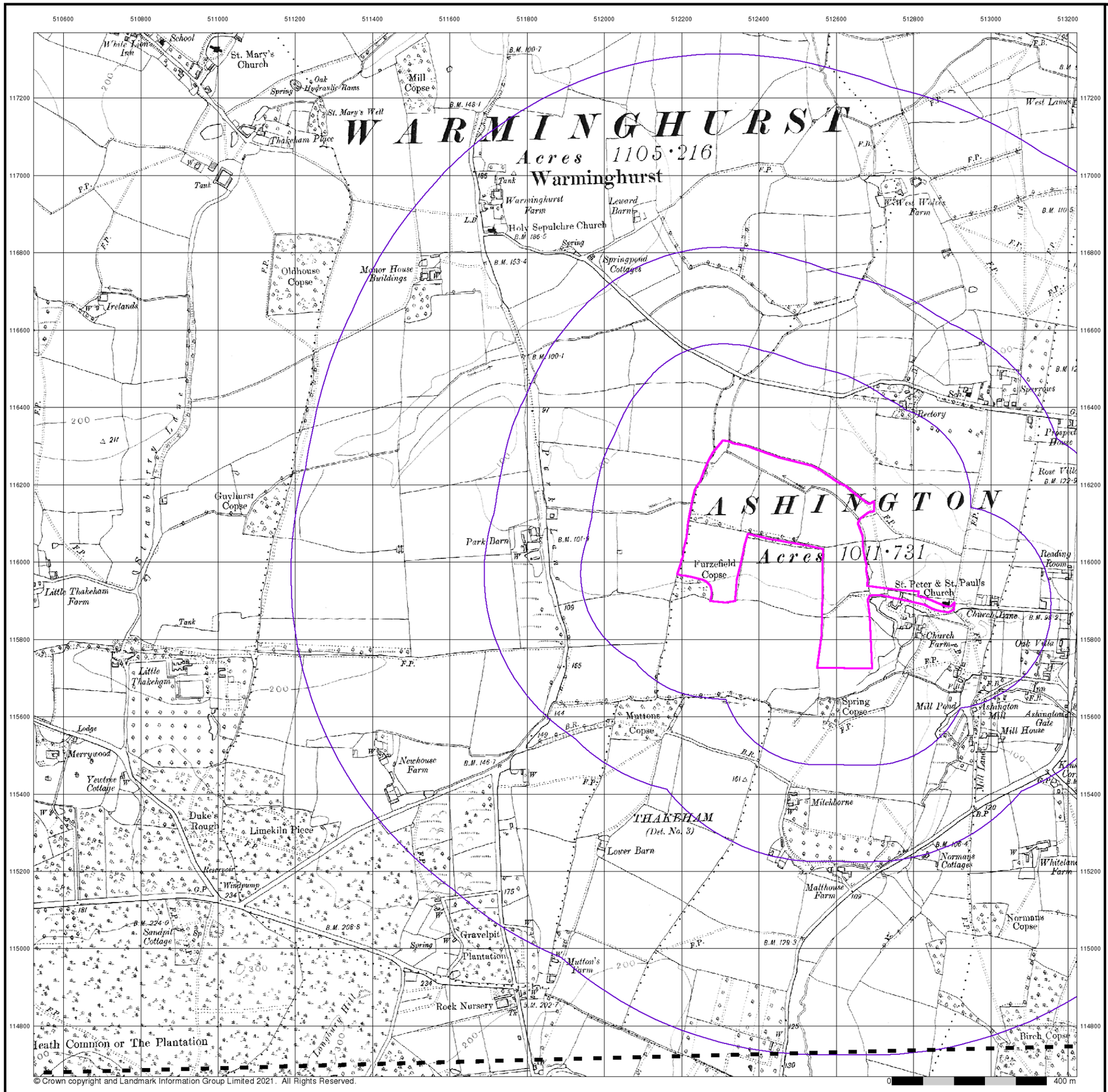
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Sussex

Published 1914

Source map scale - 1:10,560

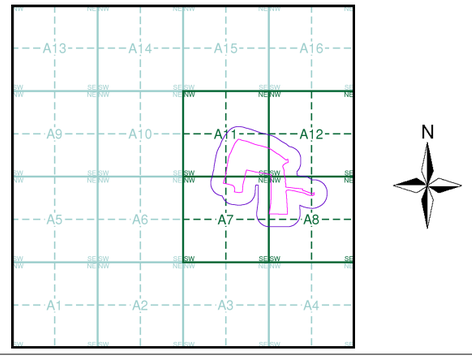
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Map Name(s) and Date(s)

037SW
1914
1:10,560

051NW
1914
1:10,560

Historical Map - Slice A



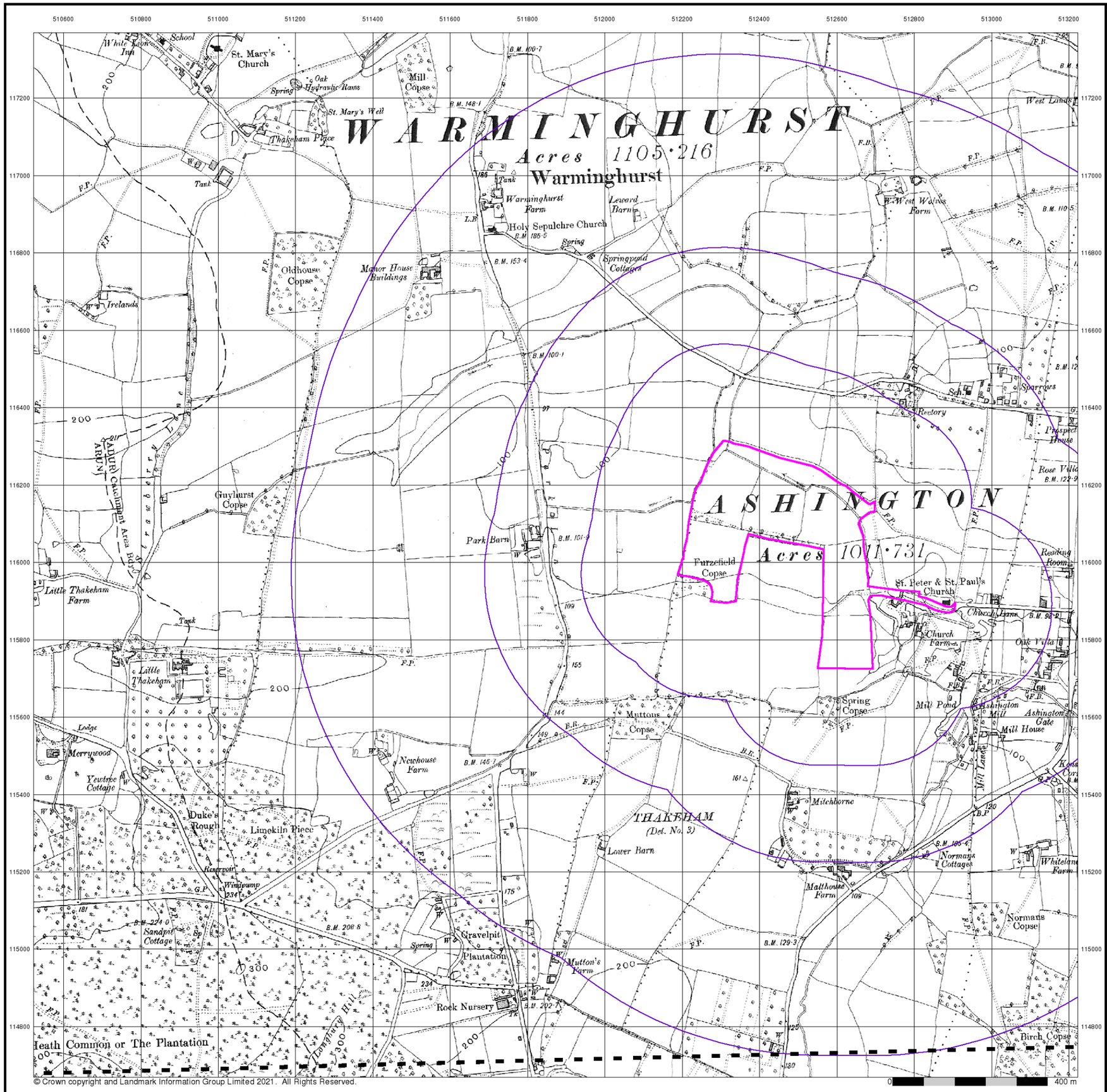
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Sussex

Published 1914

Source map scale - 1:10,560

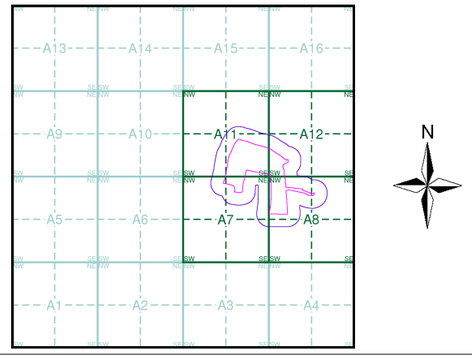
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some 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)

037SW
1914
1:10,560

051NW
1914
1:10,560

Historical Map - Slice A



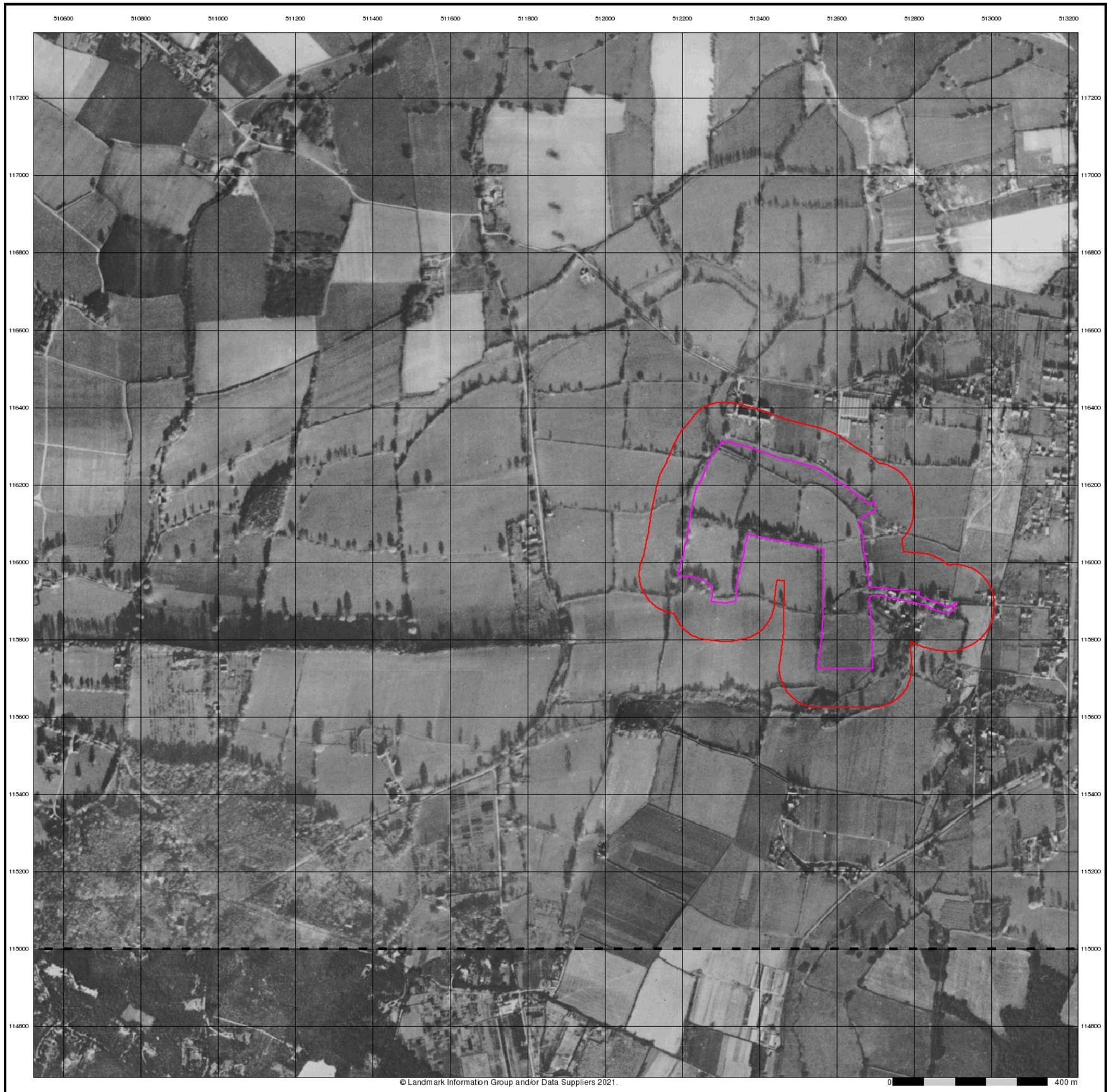
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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RSK

Historical Aerial Photography

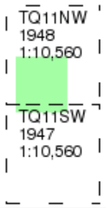
Published 1947 - 1948

Source map scale - 1:10,560

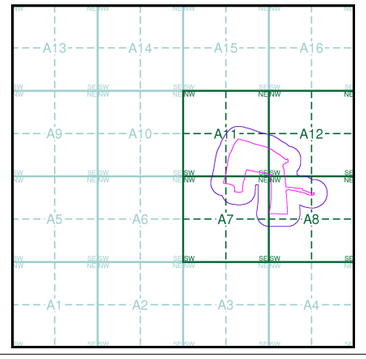
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 1950's meant that every photograph was re-checked for potentially unsafe information with security sites replaced by fake fields or clouds. The original editions were withdrawn and only later made available after a period of fifty years although due to the accuracy of the editing, without viewing both revisions it is not easy to spot the edits. Where available Landmark have included both revisions.

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Map Name(s) and Date(s)



Historical Aerial Photography - Slice A



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Order Details

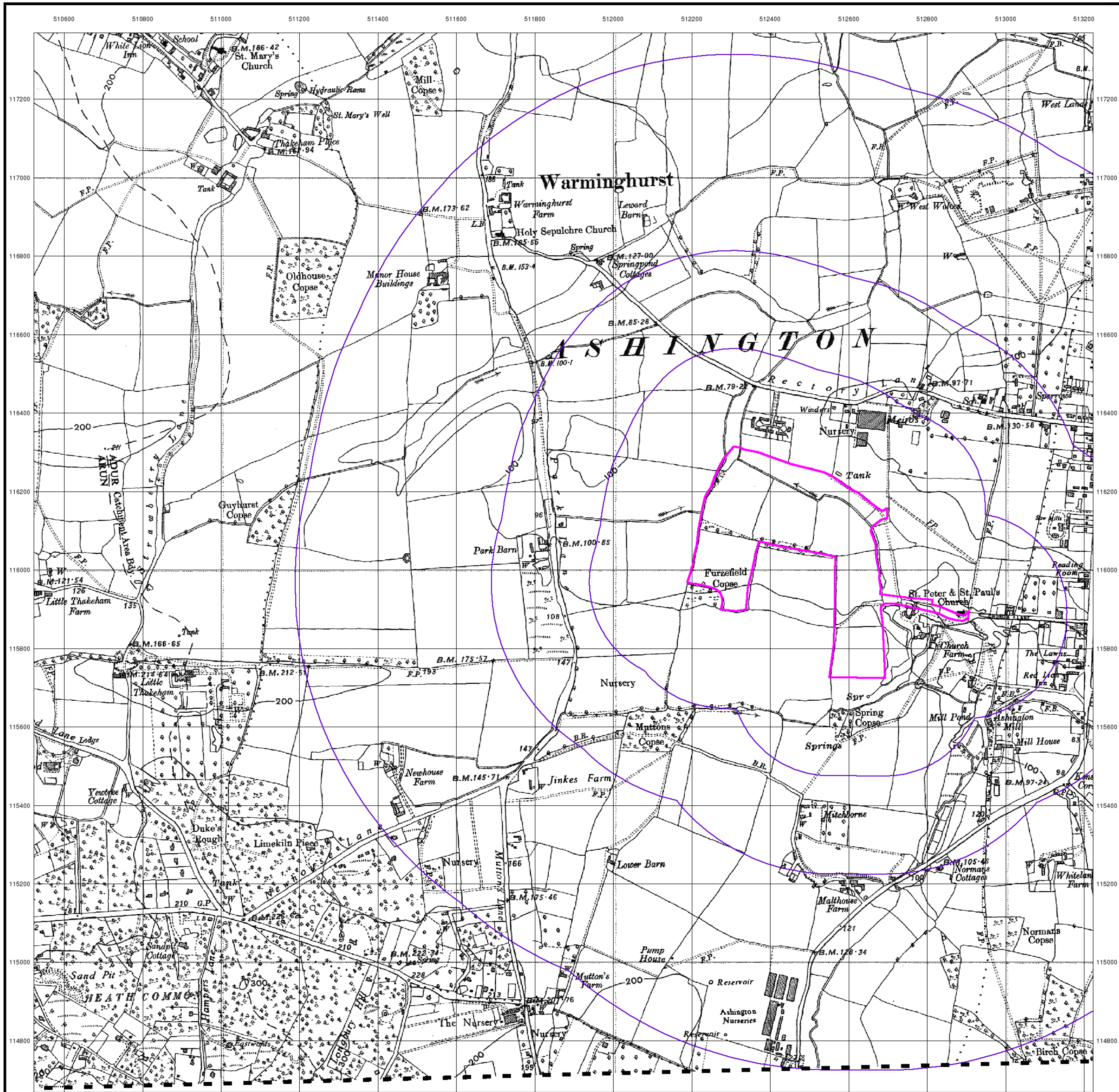
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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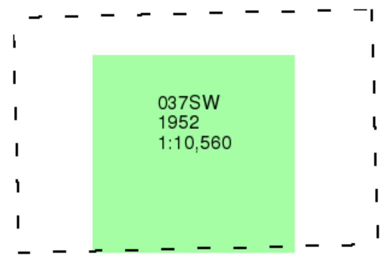
Sussex

Published 1952

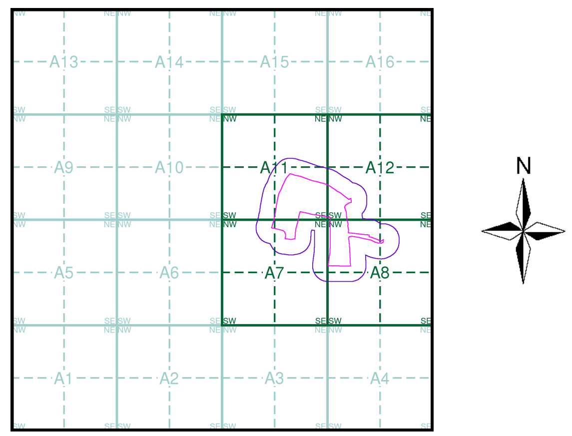
Source map scale - 1:10,560

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

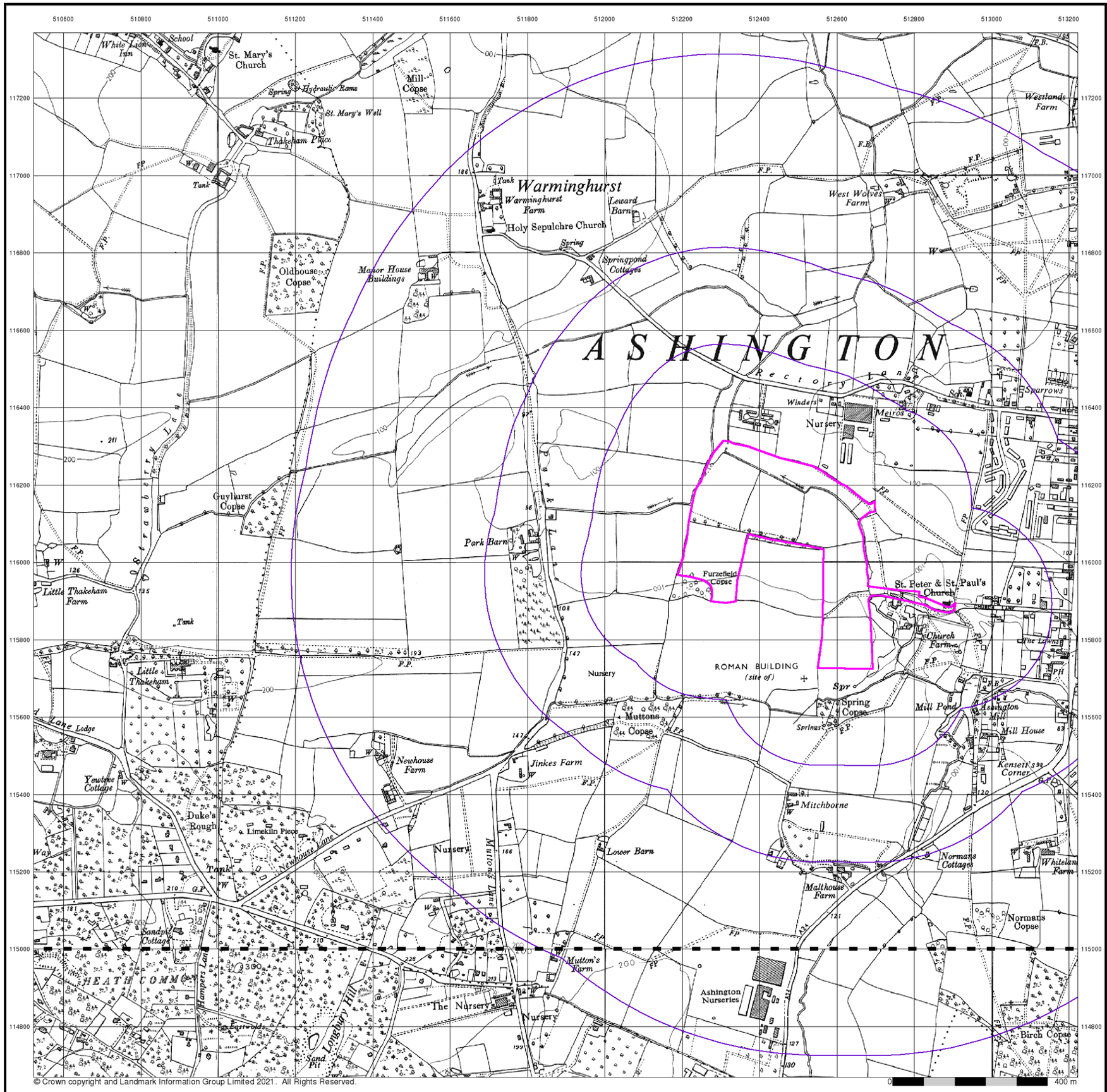


Order Details

Order Number: 287518451_1_1
Customer Ref: 52368
National Grid Reference: 512310, 116030
Slice: A
Site Area (Ha): 15.35
Search Buffer (m): 1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX



RSK

Ordnance Survey Plan

Published 1961

Source map scale - 1:10,000

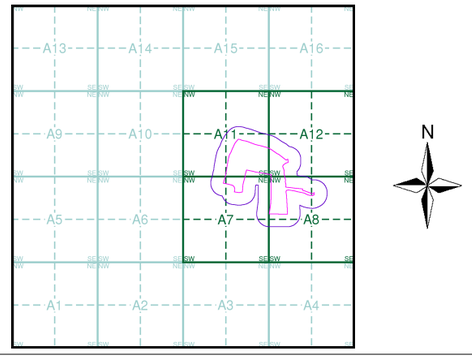
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some 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)

TQ11NW
1961
1:10,560

TQ11SW
1961
1:10,560

Historical Map - Slice A



Order Details

Order Number:	287518451_1_1
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Search Buffer (m):	1000

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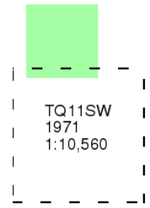
Ordnance Survey Plan

Published 1971

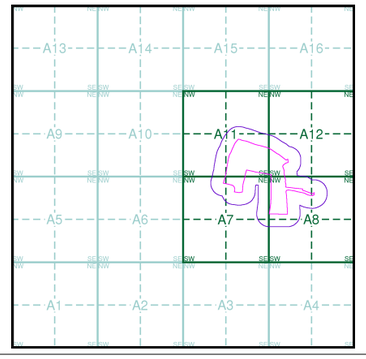
Source map scale - 1:10,000

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



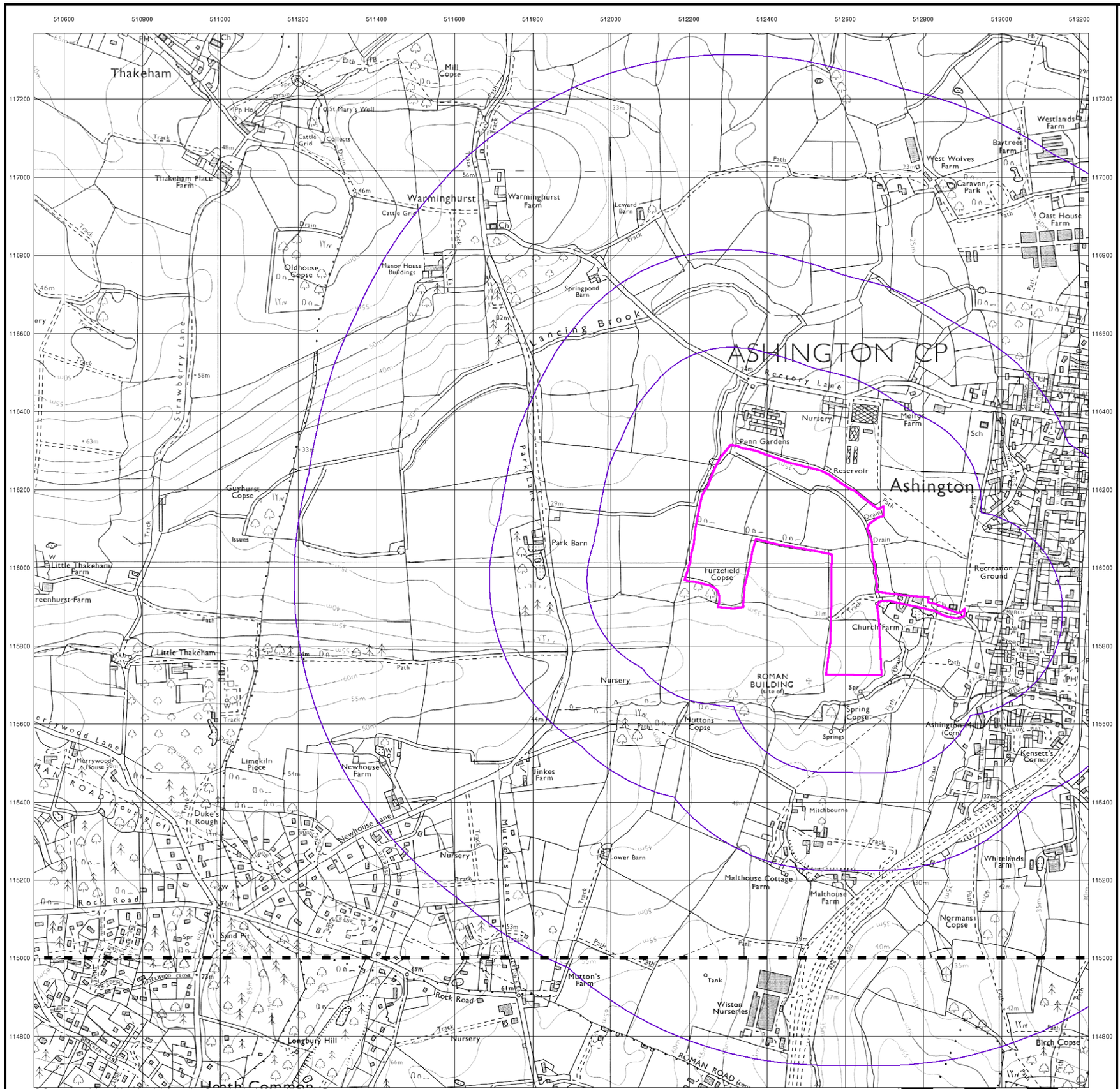
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

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RSK

Ordnance Survey Plan

Published 1982

Source map scale - 1:10,000

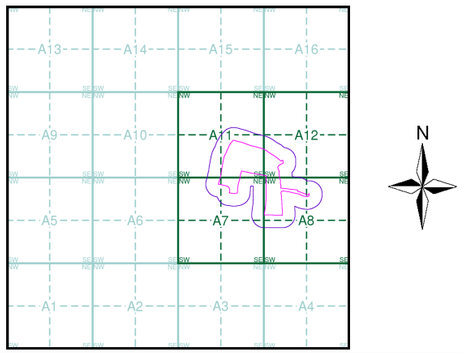
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some 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)

TQ11NW
1982
1:10,000

TQ11SW
1982
1:10,000

Historical Map - Slice A



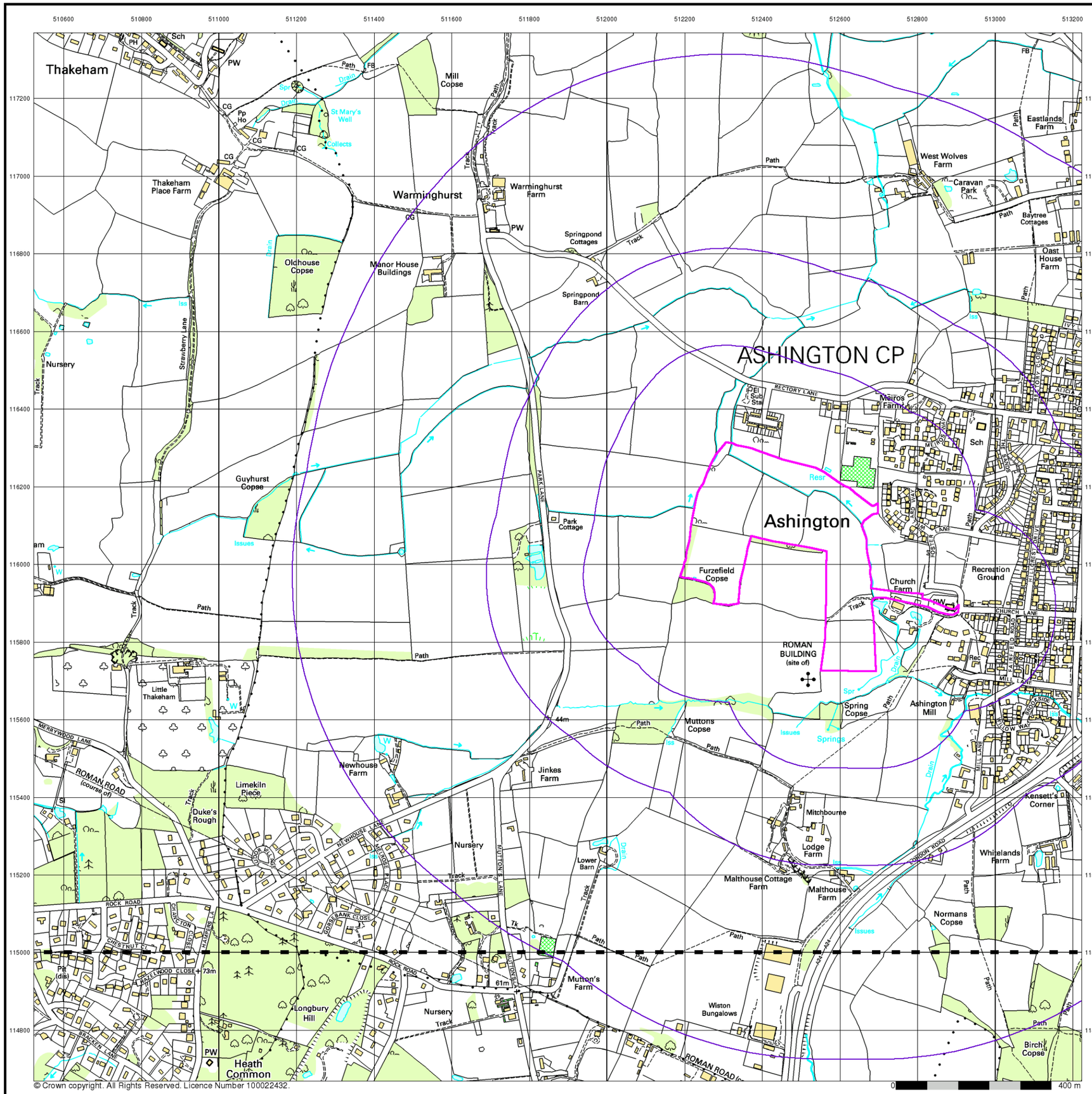
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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10k Raster Mapping

Published 2000

Source map scale - 1:10,000

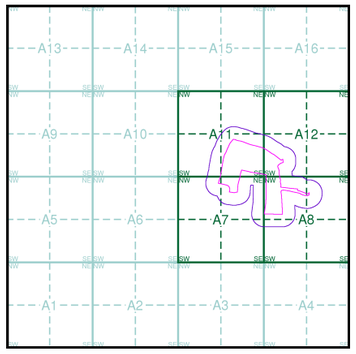
The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks 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)

TQ11NW
2000
1:10,000

TQ11SW
2000
1:10,000

Historical Map - Slice A



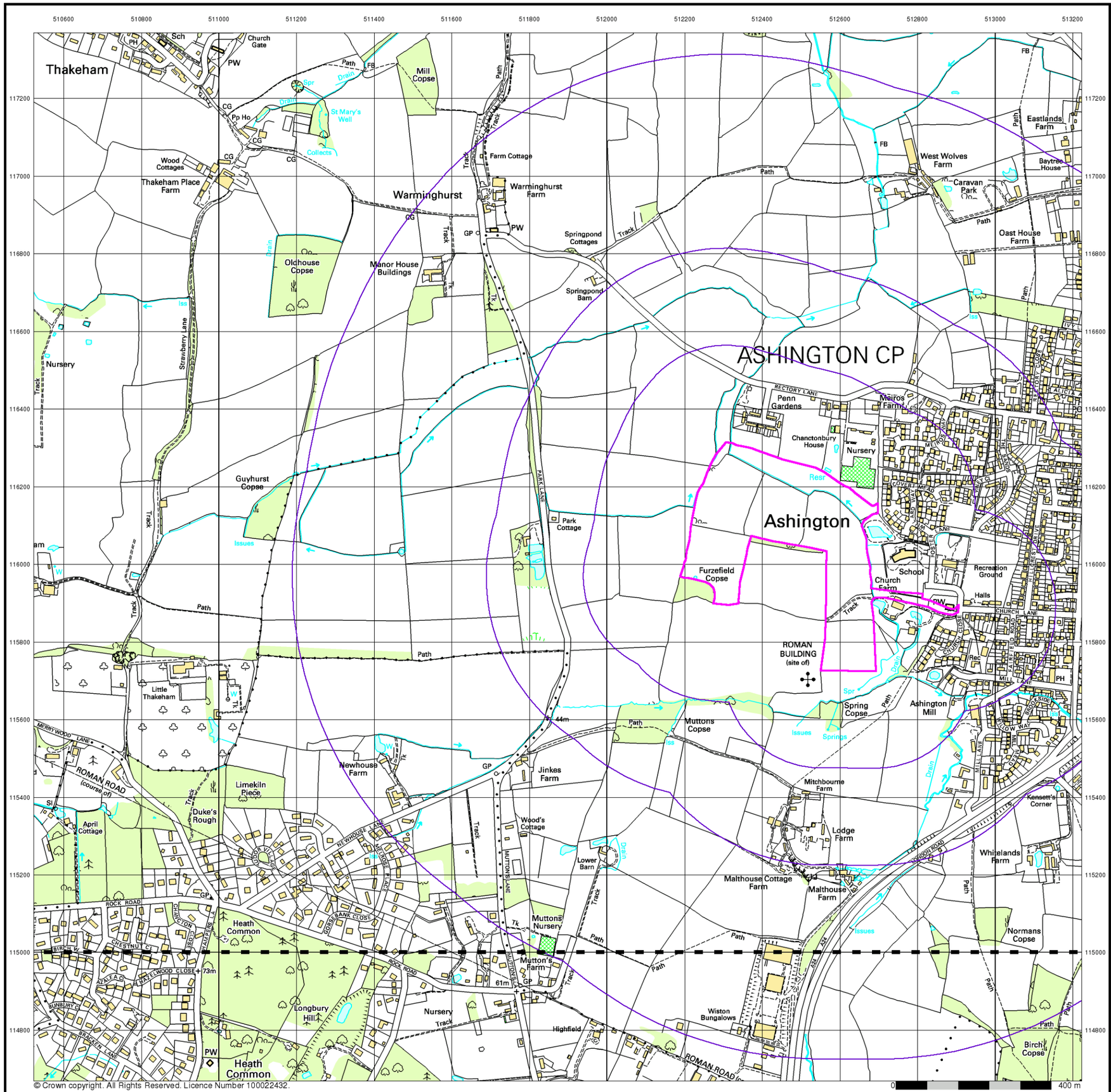
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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10k Raster Mapping

Published 2006

Source map scale - 1:10,000

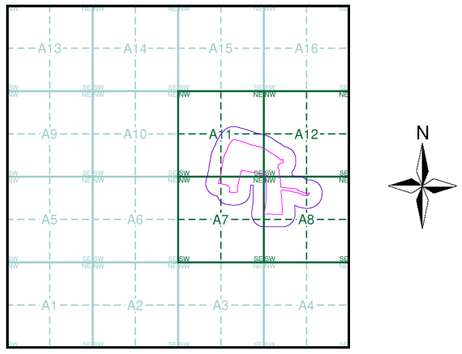
The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks 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)

TQ11NW
2006
1:10,000

TQ11SW
2006
1:10,000

Historical Map - Slice A



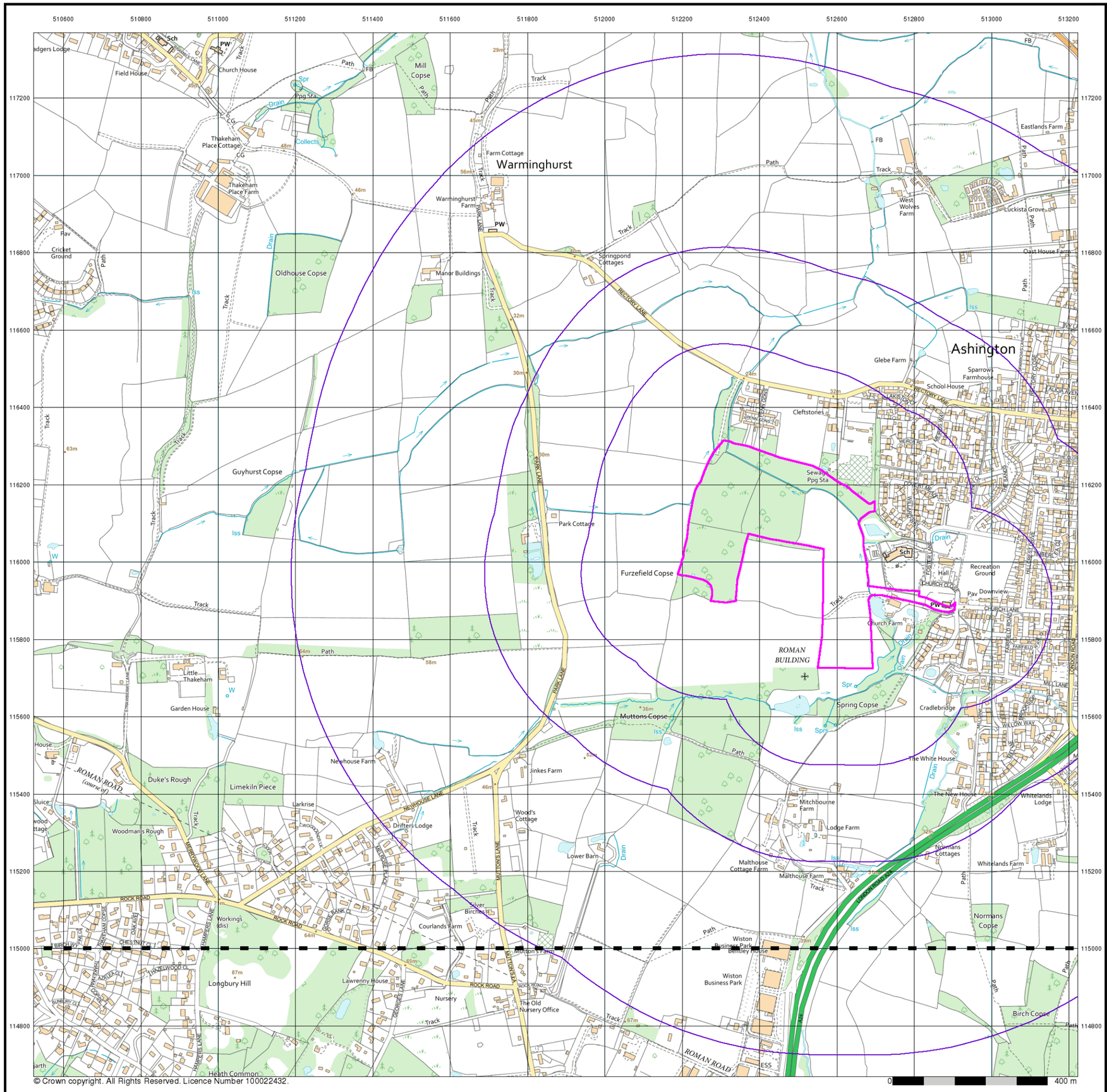
Order Details

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Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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VectorMap Local

Published 2021

Source map scale - 1:10,000

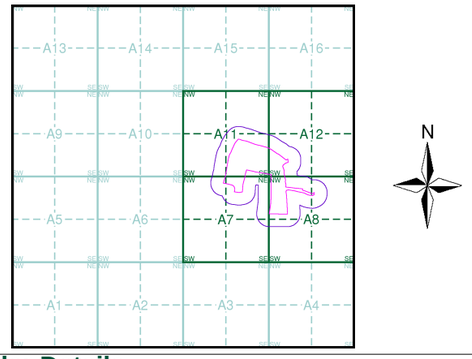
VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap 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)

TQ11NW
2021
Variable

TQ11SW
2021
Variable

Historical Map - Slice A



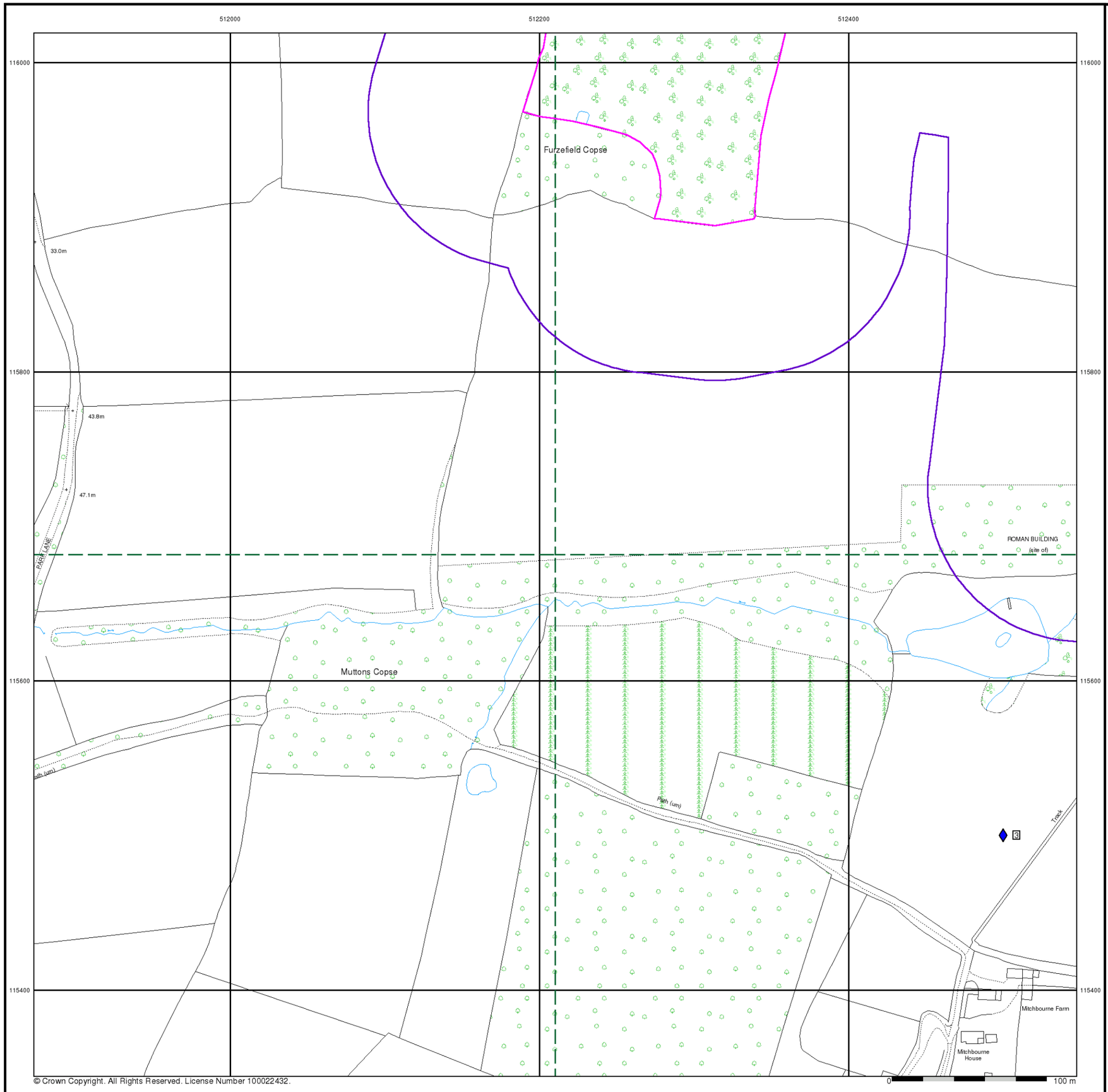
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Map ID
Several of Type at Location | Pylon | Overhead Transmission Line

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
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

COMAH Site | Explosive Site

- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

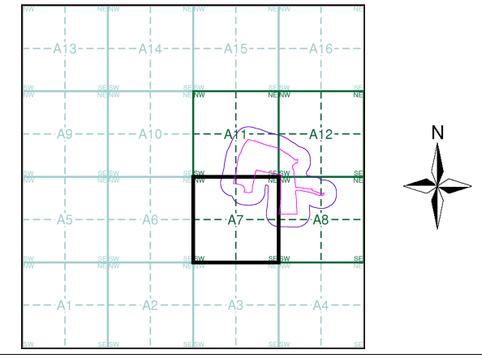
Geological

- BGS Recorded Mineral Site

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)
- 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

Site Sensitivity Map - Segment A7



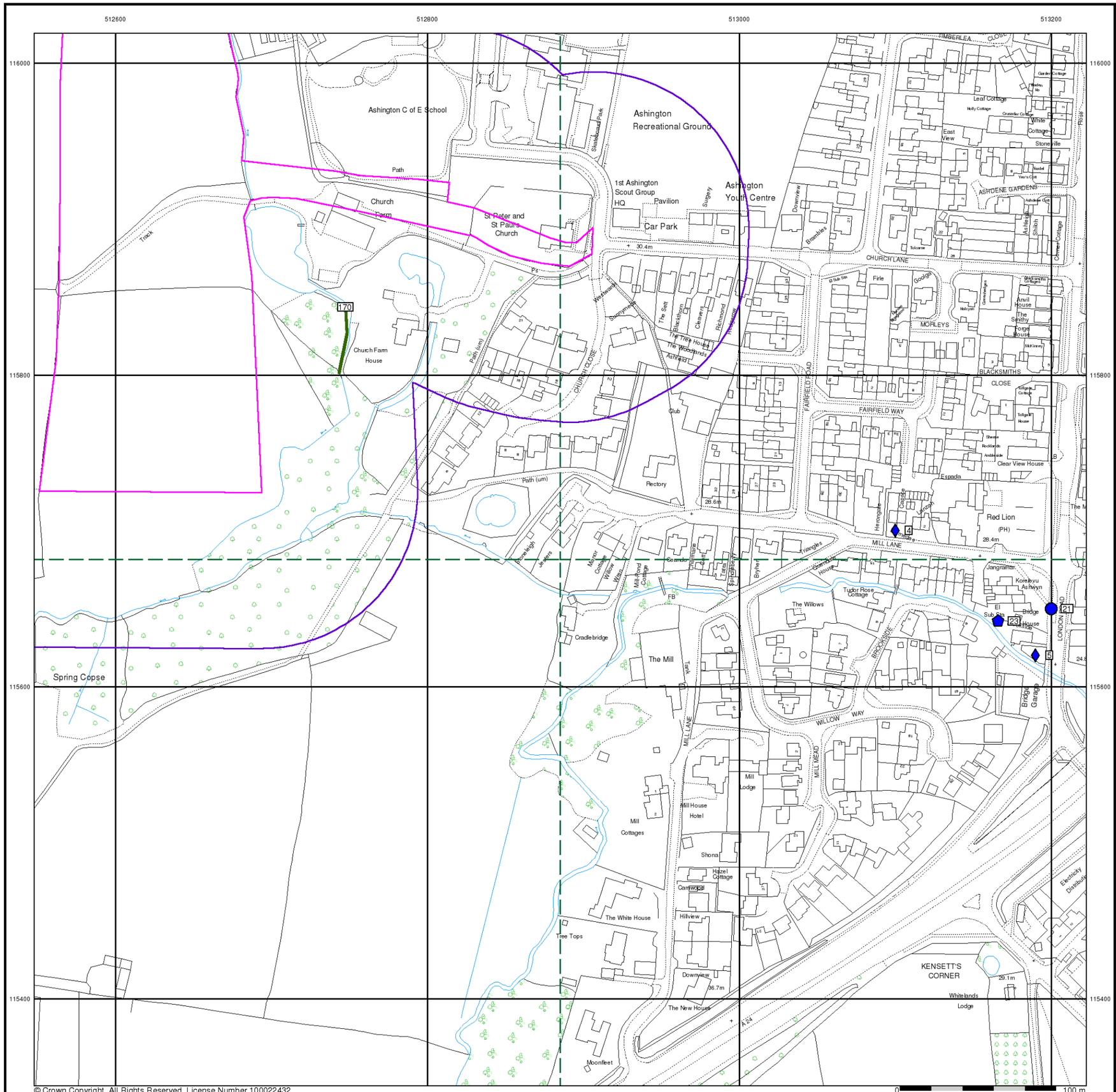
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Plot Buffer (m):	100

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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General

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

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
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

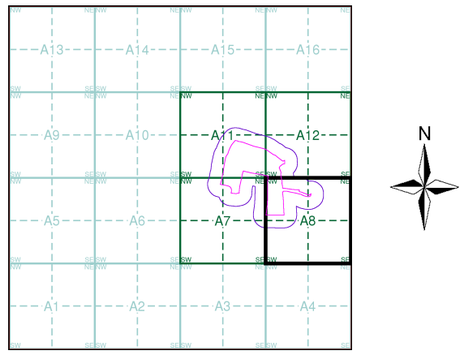
Geological

- BGS Recorded Mineral Site

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)
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- Local Authority Recorded Landfill Site
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- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-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

Site Sensitivity Map - Segment A8



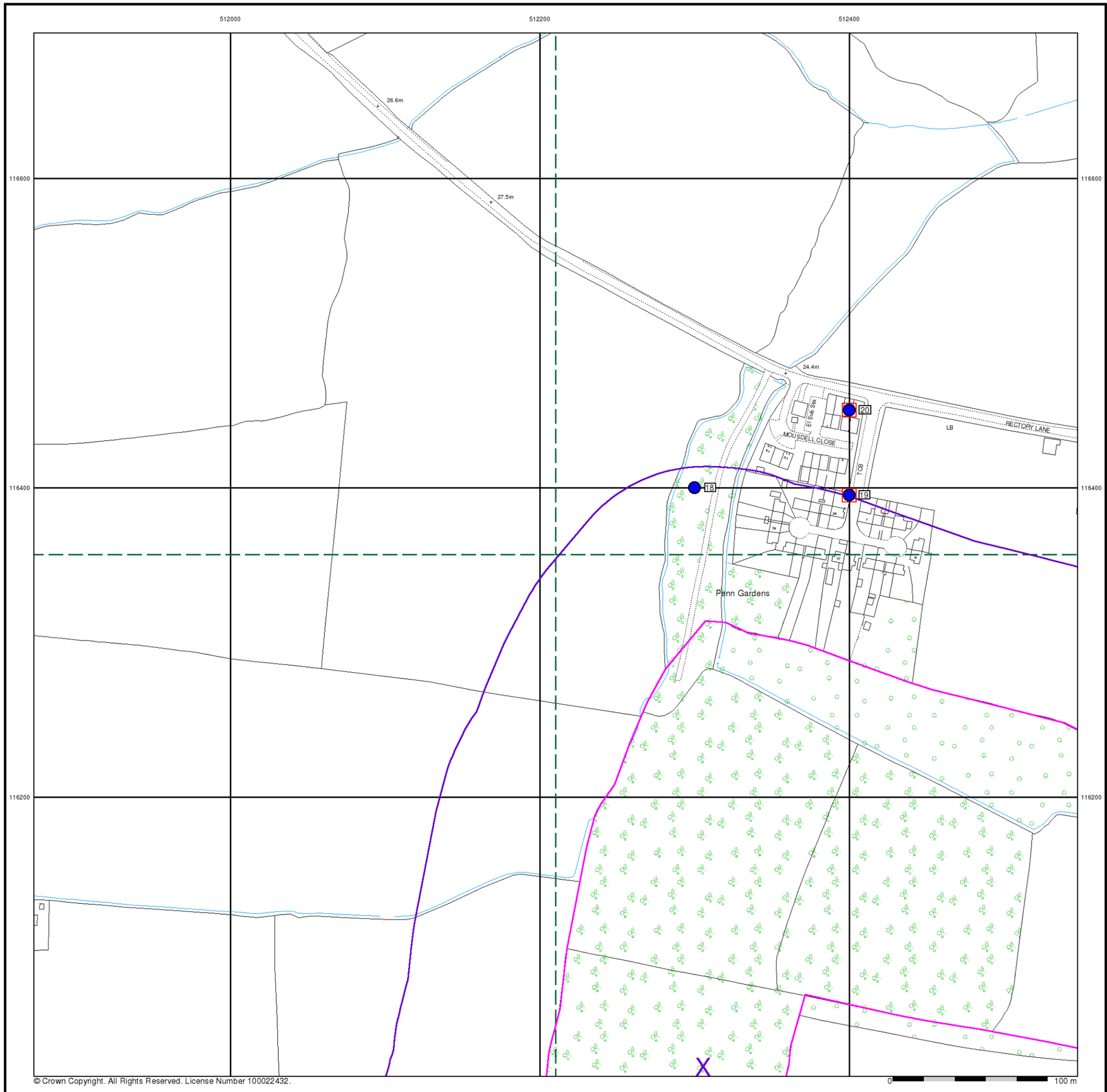
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Plot Buffer (m):	100

Site Details

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RSK

General

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

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
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

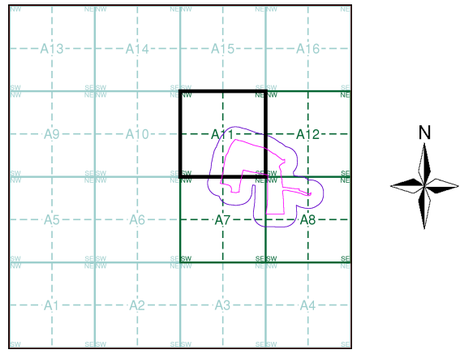
Geological

- BGS Recorded Mineral Site

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)
- 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

Site Sensitivity Map - Segment A11



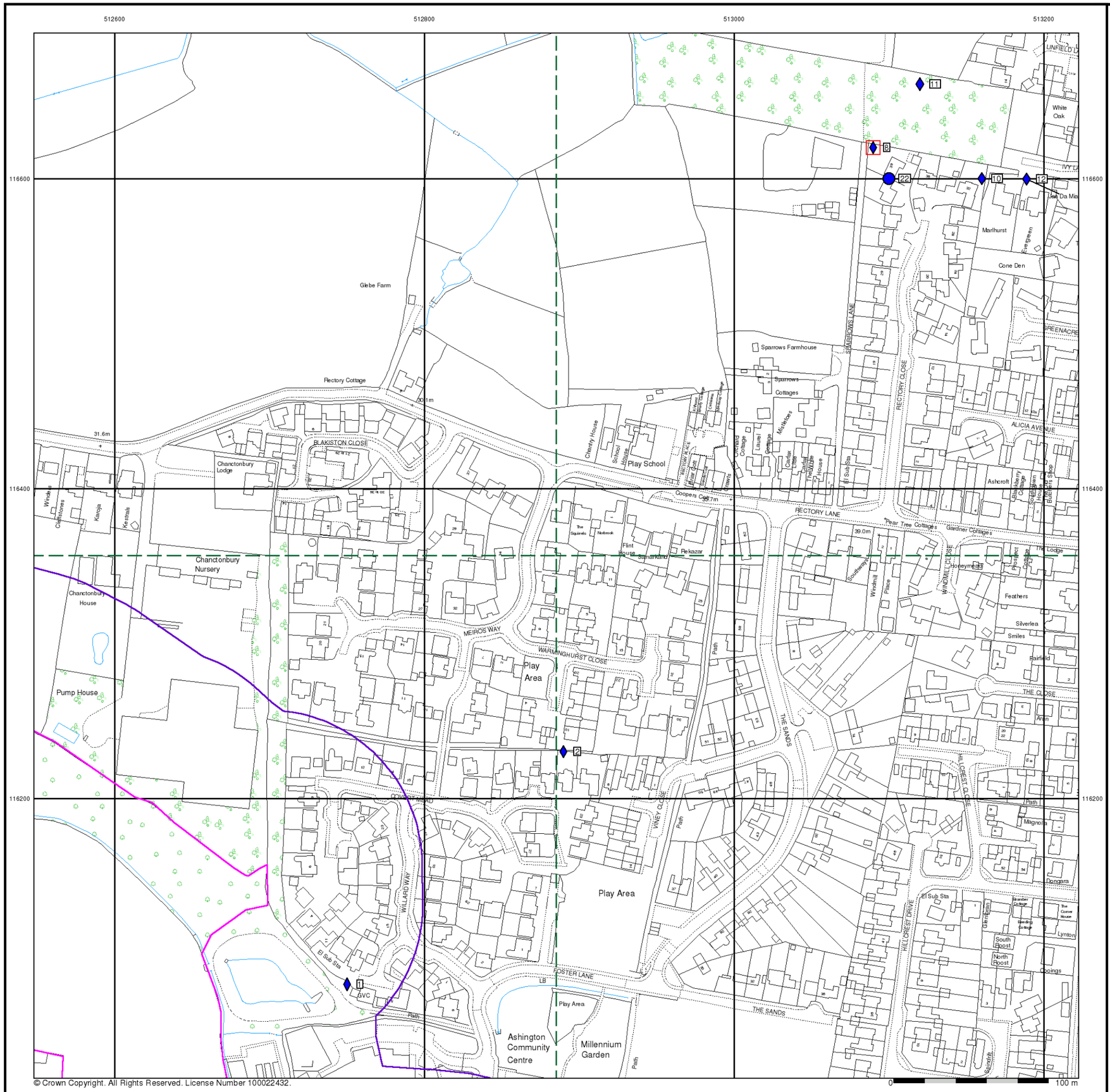
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Plot Buffer (m):	100

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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



RSK

General

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

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
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- 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)
- 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

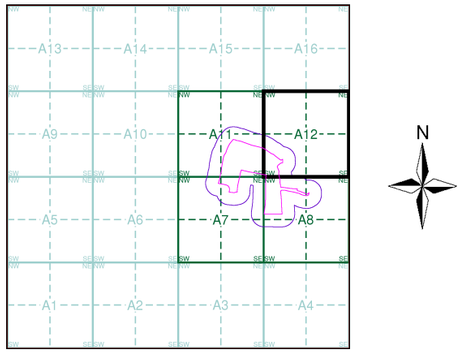
Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

Geological

- BGS Recorded Mineral Site

Site Sensitivity Map - Segment A12



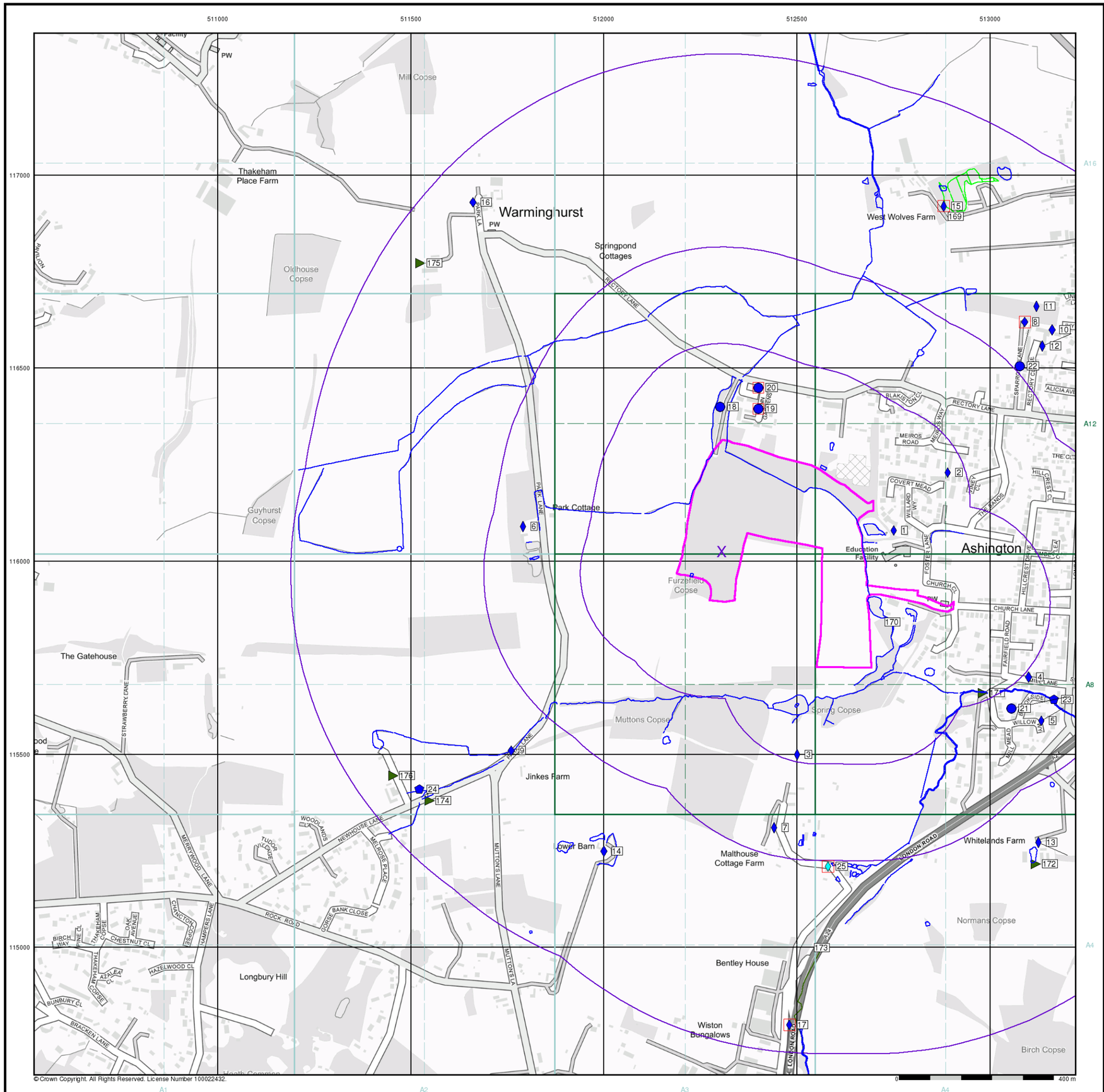
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Plot Buffer (m):	100

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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Web: www.envirocheck.co.uk



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RSK

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
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

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- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

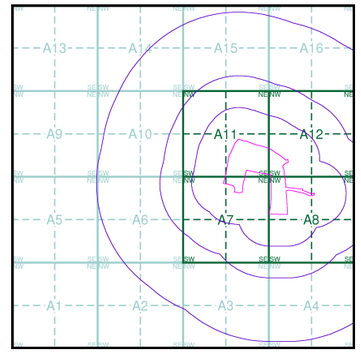
Geological

- BGS Recorded Mineral Site

Waste

- BGS Recorded Landfill Site (Location)
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- Potentially Infilled Land (Non-water)
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- 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

Site Sensitivity Map - Slice A



Order Details

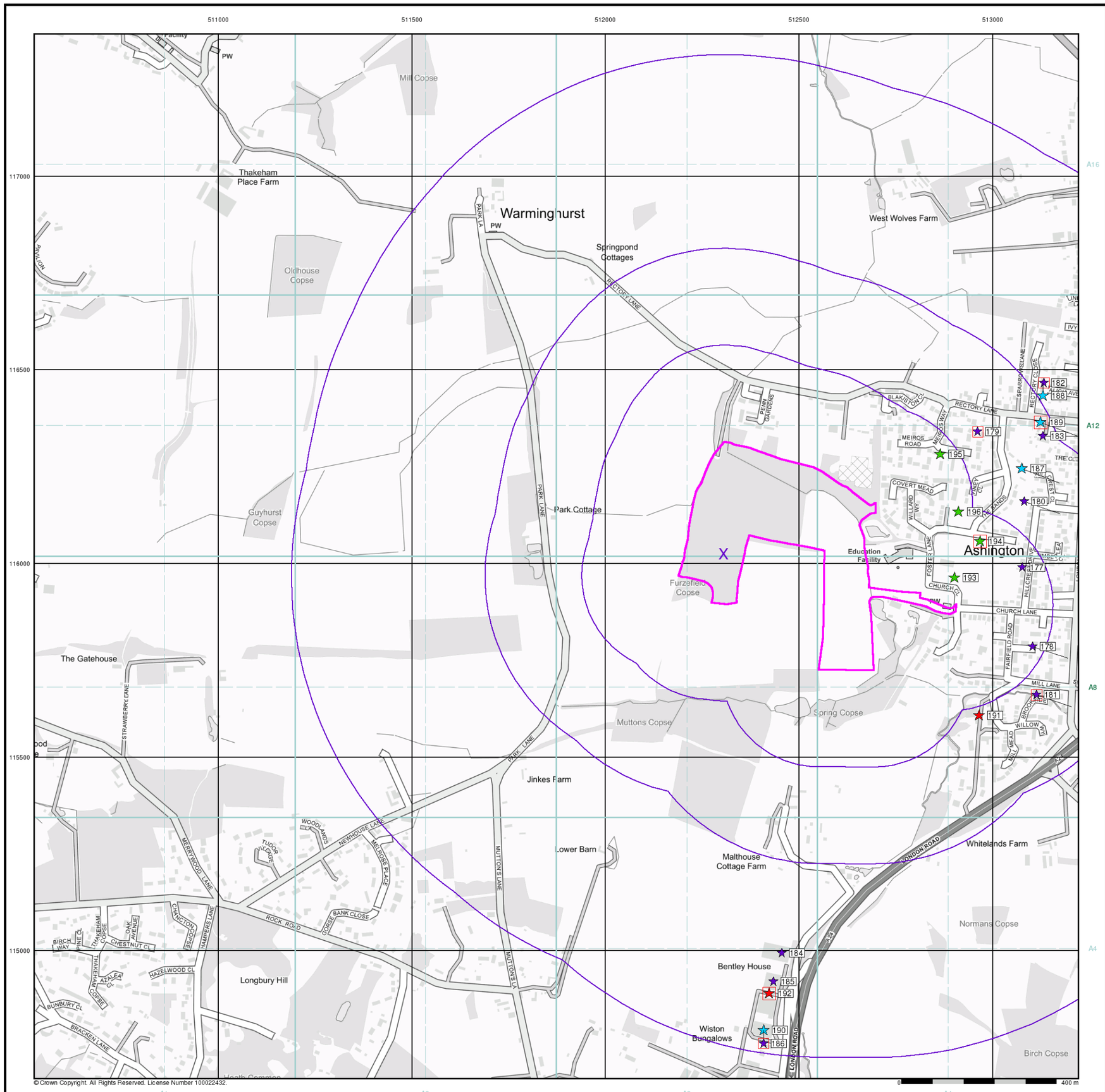
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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RSK

Industrial Land Use Map

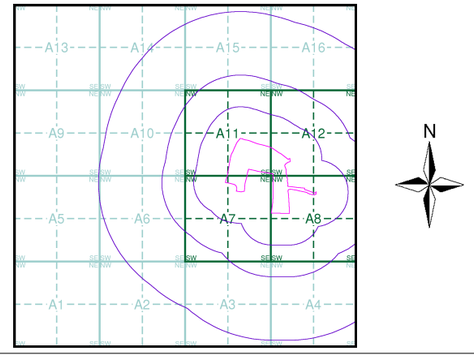
General

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

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- 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



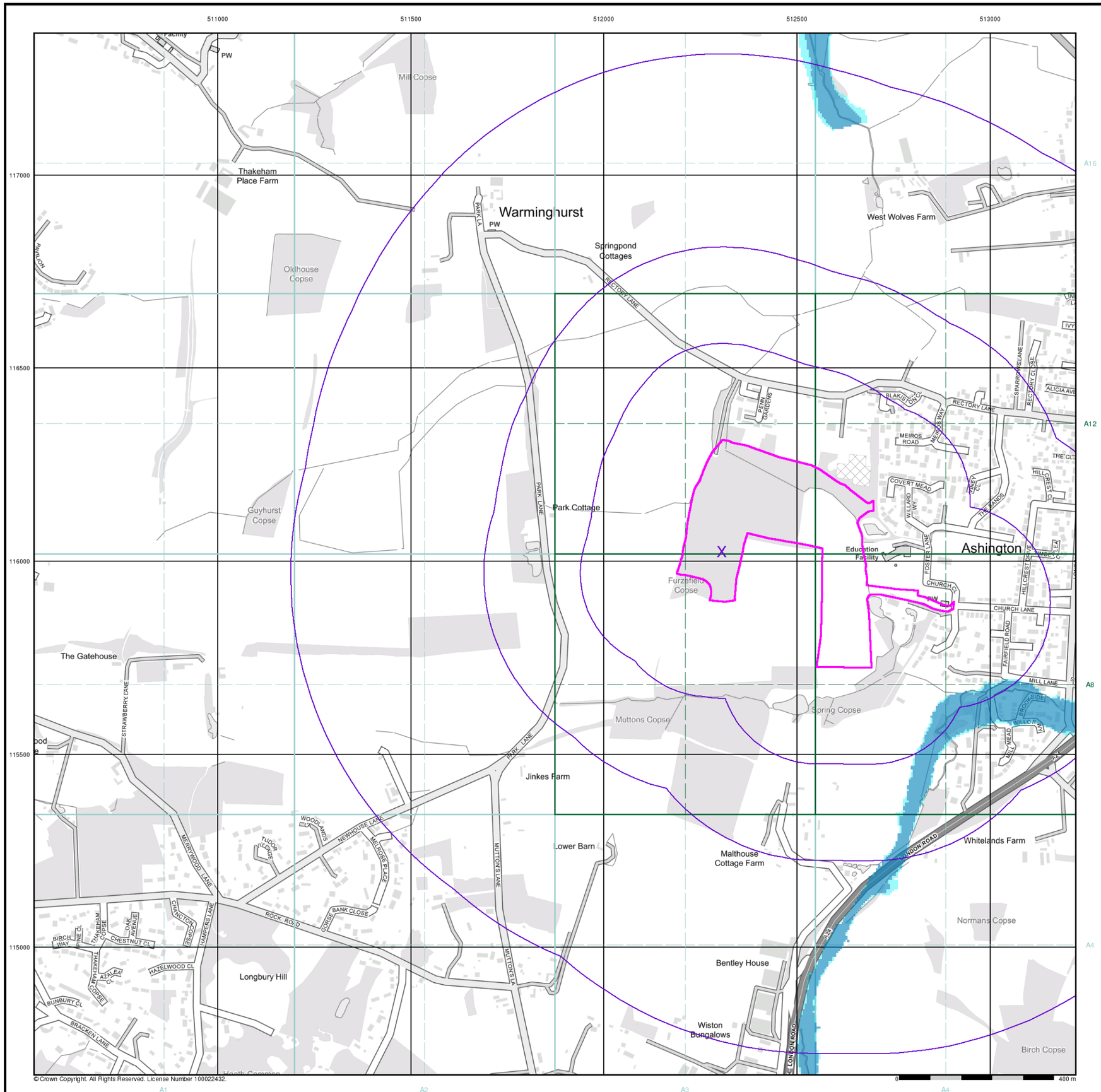
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
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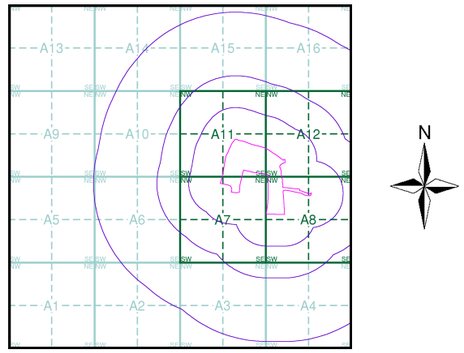
General

- Specified Site
- Specified Buffer(s)
- X 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

Flood Map - Slice A



Order Details

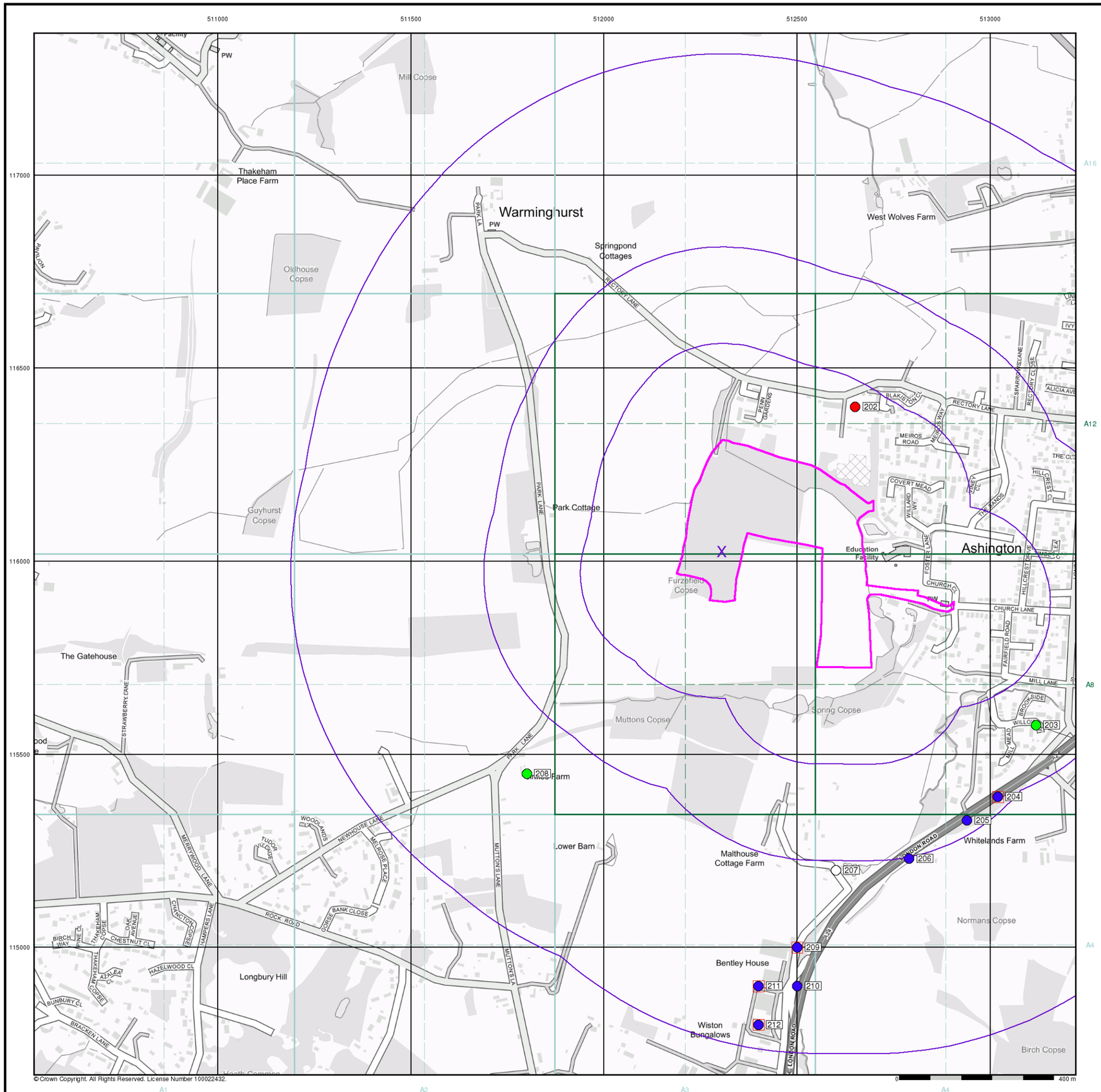
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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General

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

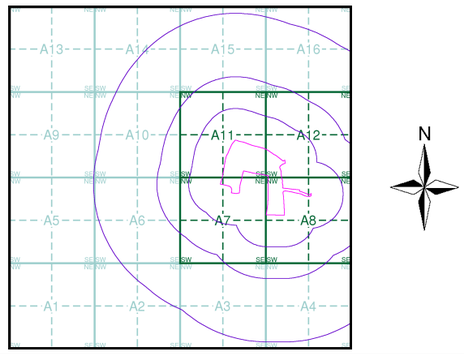
Agency and Hydrological (Boreholes)

- 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

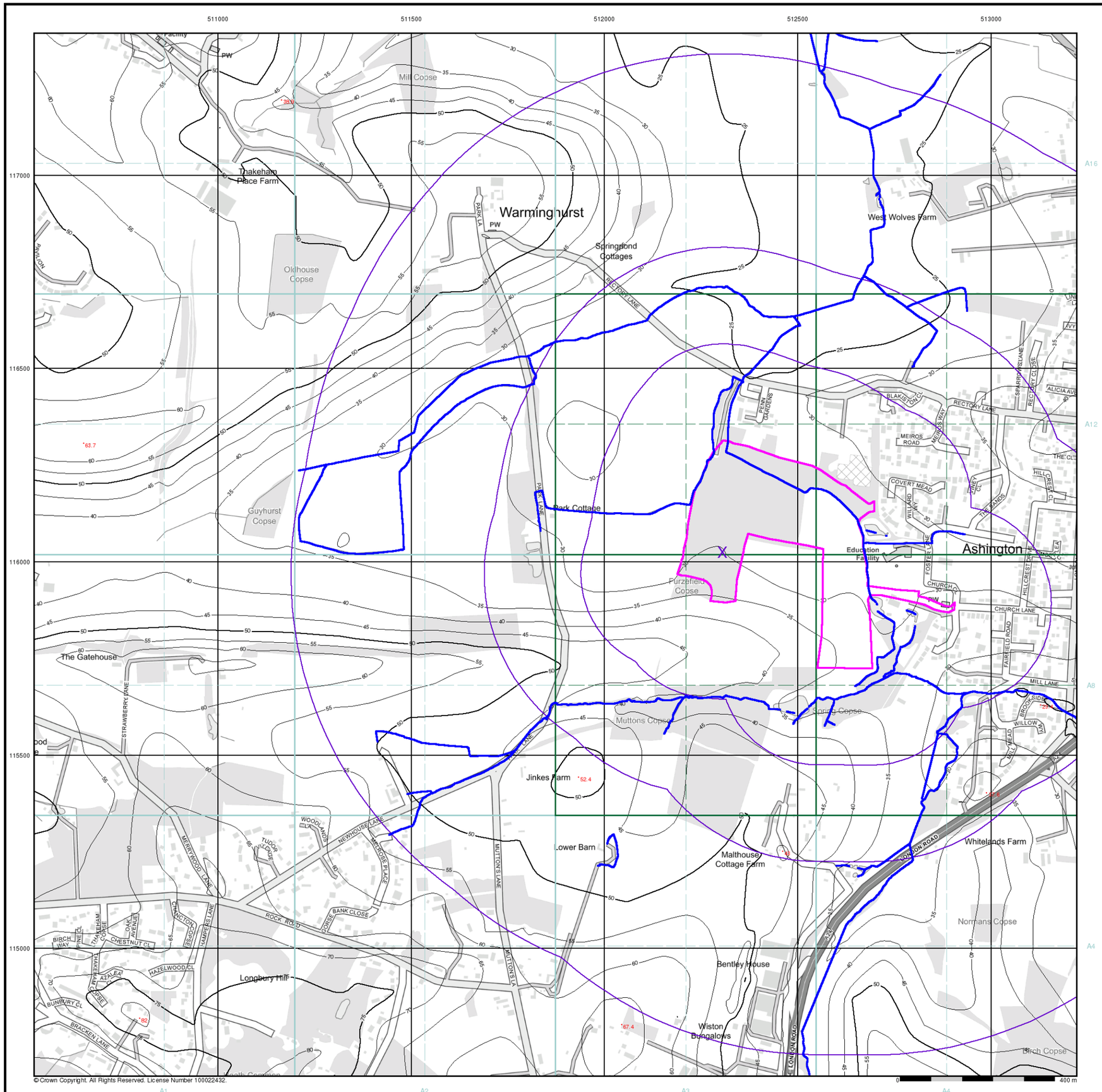
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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RSK

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)

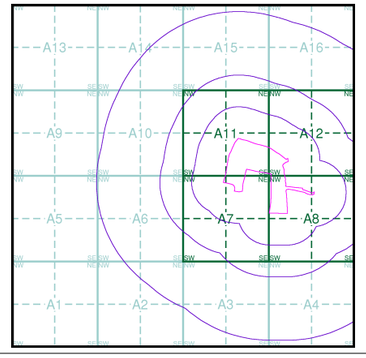
Standard Contour 105 100 95

Master Contour

Spot Height 167.3

- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



Order Details

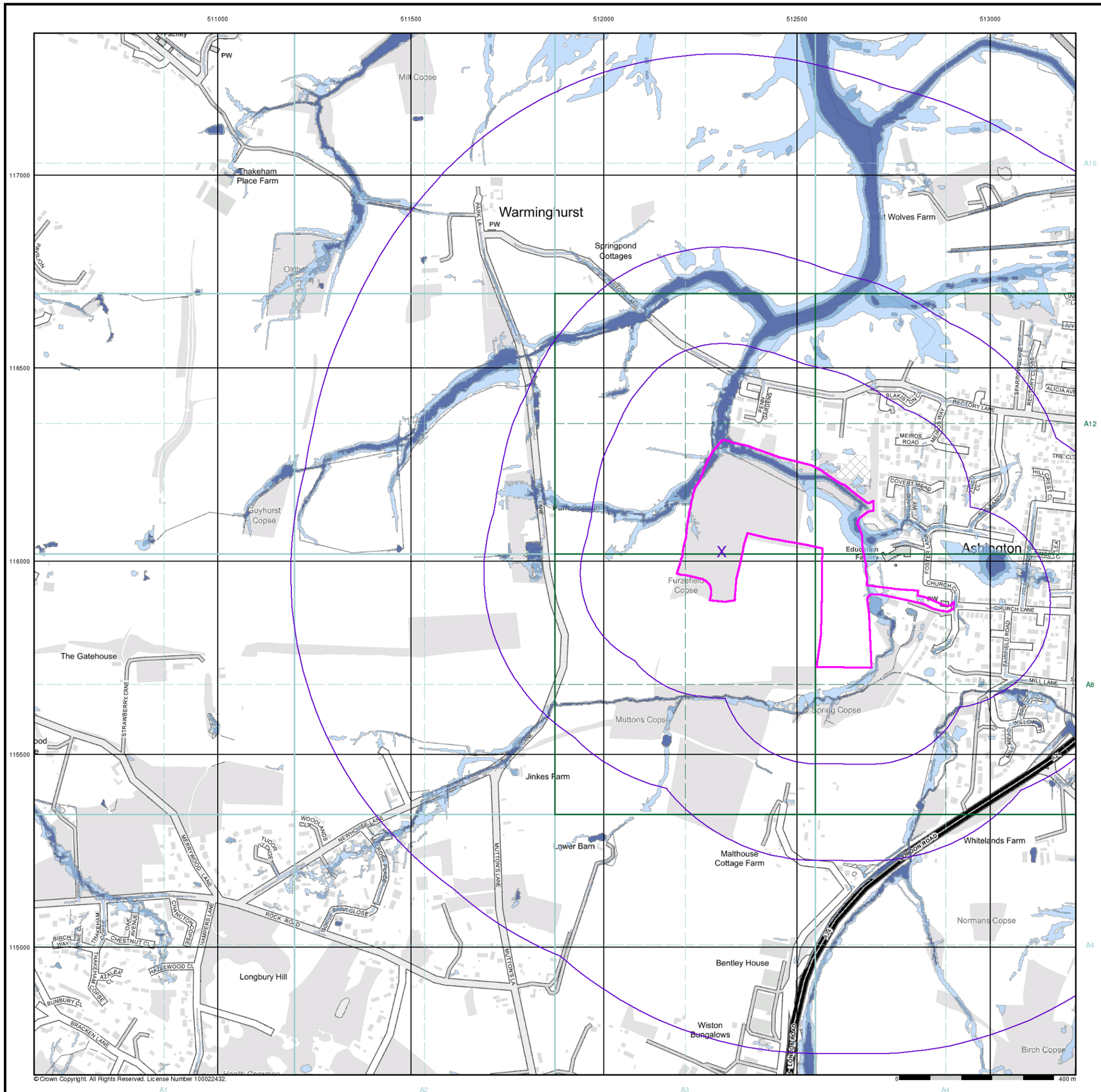
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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RSK

General

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

Risk of Flooding from Surface Water

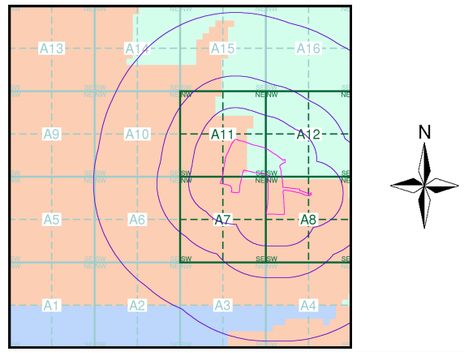
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

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

EA/NRW Suitability Map - Slice A



Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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511000 511500 512000 512500 513000

117000 116500 116000 115500 115000

A16 A12 A8 A4

Thakeham Place Farm
Mill Copse
Warminghurst
Springpond Cottages
West Wolves Farm
Oathouse Copse
Park Cottage
Guyhurst Copse
Furzefield Copse
Ashington
Two Gatehouses
Spring Copse
Jinkes Farm
Lower Barn
Malthouse Cottage Farm
Wilderands Farm
Hazmans Copse
Bentley House
Longbury Hill
Birch Copse

X

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0 400 m

A1 A2 A3 A4

RSK

General

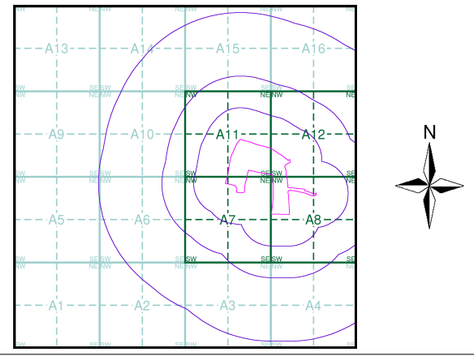
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg

- < 15
- 15 - 25
- 25 - 35
- 35 - 45
- 45 - 60
- 60 - 120
- > 120

Estimated Soil Chemistry Arsenic - Slice A



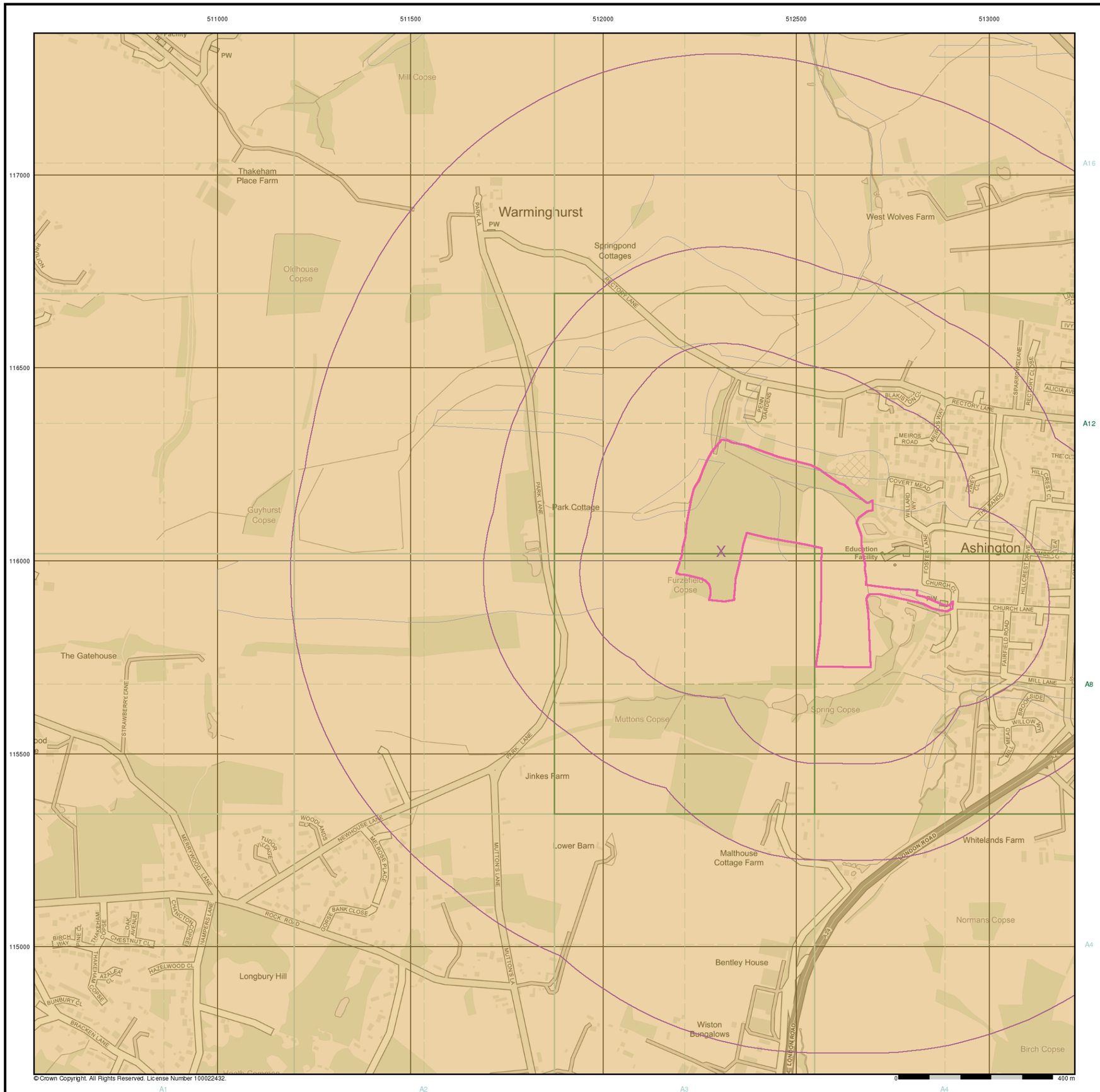
Order Details

Order Details:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

Landmark INFORMATION GROUP
Tel: 0844 844 9952
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Web: www.envirocheck.co.uk



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General

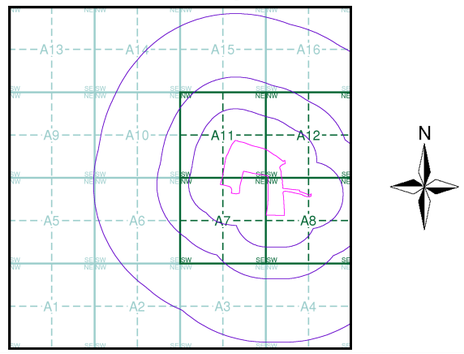
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg

- < 1.8
- 1.8 - 2.2
- 2.2 - 3.0
- > 3.0

Estimated Soil Chemistry Cadmium - Slice A



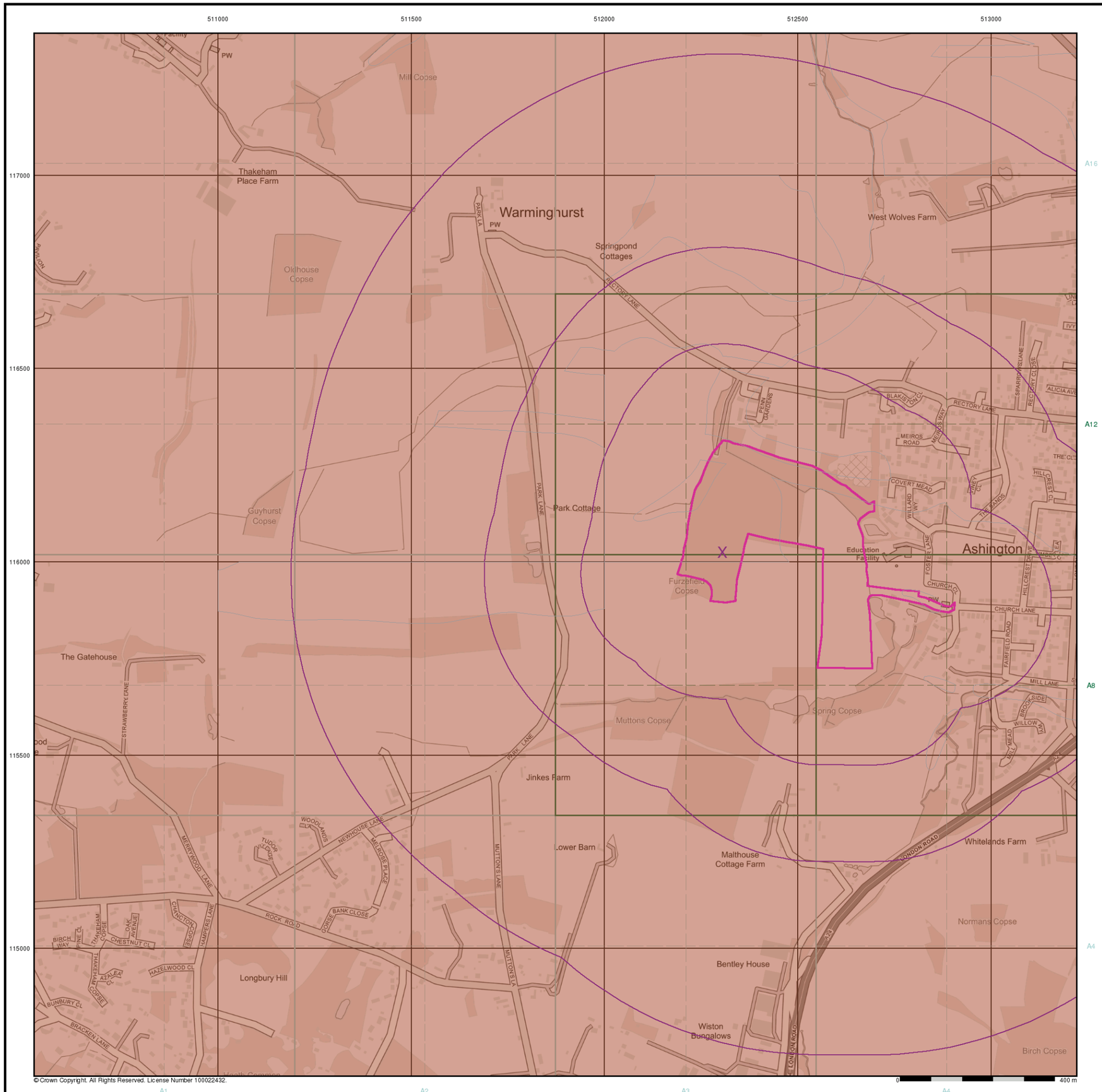
Order Details

Order Details:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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General

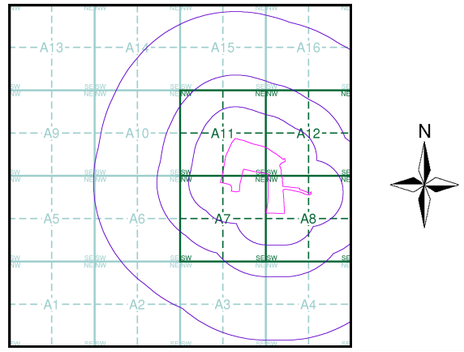
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg

- < 20
- 20 - 40
- 40 - 60
- 60 - 90
- 90 - 120
- 120 - 180
- > 180

Estimated Soil Chemistry Chromium - Slice A



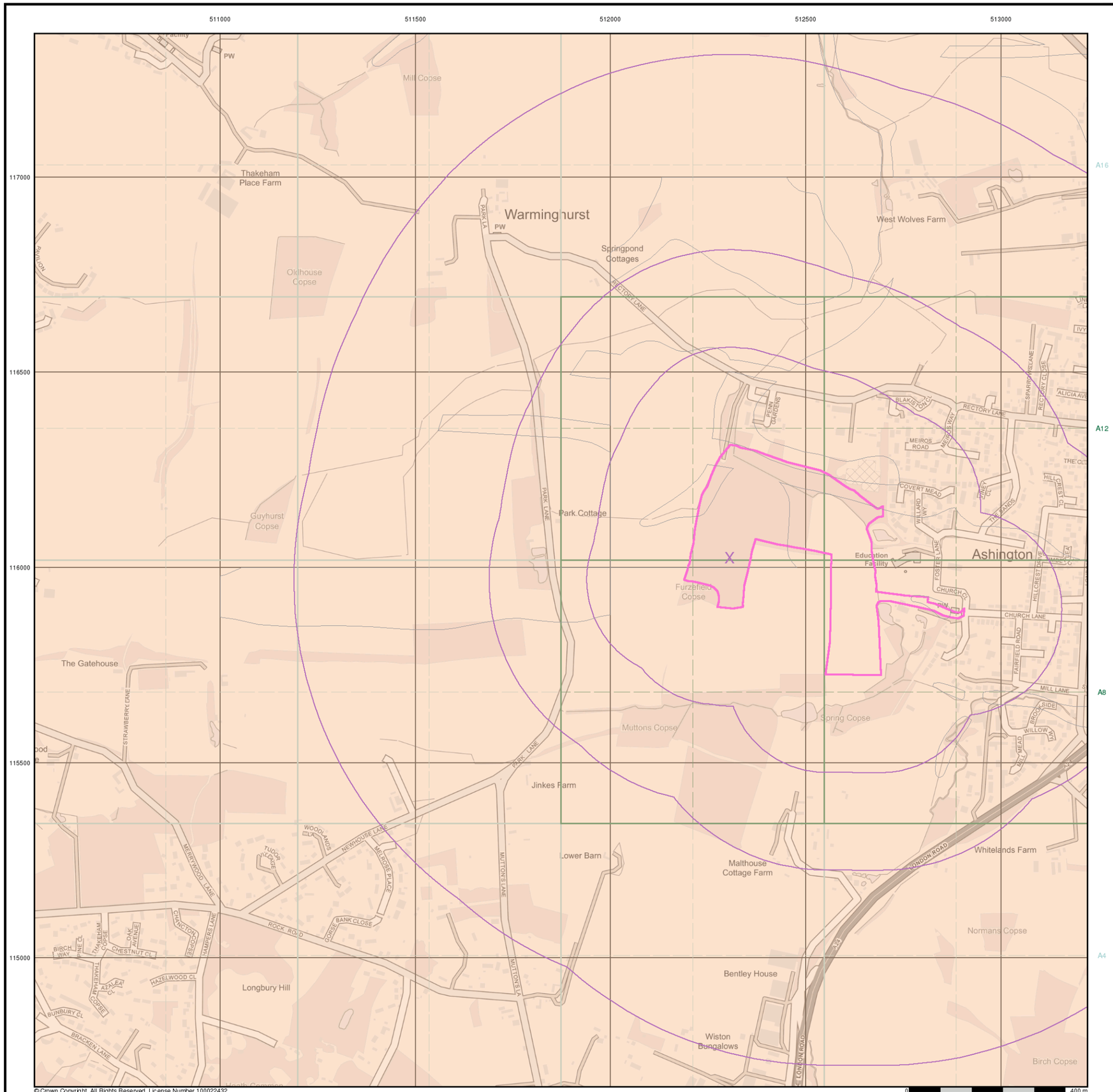
Order Details

Order Details:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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General

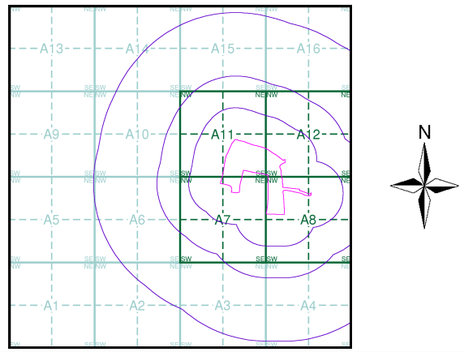
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg

- <100 mg/kg
- 100 - 200
- 200 - 300
- 300 - 600
- 600 - 1200
- >1200

Estimated Soil Chemistry Lead - Slice A



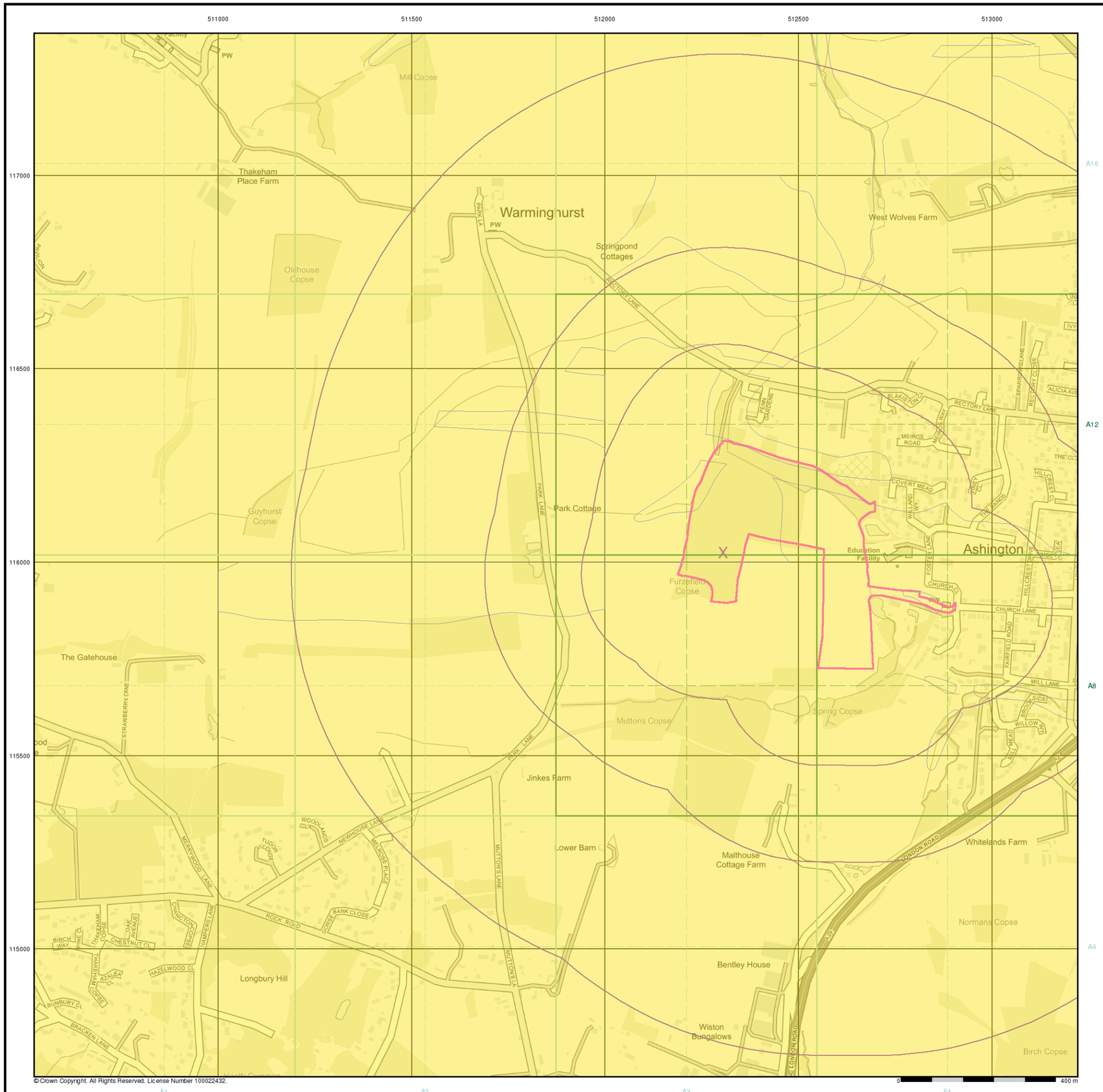
Order Details

Order Details:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
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RSK

General

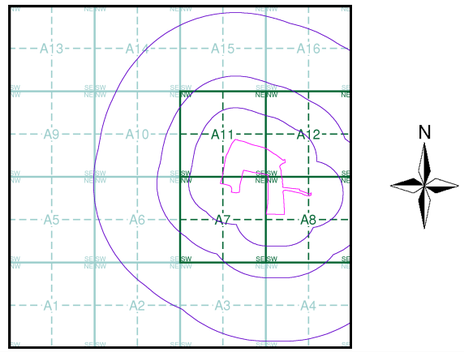
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg

- < 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 80
- 80 - 100
- > 100

Estimated Soil Chemistry Nickel - Slice A



Order Details

Order Details:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

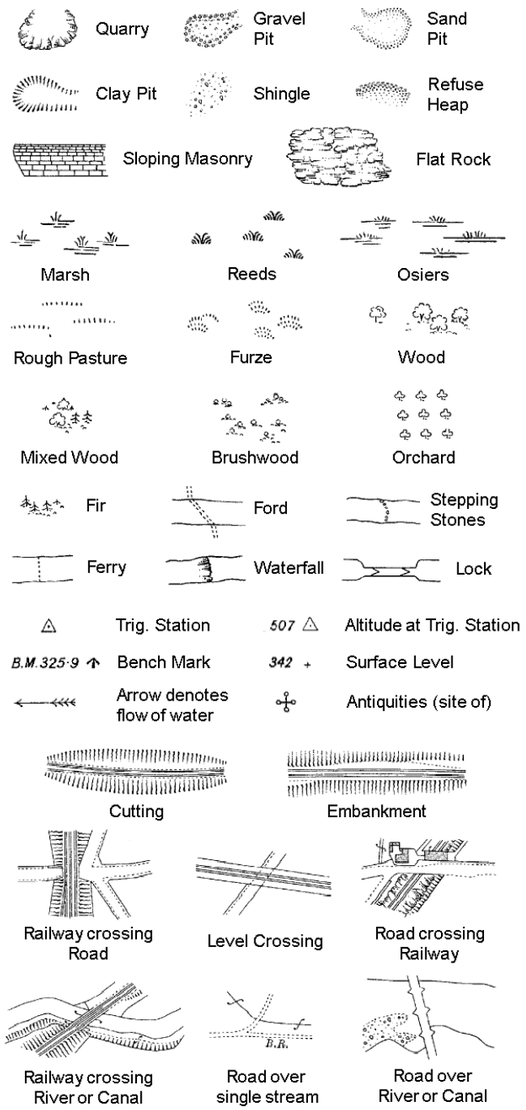
Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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Historical Mapping Legends

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



County Boundary (Geographical)

County & Civil Parish Boundary

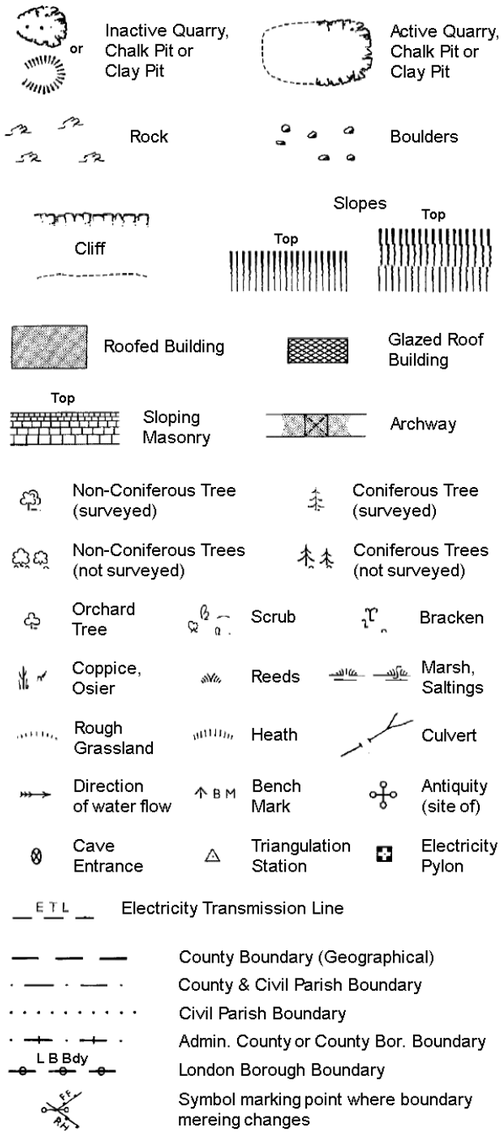
Administrative County & Civil Parish Boundary

Co. Boro. Bdy. County Borough Boundary (England)

Co. Burgh Bdy. County Burgh Boundary (Scotland)

B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

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



County Boundary (Geographical)

County & Civil Parish Boundary

Civil Parish Boundary

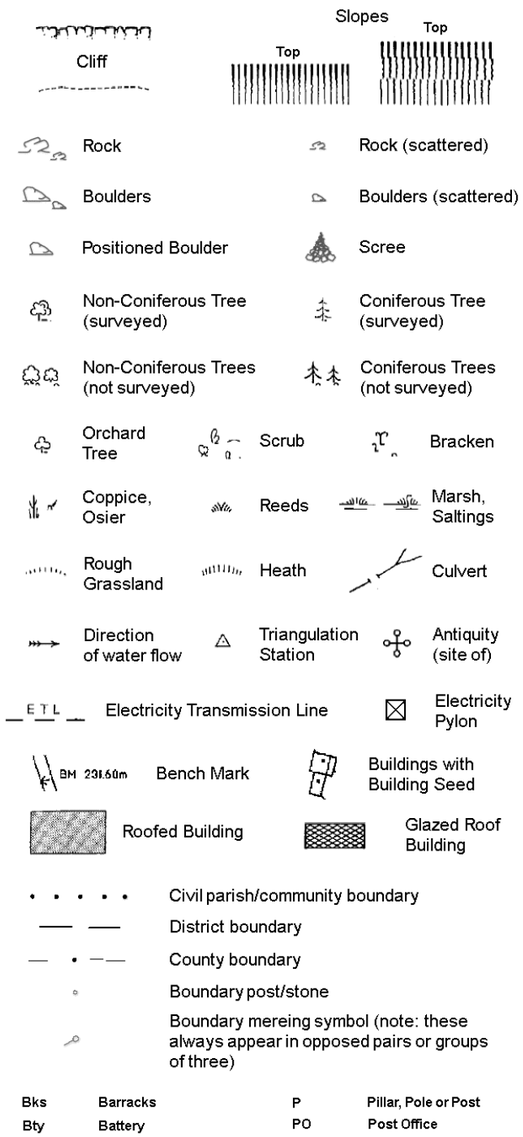
Admin. County or County Bor. Boundary

L B Bdy London Borough Boundary

Symbol marking point where boundary mereing changes

BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

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



Civil parish/community boundary

District boundary

County boundary

Boundary post/stone

Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

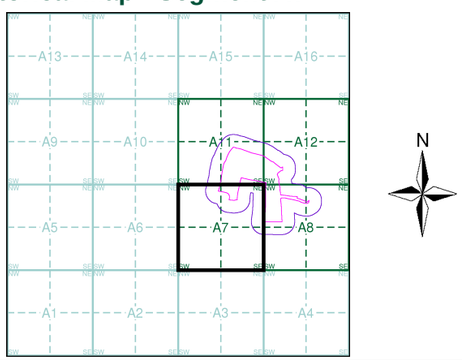
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Sussex	1:2,500	1875	2
Sussex	1:2,500	1897	3
Sussex	1:2,500	1911	4
Sussex	1:2,500	1937	5
Ordnance Survey Plan	1:2,500	1974	6
Additional SIMs	1:2,500	1985	7
Large-Scale National Grid Data	1:2,500	1993	8
Historical Aerial Photography	1:2,500	1999	9

Historical Map - Segment A7



Order Details

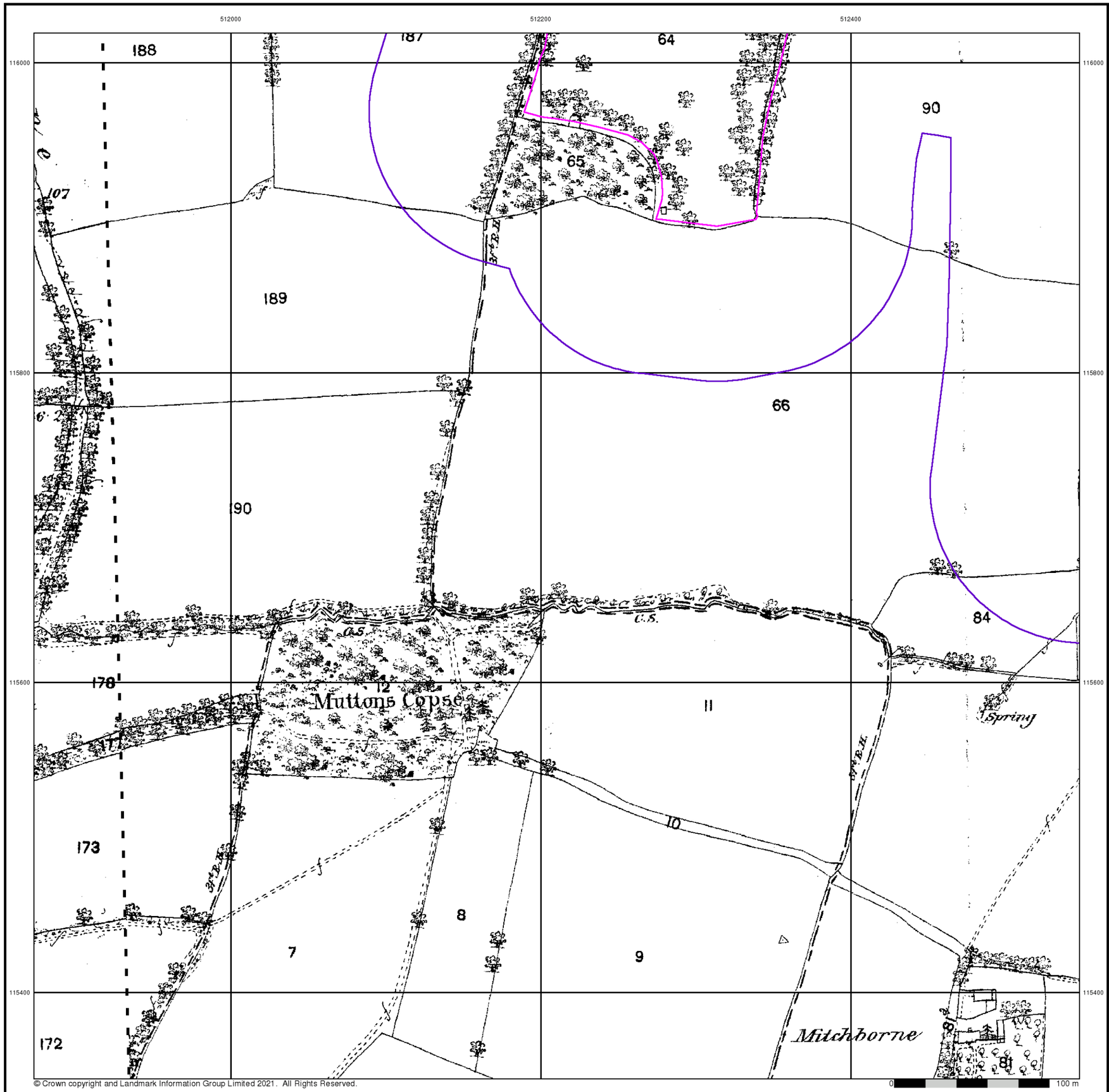
Order Number: 287518451_1_1
Customer Ref: 52368
National Grid Reference: 512310, 116030
Slice: A
Site Area (Ha): 15.35
Search Buffer (m): 100

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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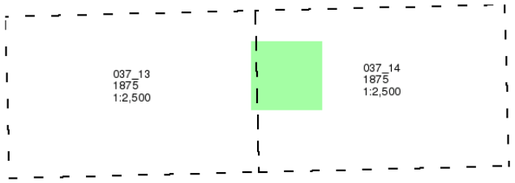
Sussex

Published 1875

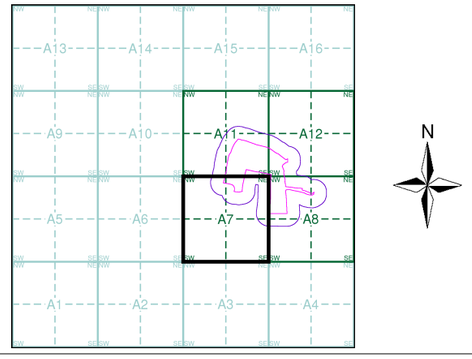
Source map scale - 1:2,500

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 A7



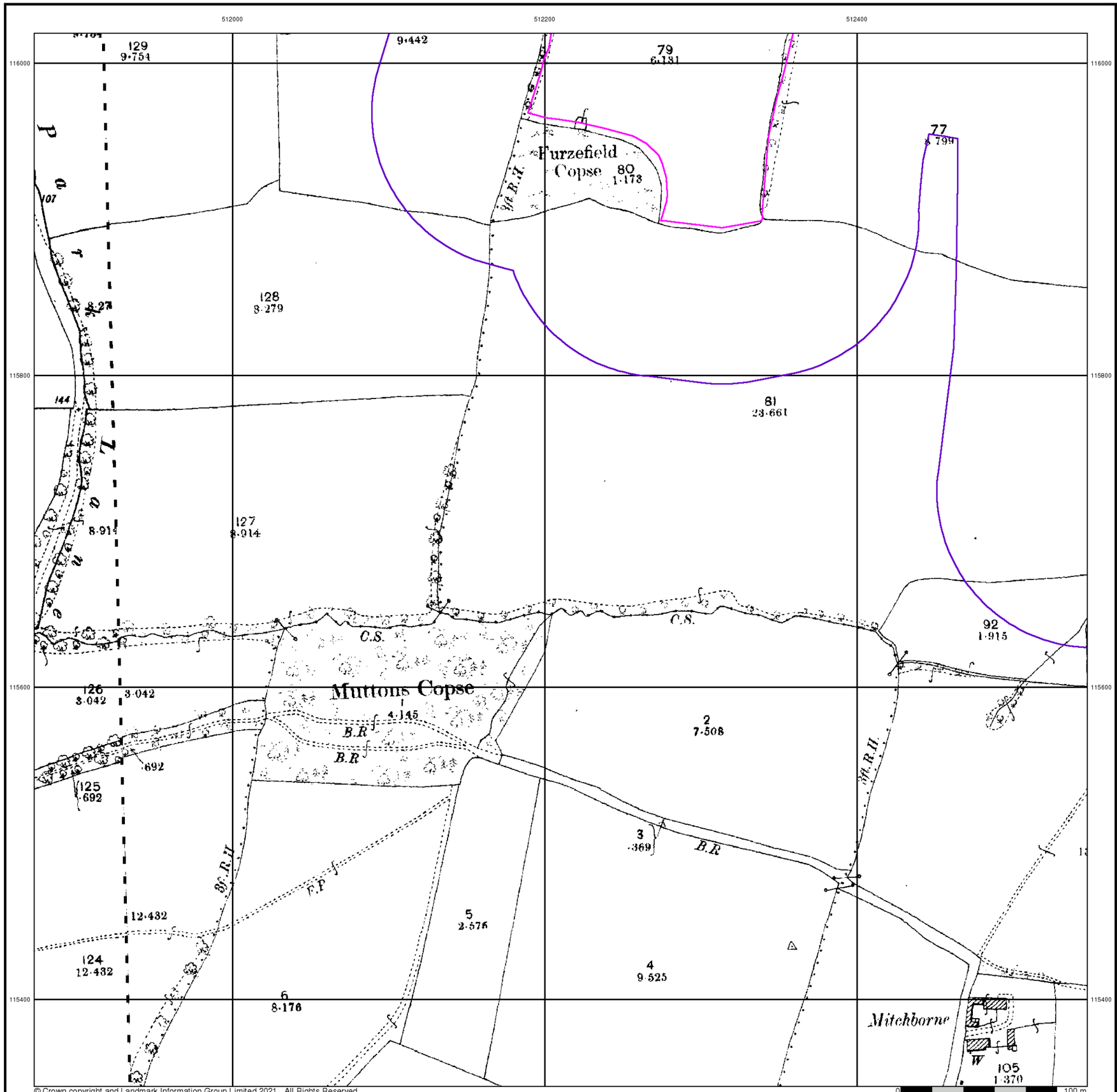
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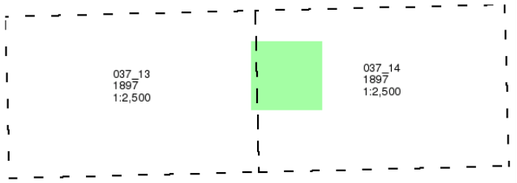
Sussex

Published 1897

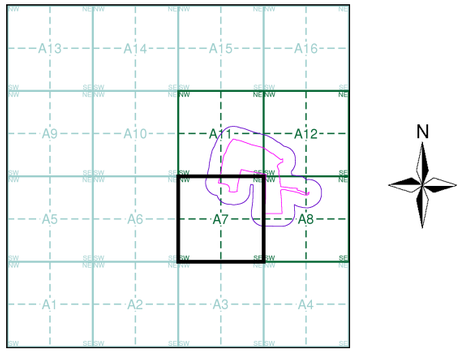
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A7



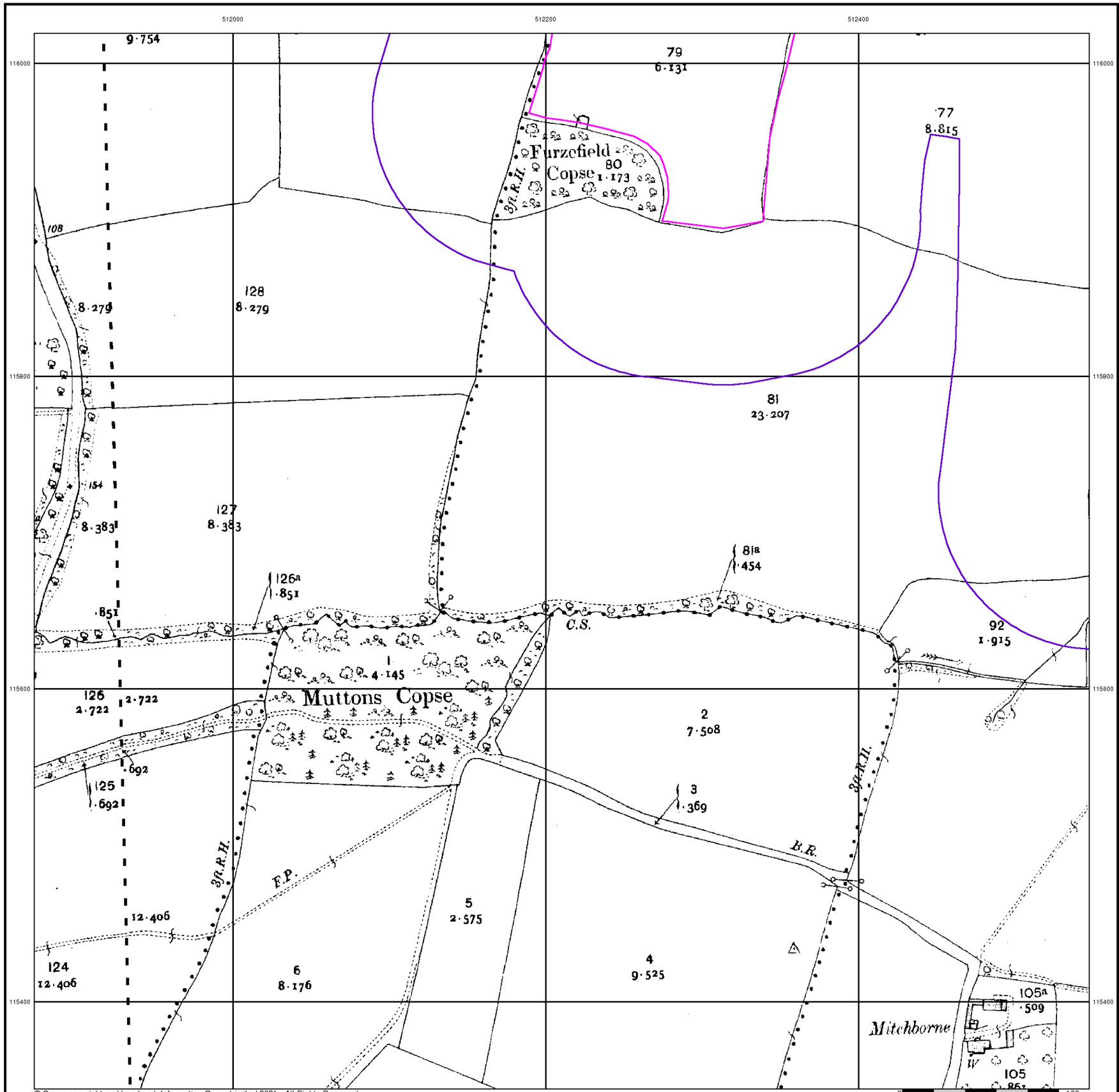
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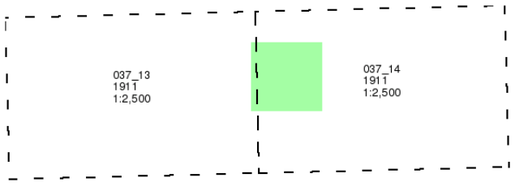
Sussex

Published 1911

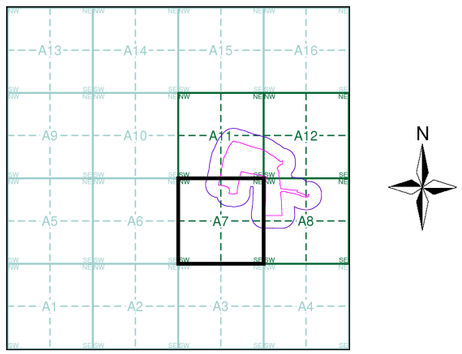
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A7



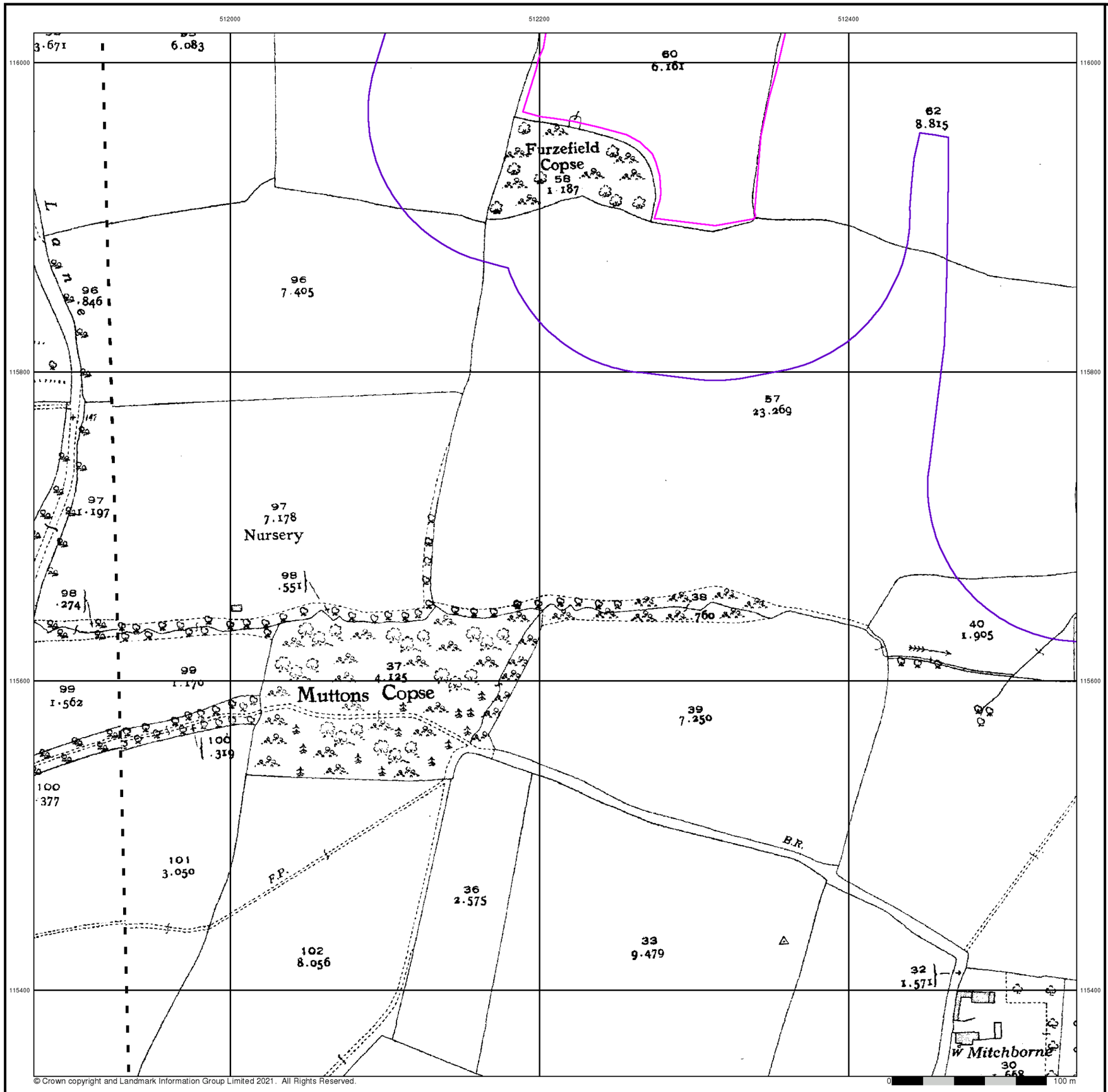
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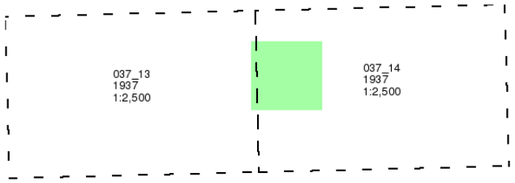
Sussex

Published 1937

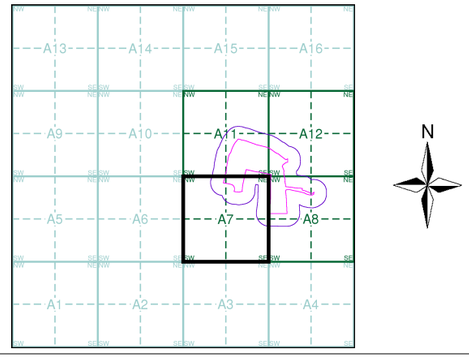
Source map scale - 1:2,500

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Historical Map - Segment A7



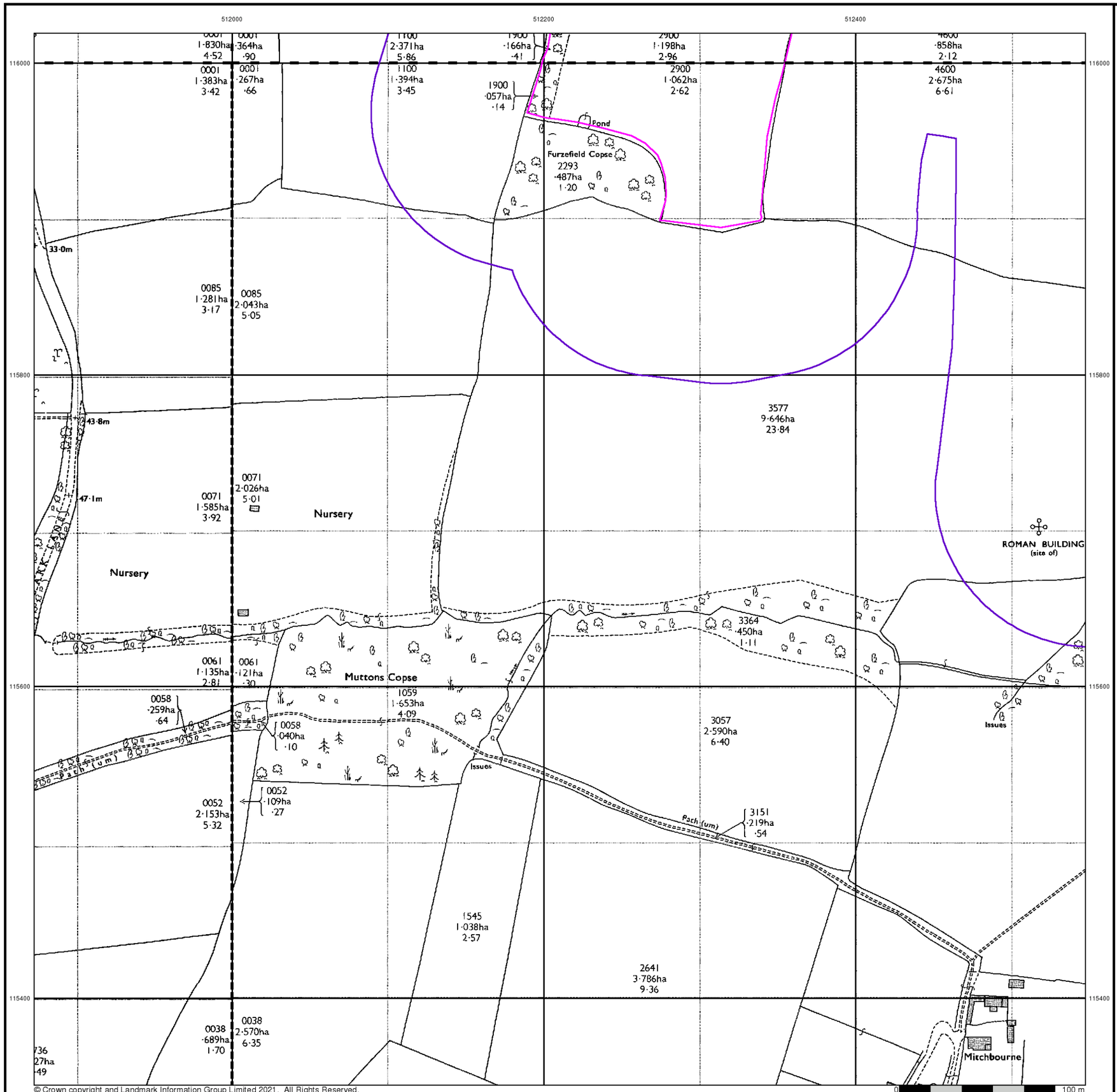
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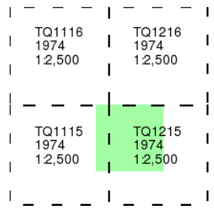
Ordnance Survey Plan

Published 1974

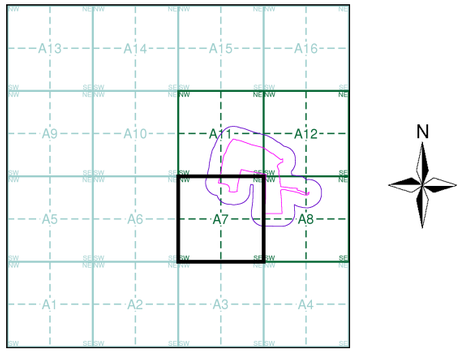
Source map scale - 1:2,500

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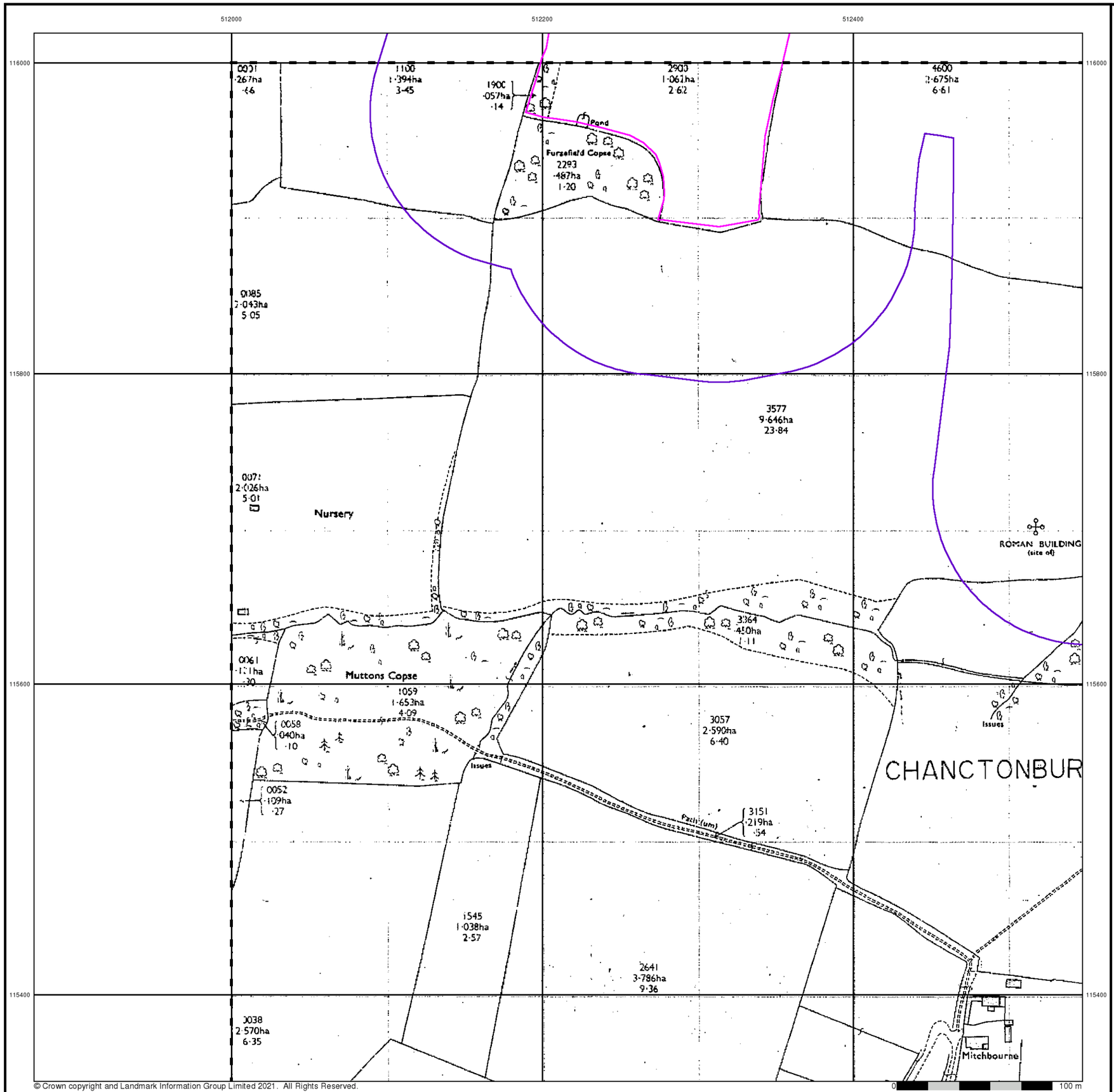
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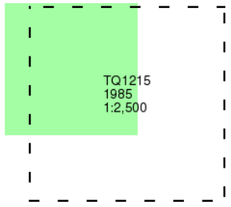
Additional SIMs

Published 1985

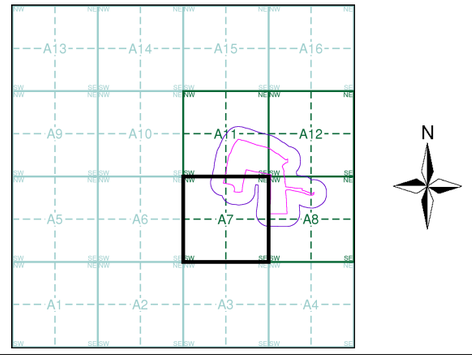
Source map scale - 1:2,500

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)



Historical Map - Segment A7



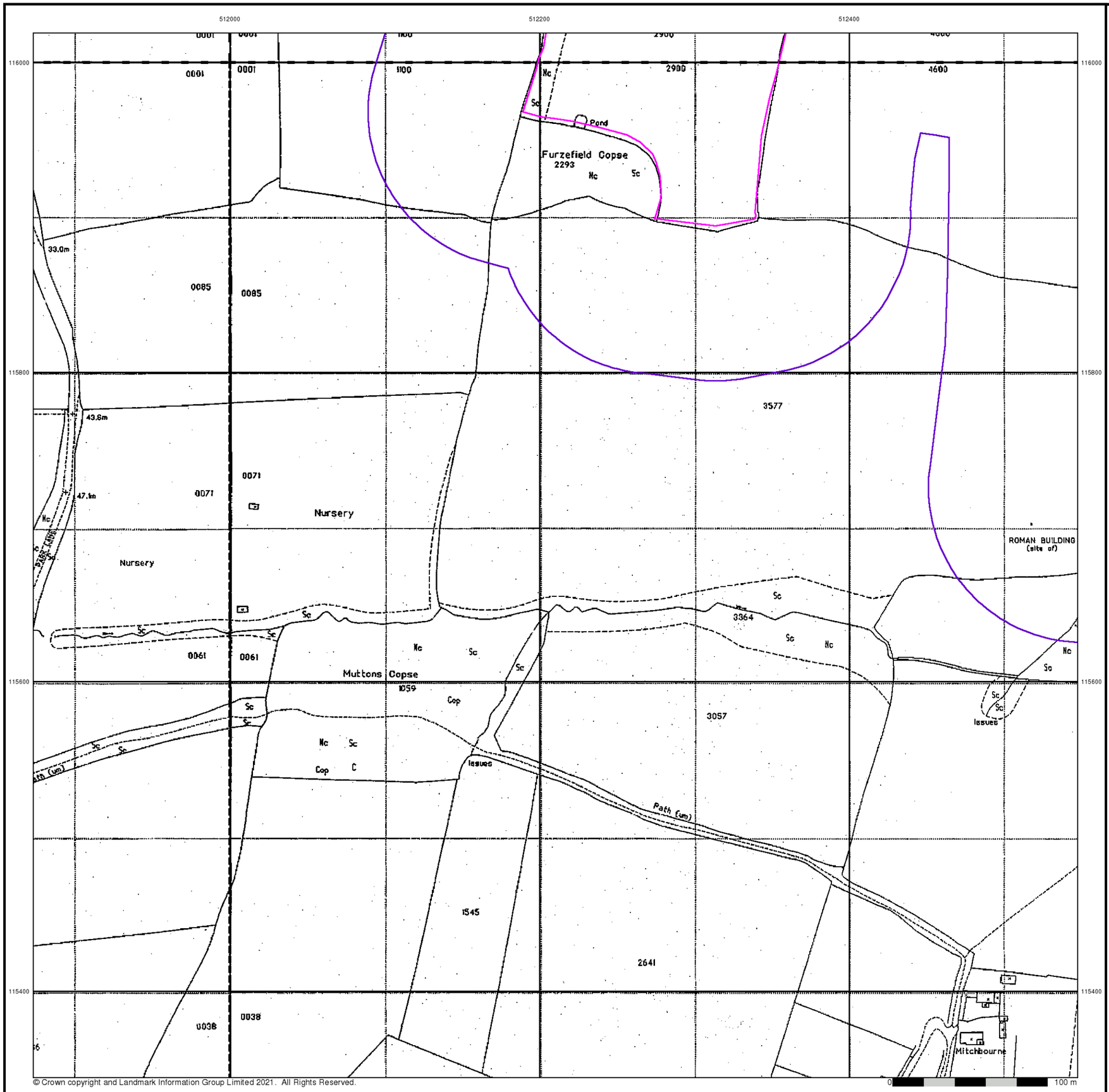
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	100

Site Details

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Large-Scale National Grid Data

Published 1993

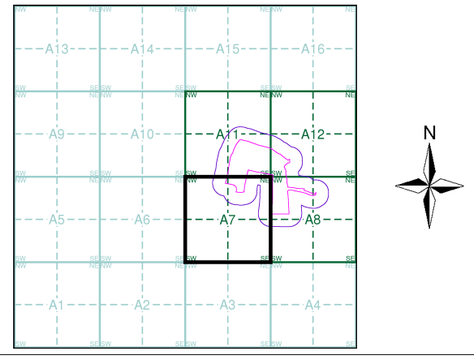
Source map scale - 1:2,500

'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)

TQ1116 1993 1:2,500	TQ1216 1993 1:2,500
TQ1115 1993 1:2,500	TQ1215 1993 1:2,500

Historical Map - Segment A7



Order Details

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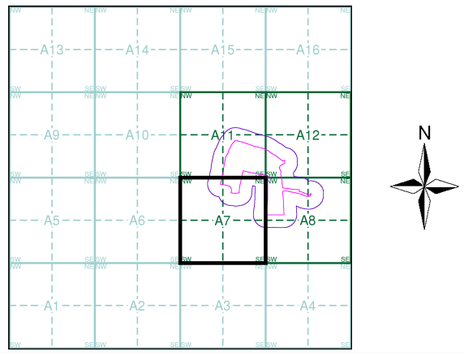
RSK

Historical Aerial Photography

Published 1999

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 A7



Order Details

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National Grid Reference:	512310, 116030
Slice:	A
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Site Details

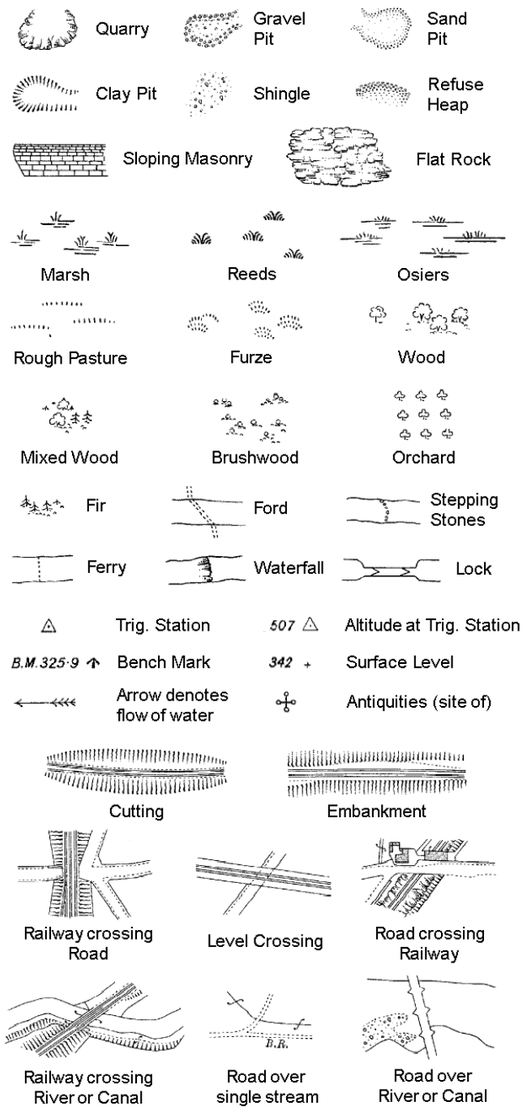
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Historical Mapping Legends

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



County Boundary (Geographical)

County & Civil Parish Boundary

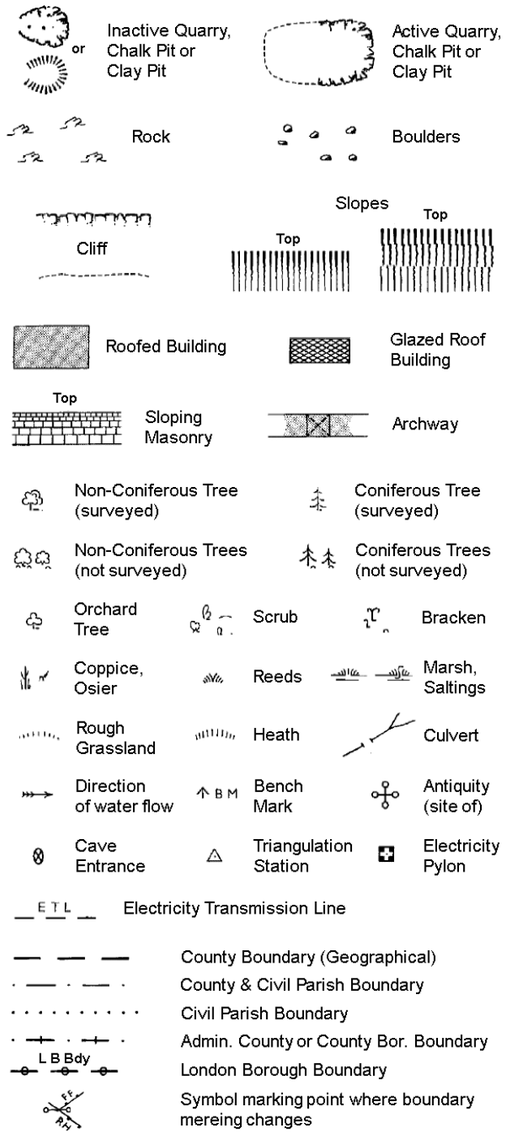
Administrative County & Civil Parish Boundary

Co. Boro. Bdy. County Borough Boundary (England)

Co. Burgh Bdy. County Burgh Boundary (Scotland)

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E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
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Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



County Boundary (Geographical)

County & Civil Parish Boundary

Civil Parish Boundary

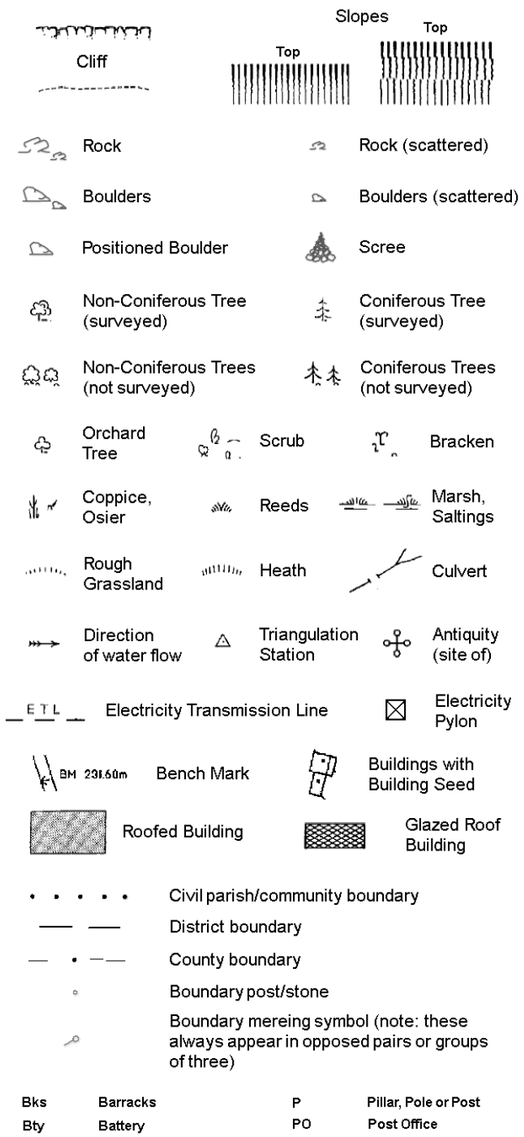
Admin. County or County Bor. Boundary

L B Bdy London Borough Boundary

Symbol marking point where boundary mereing changes

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BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
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MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

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



Civil parish/community boundary

District boundary

County boundary

Boundary post/stone

Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

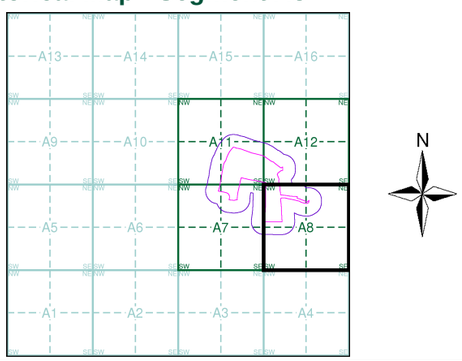
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

RSK

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Sussex	1:2,500	1875	2
Sussex	1:2,500	1897	3
Sussex	1:2,500	1911	4
Sussex	1:2,500	1937	5
Ordnance Survey Plan	1:2,500	1974	6
Additional SIMs	1:2,500	1985 - 1992	7
Large-Scale National Grid Data	1:2,500	1993	8
Large-Scale National Grid Data	1:2,500	1995	9
Historical Aerial Photography	1:2,500	1999	10

Historical Map - Segment A8



Order Details

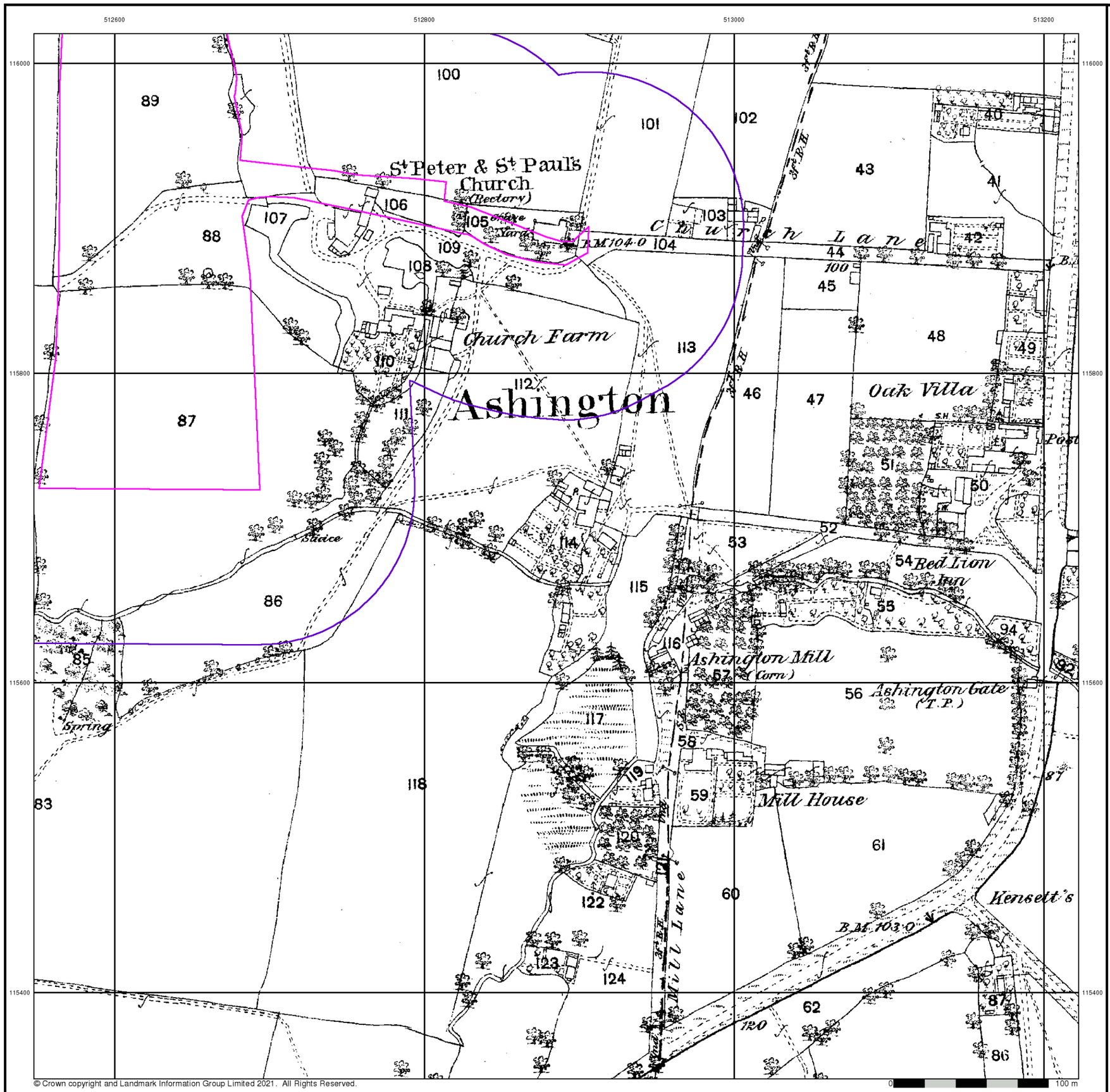
Order Number: 287518451_1_1
Customer Ref: 52368
National Grid Reference: 512310, 116030
Slice: A
Site Area (Ha): 15.35
Search Buffer (m): 100

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

Landmark INFORMATION GROUP

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



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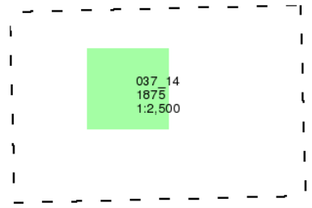
Sussex

Published 1875

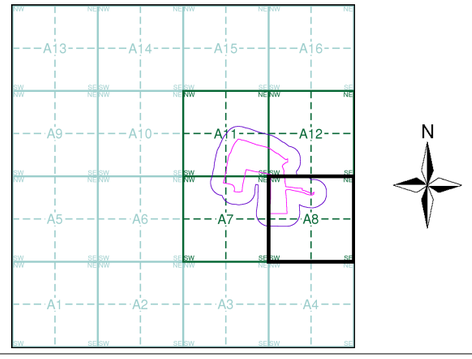
Source map scale - 1:2,500

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 A8



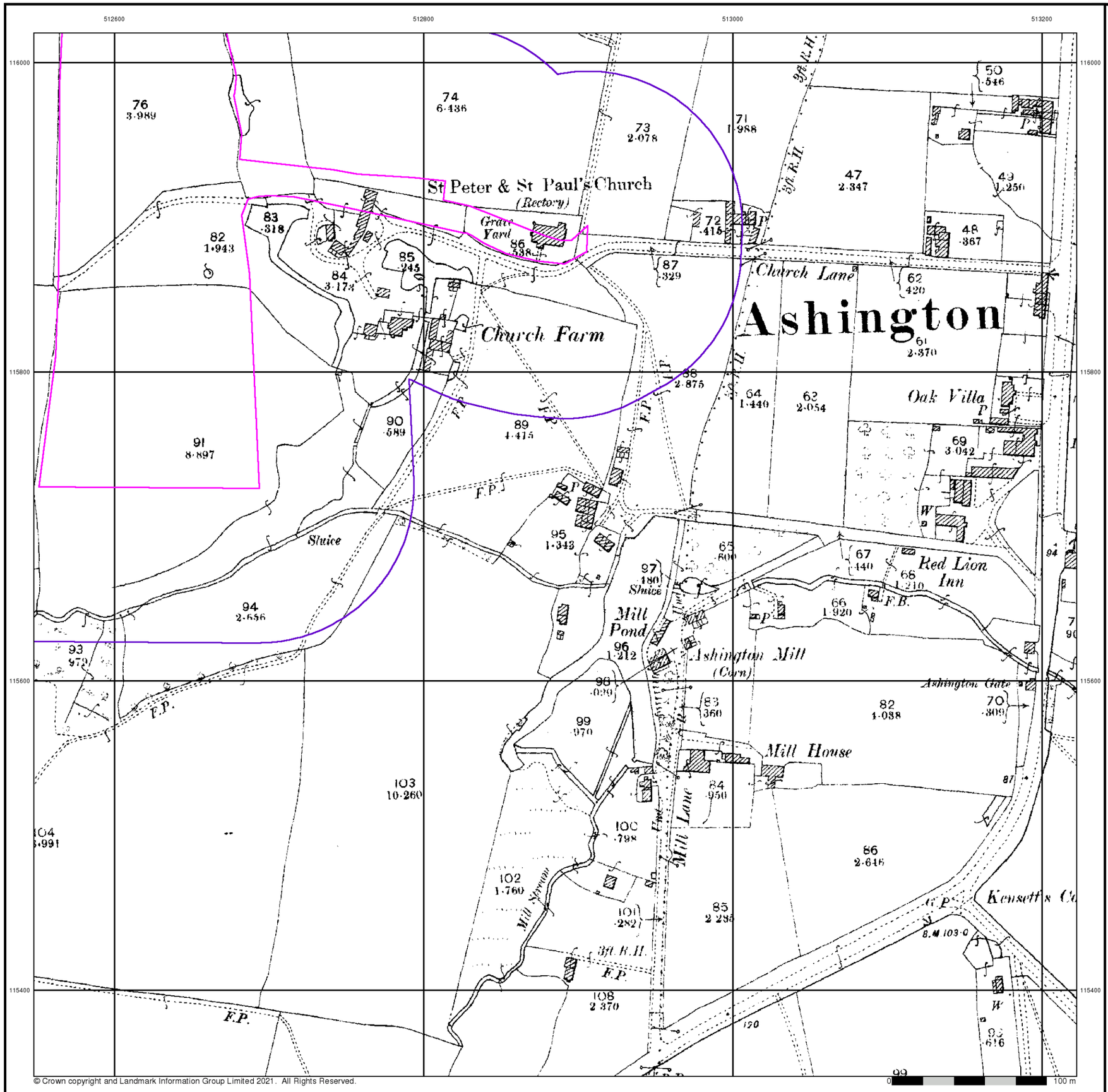
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
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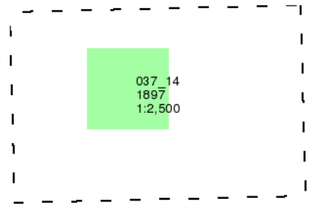
Sussex

Published 1897

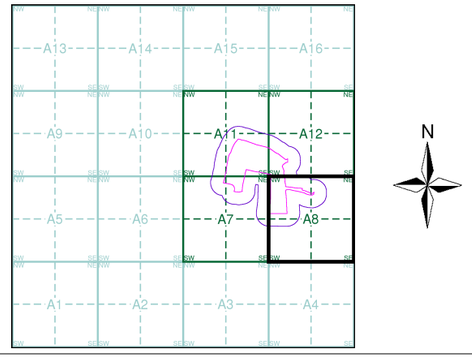
Source map scale - 1:2,500

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 A8



Order Details

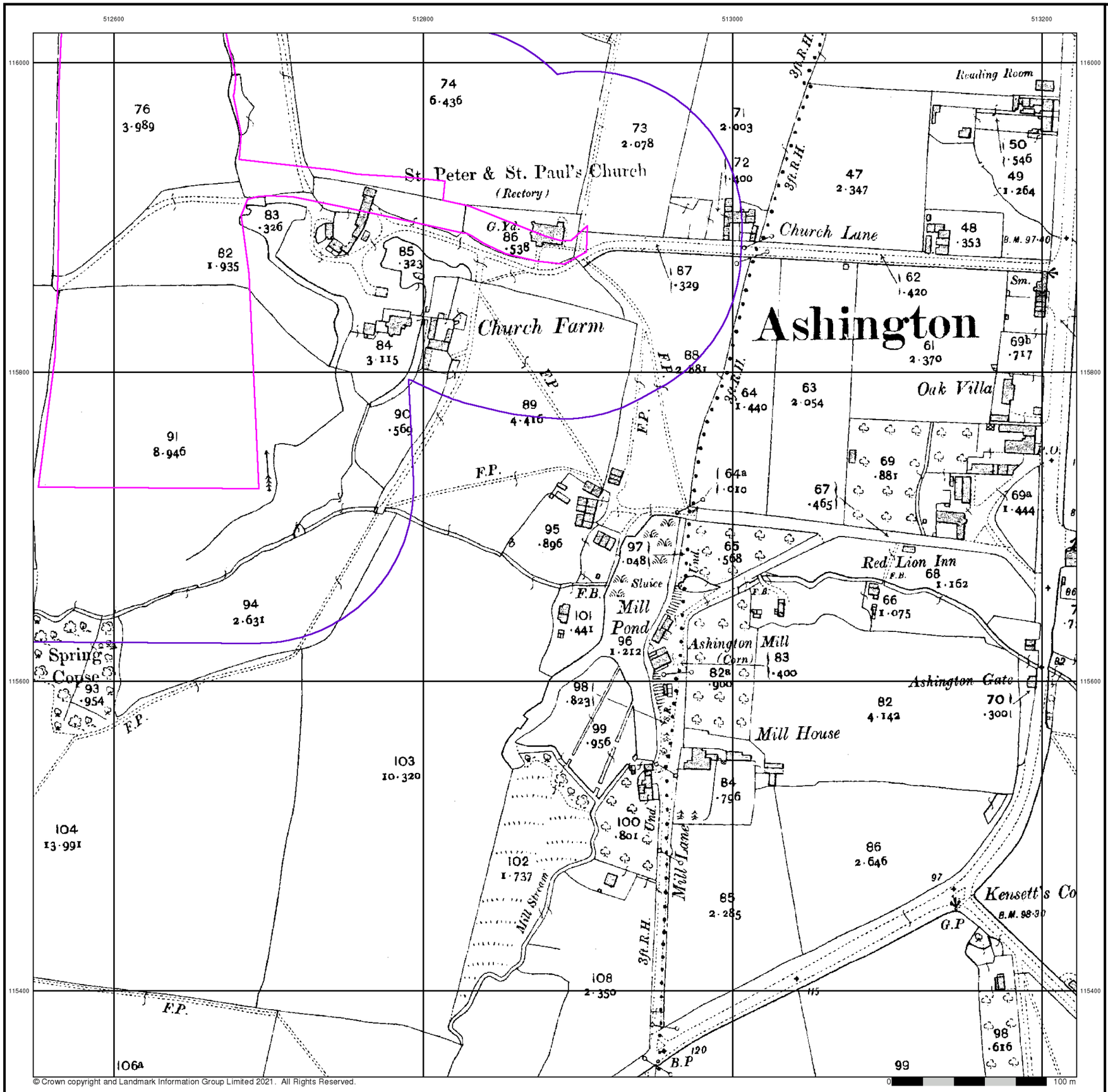
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	100

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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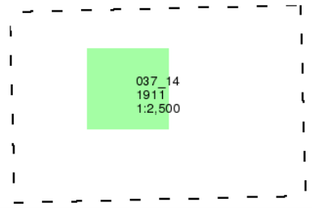
Sussex

Published 1911

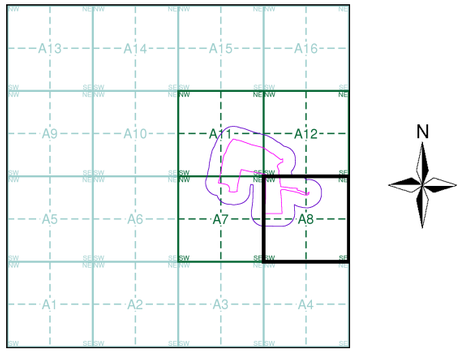
Source map scale - 1:2,500

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 A8



Order Details

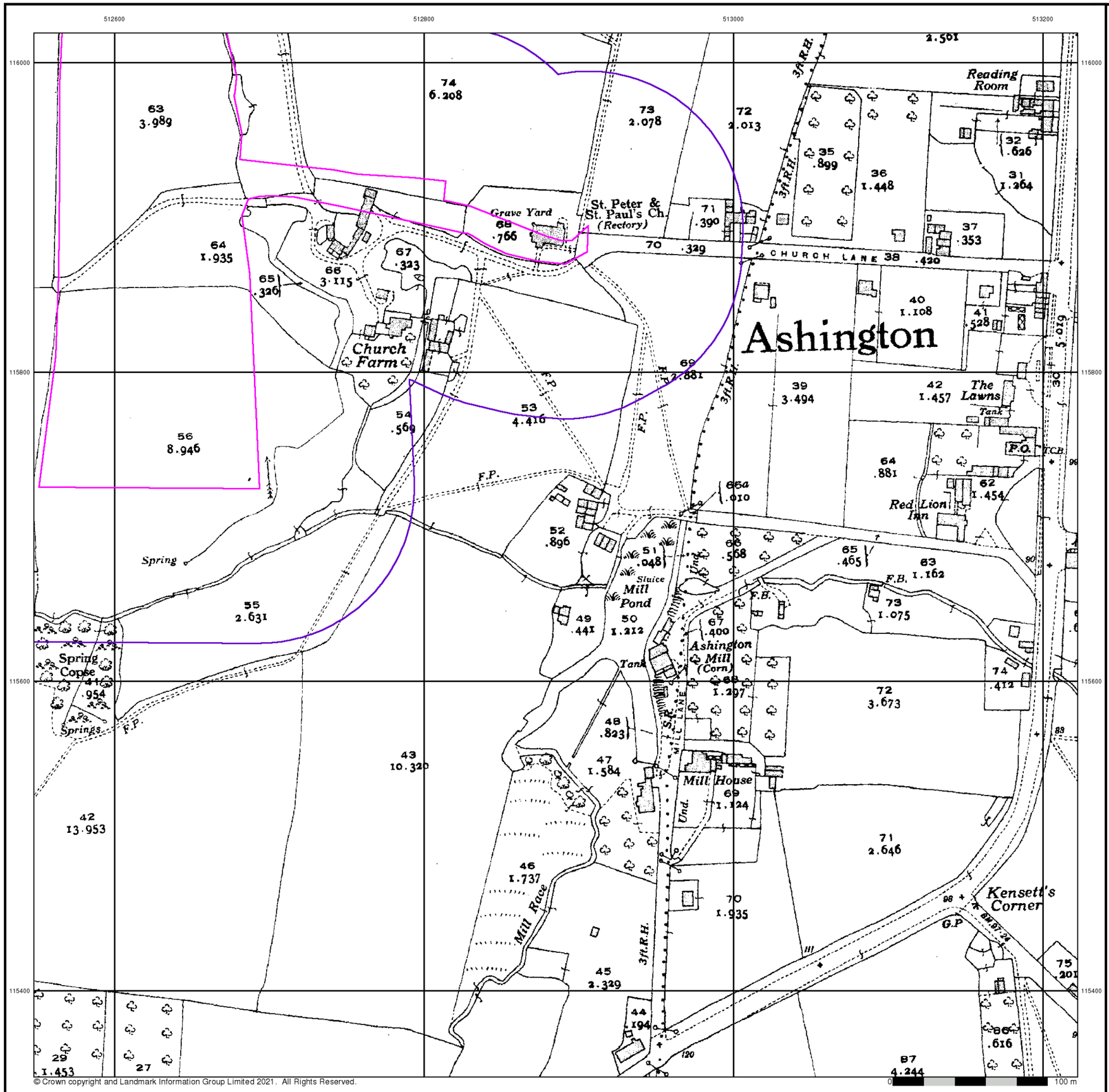
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	100

Site Details

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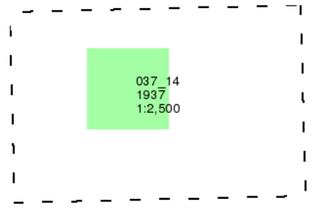
Sussex

Published 1937

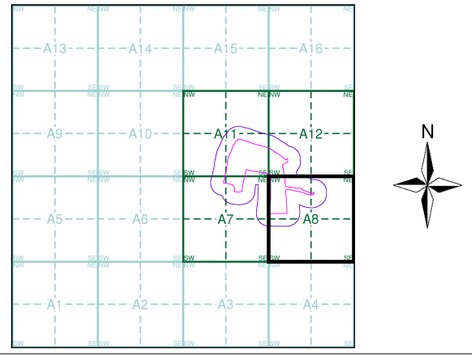
Source map scale - 1:2,500

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 A8



Order Details

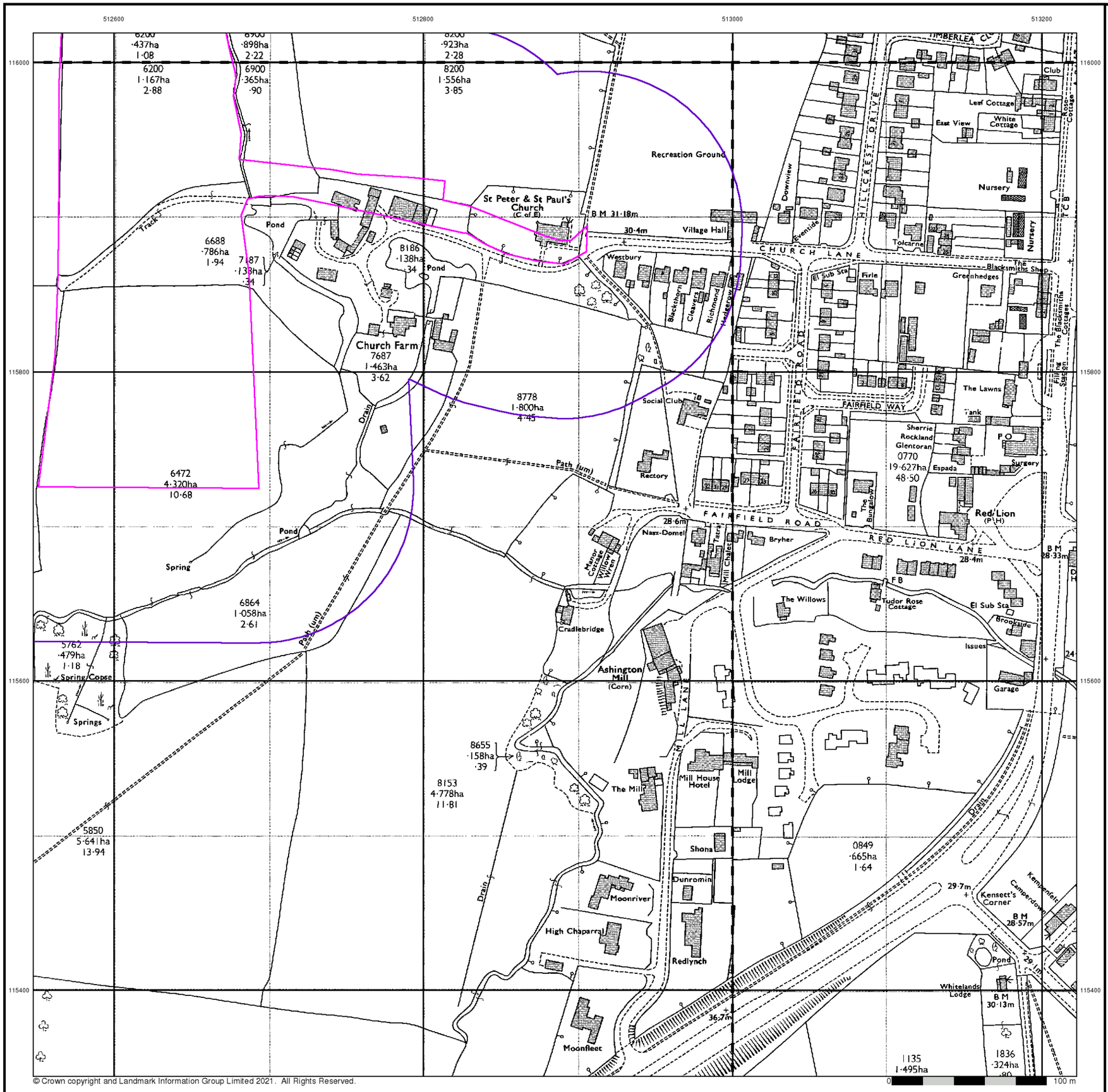
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
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Site Details

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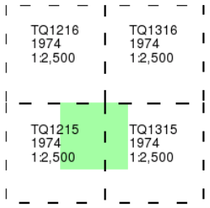
Ordnance Survey Plan

Published 1974

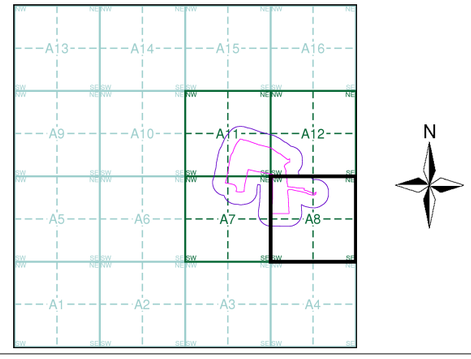
Source map scale - 1:2,500

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 A8



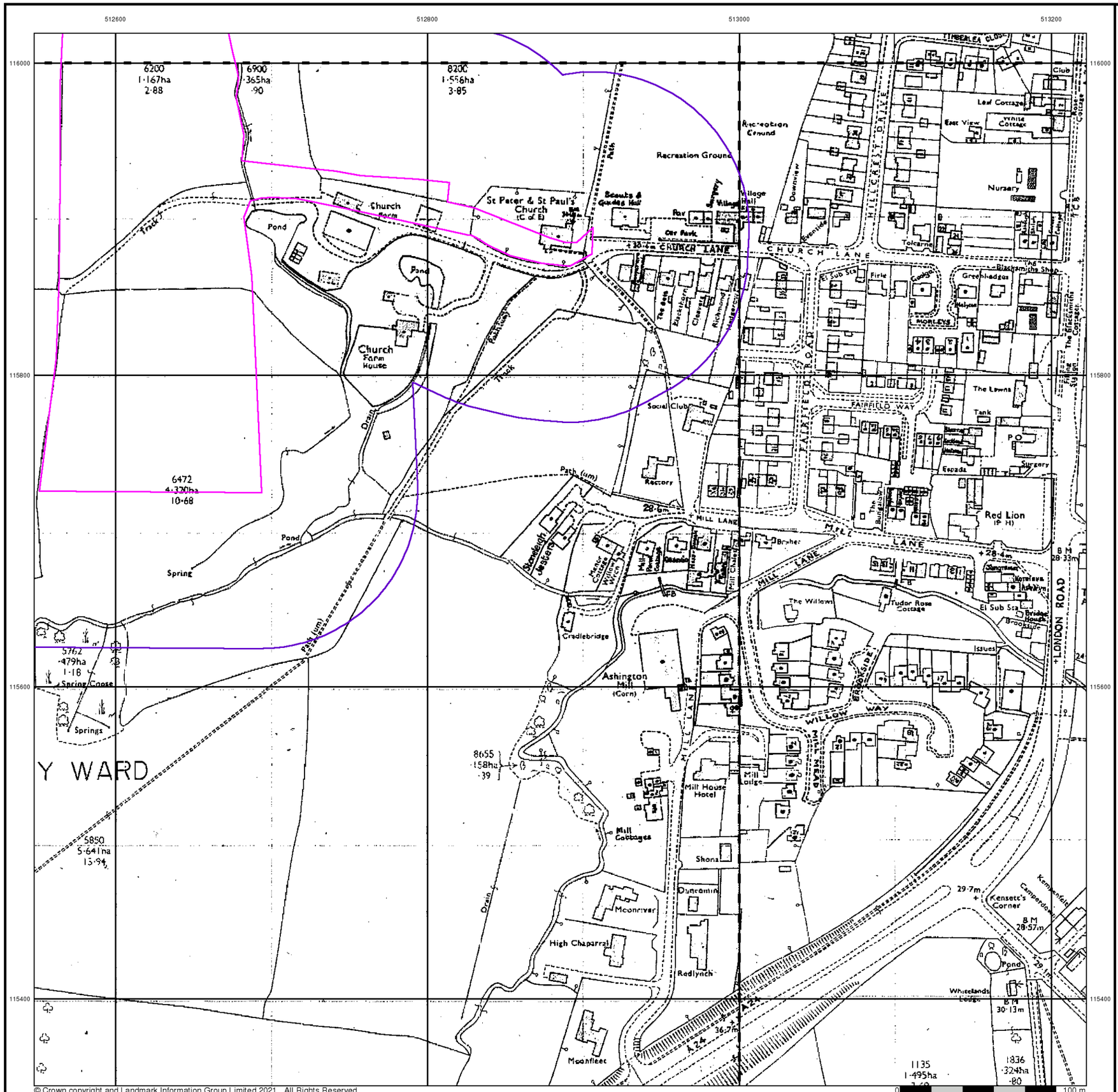
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
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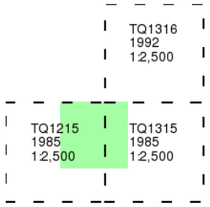
Additional SIMs

Published 1985 - 1992

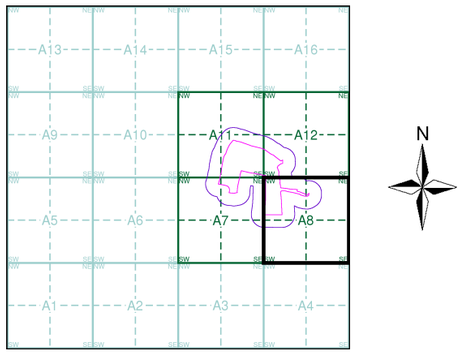
Source map scale - 1:2,500

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)



Historical Map - Segment A8



Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
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Large-Scale National Grid Data

Published 1993

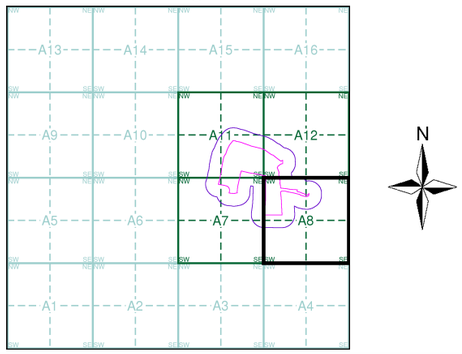
Source map scale - 1:2,500

'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)

TQ1216 1993 1:2,500	TQ1316 1993 1:2,500
TQ1215 1993 1:2,500	TQ1315 1993 1:2,500

Historical Map - Segment A8



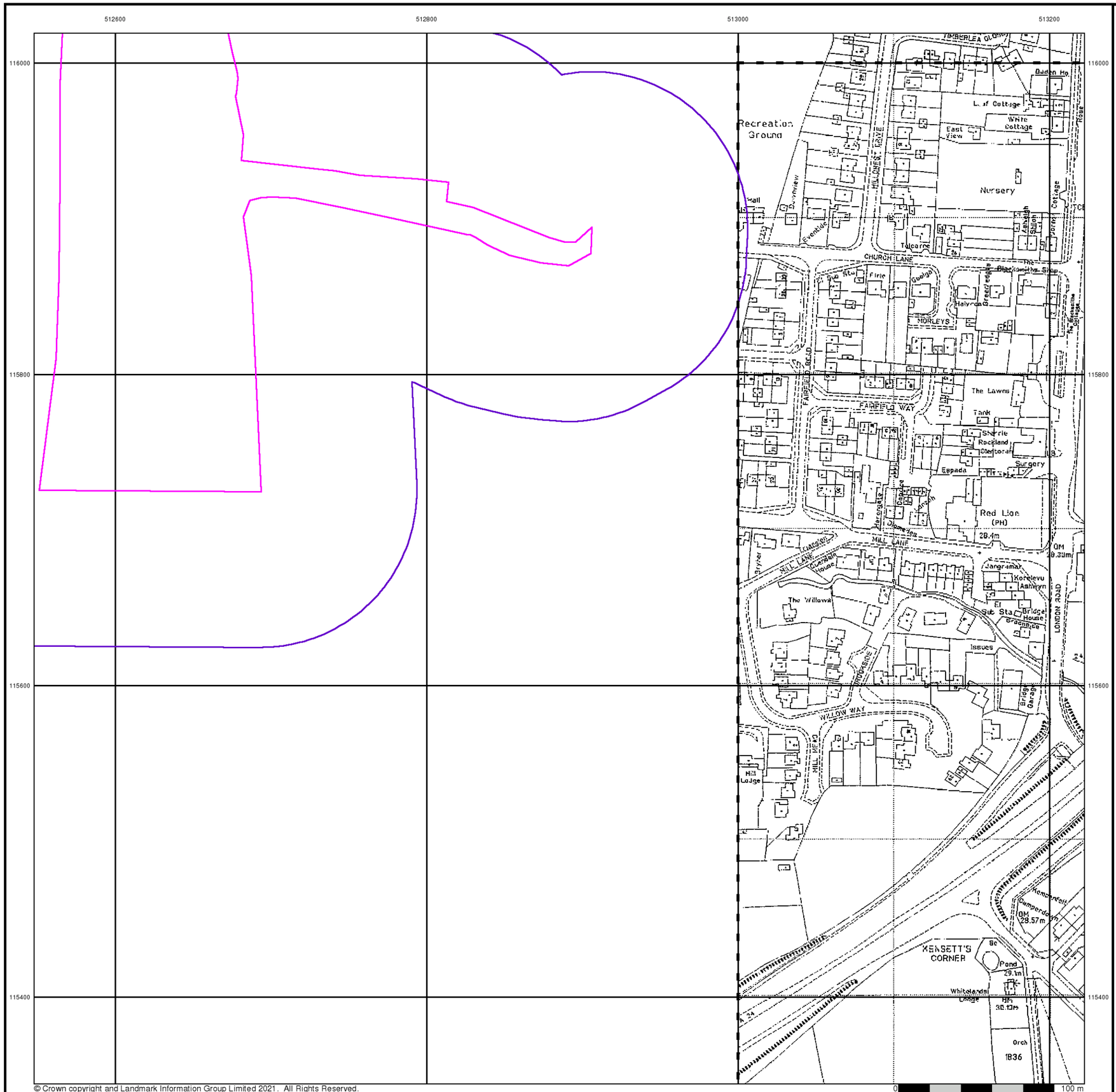
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	100

Site Details

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Large-Scale National Grid Data

Published 1995

Source map scale - 1:2,500

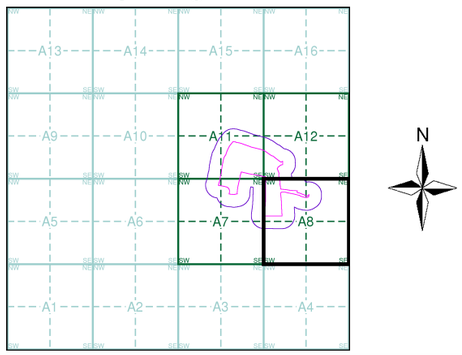
'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic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

Map Name(s) and Date(s)

TQ1316
1995
1:2,500

TQ1315
1995
1:2,500

Historical Map - Segment A8



Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
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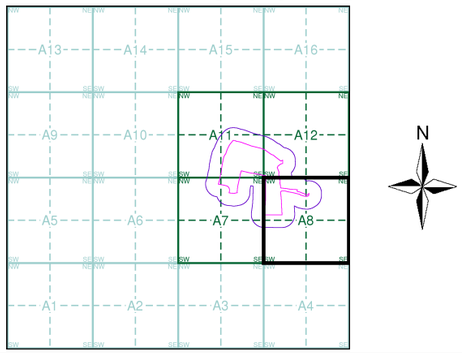
RSK

Historical Aerial Photography

Published 1999

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 A8



Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	100

Site Details

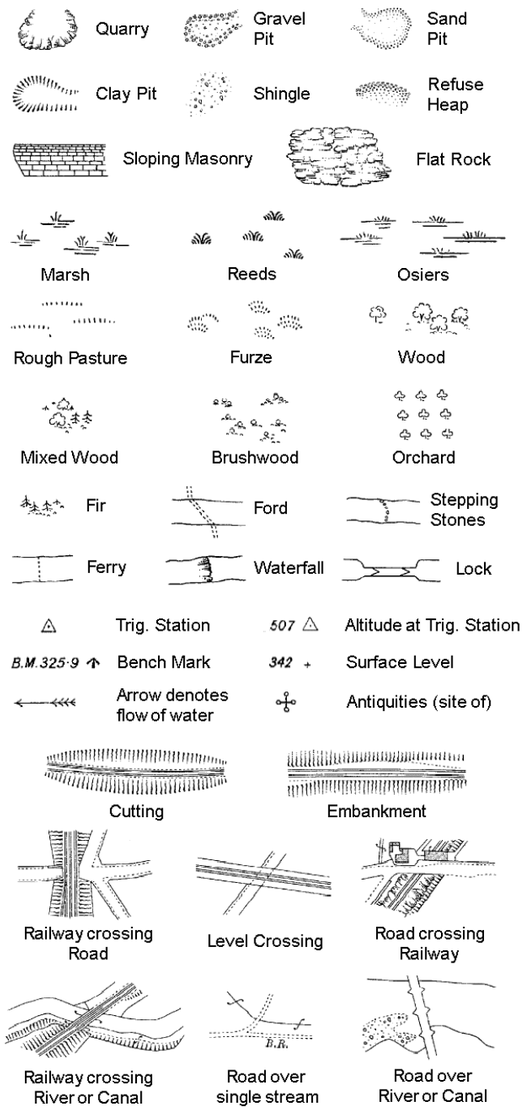
Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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Web: www.envirocheck.co.uk

Historical Mapping Legends

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



County Boundary (Geographical)

County & Civil Parish Boundary

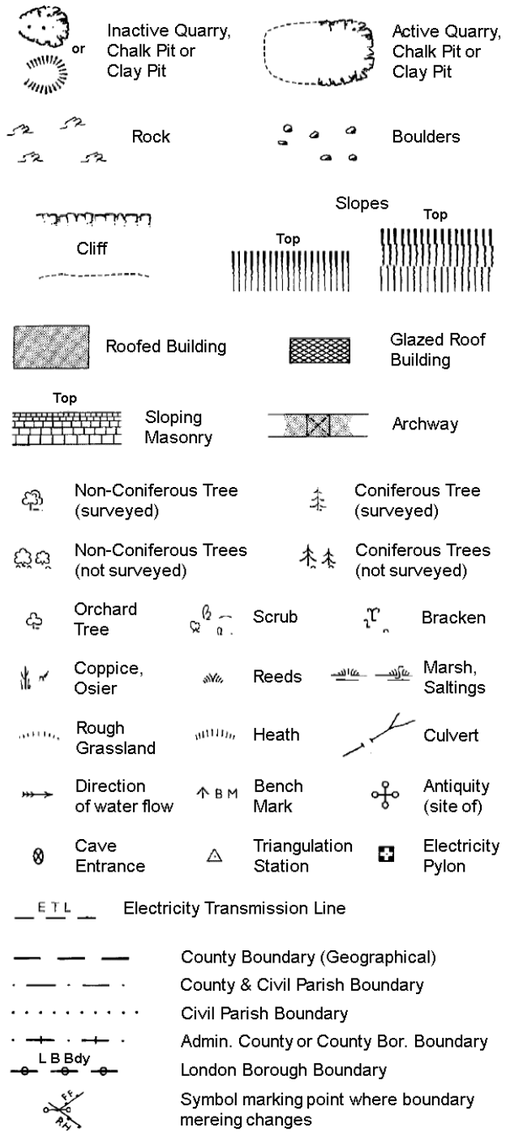
Administrative County & Civil Parish Boundary

Co. Boro. Bdy. County Borough Boundary (England)

Co. Burgh Bdy. County Burgh Boundary (Scotland)

B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

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



County Boundary (Geographical)

County & Civil Parish Boundary

Civil Parish Boundary

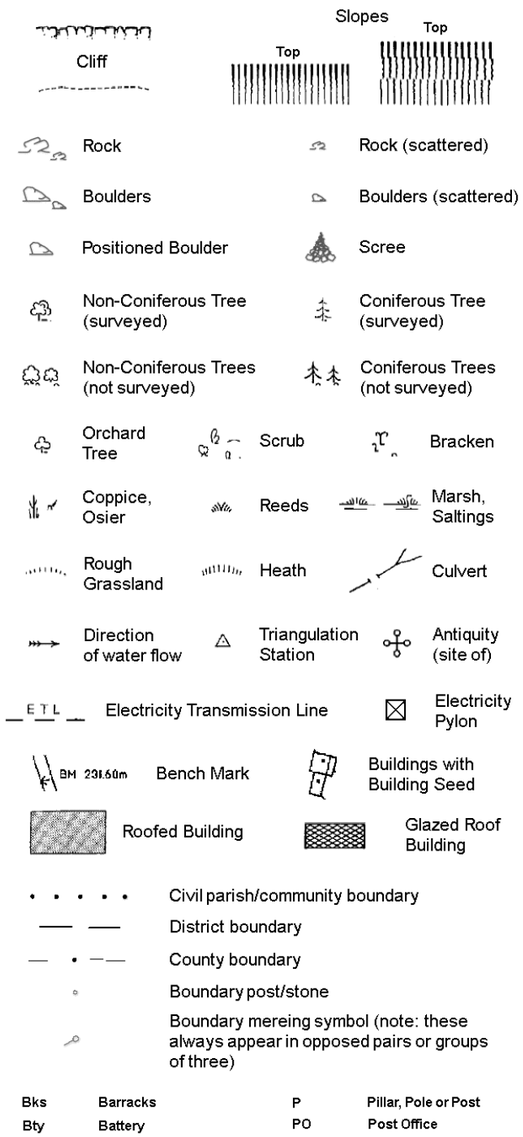
Admin. County or County Bor. Boundary

L B Bdy London Borough Boundary

Symbol marking point where boundary mereing changes

BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

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



Civil parish/community boundary

District boundary

County boundary

Boundary post/stone

Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

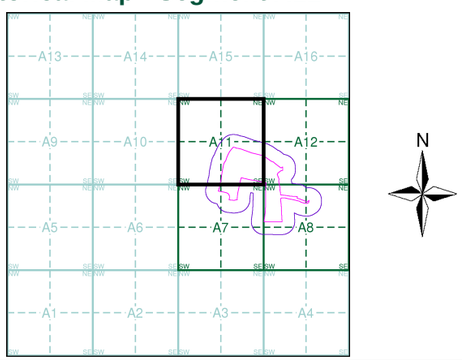
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

RSK

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Sussex	1:2,500	1875 - 1879	2
Sussex	1:2,500	1897	3
Sussex	1:2,500	1911	4
Sussex	1:2,500	1937 - 1939	5
Ordnance Survey Plan	1:2,500	1974	6
Large-Scale National Grid Data	1:2,500	1993	7
Historical Aerial Photography	1:2,500	1999	8

Historical Map - Segment A11



Order Details

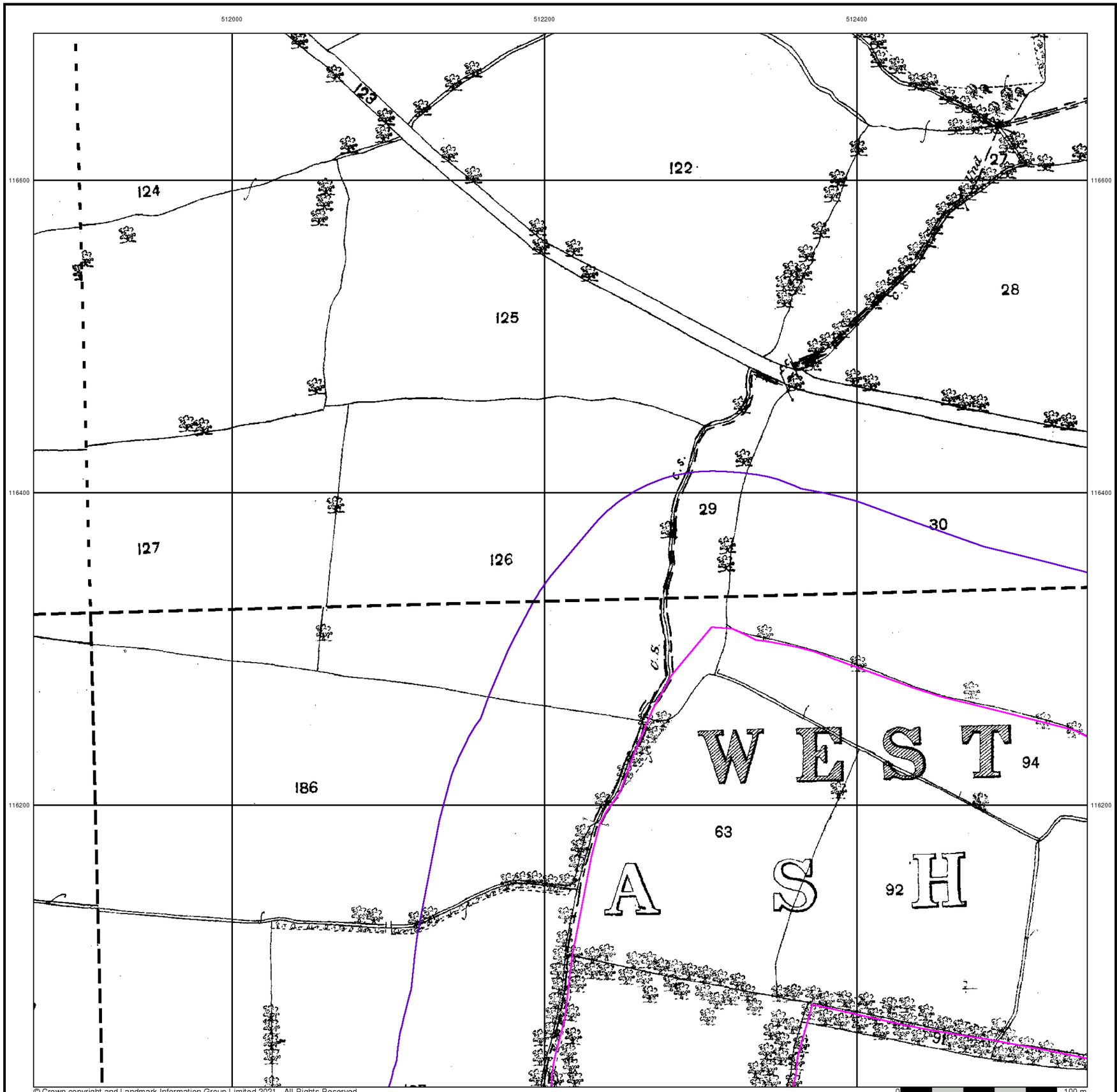
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	100

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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0 100 m

RSK

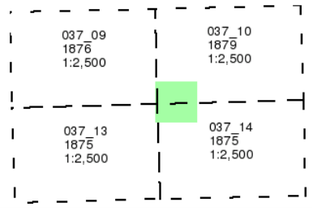
Sussex

Published 1875 - 1879

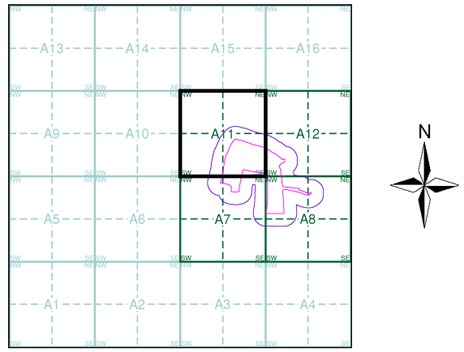
Source map scale - 1:2,500

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 A11



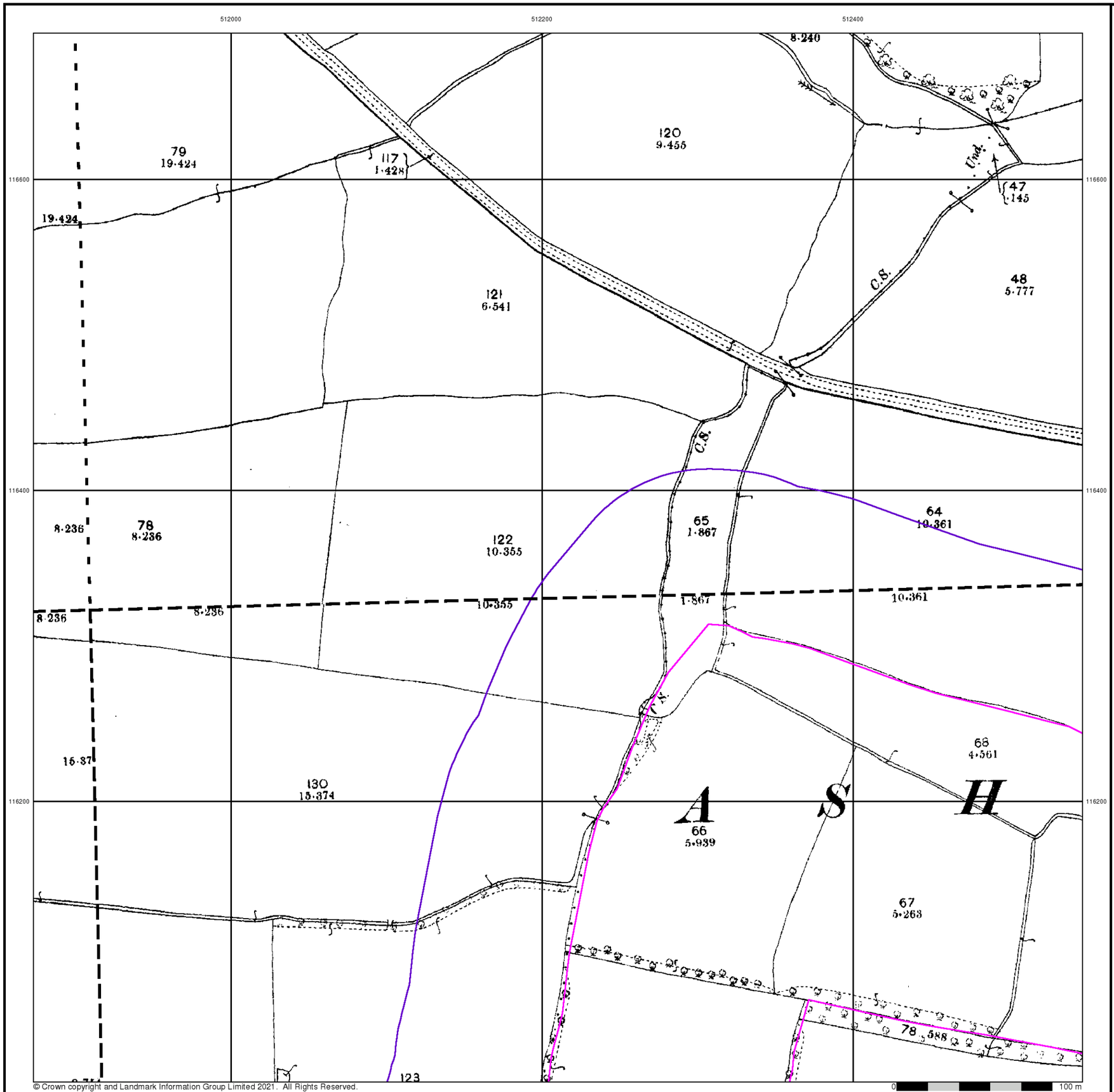
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Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	100

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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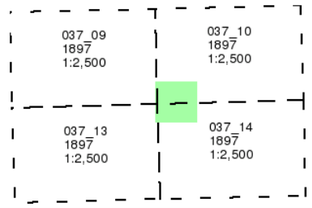
Sussex

Published 1897

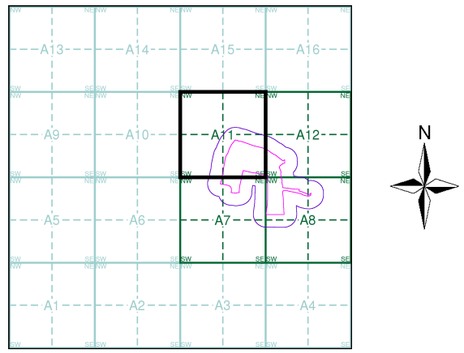
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A11



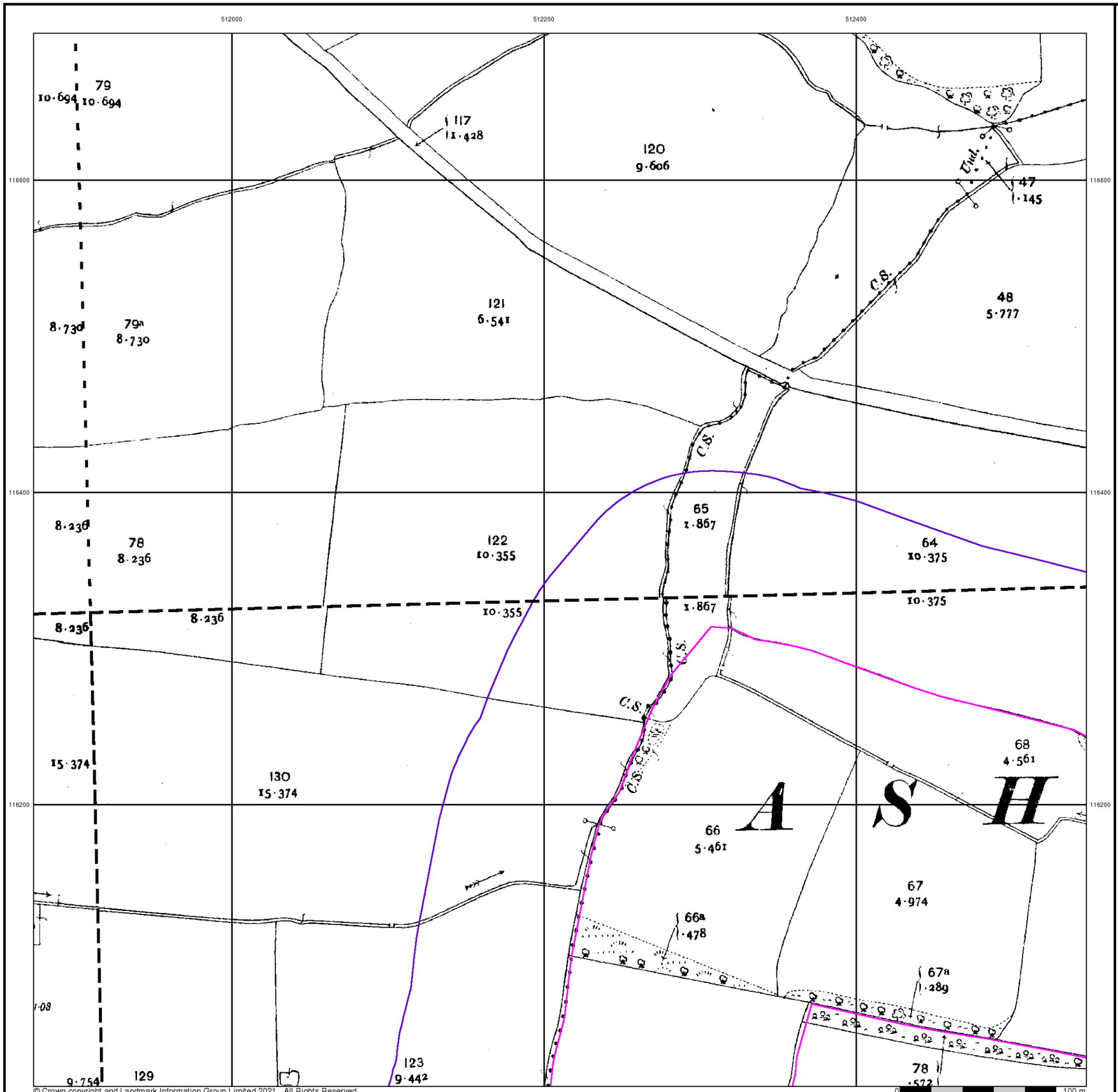
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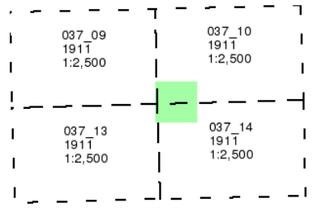
Sussex

Published 1911

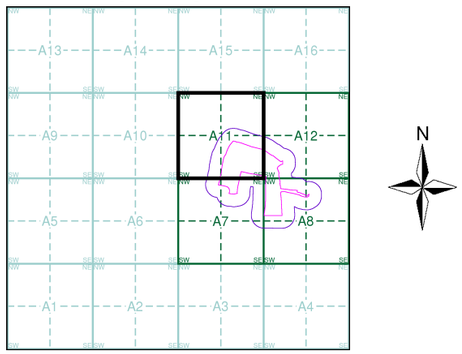
Source map scale - 1:2,500

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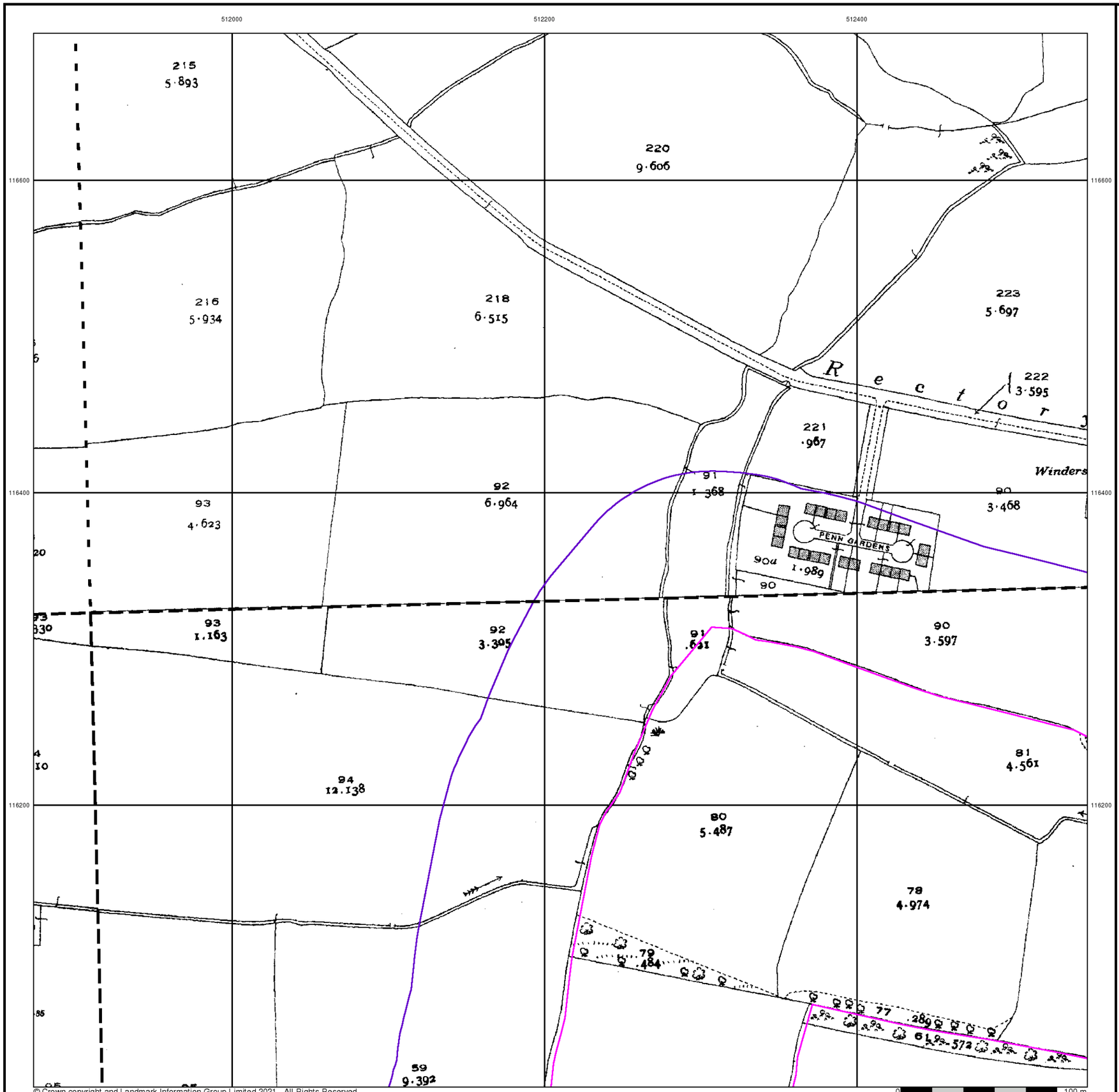
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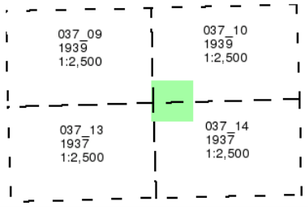
Sussex

Published 1937 - 1939

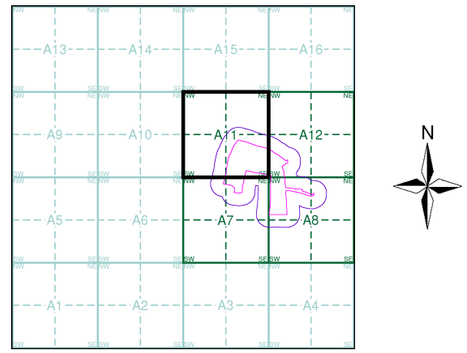
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A11



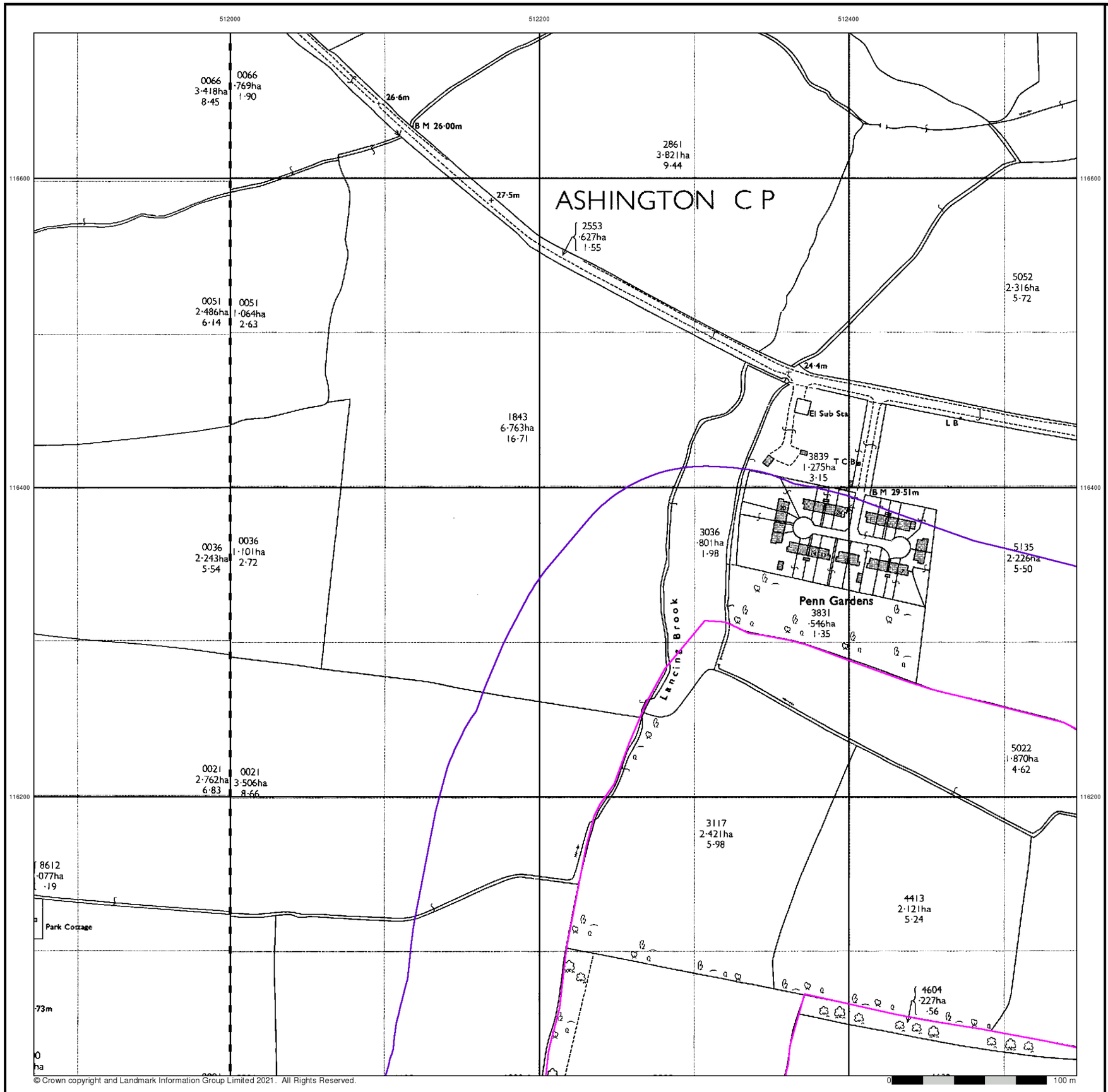
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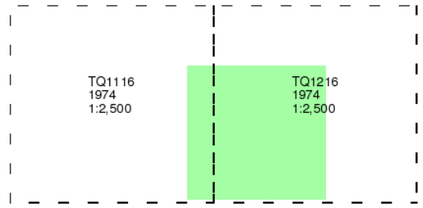
Ordnance Survey Plan

Published 1974

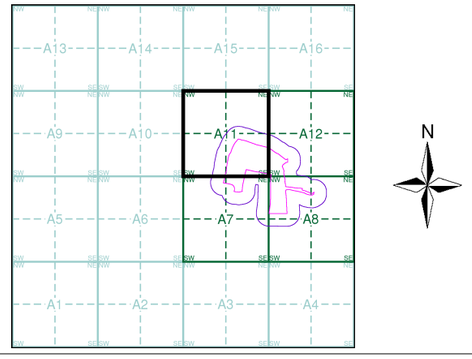
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A11



Order Details

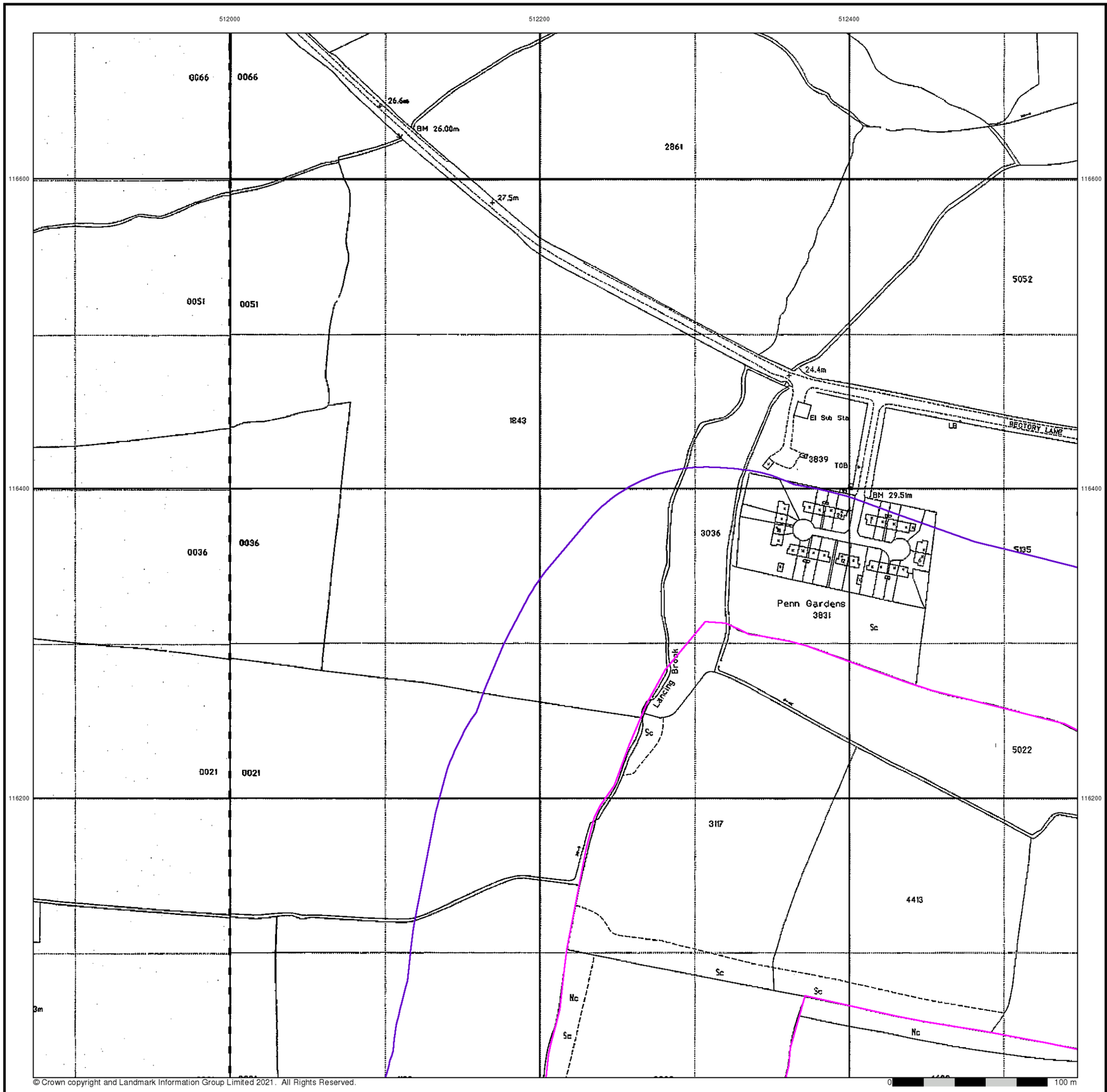
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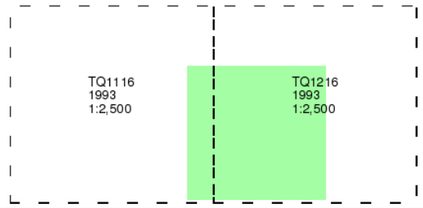
Large-Scale National Grid Data

Published 1993

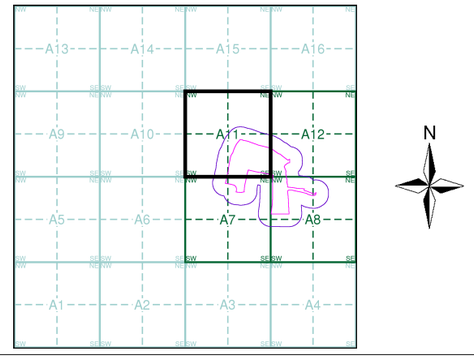
Source map scale - 1:2,500

'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 A11



Order Details

Order Number:	287518451_1_1
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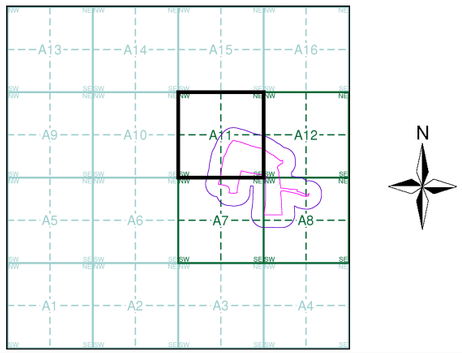
RSK

Historical Aerial Photography

Published 1999

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 A11



Order Details

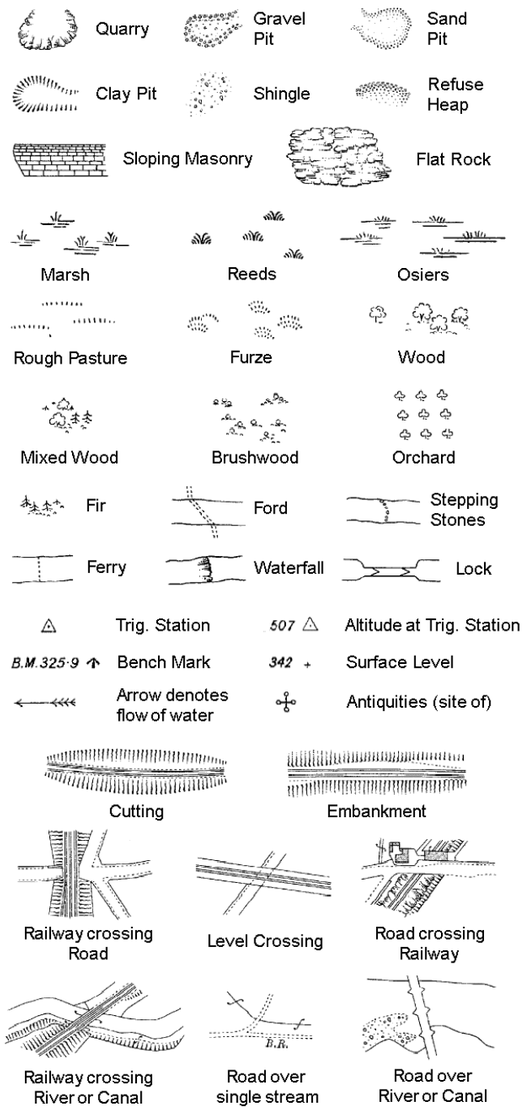
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Site Details

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Historical Mapping Legends

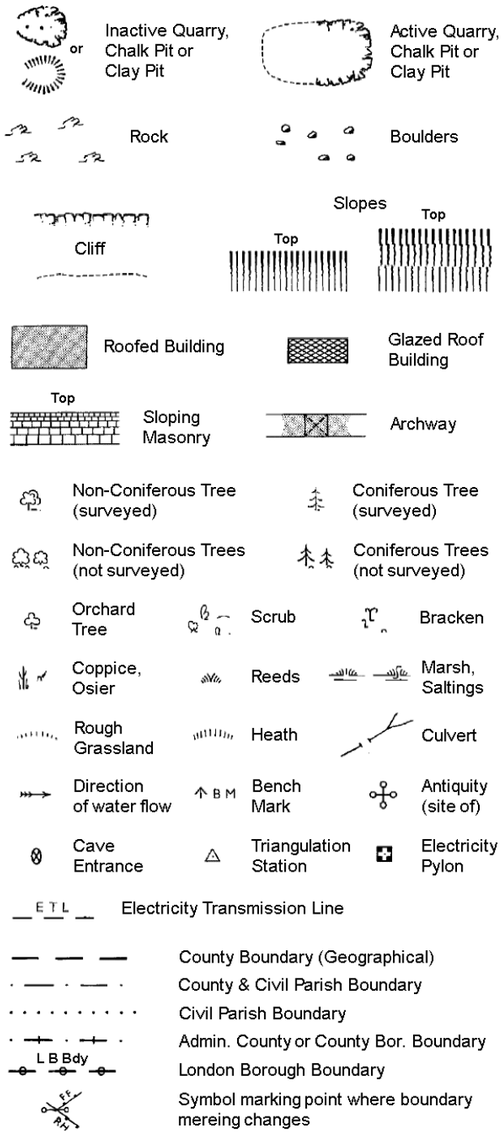
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)

B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

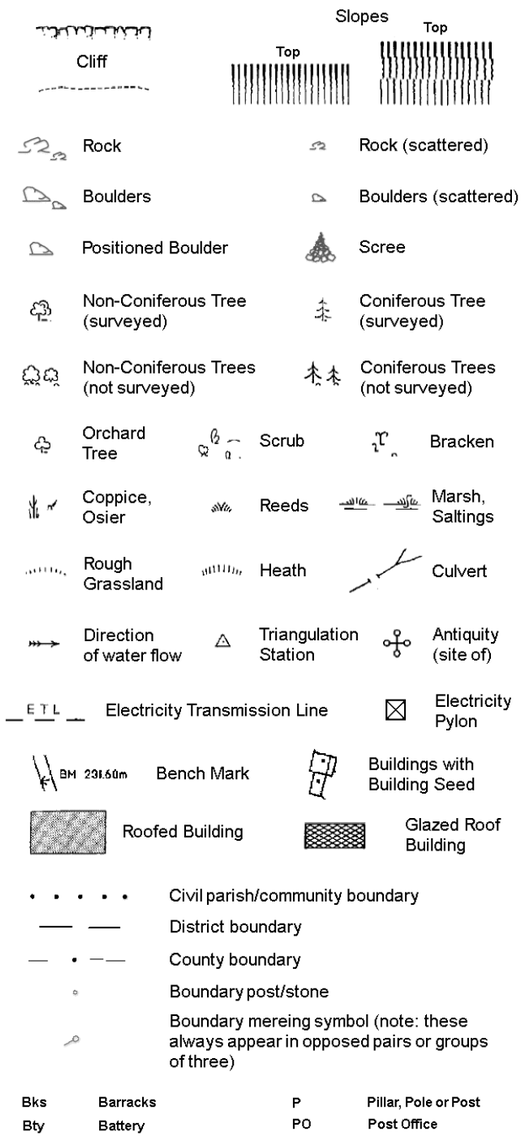
Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
L B Bdy London Borough Boundary
Symbol marking point where boundary mereing changes

BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

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



Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

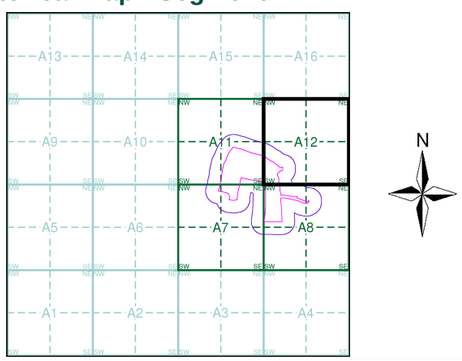
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

RSK

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Sussex	1:2,500	1875 - 1879	2
Sussex	1:2,500	1897	3
Sussex	1:2,500	1911	4
Sussex	1:2,500	1937 - 1939	5
Ordnance Survey Plan	1:2,500	1974	6
Additional SIMs	1:2,500	1992	7
Large-Scale National Grid Data	1:2,500	1993	8
Large-Scale National Grid Data	1:2,500	1995	9
Historical Aerial Photography	1:2,500	1999	10

Historical Map - Segment A12



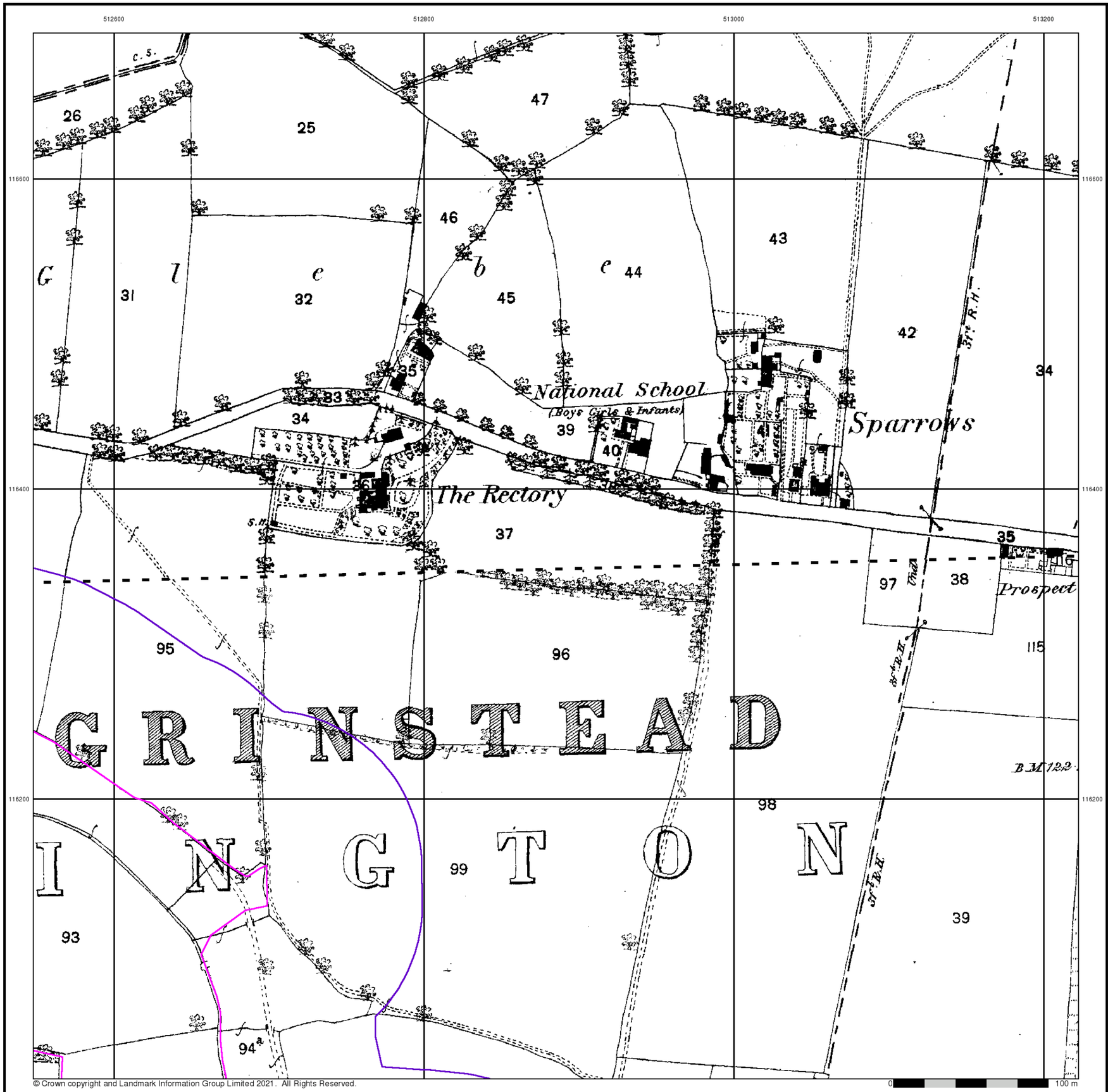
Order Details

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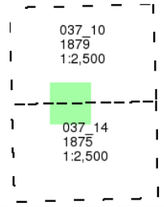
Sussex

Published 1875 - 1879

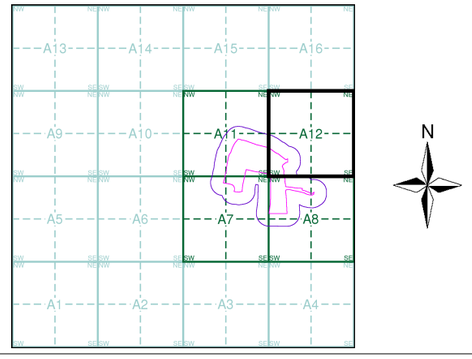
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A12



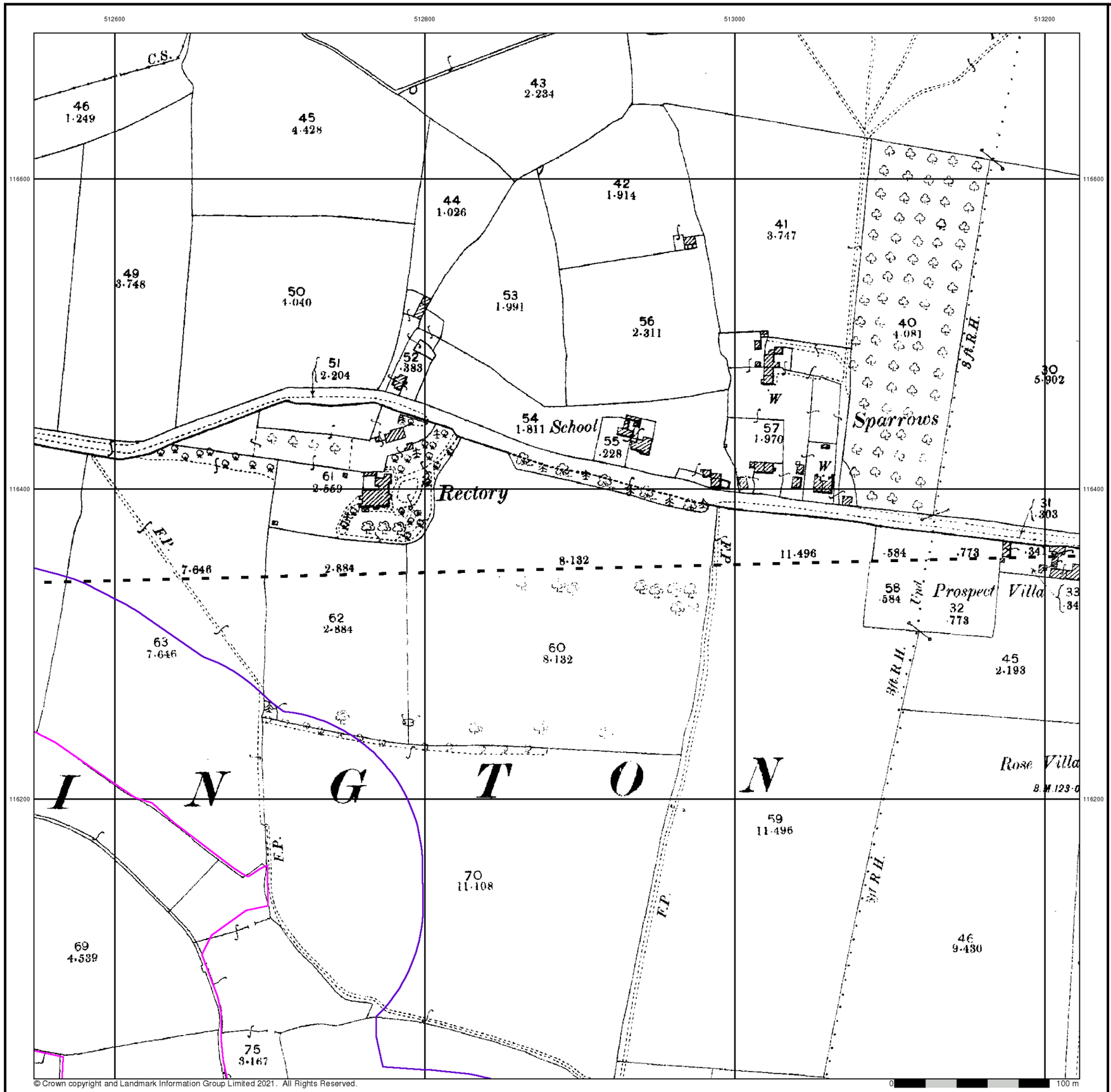
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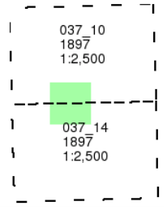
Sussex

Published 1897

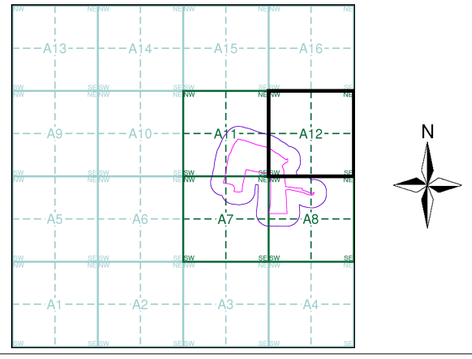
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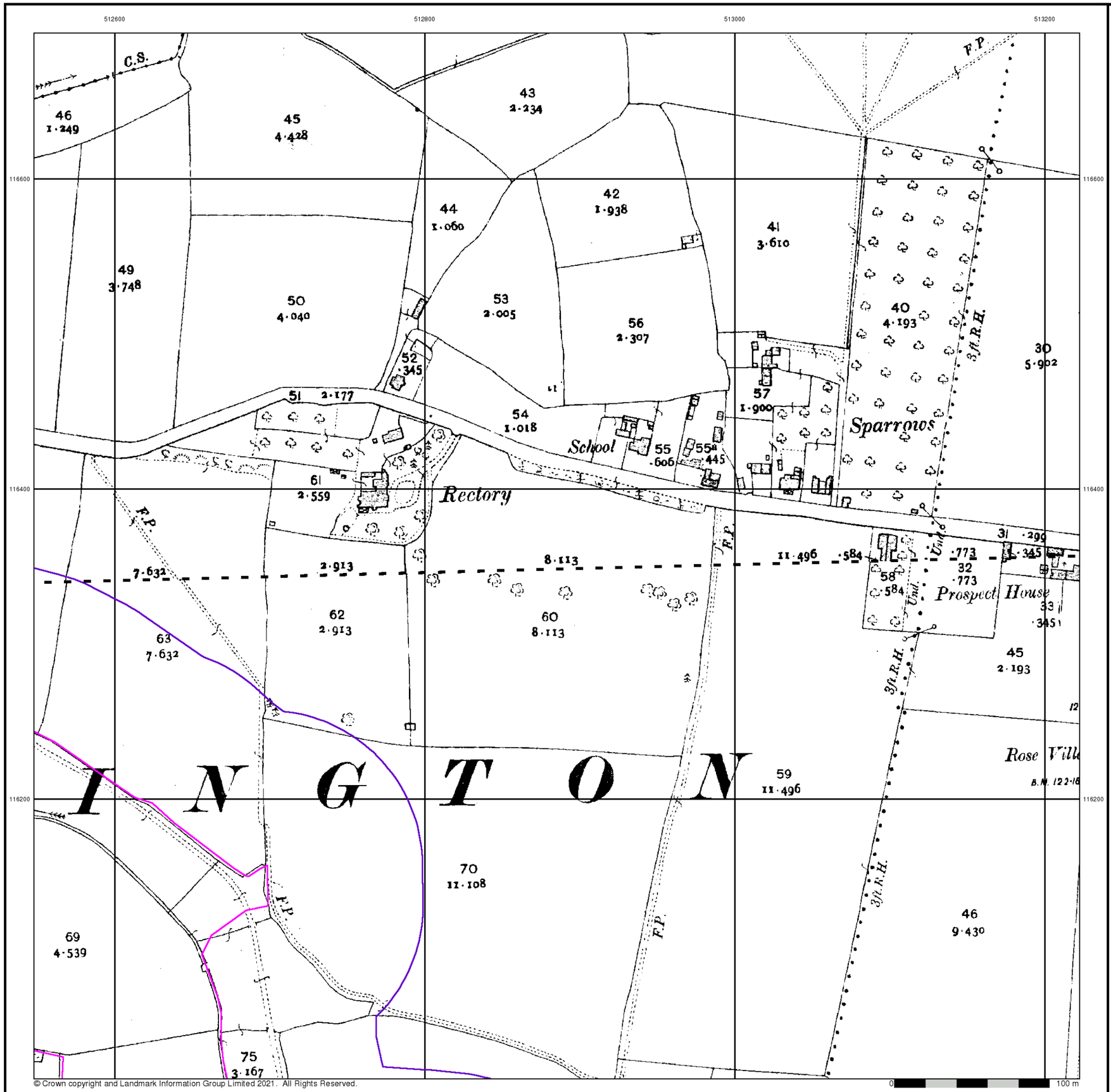
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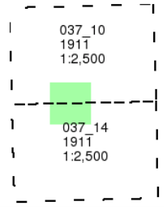
Sussex

Published 1911

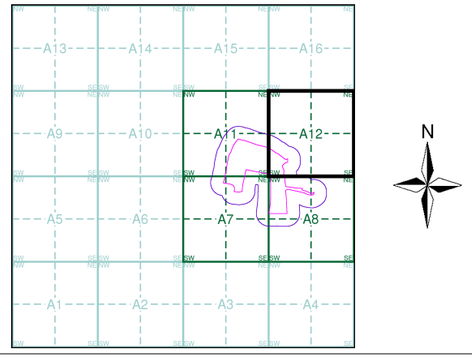
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Map Name(s) and Date(s)



Historical Map - Segment A12



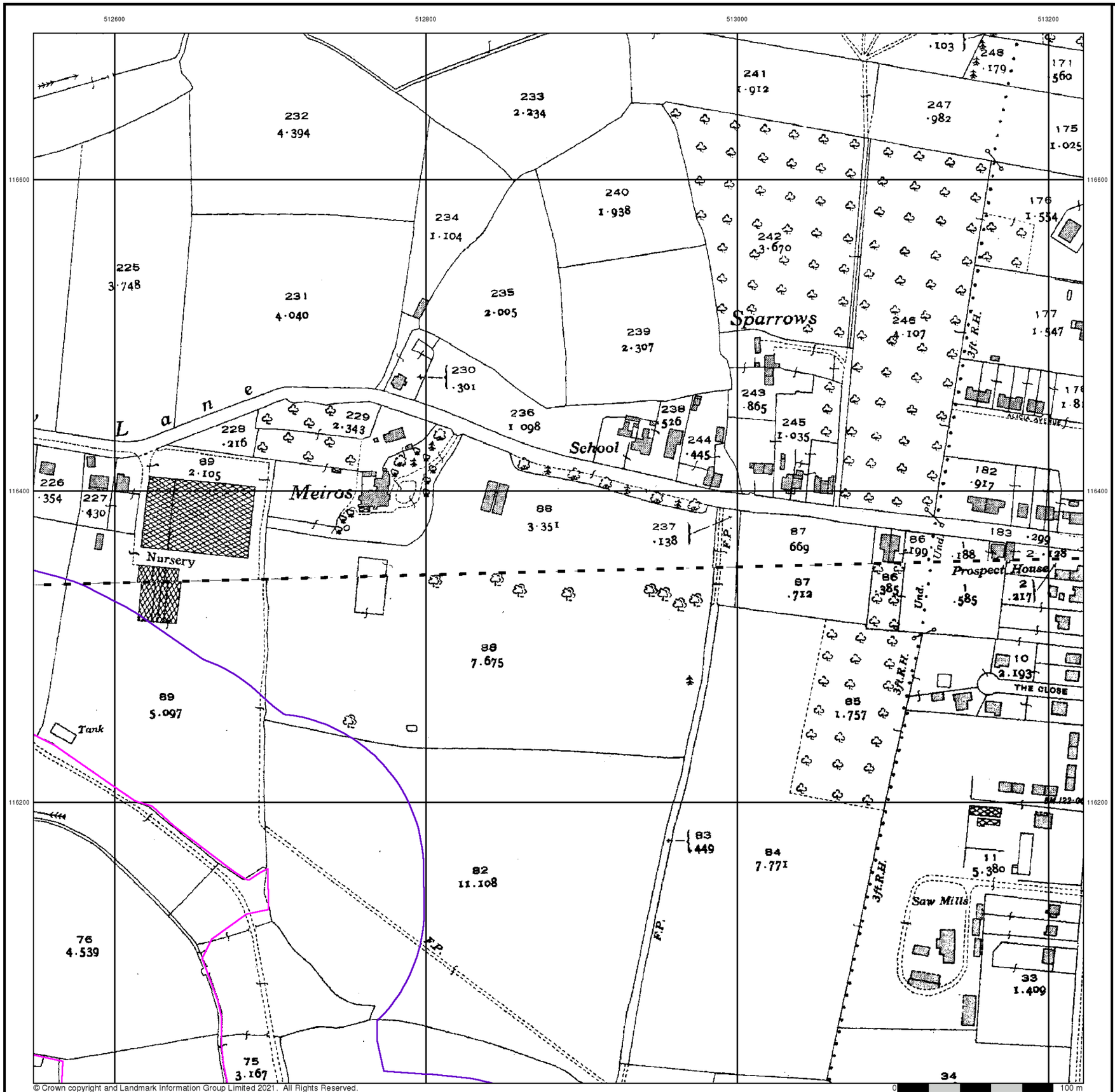
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Customer Ref:	52368
National Grid Reference:	512310, 116030
Slice:	A
Site Area (Ha):	15.35
Search Buffer (m):	100

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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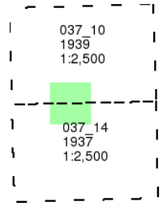
Sussex

Published 1937 - 1939

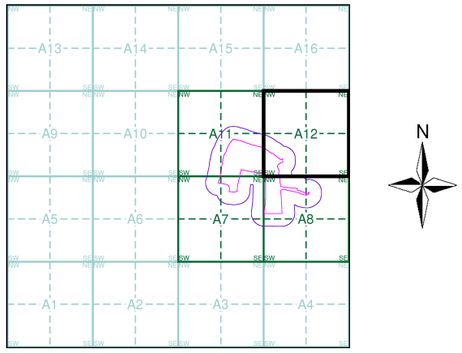
Source map scale - 1:2,500

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 A12



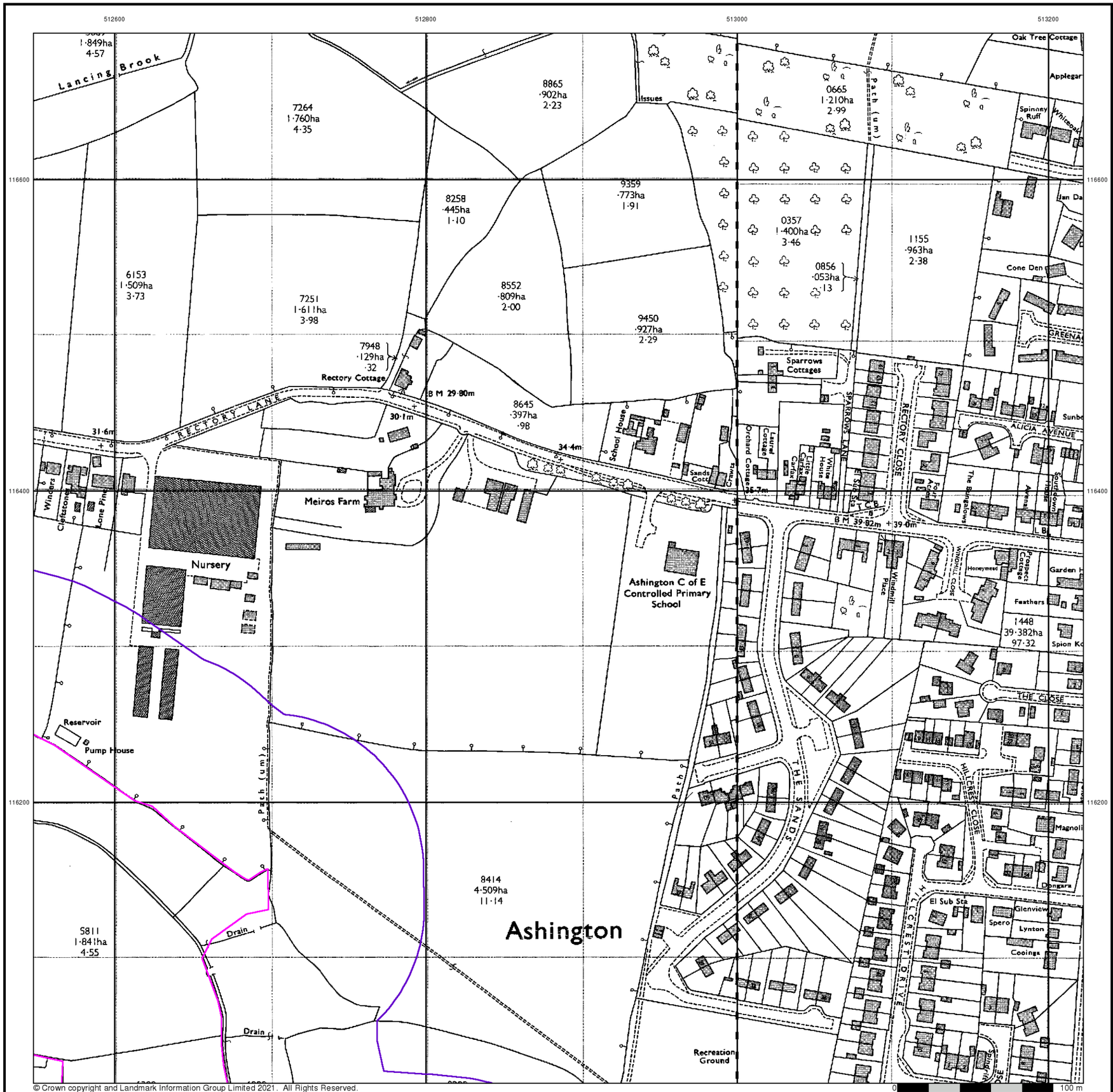
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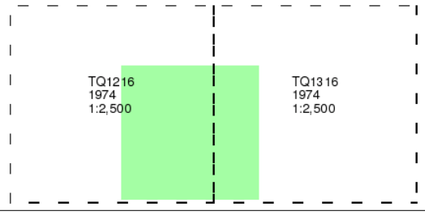
Ordnance Survey Plan

Published 1974

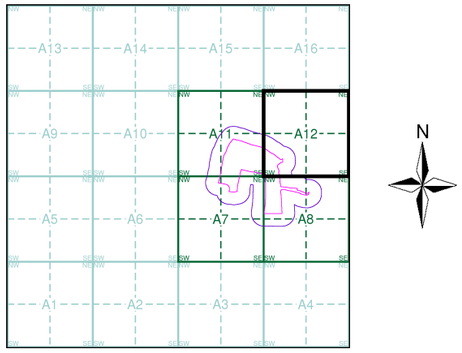
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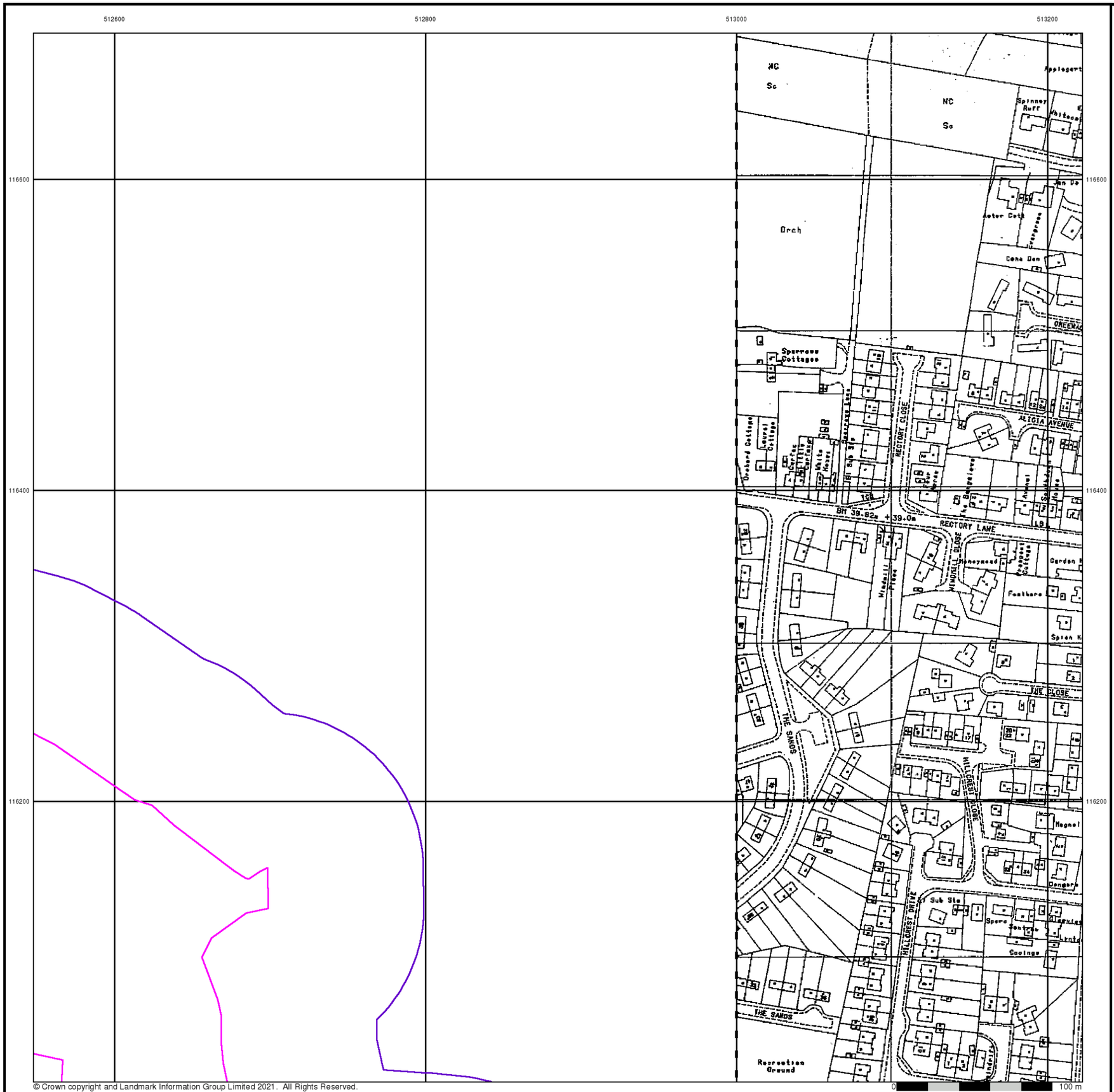
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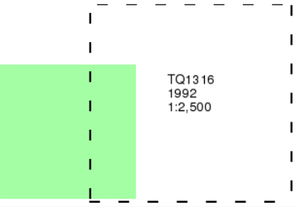
Additional SIMs

Published 1992

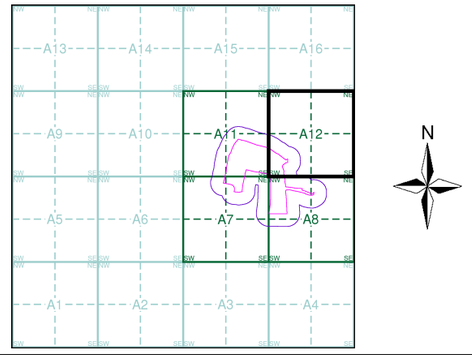
Source map scale - 1:2,500

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)



Historical Map - Segment A12



Order Details

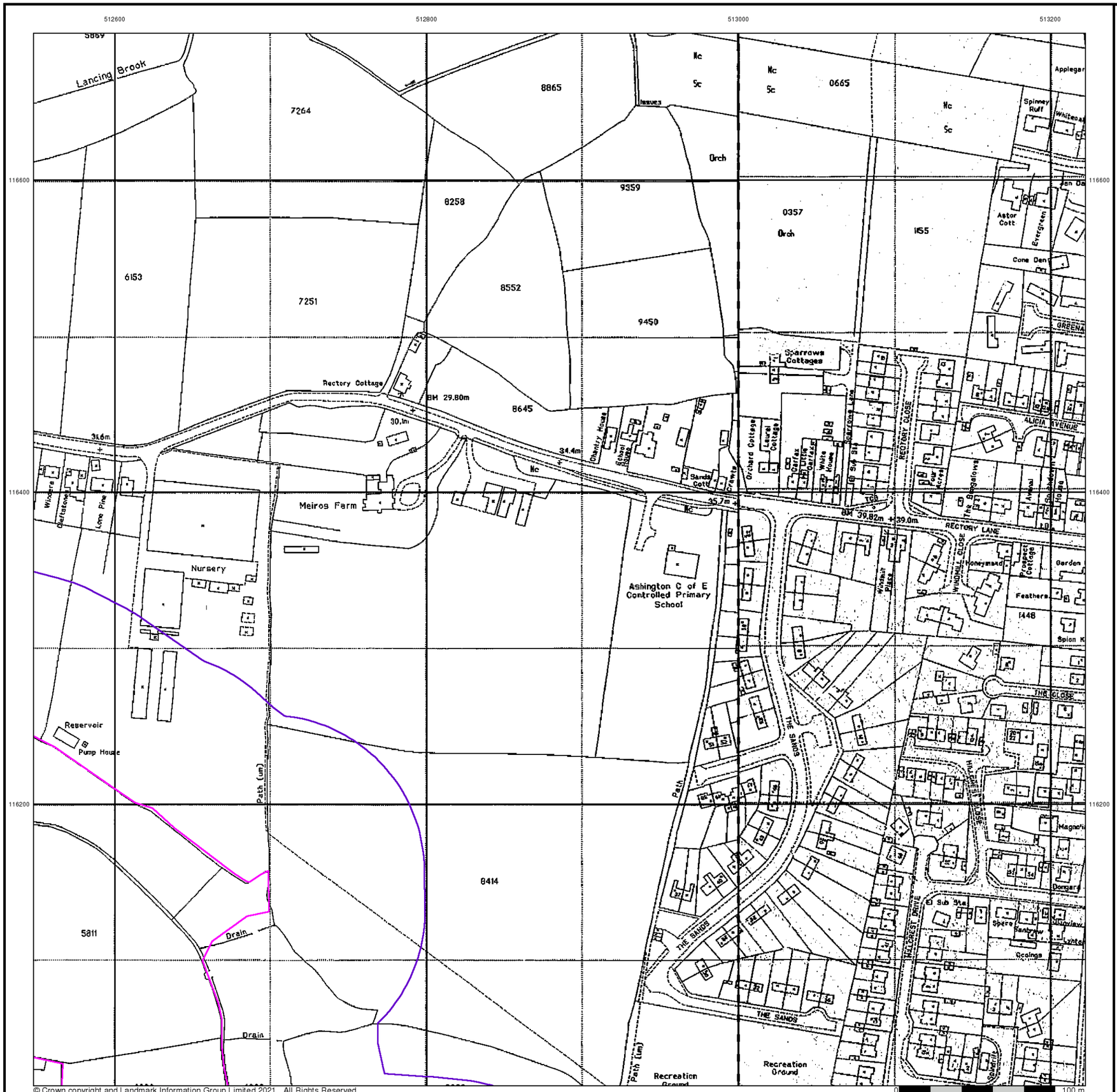
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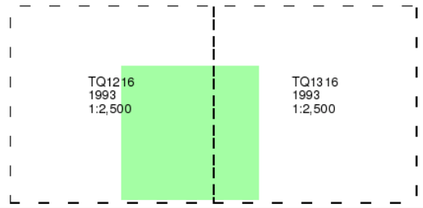
Large-Scale National Grid Data

Published 1993

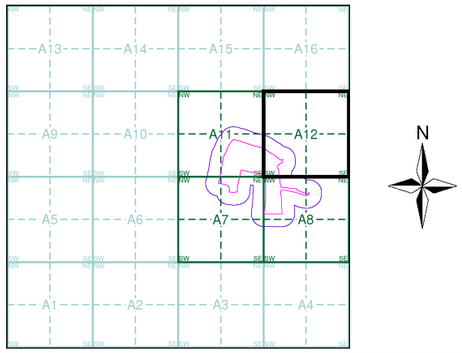
Source map scale - 1:2,500

'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 A12



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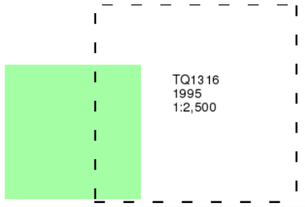
Large-Scale National Grid Data

Published 1995

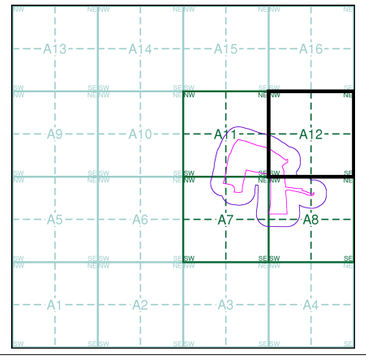
Source map scale - 1:2,500

'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.

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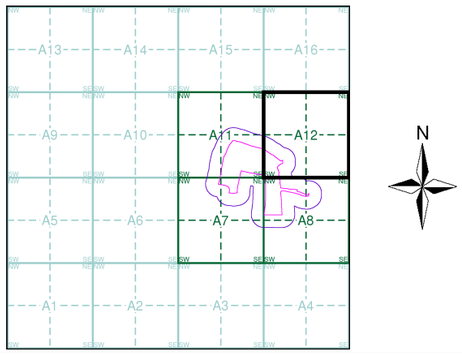


Historical Aerial Photography

Published 1999

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 A12



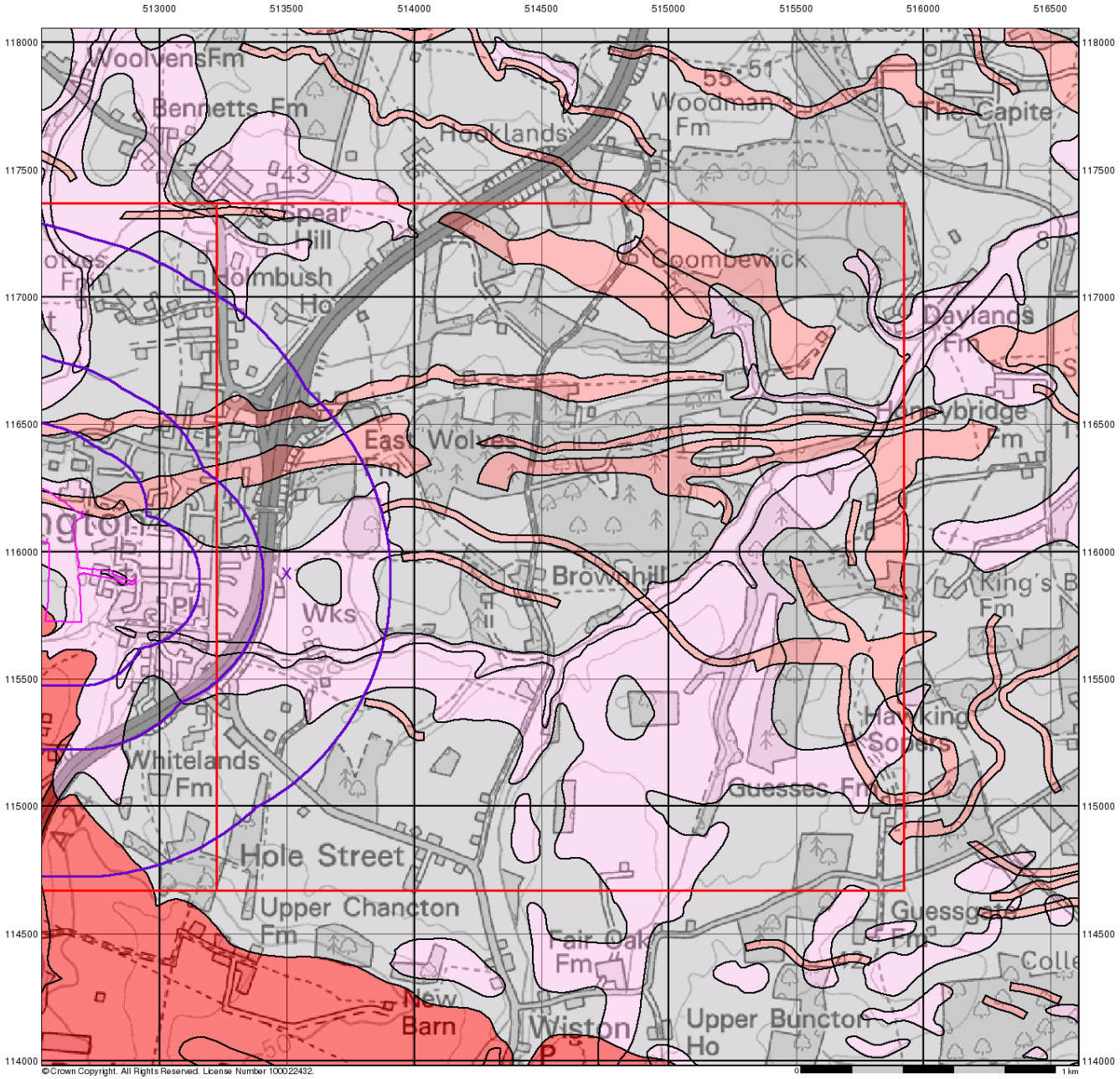
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Groundwater Vulnerability

General

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

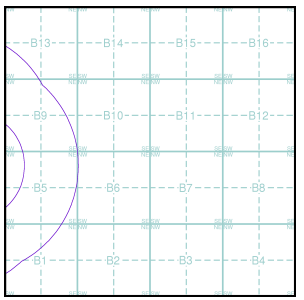
Agency and Hydrological

Bedrock Aquifers	Superficial Aquifers
High Vulnerability, Principal Aquifer	High Vulnerability, Principal Aquifer
High Vulnerability, Secondary Aquifer	High Vulnerability, Secondary Aquifer
Medium Vulnerability, Principal Aquifer	Medium Vulnerability, Principal Aquifer
Medium Vulnerability, Secondary Aquifer	Medium Vulnerability, Secondary Aquifer
Low Vulnerability, Principal Aquifer	Low Vulnerability, Principal Aquifer
Low Vulnerability, Secondary Aquifer	Low Vulnerability, Secondary Aquifer

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice B



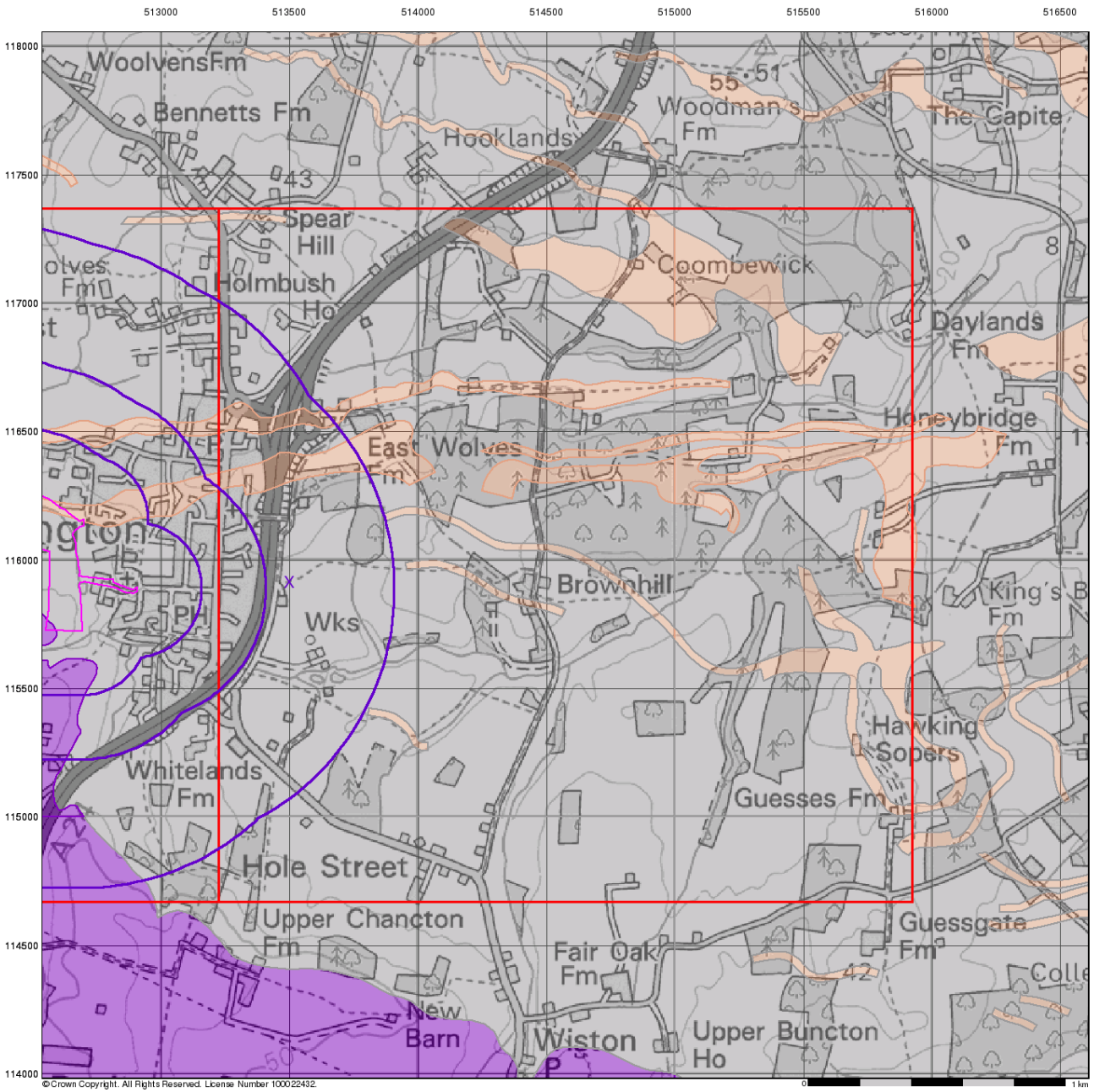
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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Bedrock Aquifer Designation

General

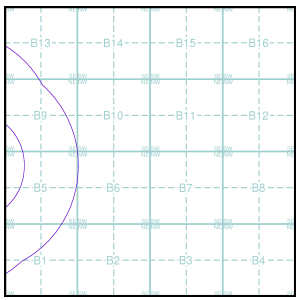
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

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 B

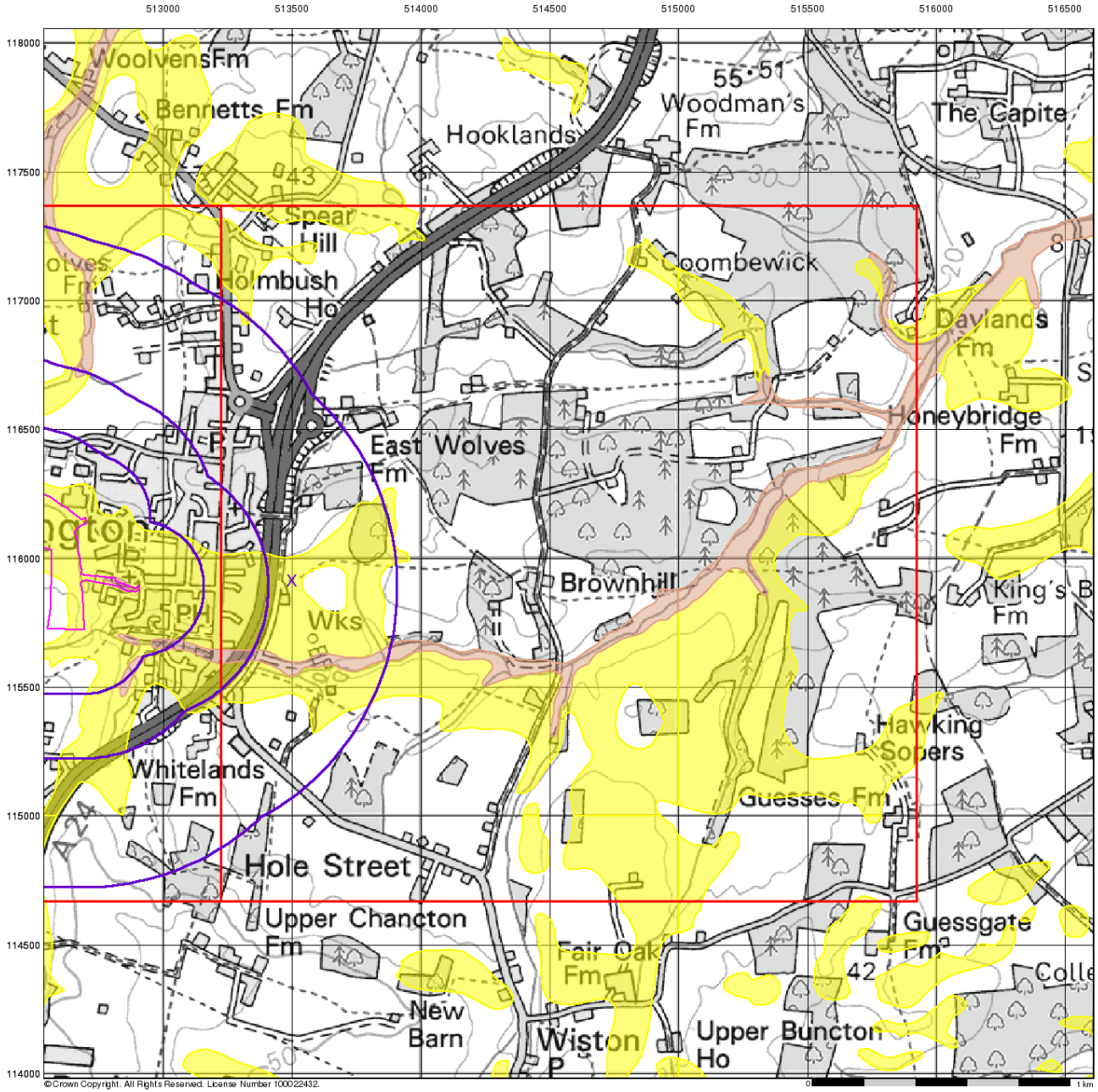


Order Details

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National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX



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Superficial Aquifer Designation

General

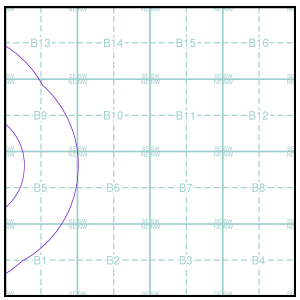
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

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 B

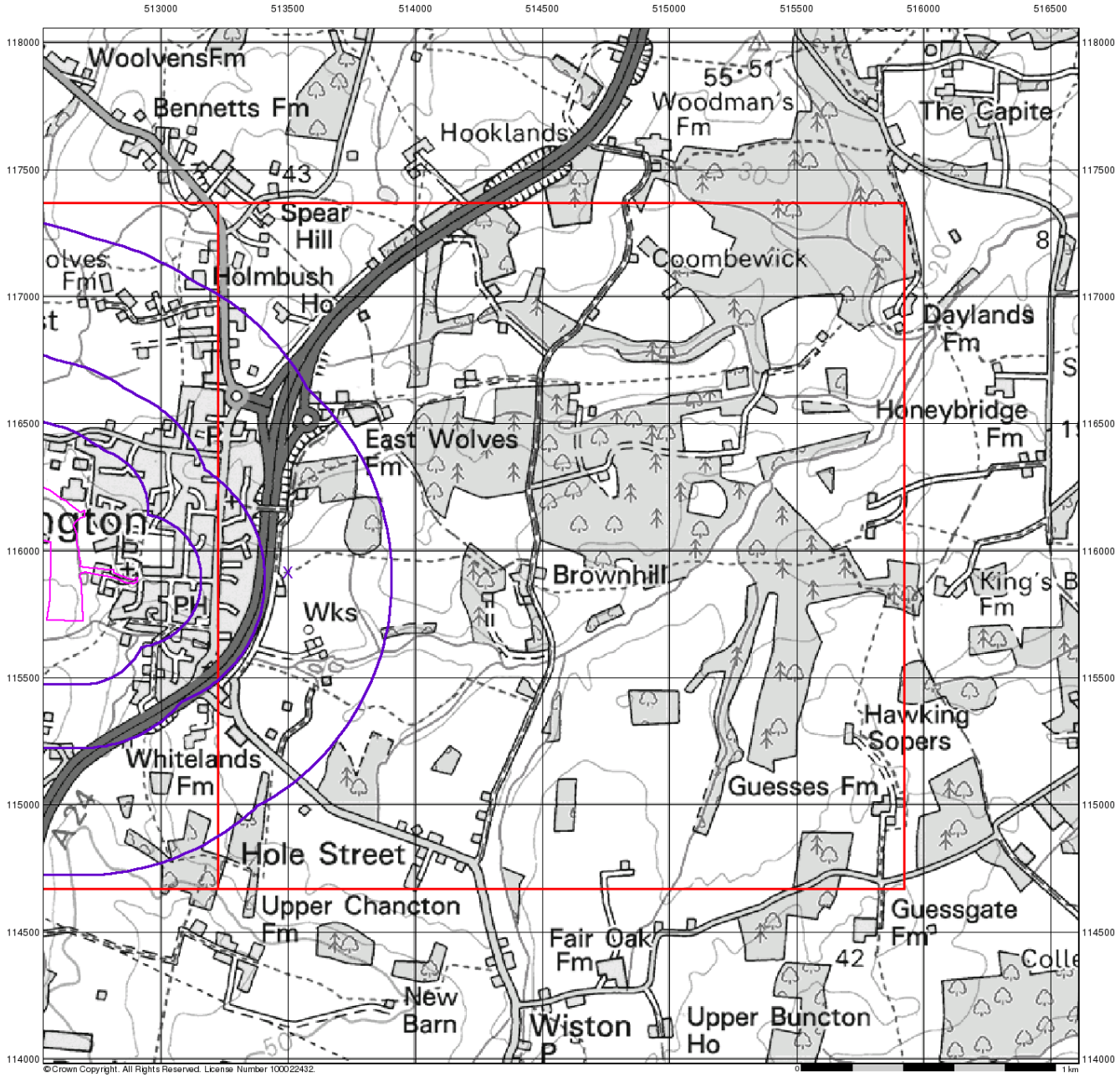


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Search Buffer (m):	1000

Site Details

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Source Protection Zones

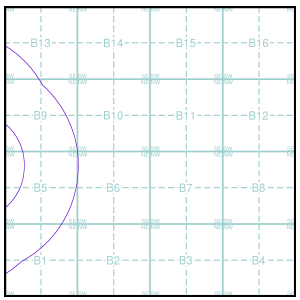
General

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 B

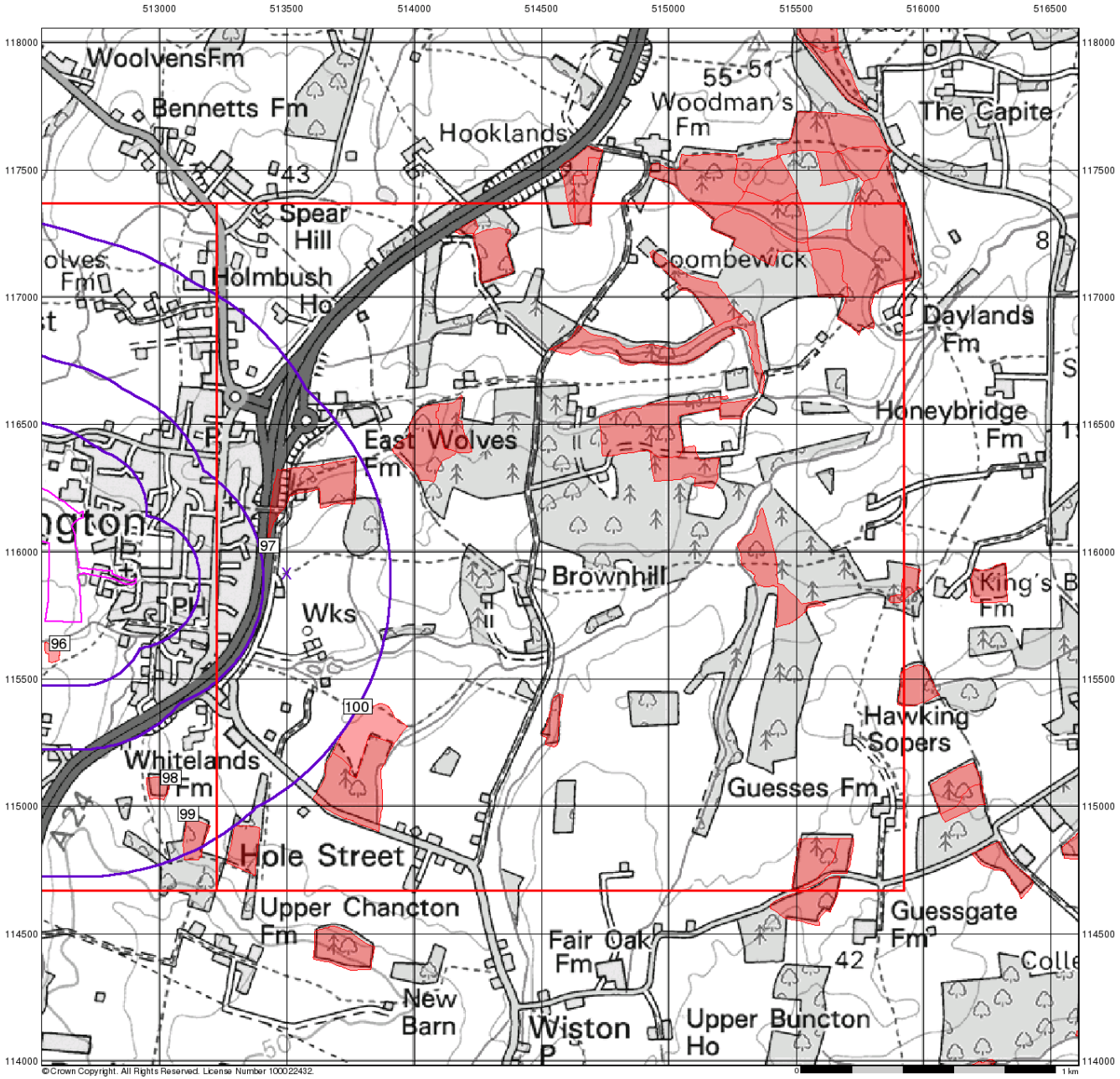


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Site Details

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Sensitive Land Uses

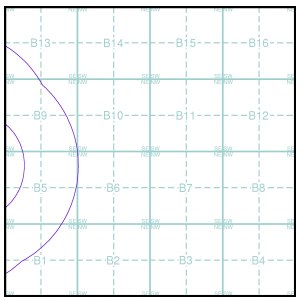
General

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 B



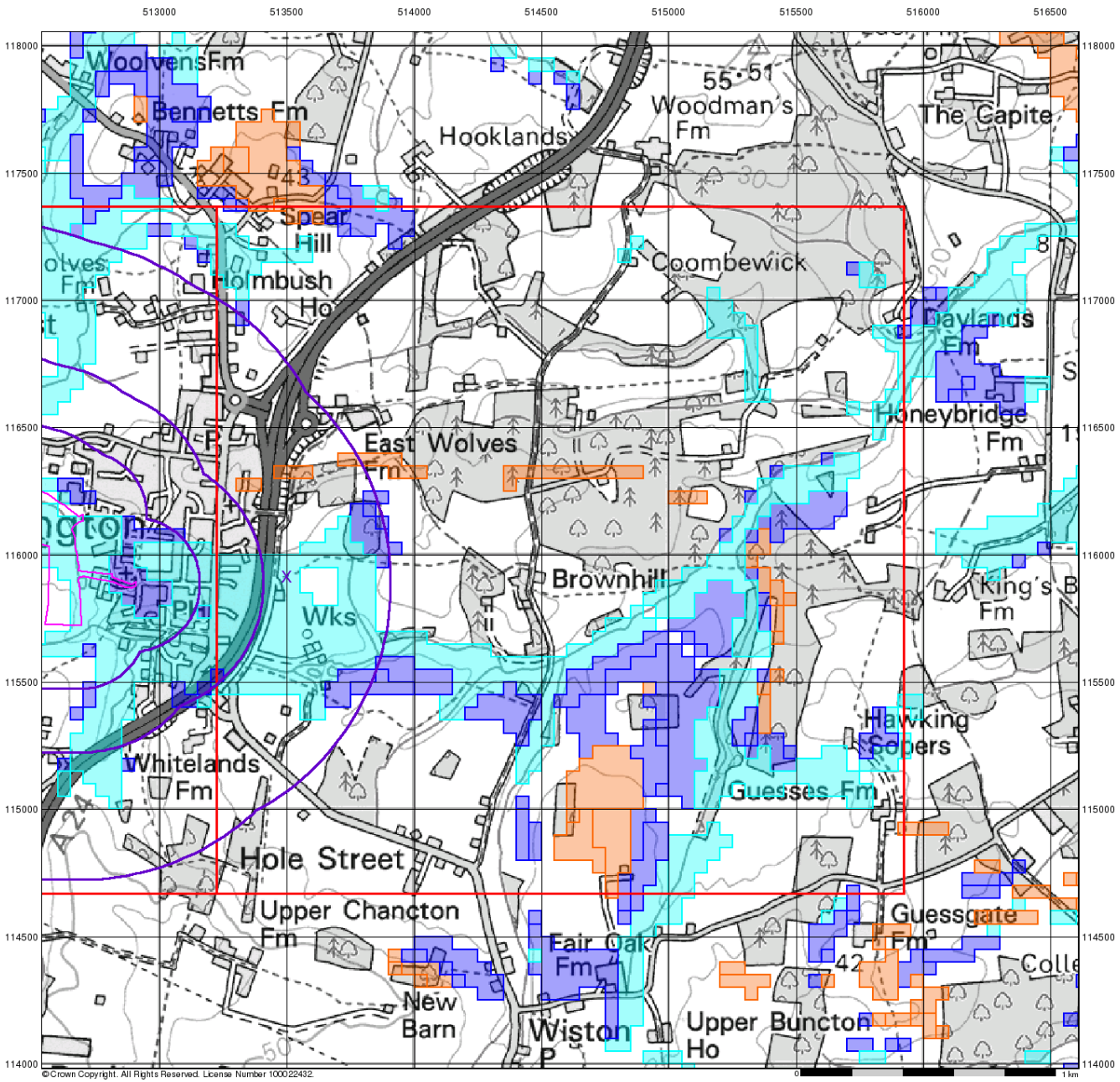
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BGS Flood GFS Data

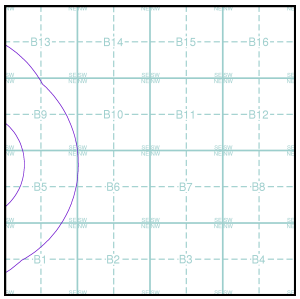
General

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 B



Order Details

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Site Details

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Envirocheck® Report:

Datasheet

Order Details:

Order Number:
287518451_1_1

Customer Reference:
52368

National Grid Reference:
513500, 115920

Slice:
B

Site Area (Ha):
15.35

Search Buffer (m):
1000

Site Details:

Firle, Church Lane
Ashington
PULBOROUGH
RH20 3JX

Client Details:

Miss S Gower
RSK Environment Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Contents

Report Section	Page Number
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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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Report Version v53.0

Summary

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	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1			1	25
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
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 8			Yes	
Pollution Incidents to Controlled Waters	pg 8				7
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality	pg 9				1
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 9				1
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 10	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 11	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 11	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 11		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 11		Yes	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 12		1	14	46

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 19			1	1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 19	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 19				3
Potentially Infilled Land (Non-Water)					
Potentially Infilled Land (Water)	pg 19			1	
Registered Landfill Sites	pg 20				2
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					

Summary

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 21	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 21	Yes			Yes
BGS Recorded Mineral Sites					
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 21	Yes	Yes	n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 21	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 21		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 22	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 22	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 22	Yes		n/a	n/a
Radon Potential - Radon Affected Areas			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 23			3	5
Fuel Station Entries	pg 23				1
Points of Interest - Commercial Services	pg 23			2	3
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 24				4
Points of Interest - Public Infrastructure	pg 24				1
Points of Interest - Recreational and Environmental	pg 24			2	
Gas Pipelines					
Underground Electrical Cables					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 25		1		4
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
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					
Ramsar Sites					
Sites of Special Scientific Interest					
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: Potential for Groundwater Flooding to Occur at Surface	(W)	0	1	512600 116250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(W)	0	1	513100 116050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(W)	0	1	512650 116200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(NW)	0	1	512700 116650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	B5NW (SW)	0	1	513500 115916
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(W)	20	1	512750 116200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(W)	75	1	512750 115650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(SW)	225	1	512750 115500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(W)	257	1	513200 115800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(SW)	325	1	512700 115400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(SW)	403	1	513100 115500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	B5SW (SW)	441	1	513250 115550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(SW)	450	1	513200 115500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(SW)	493	1	513200 115450
1	**Discharge Consents** Operator: J. Maguire & Sons Property Type: CONSTRUCTION OF BUILDINGS Location: Residential Development, @ To Telephone Exchange, On A24 Road , Ashington West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: N02025 Permit Version: 1 Effective Date: 11th April 1979 Issued Date: 11th April 1979 Revocation Date: 1st July 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 10m	B5NW (W)	413	2	513310 115980

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	**Discharge Consents** Operator: Mr L Harris Property Type: SPORT, AMUSEMENT+RECREATION/GOLF CLUB/GYM/THEME PK/SPA Location: Kensett Stables, Hole Street, Ashington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P09014 Permit Version: 1 Effective Date: 21st February 2000 Issued Date: 21st February 2000 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 10m	B5SW (SW)	620	2	513260 115370
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington S.T.W., Ashington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Old-River Adur 60 Reference: W00366 Permit Version: 1 Effective Date: 10th July 1980 Issued Date: 10th July 1980 Revocation Date: 23rd September 2003 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater Stream Or River **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	765	2	513610 115580
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington S.T.W., Ashington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Old-River Adur 60 Reference: W00366 Permit Version: 1 Effective Date: 10th July 1980 Issued Date: 10th July 1980 Revocation Date: 23rd September 2003 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater Stream Or River **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	765	2	513610 115580
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Stw'S Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S02621 Permit Version: 1 Effective Date: 8th November 1968 Issued Date: 8th November 1968 Revocation Date: 23rd September 2003 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	B5SE (S)	765	2	513610 115580

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Wwtw, London Road Ashington Wwtw, London Road, Ashington, West Sussex, Rh20 3de Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: A01183 Permit Version: 5 Effective Date: 29th November 2013 Issued Date: 29th November 2013 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Honeybridge Str.Trib. R.Adur **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	769	2	513610 115570
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Wwtw, London Road Ashington Wwtw, London Road, Ashington, West Sussex, Rh20 3de Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: A01183 Permit Version: 5 Effective Date: 29th November 2013 Issued Date: 29th November 2013 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Honeybridge Str.Trib. R.Adur **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	769	2	513610 115570
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Wwtw, London Road Ashington Wwtw, London Road, Ashington, West Sussex, Rh20 3de Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: A01183 Permit Version: 5 Effective Date: 29th November 2013 Issued Date: 29th November 2013 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Honeybridge Str.Trib. R.Adur **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	769	2	513610 115570
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Wwtw, London Road Ashington Wwtw, London Road, Ashington, West Sussex, Rh20 3de Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: A01183 Permit Version: 3 Effective Date: 22nd March 2010 Issued Date: 22nd March 2010 Revocation Date: 21st December 2012 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Honeybridge Str.Trib. R.Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	769	2	513610 115570

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Wwtw, London Road Ashington Wwtw, London Road, Ashington, West Sussex, Rh20 3de Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: A01183 Permit Version: 4 Effective Date: 22nd December 2012 Issued Date: 22nd March 2010 Revocation Date: 28th November 2013 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Honeybridge Str.Trib. R.Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	769	2	513610 115570
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Wwtw, London Road Ashington Wwtw, London Road, Ashington, West Sussex, Rh20 3de Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: A01183 Permit Version: 4 Effective Date: 22nd December 2012 Issued Date: 22nd March 2010 Revocation Date: 28th November 2013 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Honeybridge Str.Trib. R.Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	769	2	513610 115570
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Wwtw, London Road Ashington Wwtw, London Road, Ashington, West Sussex, Rh20 3de Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: A01183 Permit Version: 4 Effective Date: 22nd December 2012 Issued Date: 22nd March 2010 Revocation Date: 28th November 2013 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Honeybridge Str.Trib. R.Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	769	2	513610 115570
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Wwtw, London Road Ashington Wwtw, London Road, Ashington, West Sussex, Rh20 3de Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: A01183 Permit Version: 3 Effective Date: 22nd March 2010 Issued Date: 22nd March 2010 Revocation Date: 21st December 2012 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Honeybridge Str.Trib. R.Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	769	2	513610 115570

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Wwtw, London Road Ashington Wwtw, London Road, Ashington, West Sussex, Rh20 3de Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: A01183 Permit Version: 3 Effective Date: 22nd March 2010 Issued Date: 22nd March 2010 Revocation Date: 21st December 2012 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Honeybridge Str.Trib. R.Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	769	2	513610 115570
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Wwtw, London Road Ashington Wwtw, London Road, Ashington, West Sussex, Rh20 3de Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: A01183 Permit Version: 2 Effective Date: 1st April 2009 Issued Date: 14th October 2008 Revocation Date: 21st March 2010 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Honeybridge Str.Trib. R.Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	769	2	513610 115570
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Wwtw, London Road Ashington Wwtw, London Road, Ashington, West Sussex, Rh20 3de Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: A01183 Permit Version: 2 Effective Date: 1st April 2009 Issued Date: 14th October 2008 Revocation Date: 21st March 2010 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Honeybridge Str.Trib. R.Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	769	2	513610 115570
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Wwtw, London Road Ashington Wwtw, London Road, Ashington, West Sussex, Rh20 3de Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: A01183 Permit Version: 2 Effective Date: 1st April 2009 Issued Date: 14th October 2008 Revocation Date: 21st March 2010 Discharge Type: Sewage Discharges - Unspecified - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Honeybridge Str.Trib. R.Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	769	2	513610 115570

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Wwtw, London Road Ashington Wwtw, London Road, Ashington, West Sussex, Rh20 3de Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: A01183 Permit Version: 1 Effective Date: 1st October 2003 Issued Date: 19th March 2003 Revocation Date: 31st March 2009 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Honeybridge Str.Trib. R.Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	769	2	513610 115570
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Wwtw, London Road Ashington Wwtw, London Road, Ashington, West Sussex, Rh20 3de Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: A01183 Permit Version: 1 Effective Date: 1st October 2003 Issued Date: 19th March 2003 Revocation Date: 31st March 2009 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Honeybridge Str.Trib. R.Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	769	2	513610 115570
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Wwtw, London Road Ashington Wwtw, London Road, Ashington, West Sussex, Rh20 3de Authority: Environment Agency, Southern Region Catchment Area: Adur Reference: A01183 Permit Version: 1 Effective Date: 1st October 2003 Issued Date: 19th March 2003 Revocation Date: 31st March 2009 Discharge Type: Sewage Discharges - Unspecified - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Honeybridge Str.Trib. R.Adur **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	769	2	513610 115570
3	**Discharge Consents** Operator: Southern Water Services Ltd (S) Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Ashington Stw'S Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: S02621 Permit Version: 1 Effective Date: 8th November 1968 Issued Date: 8th November 1968 Revocation Date: 23rd September 2003 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B5SE (S)	775	2	513620 115580

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	**Discharge Consents** Operator: Mr & Mrs K E Jones Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: Yew Tree Cottage, Billingshurst Road, Ashington, Pulborough, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P06786 Permit Version: 1 Effective Date: 18th June 1997 Issued Date: 18th June 1997 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B13SW (N)	831	2	513280 116750
5	**Discharge Consents** Operator: Mrs Ursula Touche Will Trust Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: Little Martins & Martins Farm, Old London Road, Ashington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P07429 Permit Version: 1 Effective Date: 20th November 1998 Issued Date: 20th November 1998 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B13SW (N)	854	2	513340 116720
6	**Discharge Consents** Operator: Mr N R Whitford Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: Foxes, Billingshurst Road, Ashington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: P04854 Permit Version: 1 Effective Date: 15th June 1993 Issued Date: 15th June 1993 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Land/Soakaway Receiving Water: Into Land **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	B13SW (N)	881	2	513300 116800
7	**Discharge Consents** Operator: Mr Tr Harris Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: Oast House Barn, Billingshurst Road, Ashington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P07075 Permit Version: 1 Effective Date: 22nd January 1998 Issued Date: 22nd January 1998 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	B13SW (N)	921	2	513280 116870

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	**Discharge Consents** Operator: T.Rider Esq. Property Type: Undefined Or Other Location: Oast House Barn, Ashington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: P02525 Permit Version: 1 Effective Date: 31st August 1989 Issued Date: 31st August 1989 Revocation Date: 31st March 1997 Discharge Type: Non Water Company (Private) Sewage Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Lapsed (under Environment Act 1995, Schedule 23)** Positional Accuracy: Located by supplier to within 100m	B13SW (N)	921	2	513280 116870
	Nearest Surface Water Feature	B5NW (W)	382	-	513310 115857
8	**Pollution Incidents to Controlled Waters** Property Type: Agricultural Location: Broadbridge Stream, ASHINGTON Authority: Environment Agency, Southern Region Pollutant: Organic Wastes: Cattle slurry Note: Run Off Of Irrigated Farm Effluent; Other Farming Incident Date: 12th March 1995 Incident Reference: 1241 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Organic Farm Waste Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	B5NW (SW)	501	2	513400 115800
8	**Pollution Incidents to Controlled Waters** Property Type: Paper Industry Location: Broadbridge Farm, ASHINGTON Authority: Environment Agency, Southern Region Pollutant: Organic Wastes: Cattle slurry Note: Watercourse Near Broadbridge Farm Very Murky; Dissolved Oxygen 17-18% Incident Date: 10th September 1998 Incident Reference: 2743 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Inadequate Design/Capacity Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	B5NW (SW)	502	2	513400 115795
9	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Sewage Treatment Works Location: Billingshurst Road, ASHINGTON Authority: Environment Agency, Southern Region Pollutant: Crude Sewage Note: Sewage In Ditch Incident Date: 3rd July 1998 Incident Reference: 2654 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overfilling During Delivery Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	B9NW (N)	748	2	513300 116600
10	**Pollution Incidents to Controlled Waters** Property Type: Dairy Cattle Location: Honybridge Stream, Downstream Sewage Treatment Works, ASHINGTON Authority: Environment Agency, Southern Region Pollutant: Organic Wastes: Yard Washings Note: Dirty Brown Water Incident Date: 31st December 1997 Incident Reference: 2357 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	B5SE (SE)	833	2	513690 115600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	**Pollution Incidents to Controlled Waters** Property Type: Agricultural Location: Malthouse Farm, Tributary Of Honeybridge Stream, ASHINGTON Authority: Environment Agency, Southern Region Pollutant: Oils - Vegetable Oil Note: Alleged Pollution From Fish Farming Operation; Fish Farms Incident Date: 23rd May 1995 Incident Reference: 1319 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Oils/Related Products Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	B5SE (SE)	842	2	513700 115600
11	**Pollution Incidents to Controlled Waters** Property Type: Road Location: Ditch Tributary To West Adur River Authority: Environment Agency, Southern Region Pollutant: Miscellaneous - Inert Suspended Solids Note: Red Coloured Groundwater Discharge Incident Date: 10th September 1993 Incident Reference: 711 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Miscellaneous/Other Pollution Type Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	B13SW (N)	966	2	513500 116695
11	**Pollution Incidents to Controlled Waters** Property Type: Road Location: Ditch To Tributary Of River Adur Authority: Environment Agency, Southern Region Pollutant: Miscellaneous - Inert Suspended Solids Note: Red Groundwater Discharge Incident Date: 14th September 1993 Incident Reference: 716 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Miscellaneous/Other Pollution Type Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	B13SW (N)	969	2	513500 116700
	River Quality Name: Honeybridge Strm GQA Grade: River Quality A Reach: Adur West Conf - Ashington Stw Estimated Distance (km): 5.5 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	B5SE (S)	617	2	513564 115387
12	**Water Abstractions** Operator: Anton Taylor Licence Number: 23/064 Permit Version: Not Supplied Location: Ashington Trout Farm, Hole St Ashington Authority: Environment Agency, Southern Region Abstraction: Fish Farming Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 3500 Yearly Rate (m3): 1277500 Details: Honeybridge Stream; Tributary Adur Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	B5SW (S)	715	2	513530 115530

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Principle Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	(W)	0	3	512594 115717
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Unproductive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	(W)	0	3	512742 116212
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Unproductive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	(W)	0	3	513000 116000
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	(W)	0	3	512881 116154

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Unproductive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	(W)	0	3	513000 115916
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Unproductive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	(W)	0	3	512872 115886
	Groundwater Vulnerability Map Combined Classification: Unproductive Aquifer (may have productive aquifer beneath) Combined Vulnerability: Unproductive Combined Aquifer: Unproductive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	(W)	0	3	512635 115866
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	(SW)	0	3	512750 115588
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	B9SW (N)	0	3	513399 116265
	Bedrock Aquifer Designations Aquifer Designation: Unproductive Strata	B5NW (SW)	0	3	513500 115916
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	B5NW (SW)	0	3	513500 115916
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	(W)	0	3	512872 115886
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	B5SE (S)	194	2	513590 115610
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	B5SE (S)	194	2	513590 115600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
13	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 233.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	(SW)	247	4	513218 115599
14	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 12.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (W)	395	4	513310 115857
15	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 10.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (W)	406	4	513320 115856
16	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 45.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (W)	407	4	513312 115935
17	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 140.1 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (SW)	407	4	513443 115884
18	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 45.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (W)	411	4	513308 115978
19	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (W)	411	4	513309 115976
20	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (W)	416	4	513323 115856

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 19.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (W)	419	4	513342 115850
22	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 28.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B9SW (NW)	420	4	513305 116023
23	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 23.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (SW)	423	4	513296 115706
24	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 96.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B9SW (NW)	427	4	513303 116051
25	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 83.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (SW)	438	4	513422 115826
26	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 84.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SW (SW)	439	4	513315 115584
27	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 64.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B9SW (NW)	454	4	513284 116146
28	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 253.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SW (S)	505	4	513423 115572
29	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 11.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (SW)	520	4	513432 115823

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 1.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (SW)	530	4	513433 115823
31	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 2.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (SW)	530	4	513434 115825
32	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 48.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (SW)	531	4	513455 115813
33	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 50.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (SW)	531	4	513456 115870
34	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 21.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (SW)	537	4	513459 115869
35	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 49.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (SW)	554	4	513463 115866
36	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 76.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (S)	578	4	513478 115803
37	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 91.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (S)	595	4	513499 115840
38	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (S)	647	4	513543 115768

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
39	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 231.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (S)	651	4	513549 115766
40	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NW (S)	651	4	513546 115769
41	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 161.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (S)	716	4	513581 115576
42	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 10.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 2	B5SW (S)	717	4	513539 115544
43	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 126.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 2	B5SE (S)	727	4	513598 115559
44	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (S)	820	4	513619 115474
45	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 33.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (S)	821	4	513645 115493
46	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 139.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (S)	822	4	513616 115465
47	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (S)	822	4	513617 115468

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
48	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 41.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (SE)	828	4	513683 115593
49	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 45.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (SE)	831	4	513668 115550
50	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 30.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (SE)	831	4	513668 115550
51	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 13.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (S)	833	4	513652 115504
52	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 10.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (S)	835	4	513658 115512
53	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 105.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (S)	837	4	513658 115512
54	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 183.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NE (E)	856	4	513761 115898
55	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 8.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (SE)	858	4	513703 115558
56	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (SE)	860	4	513704 115560

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
57	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 415.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (SE)	860	4	513716 115568
58	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 3.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NE (E)	867	4	513769 115975
59	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 218.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B1NE (S)	869	4	513591 115329
60	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NE (SE)	874	4	513775 115796
61	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B1NE (S)	876	4	513591 115333
62	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 187.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5NE (SE)	876	4	513776 115791
63	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 54.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B1NW (S)	893	4	513444 115167
64	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 5.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B1NW (S)	896	4	513406 115135
65	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B1NW (S)	897	4	513448 115163

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
66	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B1NW (S)	903	4	513452 115159
67	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B1NW (S)	905	4	513459 115162
68	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 53.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B9NW (N)	918	4	513469 116656
69	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 106.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B9NW (N)	969	4	513512 116682
70	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B13SW (N)	972	4	513255 116956
71	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 20.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (SE)	980	4	513848 115610
72	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 7.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (SE)	990	4	513862 115626
73	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 71.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Adur and Teville Primacy: 1	B5SE (SE)	995	4	513866 115620

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Ashington, Sussex Name: Broadbridge Farm Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD19995 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Deposited Waste included Inert Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: WD27/303	B5SW (S)	451	2	513436 115670
75	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Ashington, Sussex Name: East Wolves Farm Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD20016 First Input Date: 31st December 1985 Last Input Date: 31st December 1985 Specified Waste Type: Deposited Waste included Inert Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 3800/8222 BGS Ref: Not Supplied Other Ref: WD27/020	B9NE (N)	860	2	513620 116373
	Local Authority Landfill Coverage Name: Horsham District Council - Has supplied landfill data		0	5	513500 115916
	Local Authority Landfill Coverage Name: West Sussex County Council - Has supplied landfill data		0	6	513500 115916
76	**Local Authority Recorded Landfill Sites** Location: Broadbridge Farm, Ashington Reference: 27/303 Authority: Horsham District Council, Environmental Health Department **Last Reported Status:** **Not Supplied** Types of Waste: Inert Date of Closure: Not Supplied Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Applicable	B5SW (S)	568	5	513400 115600
77	**Local Authority Recorded Landfill Sites** Location: Broadbridge Farm, East Of New A24 Ashington By-Pass, Ashington Reference: AS/34/93 Authority: West Sussex County Council, Environment & Development **Last Reported Status:** **Unknown** Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Applicable	B5SW (S)	657	6	513500 115600
78	**Local Authority Recorded Landfill Sites** Location: East Wolves Farm, Ashington Reference: AS/10/94 Authority: West Sussex County Council, Environment & Development **Last Reported Status:** **Not Supplied** Types of Waste: Spoil From Roadworks Date of Closure: Not Supplied Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Applicable	B9NE (N)	922	6	513600 116500
79	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1961	B5NW (W)	425	-	513330 115911

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
80	**Registered Landfill Sites** Licence Holder: M Daly Contractors Ltd Licence Reference: WSX/L1/0081 Site Location: Broadridge Farm, Ashington, Pulborough, West Sussex Licence Easting: 513500 Licence Northing: 115600 Operator Location: Little Knox Farm, Capstone Road, GILLINGHAM, Kent, ME7 3JF Authority: Environment Agency - Southern Region, Sussex Area Site Category: Landfill Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source Restrictions: Waste produced/controlled by licence holder Status: Licence has completion certificateSurrendered Dated: 1st March 1994 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Accuracy: Not Applicable Authorised Waste: Clay, Top/Subsoils Max.Total Deposit Permitted Prohibited Waste: Hazardous Wastes Waste N.O.S.	B5SW (S)	657	2	513500 115600
81	**Registered Landfill Sites** Licence Holder: M Daly Contractors Ltd Licence Reference: WSX/L1/0099 Site Location: East Wolves Farm, East Of A24, Ashington, Pulborough, West Sussex Licence Easting: 513650 Licence Northing: 116450 Operator Location: Little Knox Farm, Capstone Road, GILLINGHAM, Kent, ME7 3JF Authority: Environment Agency - Southern Region, Sussex Area Site Category: Landfill Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: Waste produced/controlled by licence holder Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st June 1994 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Clay, Top/Subsoils Max.Waste Permitted By Licence Prohibited Waste: Hazardous Materials Waste N.O.S.	B9NE (N)	929	2	513650 116450

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Wealden Group	B5NW (SW)	0	1	513500 115916
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment 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	B5NW (N)	0	1	513494 116004
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 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	B5NW (SW)	0	1	513500 115916
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 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	B13SW (N)	775	1	513322 116907
	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: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	B5NW (SW)	0	1	513500 115916
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	B9SW (N)	0	1	513399 116265
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	B9NW (N)	181	1	513404 116492
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B5NW (SW)	0	1	513500 115916
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B5SW (S)	200	1	513409 115638
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B5NW (SW)	0	1	513500 115916
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	B5SW (S)	200	1	513409 115638
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B5NW (SW)	0	1	513500 115916

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B5NW (SW)	0	1	513500 115916
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	B5NW (SW)	0	1	513500 115916
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B5NW (N)	37	1	513494 116004
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	B5SW (S)	200	1	513409 115638
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	B5NW (SW)	0	1	513500 115916
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B9SW (N)	61	1	513399 116265
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	B9NW (N)	187	1	513404 116492
	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	B5NW (SW)	0	1	513500 115916
	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	B5NW (SW)	0	1	513500 115916

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
82	**Contemporary Trade Directory Entries** Name: Acs Location: Hoots House, London Road, Ashington, Pulborough, West Sussex, RH20 3DD Classification: Salvage Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B5SW (SW)	374	-	513223 115681
83	**Contemporary Trade Directory Entries** Name: Hometyre Ashington - Mobile Tyre Service Location: London Road, Ashington, Pulborough, West Sussex, RH20 3DD Classification: Tyre Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	B9SW (NW)	378	-	513256 116036
84	**Contemporary Trade Directory Entries** Name: I A Mackinnon Location: Blue Bird Cottage, London Road, Ashington, Pulborough, West Sussex, RH20 3JR Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B9SW (NW)	446	-	513250 116178
85	**Contemporary Trade Directory Entries** Name: Hitek Location: Penmaen House, London Road, Ashington, Pulborough, RH20 3JR Classification: Testing, Inspection & Calibration Equipment Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	B9SW (NW)	572	-	513262 116341
85	**Contemporary Trade Directory Entries** Name: Jarltech Europe G M B H Location: PENMAEN HOUSE, LONDON ROAD, ASHINGTON, PULBOROUGH, RH20 3JR Classification: Cash Registers & Check-Out Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	B9SW (NW)	572	-	513262 116341
86	**Contemporary Trade Directory Entries** Name: Ashington Automobile Company Location: London Road, Ashington, Pulborough, RH20 3JR Classification: Car Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	B9NW (NW)	621	-	513271 116397
86	**Contemporary Trade Directory Entries** Name: Ashington Automobile Co Location: London Road, Ashington, Pulborough, West Sussex, RH20 3JR Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	B9NW (NW)	621	-	513277 116393
87	**Contemporary Trade Directory Entries** Name: B P Service Station Location: M and S At, Petrol Filling Station, London Road, Ashington, RH20 3AT Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	B9NW (N)	837	-	513409 116598
88	**Fuel Station Entries** Name: Ashington Sf Connect Location: London Road A24, Ashington , Pulborough, West Sussex, RH20 3AT Brand: Bp Premises Type: Service Area **Status: Open** Positional Accuracy: Manually positioned to the address or location	B9NW (N)	837	-	513409 116599
89	**Points of Interest - Commercial Services** Name: I A Mackinnon Location: Blue Bird Cottage, London Road, Ashington, Pulborough, RH20 3JR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B9SW (NW)	446	7	513250 116178
89	**Points of Interest - Commercial Services** Name: Blue Bird Garage Location: London Road, Ashington, Pulborough, RH20 3JR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B9SW (NW)	447	7	513270 116153

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
90	**Points of Interest - Commercial Services** Name: Ashtington Automobile Company Location: London Road, Ashington, Pulborough, RH20 3JR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B9NW (NW)	621	7	513277 116393
90	**Points of Interest - Commercial Services** Name: Ashington Automobile Company Location: London Road, Ashington, Pulborough, RH20 3JR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	B9NW (NW)	621	7	513276 116392
91	**Points of Interest - Commercial Services** Name: B P Car Wash Location: London Road, Ashington, Pulborough, RH20 3AT Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	B9NW (N)	872	7	513457 116587
92	**Points of Interest - Manufacturing and Production** Name: Works Location: RH20 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	B5SW (S)	664	7	513520 115627
92	**Points of Interest - Manufacturing and Production** Name: Works Location: RH20 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	B5SW (S)	665	7	513520 115626
92	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	B5SW (S)	668	7	513524 115627
93	**Points of Interest - Manufacturing and Production** Name: Solar Panels Location: RH20 Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to an adjacent address or location	B9SE (N)	750	7	513596 116186
94	**Points of Interest - Public Infrastructure** Name: BP Service Station Location: London Road, Ashington, Pulborough, RH20 3AT Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	B9NW (N)	837	7	513409 116599
95	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	B5NW (W)	444	7	513349 115913
95	**Points of Interest - Recreational and Environmental** Name: Playground Location: Turnpike Way, RH20 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	B5NW (W)	444	7	513349 115919

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
96	**Ancient Woodland** Name: Not Supplied Reference: 1478394 Area(m²): 3802.04 Type: Ancient and Semi-Natural Woodland	(W)	79	8	512607 115640
97	**Ancient Woodland** Name: America Wood Reference: 1478903 Area(m²): 47148.24 Type: Ancient and Semi-Natural Woodland	B9SW (NW)	537	8	513427 116024
98	**Ancient Woodland** Name: Not Supplied Reference: 1478395 Area(m²): 6913.94 Type: Ancient and Semi-Natural Woodland	(SW)	662	8	513045 115112
99	**Ancient Woodland** Name: Not Supplied Reference: 1478121 Area(m²): 12700.76 Type: Ancient and Semi-Natural Woodland	(S)	863	8	513110 114970
100	**Ancient Woodland** Name: Not Supplied Reference: 1478899 Area(m²): 37048.13 Type: Plantation on Ancient Woodland	B5SE (SE)	998	8	513776 115392

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Horsham District Council - Environmental Health Department	February 2015	Annual Rolling Update
Environment Agency - Head Office	June 2020	Annually
Discharge Consents		
Environment Agency - Southern Region	July 2021	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Southern Region	March 2013	
Integrated Pollution Controls		
Environment Agency - Southern Region	January 2009	
Integrated Pollution Prevention And Control		
Environment Agency - South East Region - Solent & South Downs Area	July 2021	Quarterly
Environment Agency - Southern Region	July 2021	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Horsham District Council - Environmental Health Department	June 2015	Variable
Local Authority Pollution Prevention and Controls		
Horsham District Council - Environmental Health Department	June 2015	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
Horsham District Council - Environmental Health Department	June 2015	Variable
Nearest Surface Water Feature		
Ordnance Survey	August 2021	
Pollution Incidents to Controlled Waters		
Environment Agency - Southern Region	December 1999	
Prosecutions Relating to Authorised Processes		
Environment Agency - Southern Region	July 2015	
Prosecutions Relating to Controlled Waters		
Environment Agency - Southern Region	March 2013	
Registered Radioactive Substances		
Environment Agency - Southern Region	June 2016	Annually
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	April 2012	Annually
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	April 2012	Annually
Substantiated Pollution Incident Register		
Environment Agency - South East Region - Solent & South Downs Area	July 2021	Quarterly
Environment Agency - Southern Region - Solent and South Downs	July 2021	Quarterly
Environment Agency - Southern Region - Sussex Area	July 2021	Quarterly
Water Abstractions		
Environment Agency - Southern Region	July 2021	Quarterly
Water Industry Act Referrals		
Environment Agency - Southern Region	October 2017	Quarterly
Groundwater Vulnerability Map		
Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations		
Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations		
Environment Agency - Head Office	January 2018	Annually
Source Protection Zones		
Environment Agency - Head Office	May 2021	Bi-Annually

Agency & Hydrological	Version	Update Cycle
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2021	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2021	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	September 2021	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	September 2021	Quarterly
Flood Defences Environment Agency - Head Office	September 2021	Quarterly
OS Water Network Lines Ordnance Survey	July 2021	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	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	November 2002	Not Applicable
Historical Landfill Sites		
Environment Agency - Head Office	May 2021	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Southern Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - South East Region - Solent & South Downs Area	July 2021	Quarterly
Environment Agency - Southern Region - Solent and South Downs	July 2021	Quarterly
Environment Agency - Southern Region - Sussex Area	July 2021	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - South East Region - Solent & South Downs Area	July 2021	Quarterly
Environment Agency - Southern Region - Solent and South Downs	July 2021	Quarterly
Environment Agency - Southern Region - Sussex Area	July 2021	Quarterly
Local Authority Landfill Coverage		
Horsham District Council - Environmental Health Department	February 2003	Not Applicable
West Sussex County Council - Environment & Development	February 2003	Not Applicable
Local Authority Recorded Landfill Sites		
Horsham District Council - Environmental Health Department	October 2018	
West Sussex County Council - Environment & Development	October 2018	
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	
Registered Landfill Sites		
Environment Agency - Southern Region - Solent and South Downs	March 2006	Not Applicable
Environment Agency - Southern Region - Sussex Area	March 2006	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Southern Region - Solent and South Downs	April 2018	
Environment Agency - Southern Region - Sussex Area	April 2018	
Registered Waste Treatment or Disposal Sites		
Environment Agency - Southern Region - Solent and South Downs	June 2015	
Environment Agency - Southern Region - Sussex Area	June 2015	

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements		
Horsham District Council - Planning Department	August 2015	Variable
West Sussex County Council - Environment & Development	October 2006	Annual Rolling Update
Planning Hazardous Substance Consents		
Horsham District Council - Planning Department	August 2015	Variable
West Sussex County Council - Environment & Development	October 2006	Annual Rolling Update

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2021	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	As notified
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	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	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually
Industrial Land Use	**Version**	**Update Cycle**
Contemporary Trade Directory Entries Thomson Directories	July 2021	Quarterly
Fuel Station Entries Catalist Ltd - Experian	August 2021	Quarterly
Gas Pipelines National Grid	October 2021	Annually
Points of Interest - Commercial Services PointX	September 2021	Quarterly
Points of Interest - Education and Health PointX	September 2021	Quarterly
Points of Interest - Manufacturing and Production PointX	September 2021	Quarterly
Points of Interest - Public Infrastructure PointX	September 2021	Quarterly
Points of Interest - Recreational and Environmental PointX	September 2021	Quarterly
Underground Electrical Cables National Grid	May 2021	Annually

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	February 2021	Bi-Annually
Areas of Adopted Green Belt		
Horsham District Council - Planning Department	October 2020	Quarterly
South Downs National Park	October 2020	Quarterly
Areas of Unadopted Green Belt		
Horsham District Council - Planning Department	October 2020	Quarterly
South Downs National Park	October 2020	Quarterly
Areas of Outstanding Natural Beauty		
Natural England	January 2021	Bi-Annually
Environmentally Sensitive Areas		
Natural England	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	February 2021	Bi-Annually
Marine Nature Reserves		
Natural England	July 2019	Bi-Annually
National Nature Reserves		
Natural England	January 2021	Bi-Annually
National Parks		
Natural England	February 2018	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones		
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	April 2016	
Environment Agency - Head Office	June 2017	Bi-Annually
Ramsar Sites		
Natural England	August 2020	Bi-Annually
Sites of Special Scientific Interest		
Natural England	February 2021	Bi-Annually
Special Areas of Conservation		
Natural England	July 2020	Bi-Annually
Special Protection Areas		
Natural England	February 2021	Bi-Annually

Data Suppliers

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	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Stantec UK Ltd	

Useful Contacts

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.gov.uk
5	**Horsham District Council - Environmental Health Department** Park House, North Street, Horsham, Sussex, RH12 1RL	Telephone: 01403 215100 Fax: 01403 732790 Website: www.horsham.gov.uk
6	**West Sussex County Council - Environment & Development** County Hall, Tower hall, Chichester, West Sussex, PO19 1RH	Telephone: 01243 777100 Website: www.westsussex.gov.uk
7	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
8	**Natural England** County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.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** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.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
	SLIP	Landslide Deposit	Clay	Not Supplied - Quaternary

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	AC	Atherfield Clay Formation	Mudstone	Not Supplied - Aptian
	LGS	Lower Greensand Group	Sandstone, Silty	Not Supplied - Aptian
	WC	Weald Clay Formation	Sandstone	Not Supplied - Hauterivian
	WC	Weald Clay Formation	Mudstone	Not Supplied - Hauterivian
	WC	Weald Clay Formation	Limestone	Not Supplied - Hauterivian
		Faults		

RSK

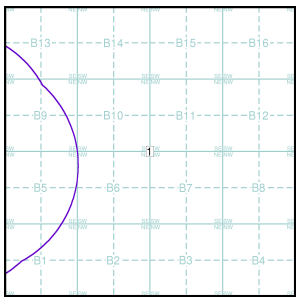
Geology 1:50,000 Maps

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:	**318**
Map Name:	**Brighton and W**
Map Date:	**2006**
Bedrock Geology:	**Available**
Superficial Geology:	**Available**
Artificial Geology:	**Available**
Faults:	**Not Supplied**
Landslip:	**Available**
Rock Segments:	**Not Supplied**

Geology 1:50,000 Maps - Slice B

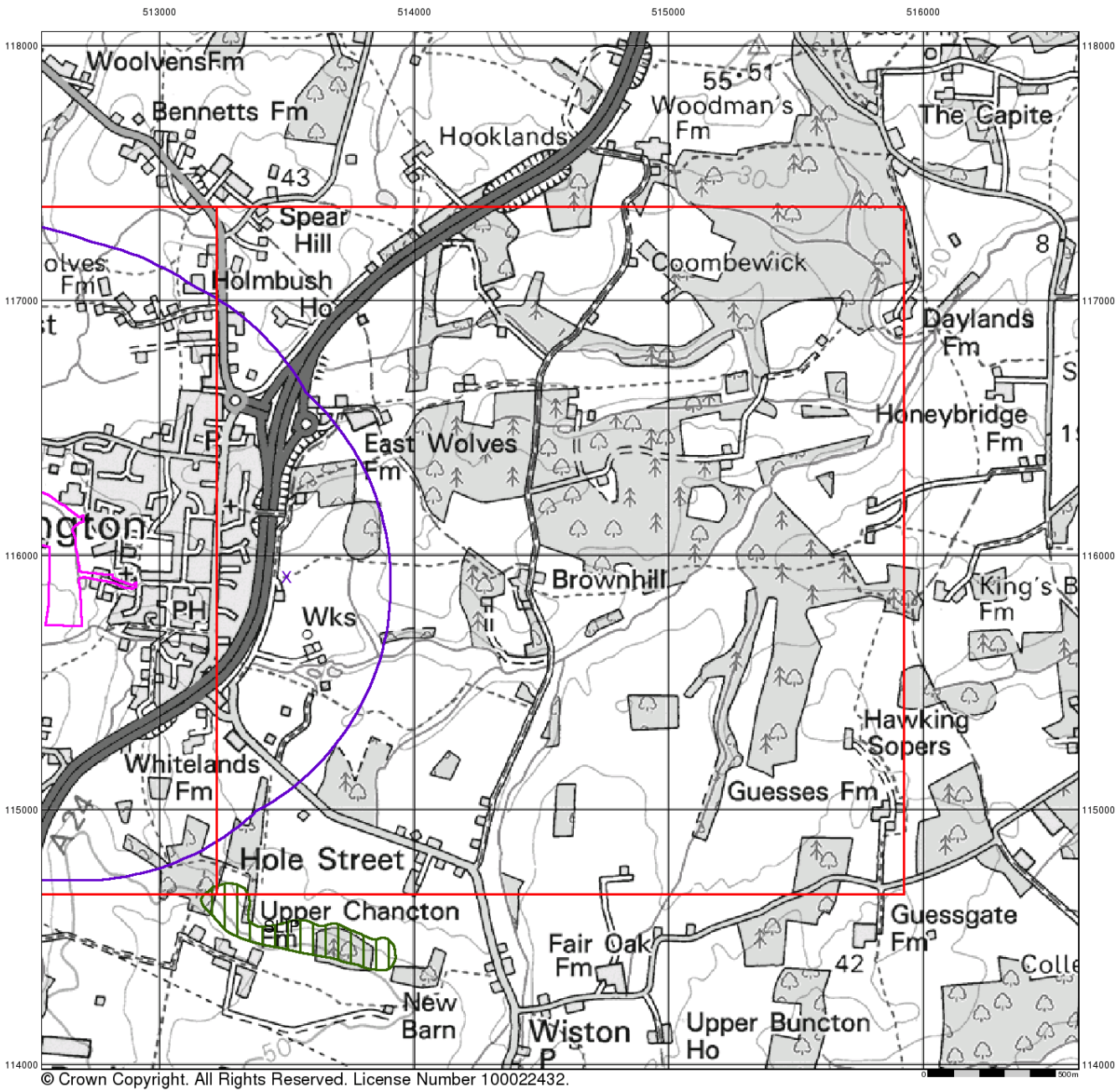


Order Details:

Order Number:	287518451_1_1
Customer Reference:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details:

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX



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Artificial Ground and Landslip

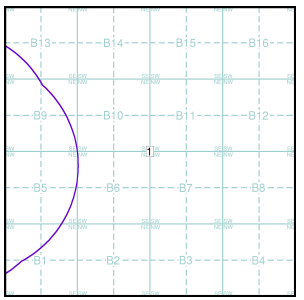
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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



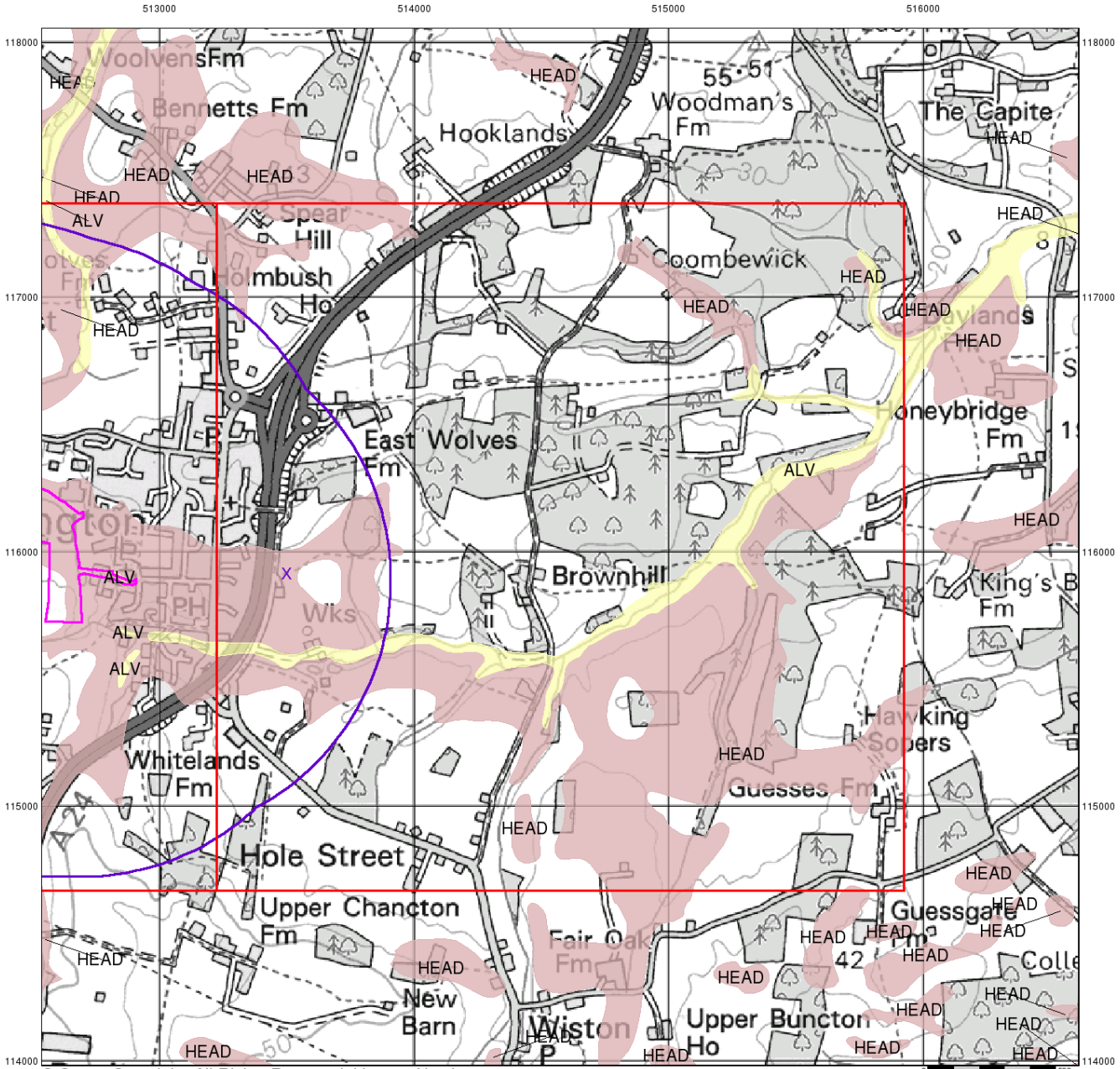
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Order Number:	287518451_1_1
Customer Reference:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details:

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Fax: 0844 844 9951
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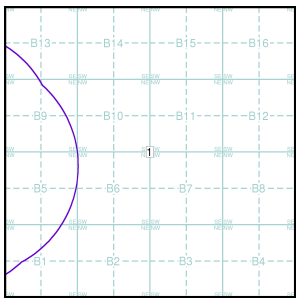
Superficial Geology

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 B



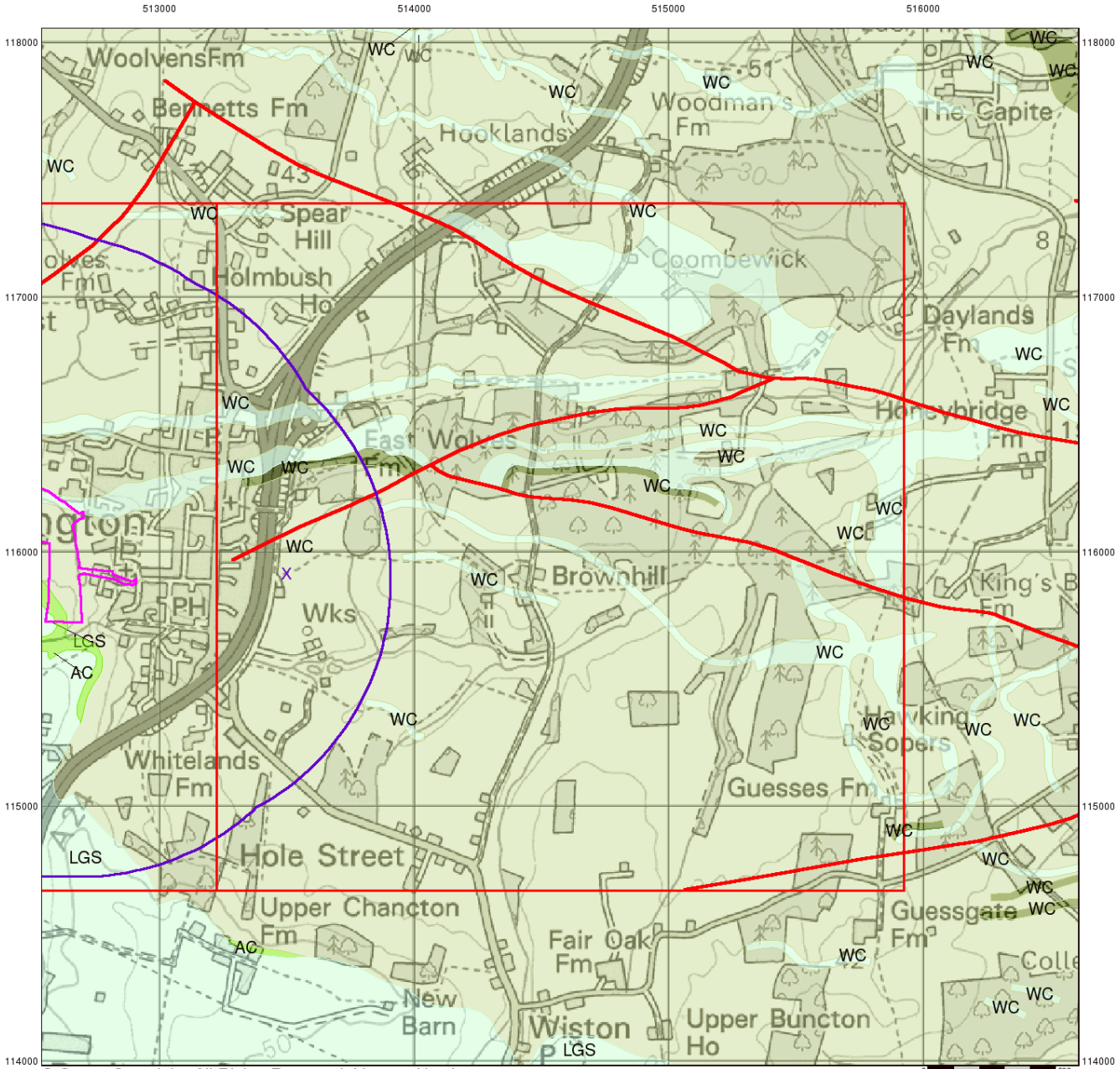
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Bedrock and Faults

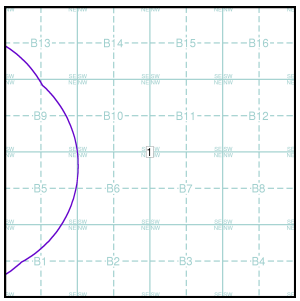
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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 B

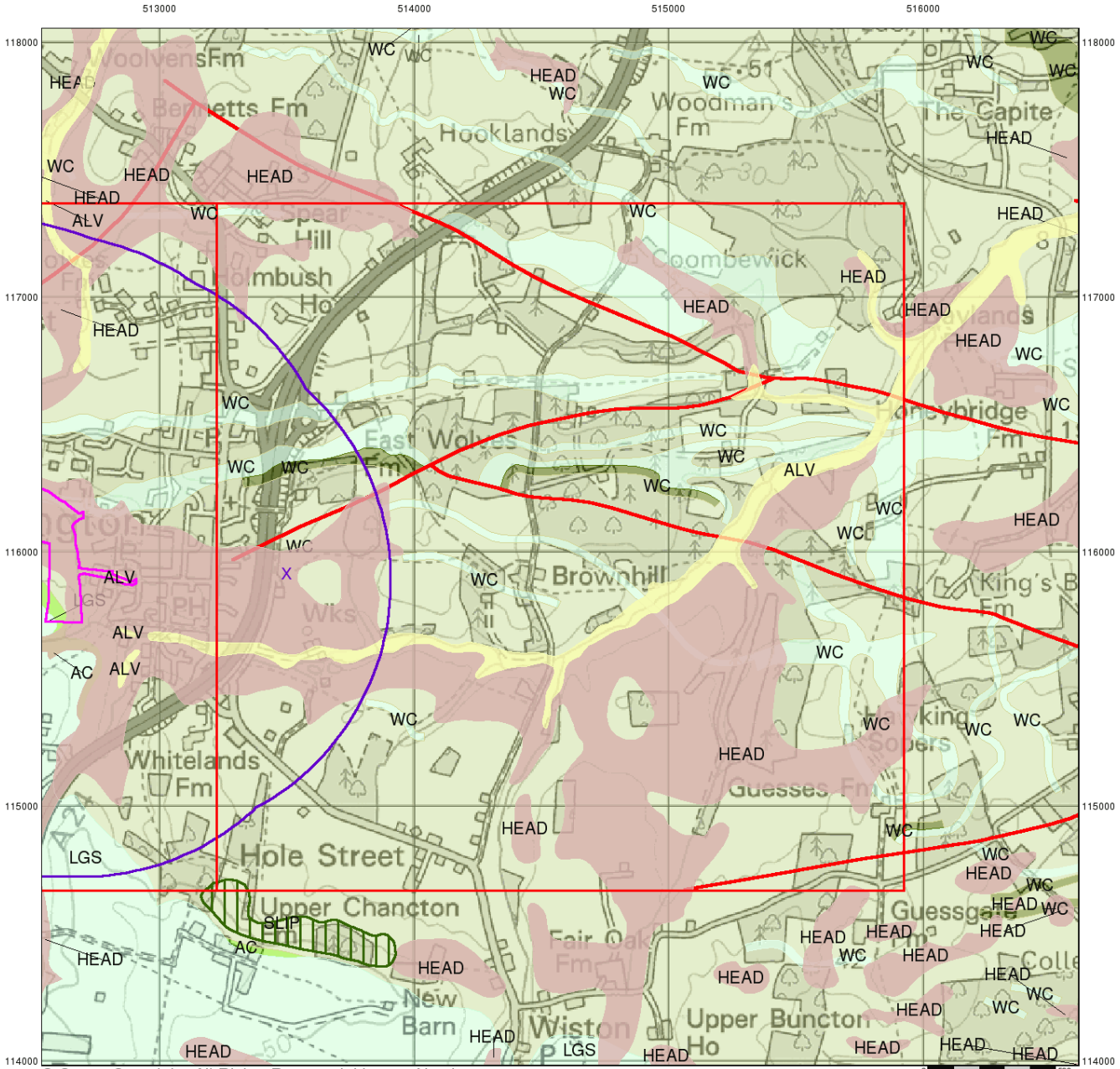


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Combined Surface Geology

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.

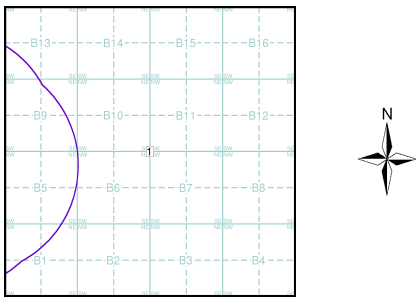
Additional Information

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 B



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Site Details:

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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
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
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
Co. Boro. Bdy.
County Borough Boundary (England)
Co. Burgh Bdy.
County Burgh Boundary (Scotland)
R.D. Bdy.
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
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Pylon
Electricity Transmission Line
Sloping Masonry
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
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
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

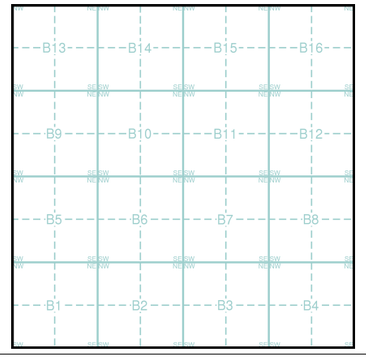
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Mud
Sand
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or 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
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m 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

RSK

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Sussex	1:10,560	1879	2
Sussex	1:10,560	1898	3
Sussex	1:10,560	1913 - 1914	4
Sussex	1:10,560	1914	5
Historical Aerial Photography	1:10,560	1947 - 1948	6
Sussex	1:10,560	1952	7
Ordnance Survey Plan	1:10,000	1961	8
Ordnance Survey Plan	1:10,000	1971 - 1977	9
Ordnance Survey Plan	1:10,000	1982	10
Ordnance Survey Plan	1:10,000	1993	11
10K Raster Mapping	1:10,000	2000	12
10K Raster Mapping	1:10,000	2006	13
VectorMap Local	1:10,000	2021	14

Historical Map - Slice B



Order Details

Order Number: 287518451_1_1
Customer Ref: 52368
National Grid Reference: 513500, 115920
Slice: B
Site Area (Ha): 15.35
Search Buffer (m): 1000

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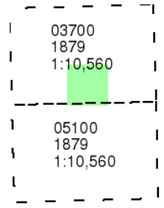
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Published 1879

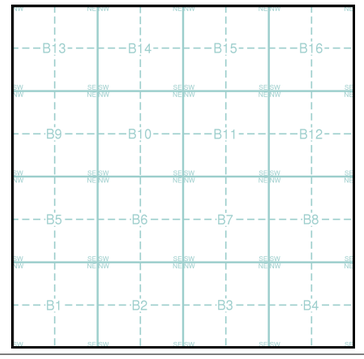
Source map scale - 1:10,560

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 B



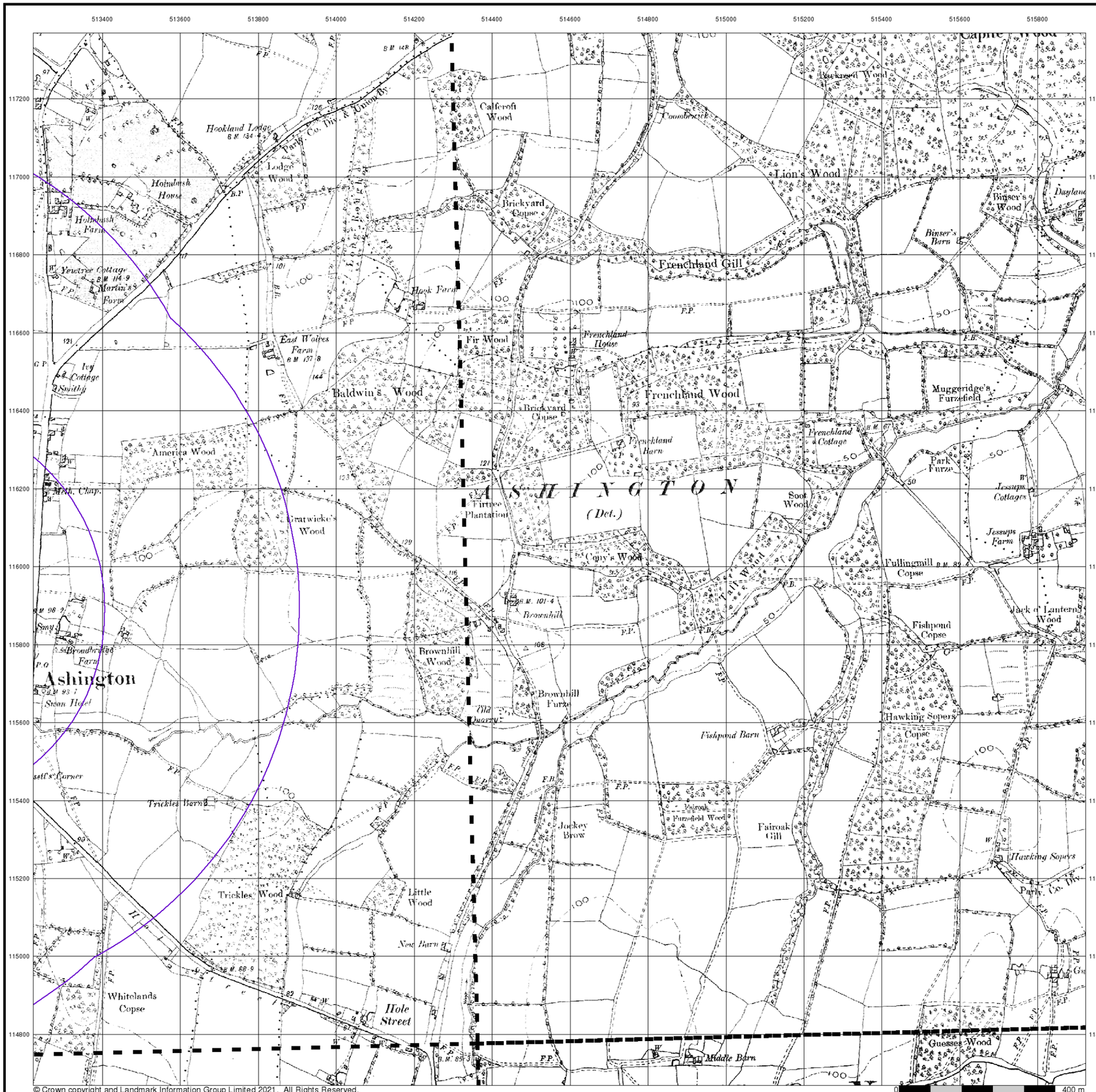
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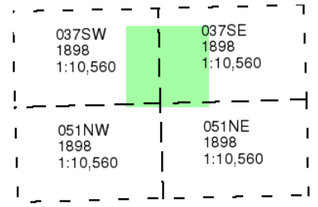
Sussex

Published 1898

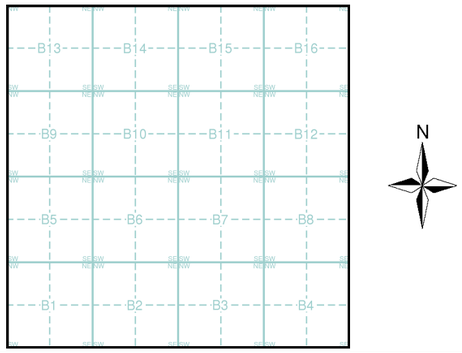
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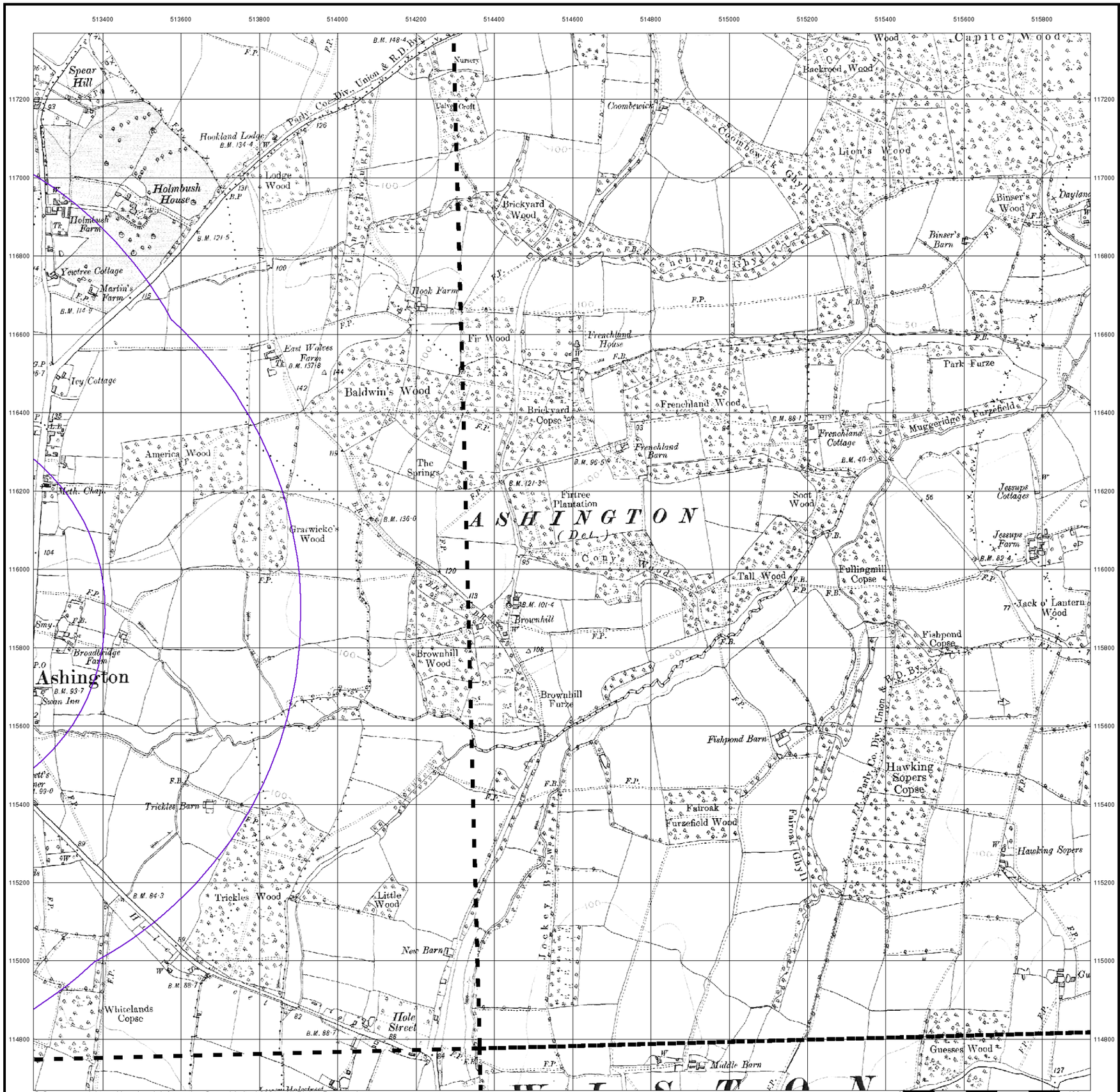
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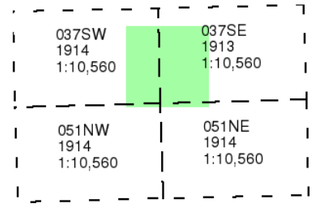
Sussex

Published 1913 - 1914

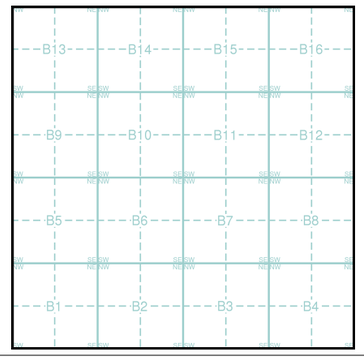
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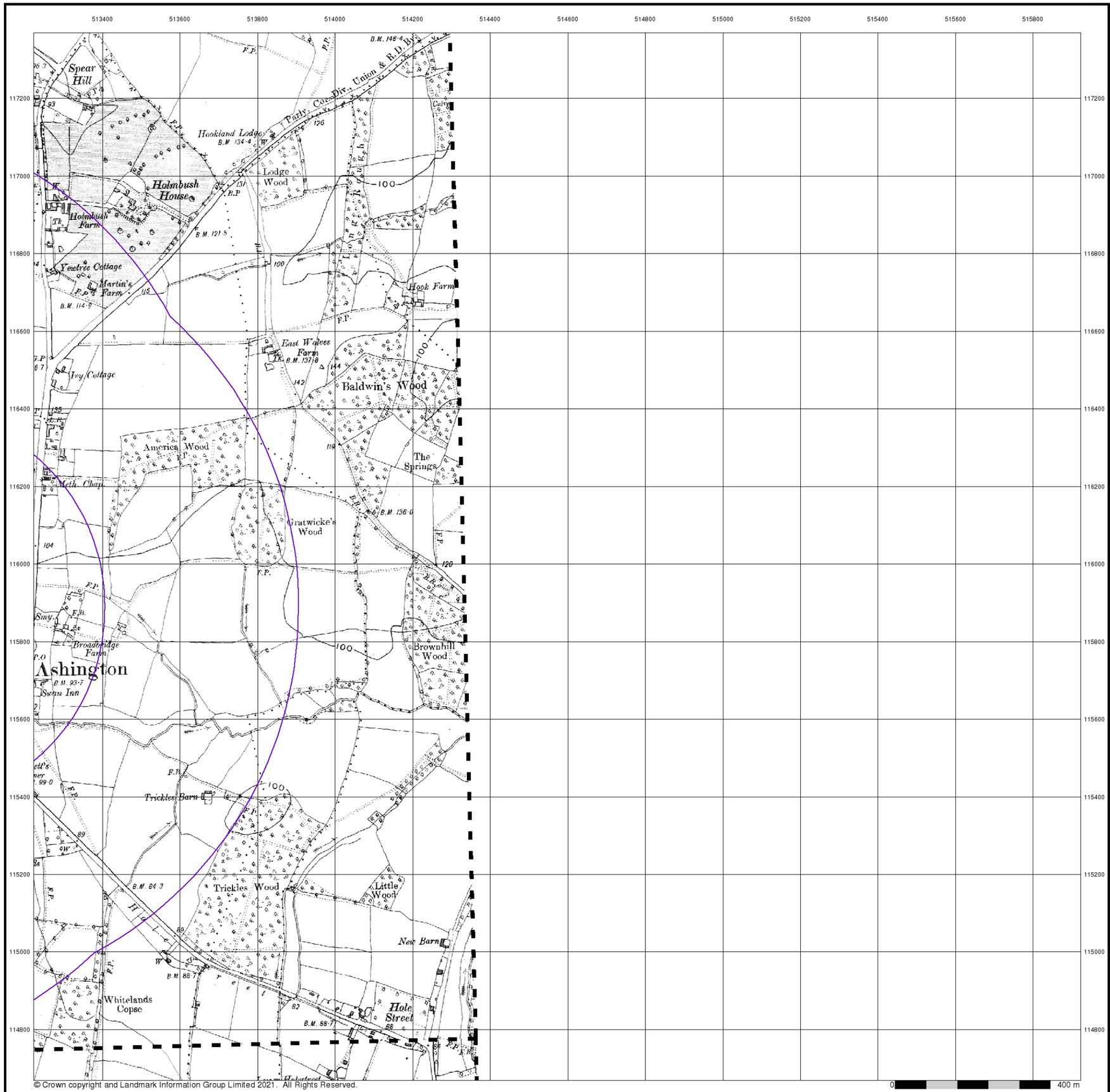
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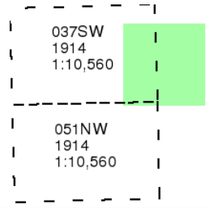
Sussex

Published 1914

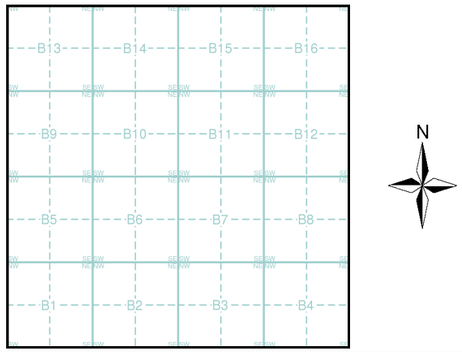
Source map scale - 1:10,560

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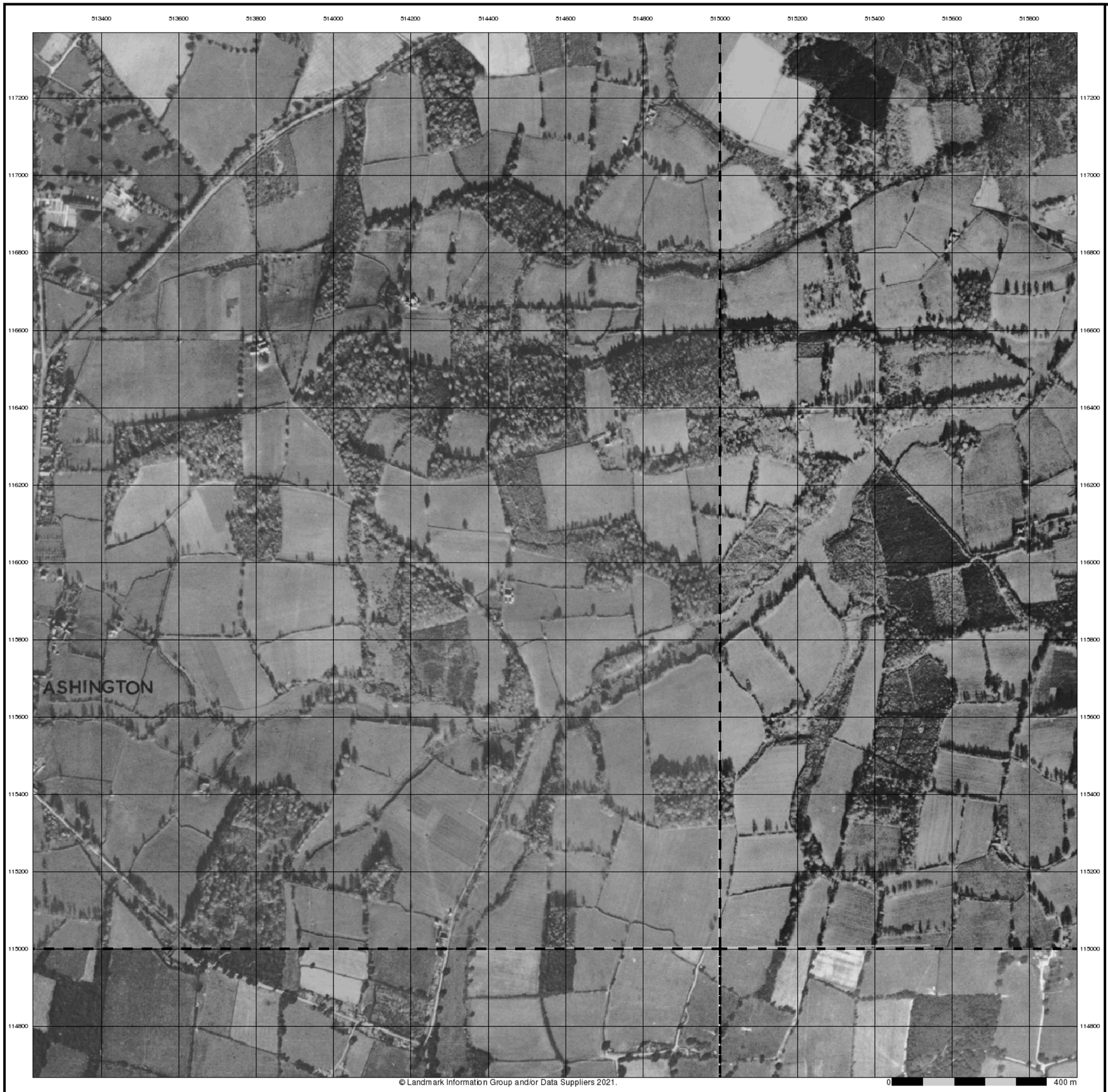
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Historical Aerial Photography

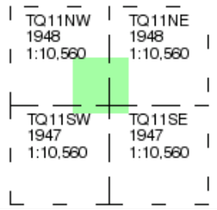
Published 1947 - 1948

Source map scale - 1:10,560

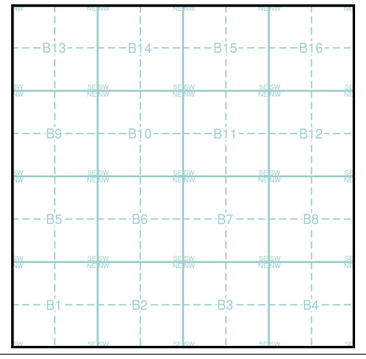
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 1950's meant that every photograph was re-checked for potentially unsafe information with security sites replaced by fake fields or clouds. The original editions were withdrawn and only later made available after a period of fifty years although due to the accuracy of the editing, without viewing both revisions it is not easy to spot the edits. Where available Landmark have included both revisions.

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Map Name(s) and Date(s)



Historical Aerial Photography - Slice B



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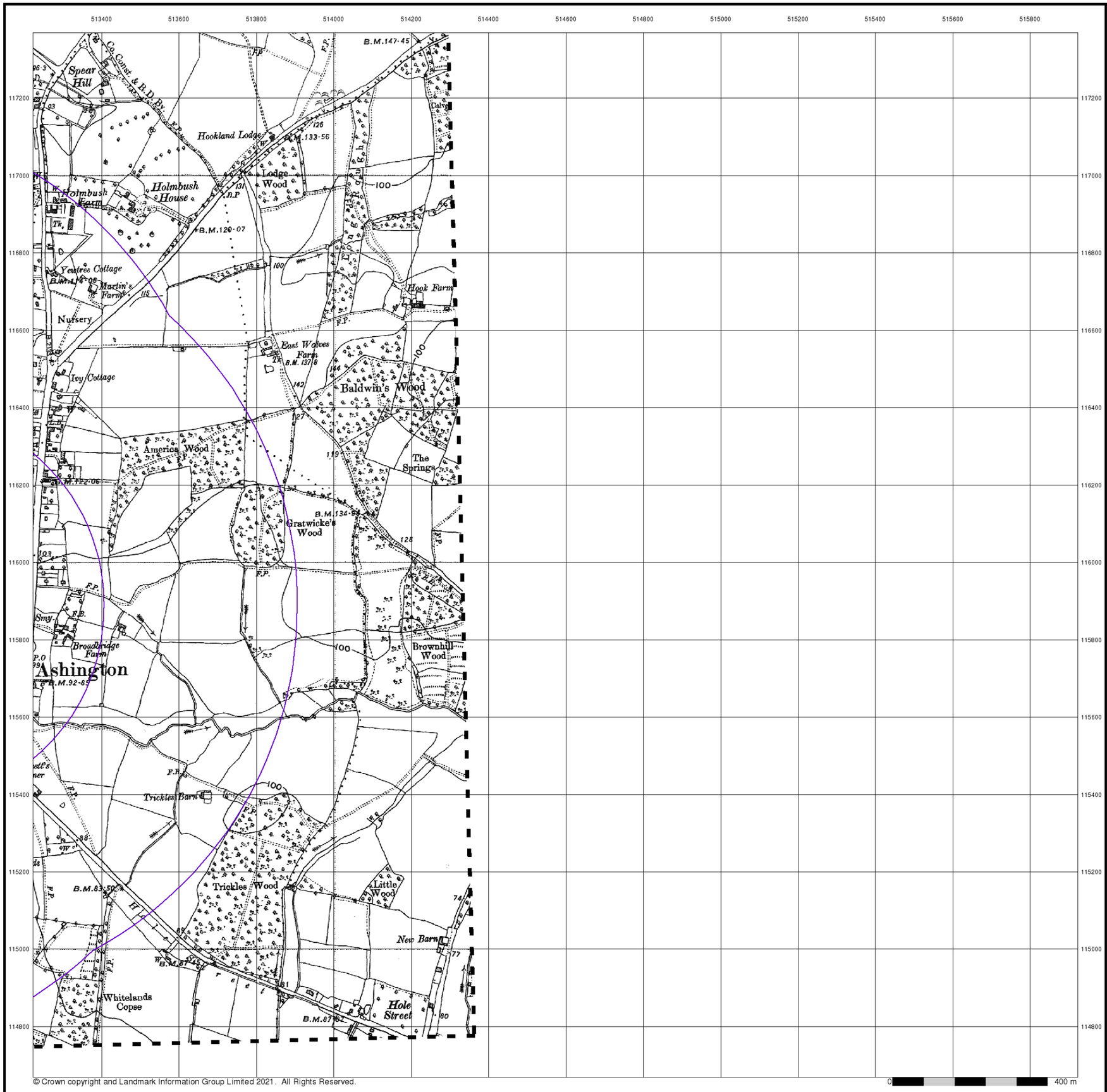
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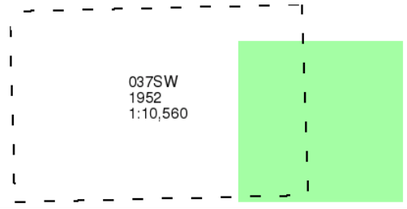
Sussex

Published 1952

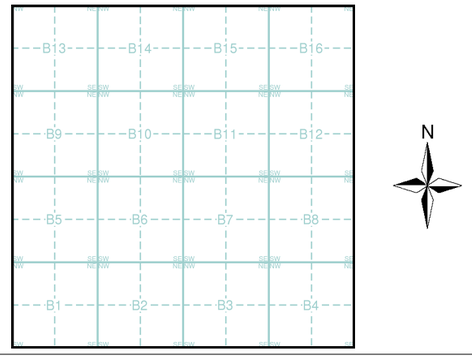
Source map scale - 1:10,560

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 B



Order Details

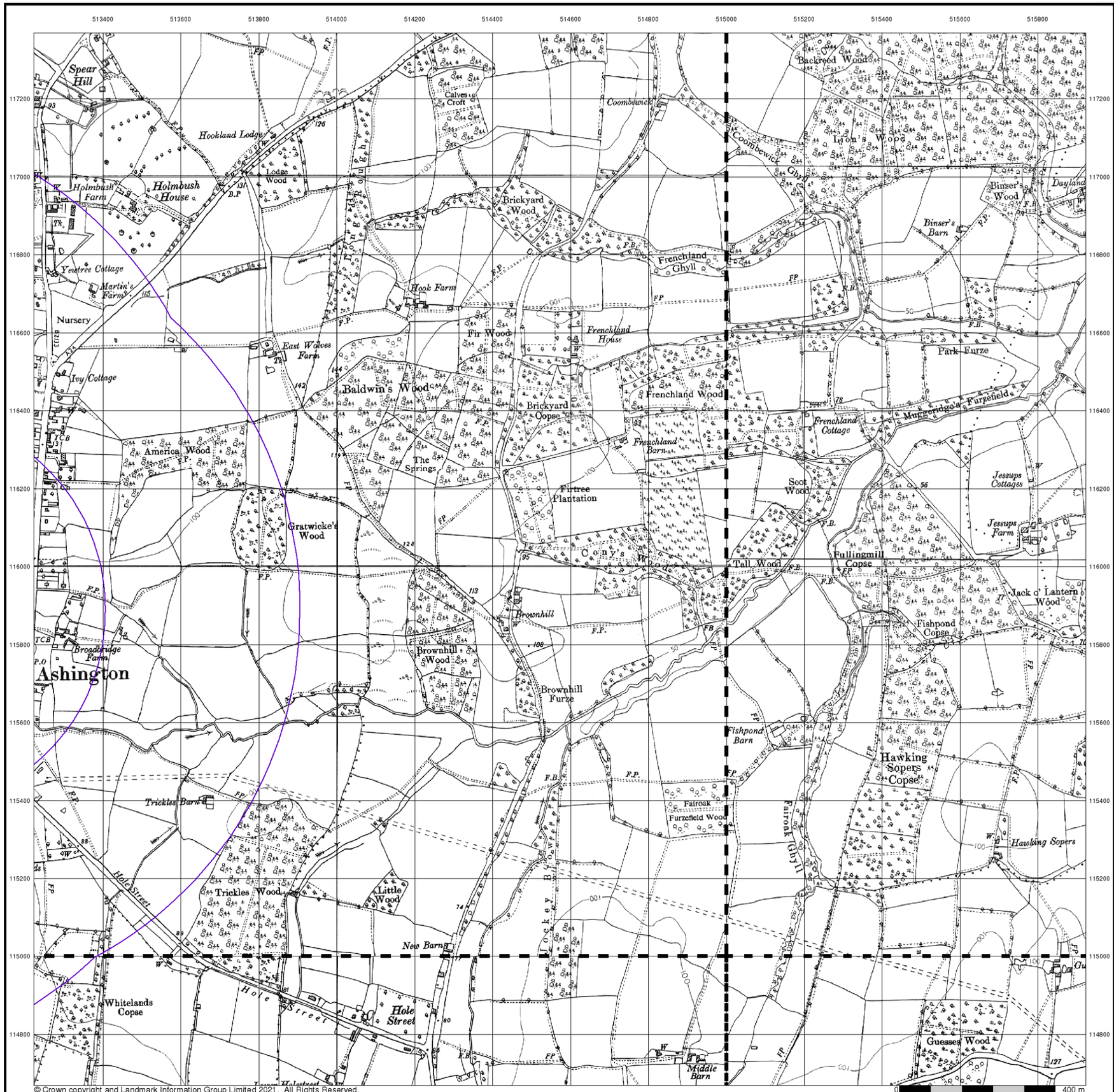
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

Landmark INFORMATION GROUP

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Web: www.envirocheck.co.uk



RSK

Ordnance Survey Plan

Published 1961

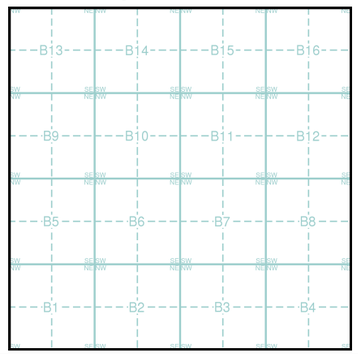
Source map scale - 1:10,000

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)

TQ11NW 1961 1:10,560	TQ11NE 1961 1:10,560
TQ11SW 1961 1:10,560	TQ11SE 1961 1:10,560

Historical Map - Slice B



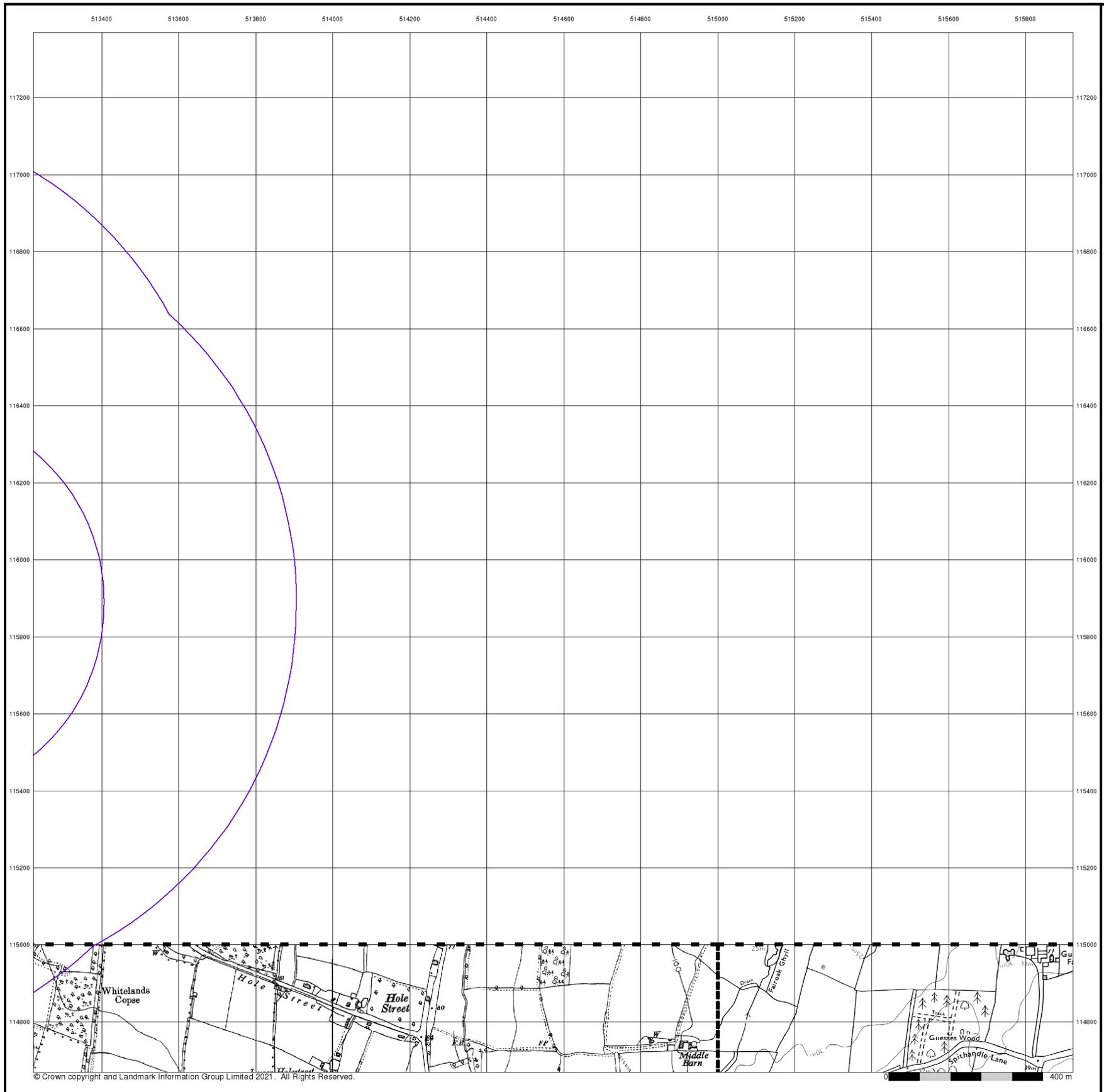
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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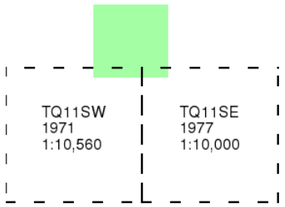
Ordnance Survey Plan

Published 1971 - 1977

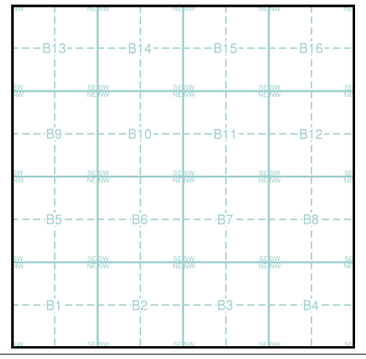
Source map scale - 1:10,000

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 B



Order Details

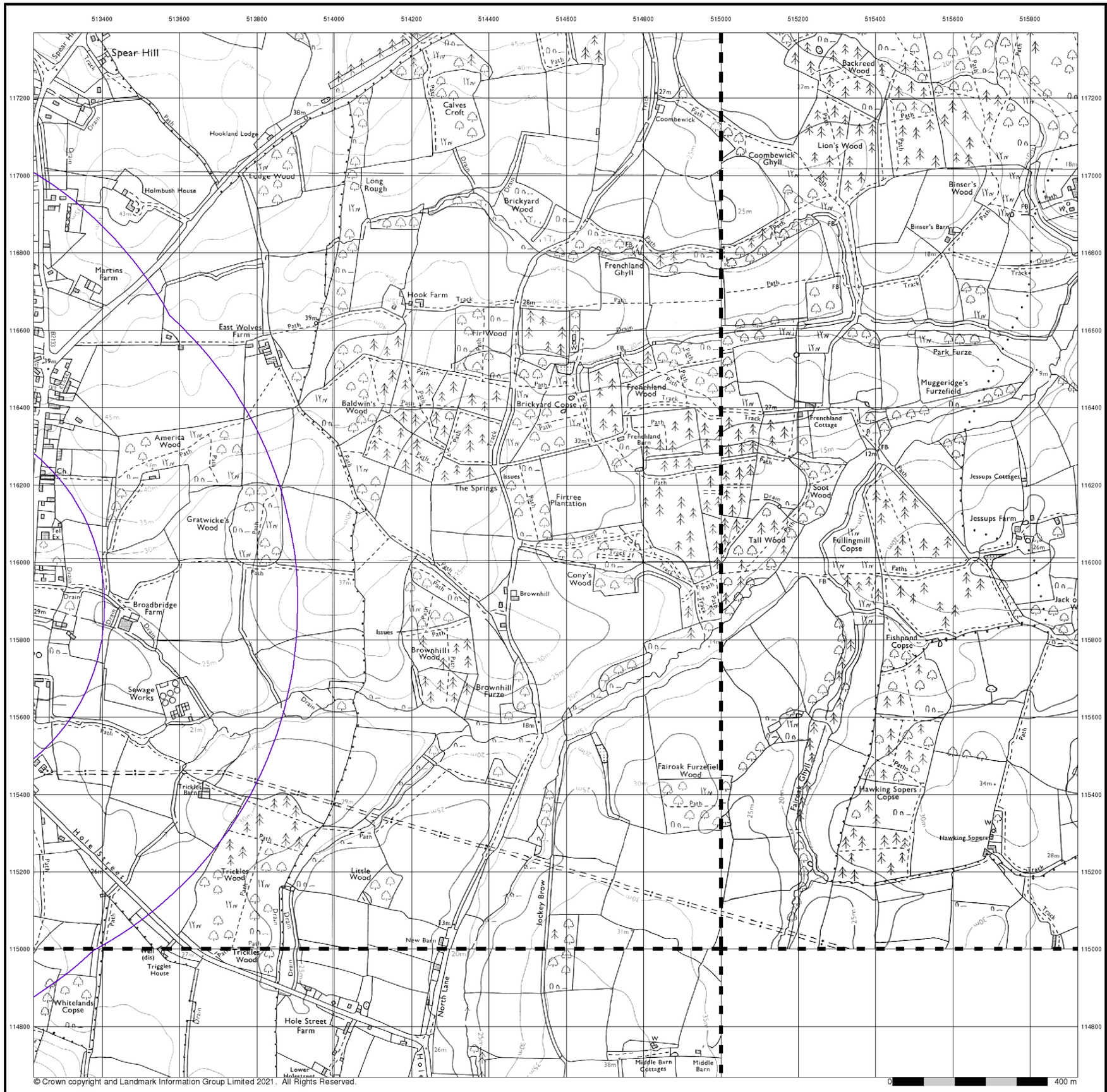
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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Ordnance Survey Plan

Published 1982

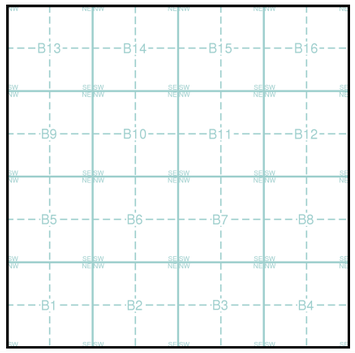
Source map scale - 1:10,000

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)

TQ11NW 1982 1:10,000	TQ11NE 1982 1:10,000
TQ11SW 1982 1:10,000	

Historical Map - Slice B



Order Details

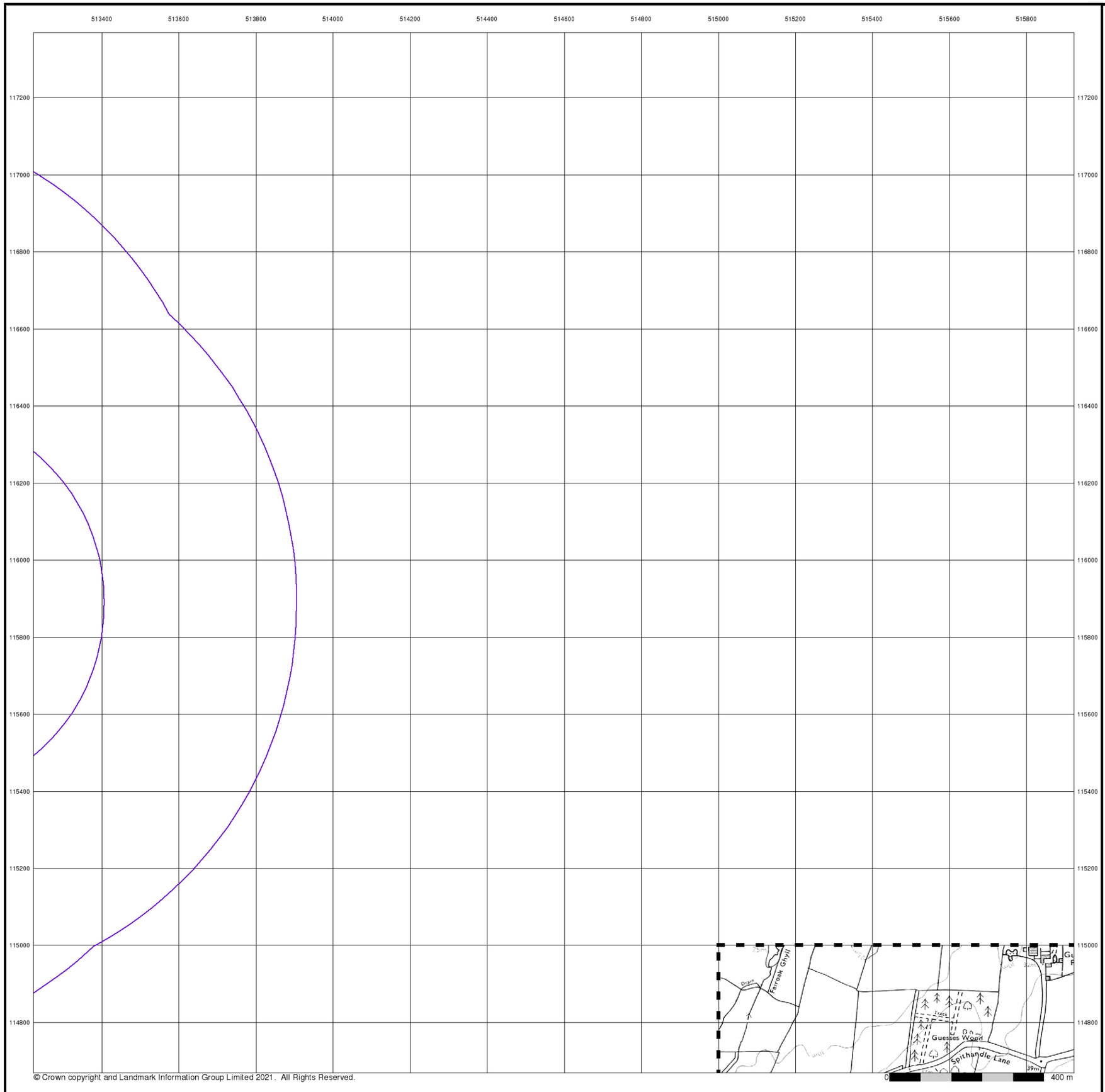
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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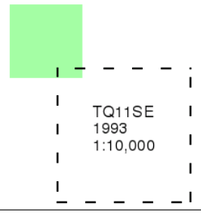
Ordnance Survey Plan

Published 1993

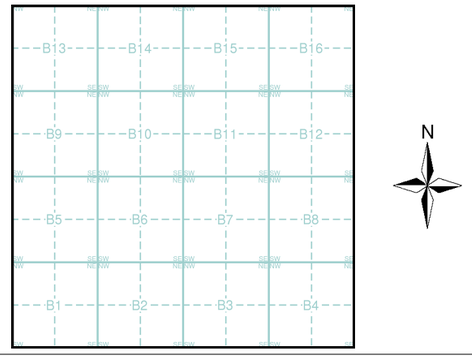
Source map scale - 1:10,000

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 B



Order Details

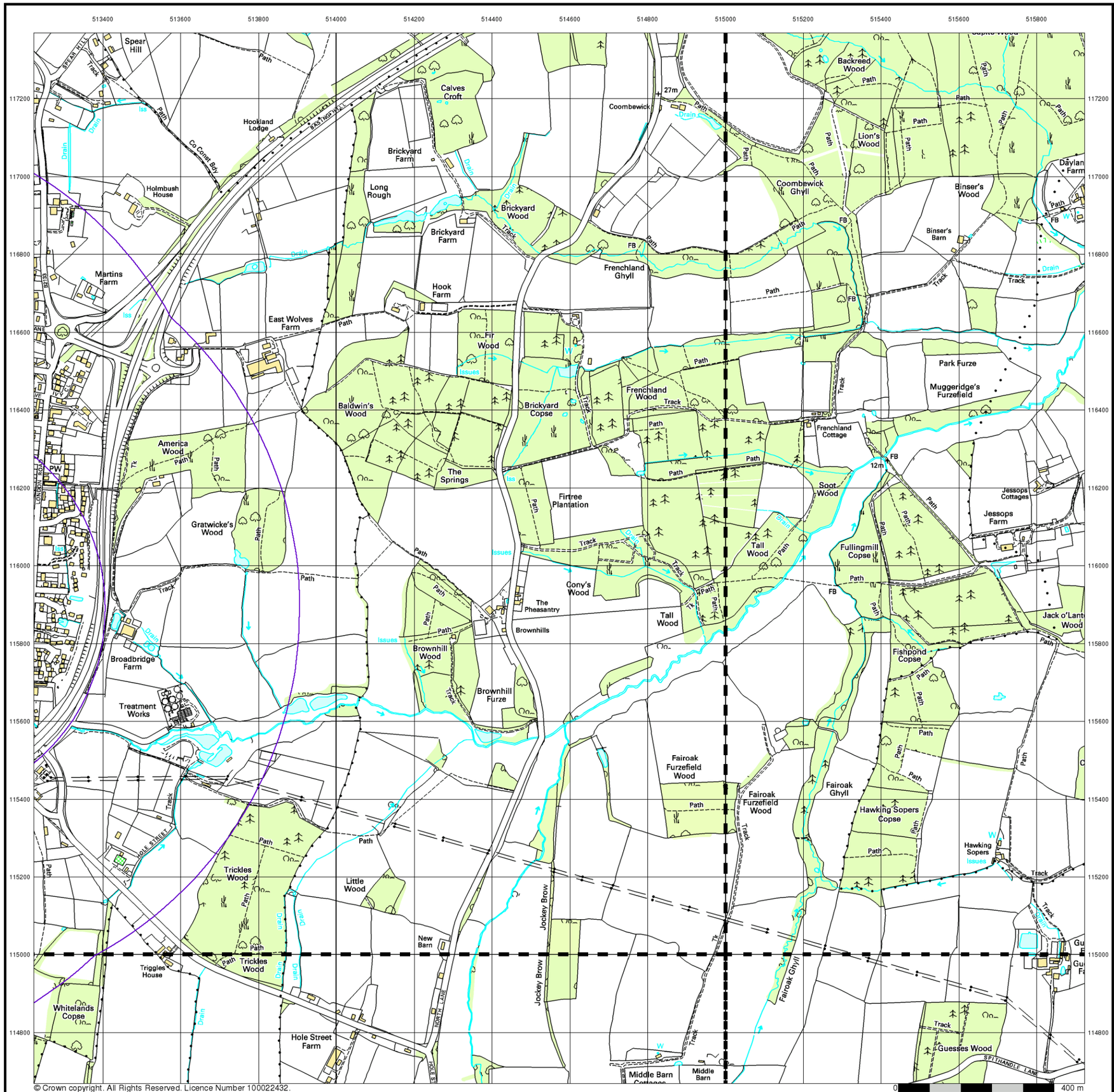
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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10k Raster Mapping

Published 2000

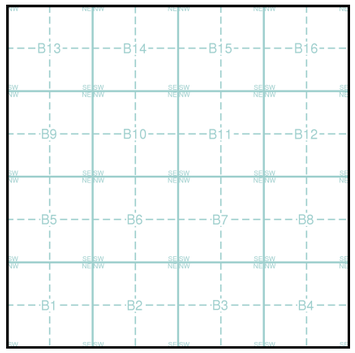
Source map scale - 1:10,000

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)

TQ11NW 2000 1:10,000	TQ11NE 2000 1:10,000
TQ11SW 2000 1:10,000	TQ11SE 2000 1:10,000

Historical Map - Slice B



Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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RSK

10k Raster Mapping

Published 2006

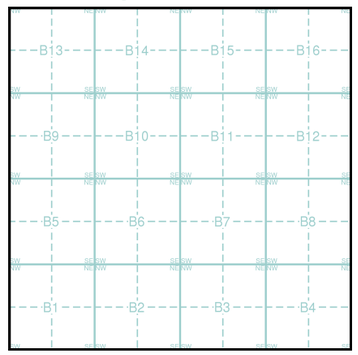
Source map scale - 1:10,000

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)

TQ11NW 2006 1:10,000	TQ11NE 2006 1:10,000
TQ11SW 2006 1:10,000	TQ11SE 2006 1:10,000

Historical Map - Slice B



Order Details

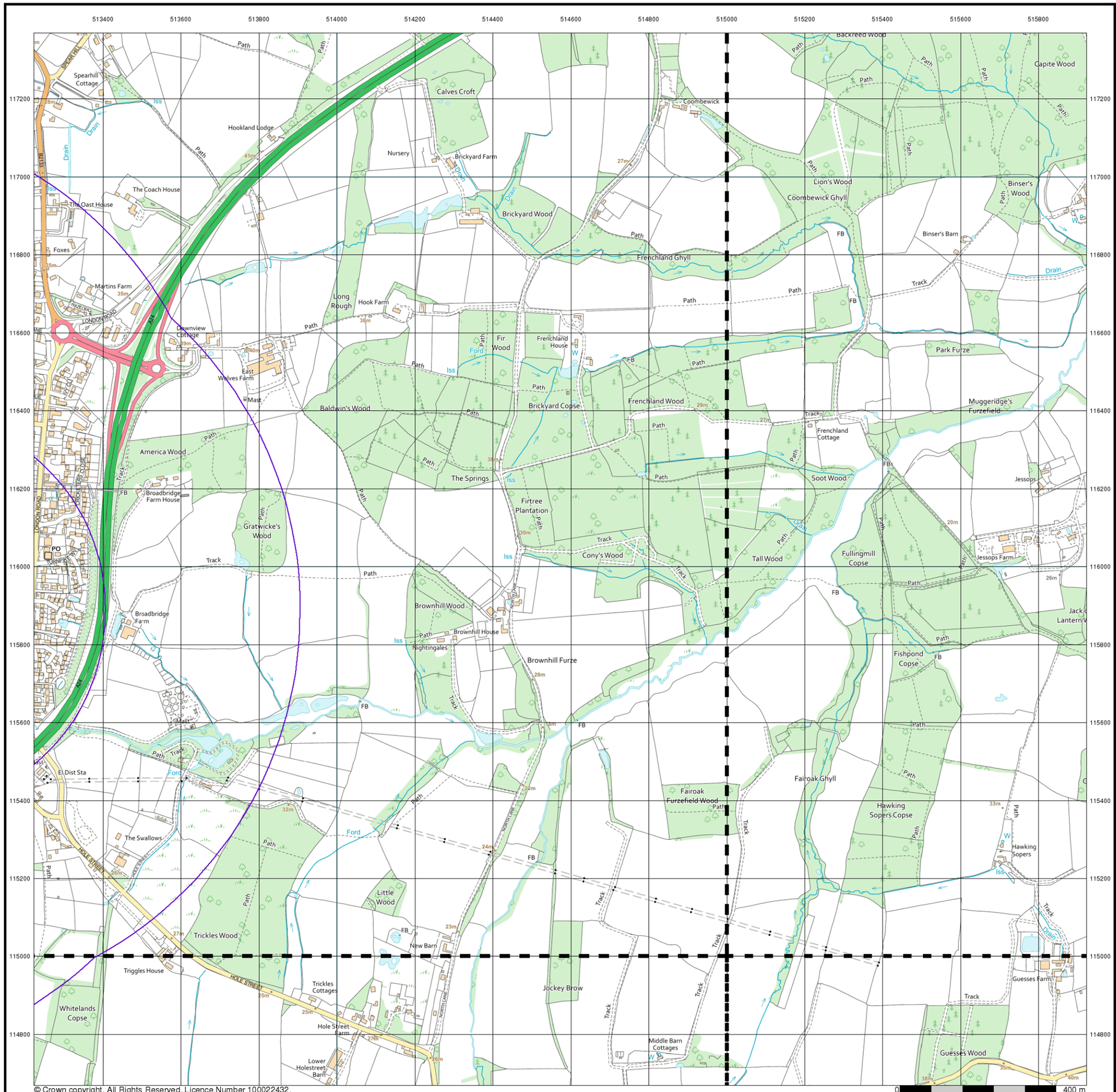
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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RSK

VectorMap Local

Published 2021

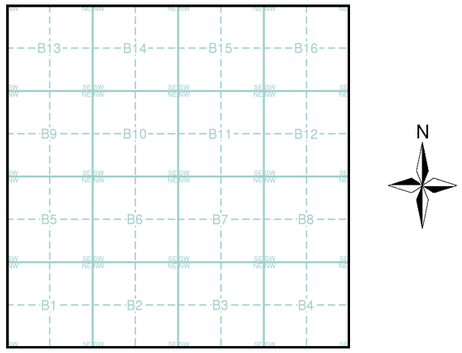
Source map scale - 1:10,000

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)

TQ11NW 2021 Variable	TQ11NE 2021 Variable
TQ11SW 2021 Variable	TQ11SE 2021 Variable

Historical Map - Slice B



Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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513500 514000 514500 515000 515500

117000 116500 116000 115500 115000

B16 B12 B8 B4

Hookland Lodge
Brickyard Farm
Coombewick
Backreed Wood
Capite Wood
Lon's Wood
Binser's Wood
Brickyard Wood
Binser's Barn
Long Rough
Hook Farm
Fir Wood
Frenchland House
Park Furze
East Wolves Farm
Frenchland Wood
Baldwin's Wood
Brickyard Copse
Frenchland Cottage
America Wood
Sawyer
Soct Wood
Firtree Plantation
Gratwicke's Wood
Cony's Wood
Tall Wood
Fullingmill Copse
Jessops Farm
Brownhill House
Brownhill Wood
Fishpond Copse
Brownhill Furze
Hawking Sopers Copse
Hawking Sopers
Little Wood
Trickles Wood
New Barn
Triggles House
Whitelands Copse
Hole Street Farm
Middle Barn Cottages
Guesses Wood

HOOKLAND HILL
BILLINGSHURST ROAD
ST 1218
A24 DUAL CARRIAGEWAY
LONDON ROAD
CRICKETERS CLOSE
TURNPIKE CLOSE
PO
HOLE STREET
NORTH LANE
A24

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0 400 m

B1 B2 B3 B4

RSK

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
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

COMAH Site | Explosive Site

- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

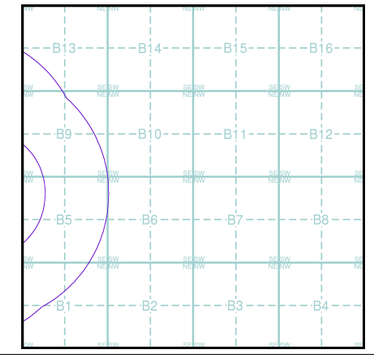
Geological

- BGS Recorded Mineral Site

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)
- 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

Site Sensitivity Map - Slice B



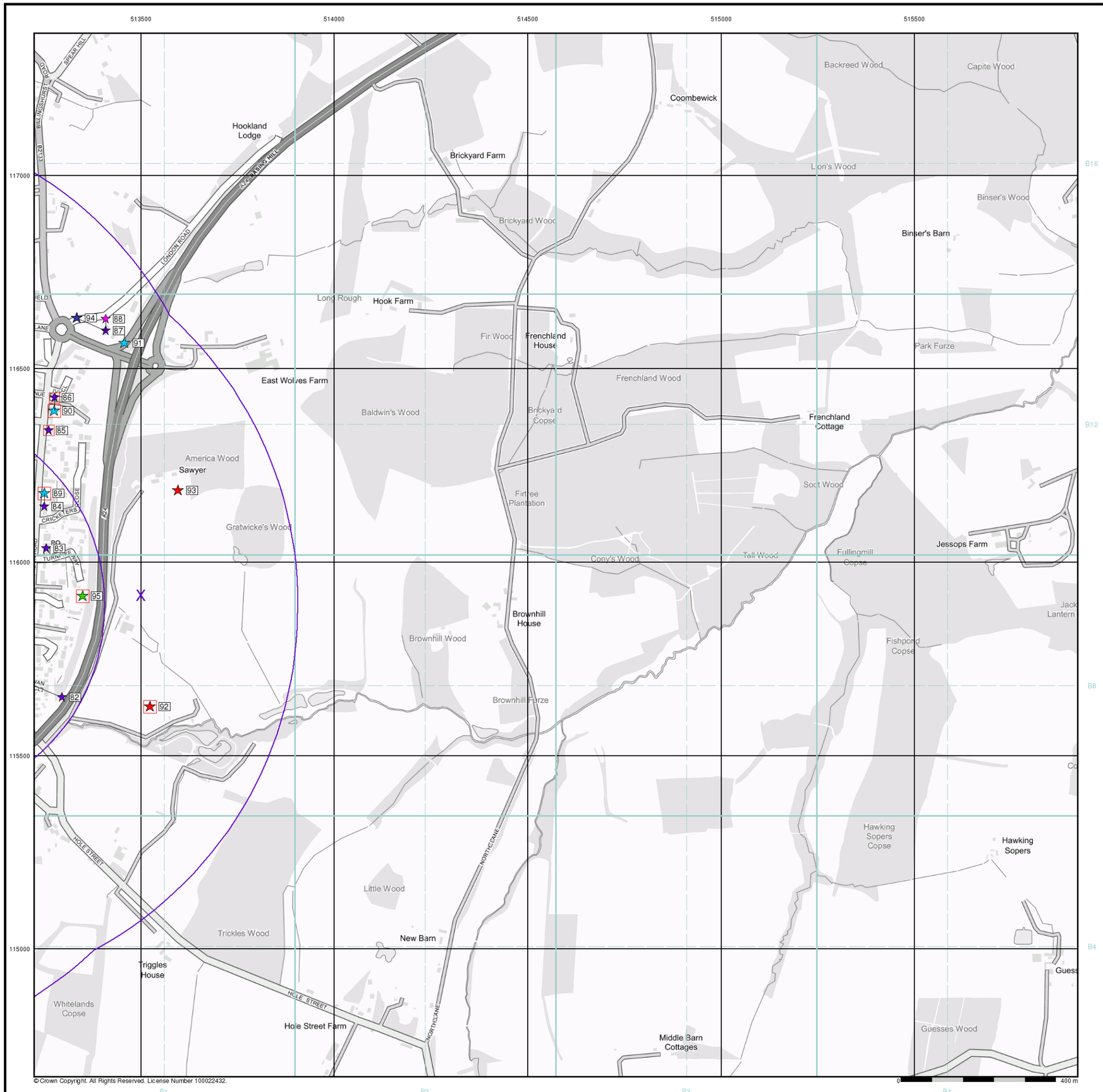
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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Web: www.envirocheck.co.uk



Industrial Land Use Map

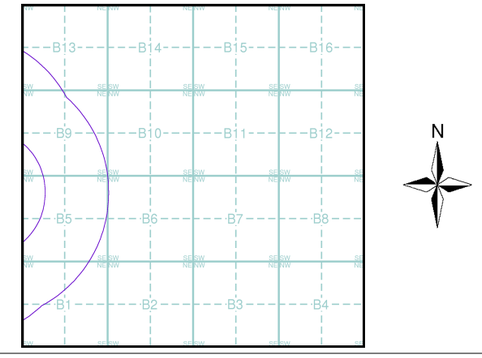
General

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

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- 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 B



Order Details

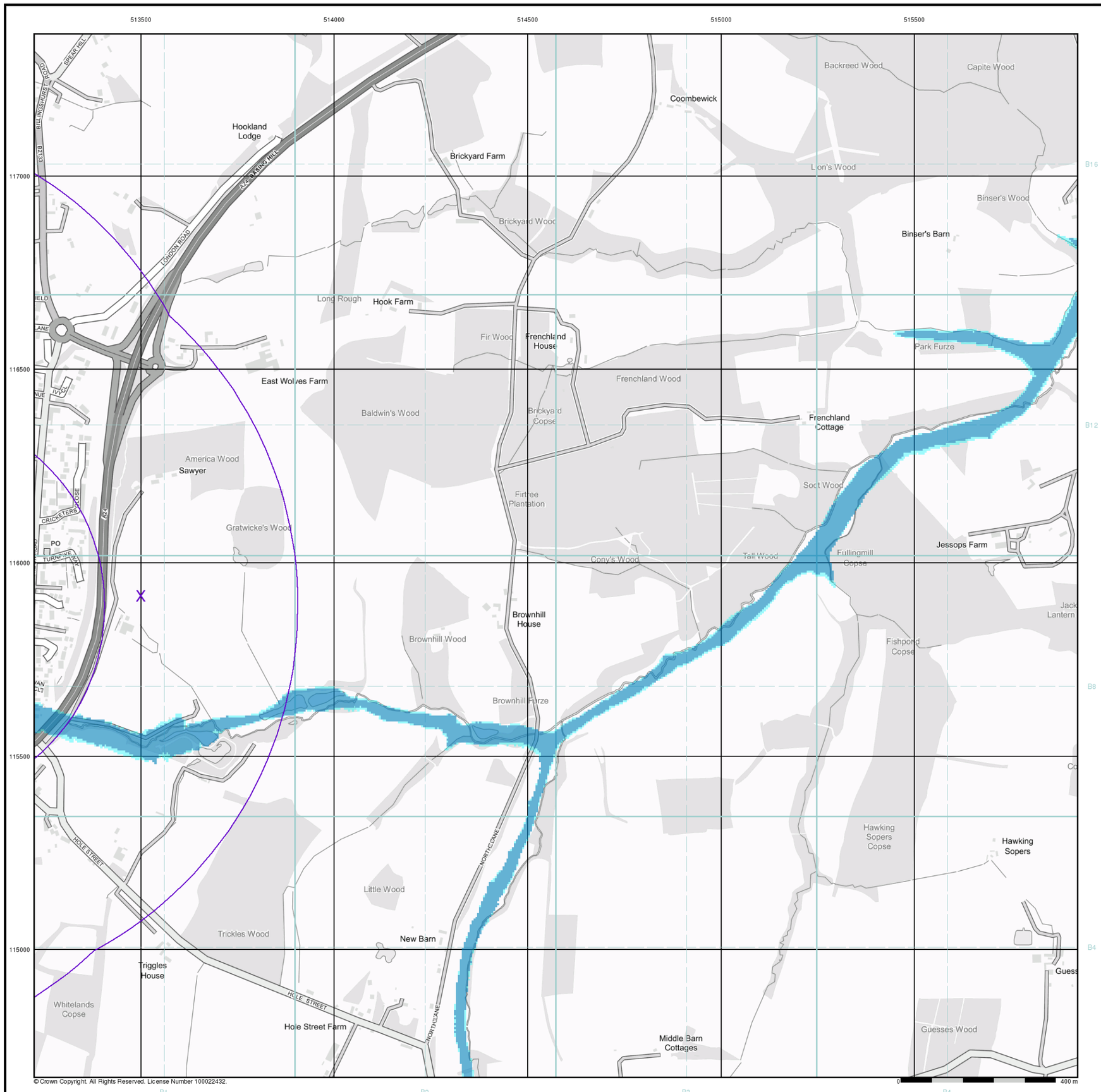
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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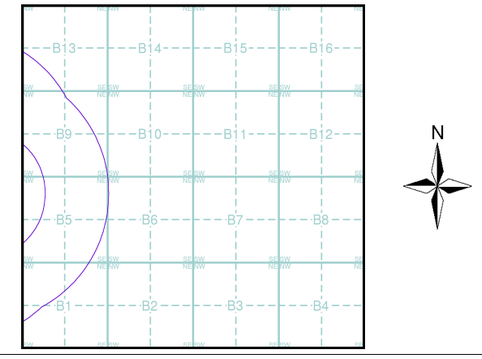
General

- 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

Flood Map - Slice B



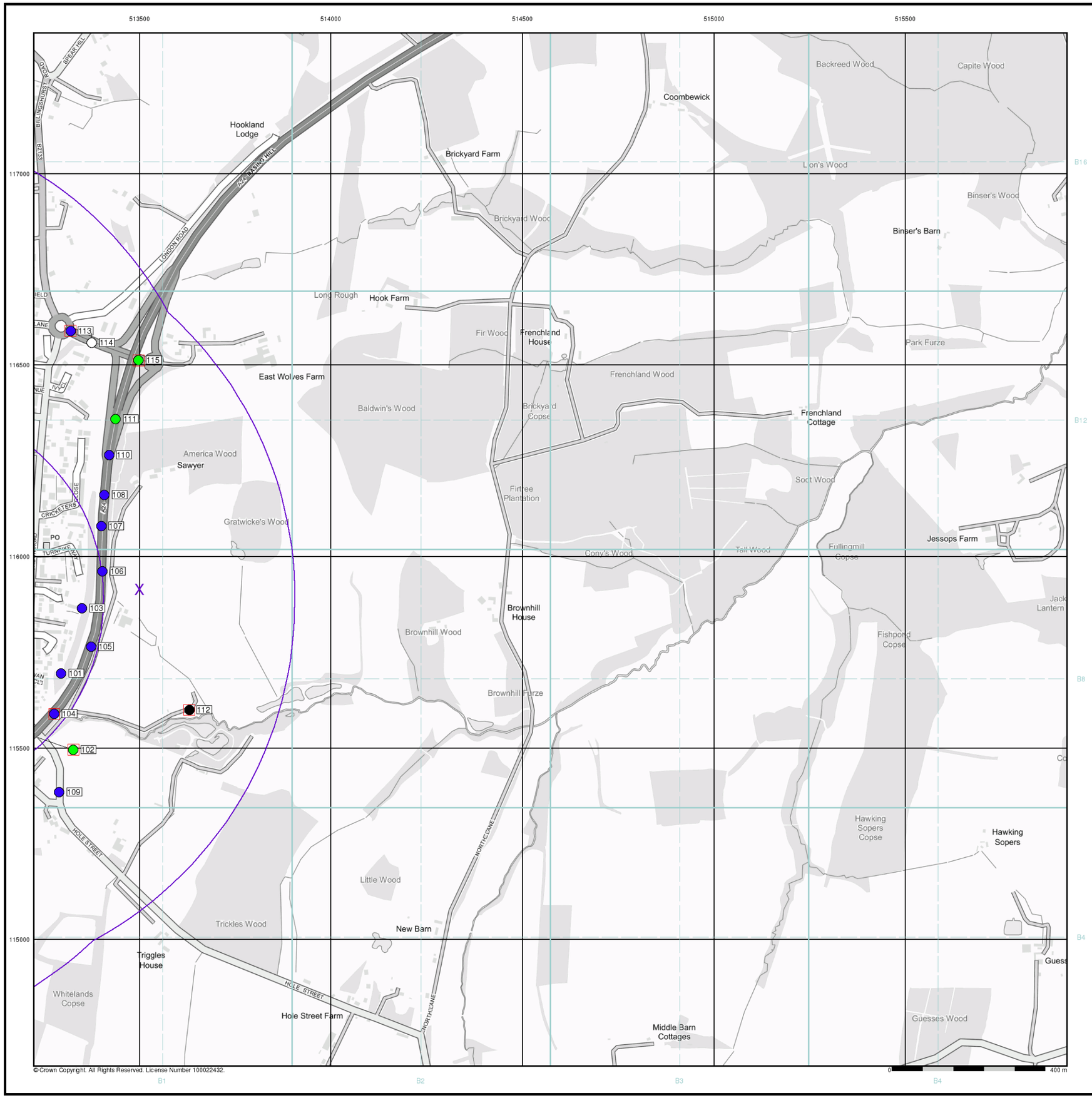
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

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General

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

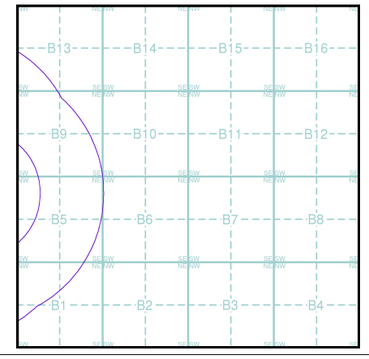
Agency and Hydrological (Boreholes)

- 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 B



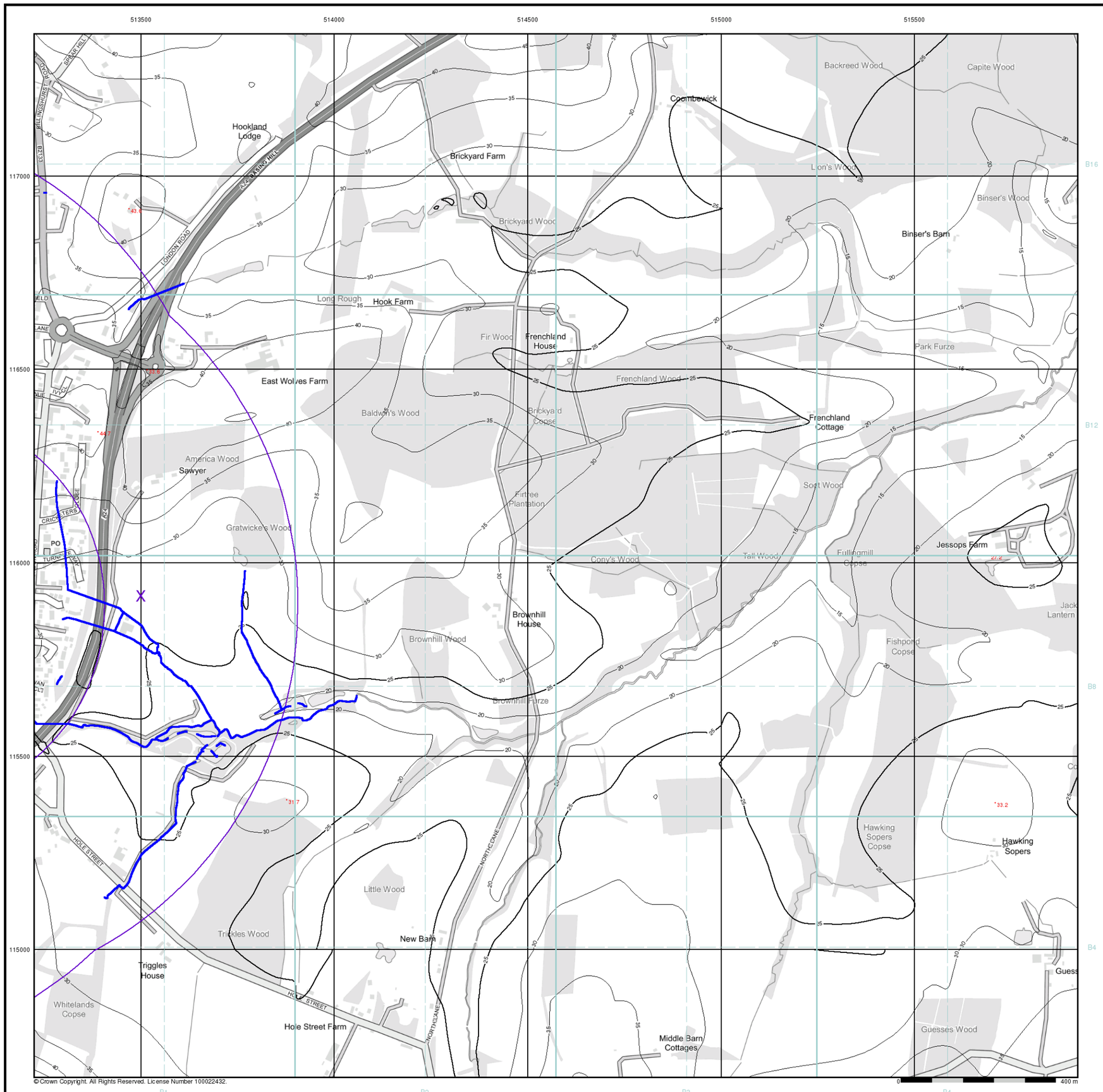
Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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



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RSK

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)

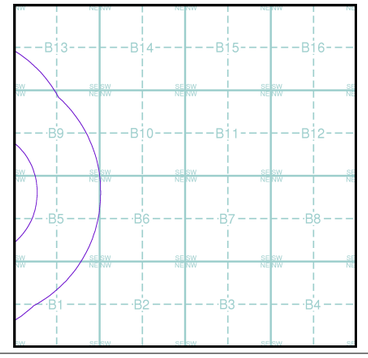
Standard Contour 105 100 95

Master Contour

Spot Height 167.3

- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice B



Order Details

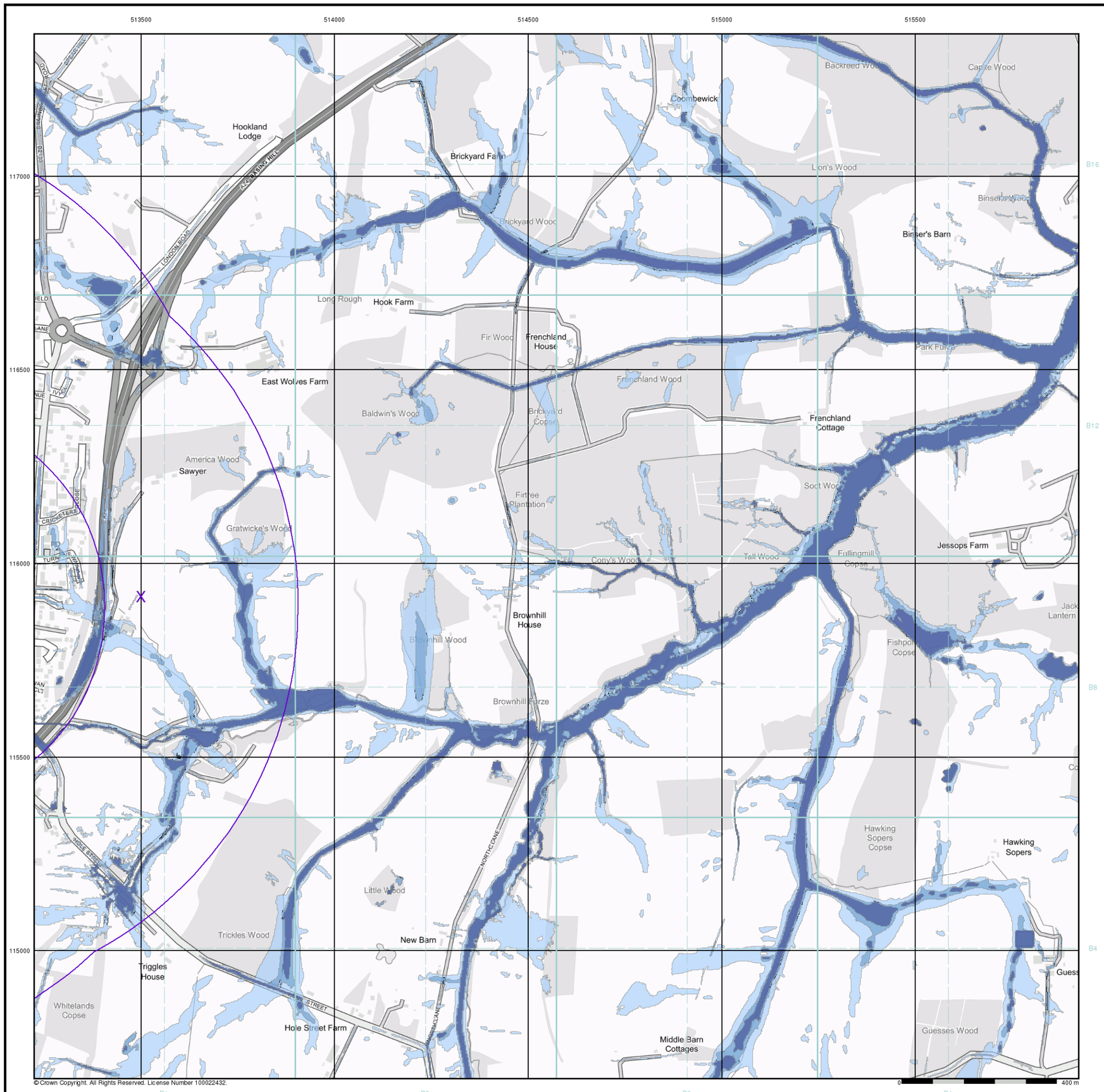
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

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RSK

General

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

Risk of Flooding from Surface Water

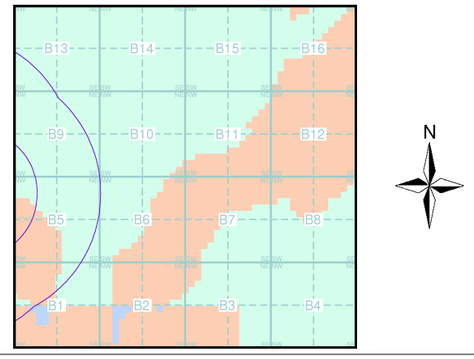
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

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

EA/NRW Suitability Map - Slice B



Order Details

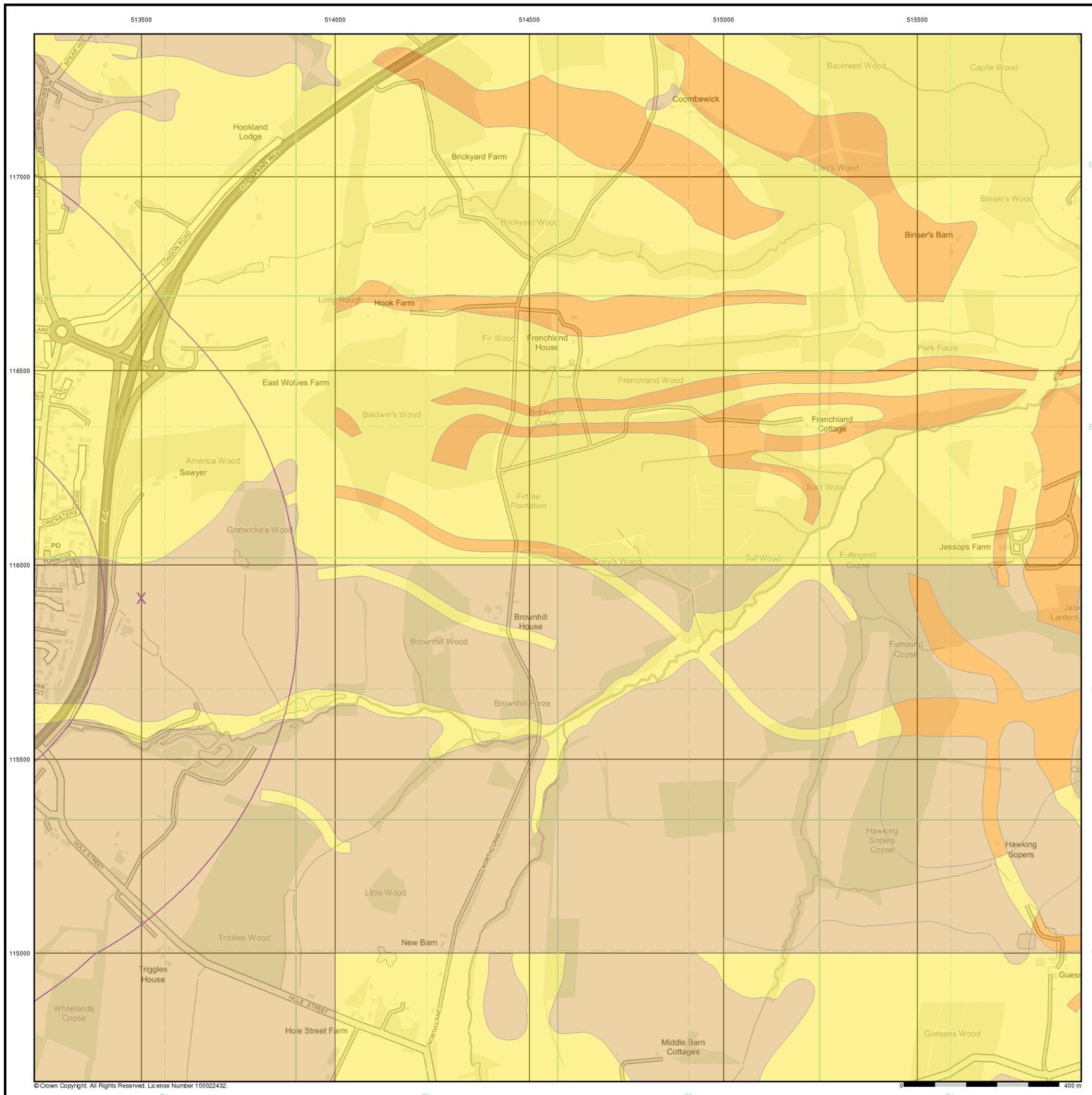
Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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RSK

General

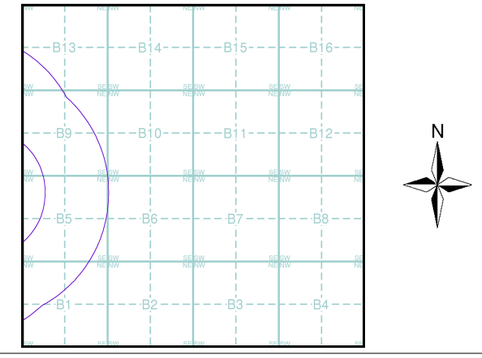
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg

- < 15
- 15 - 25
- 25 - 35
- 35 - 45
- 45 - 60
- 60 - 120
- > 120

Estimated Soil Chemistry Arsenic - Slice B



Order Details

Order Details:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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513500 514000 514500 515000 515500

117000 116500 116000 115500 115000

B16 B12 B8 B4

B1 B2 B3 B4

Hookland Lodge
Brickyard Farm
Coombewick
Backreed Wood
Capite Wood
Lion's Wood
Binser's Wood
Binser's Barn
Brickyard Wood
Long Rough
Hook Farm
Fir Wood
Frenchland House
Park Furze
East Wolves Farm
Frenchland Wood
Baldwin's Wood
Brickyard Copse
Frenchland Cottage
America Wood
Sawyer
Soot Wood
Firtree Plantation
Gratwicke's Wood
Cony's Wood
Tall Wood
Fullingmill Copse
Jessops Farm
Brownhill House
Brownhill Wood
Brownhill Furze
Fishpond Copse
Hawking Sopers Copse
Hawking Sopers
Little Wood
Trickles Wood
New Barn
Triggles House
Whitelands Copse
Hole Street Farm
Middle Barn Cottages
Guesses Wood
A24 WORTHING ROAD
LONDON ROAD
HOLE STREET
NORTHCLANE
NORTHLANE
BILLINGSHURST ROAD
SPEARHILL
CRICKETERS CLOSE
TURNPIKE LINK
PO

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0 400 m

RSK

General

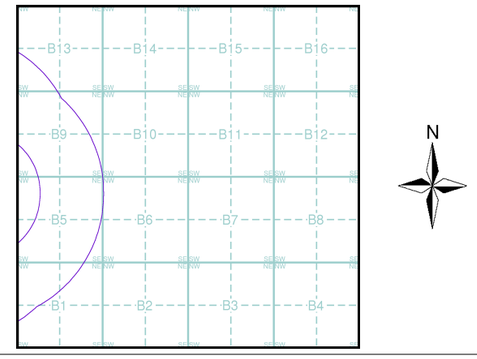
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg

- < 1.8
- 1.8 - 2.2
- 2.2 - 3.0
- > 3.0

Estimated Soil Chemistry Cadmium - Slice B



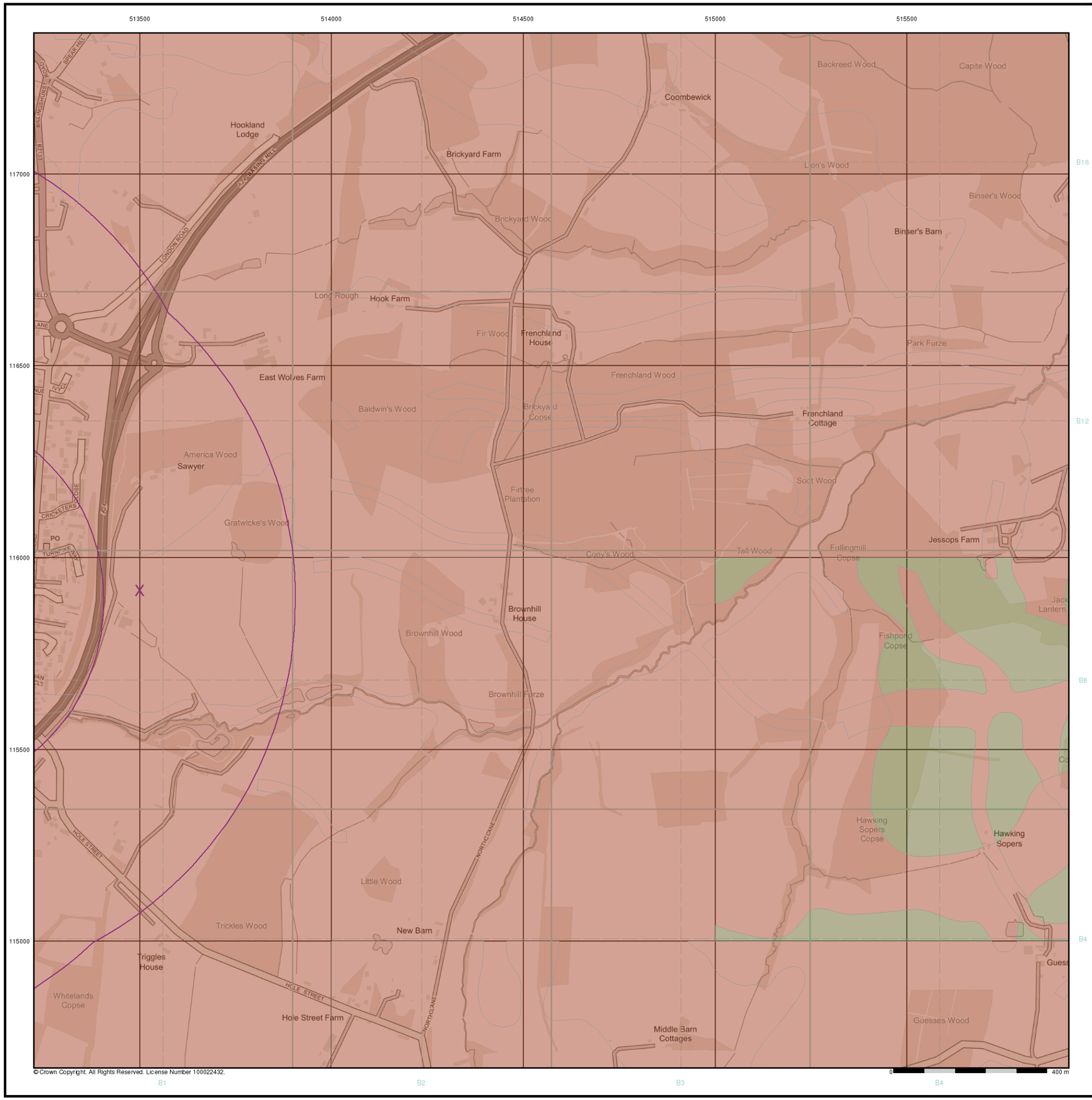
Order Details

Order Details:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

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General

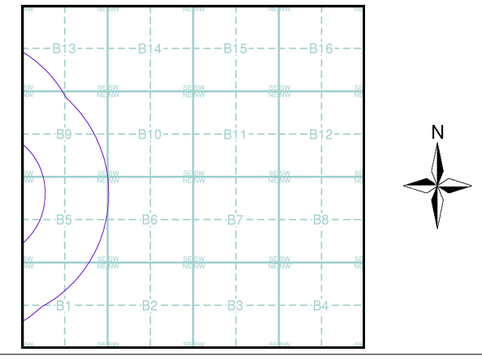
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg

- < 20
- 20 - 40
- 40 - 60
- 60 - 90
- 90 - 120
- 120 - 180
- > 180

Estimated Soil Chemistry Chromium - Slice B

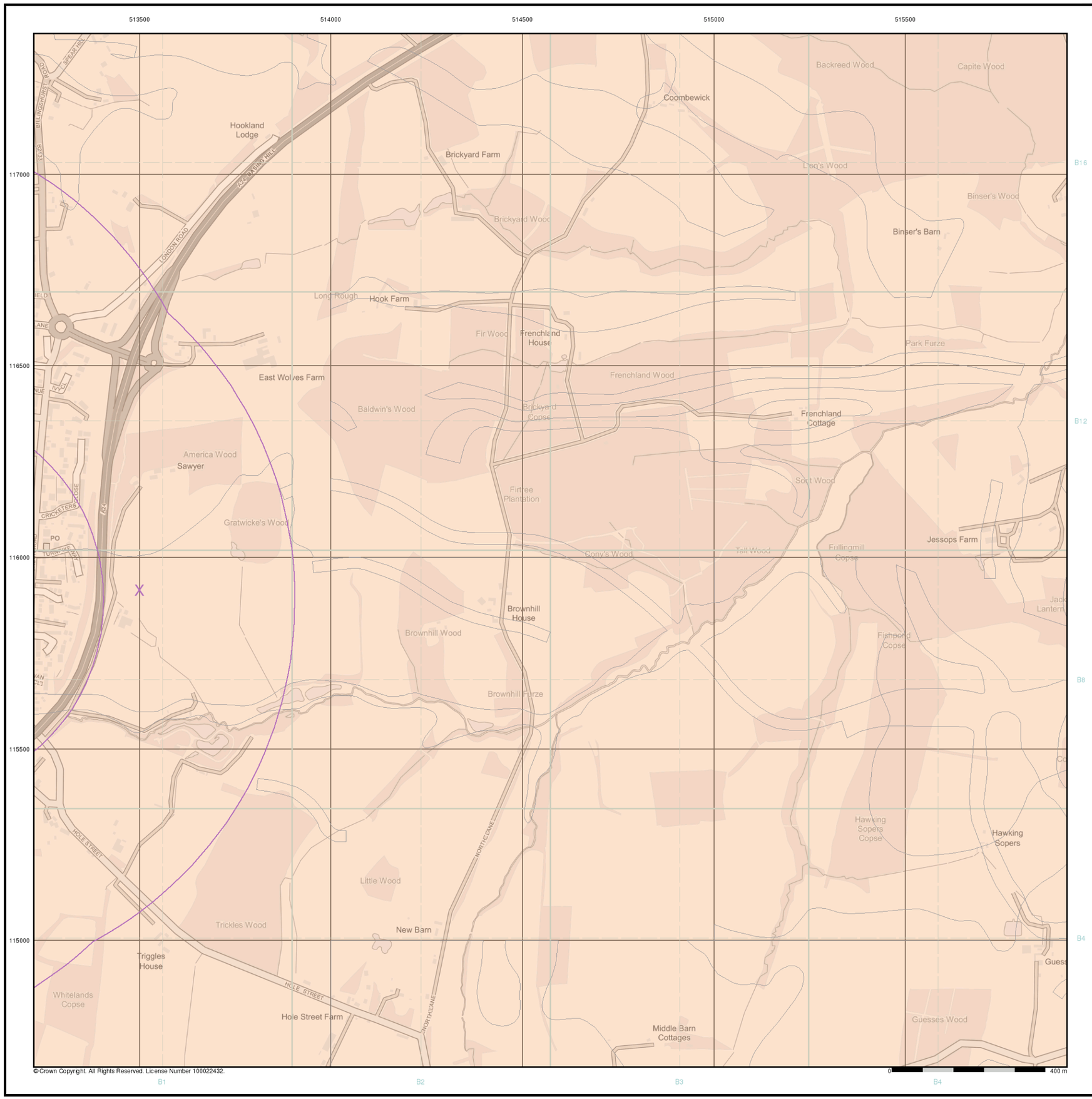


Order Details

Order Details:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX



RSK

General

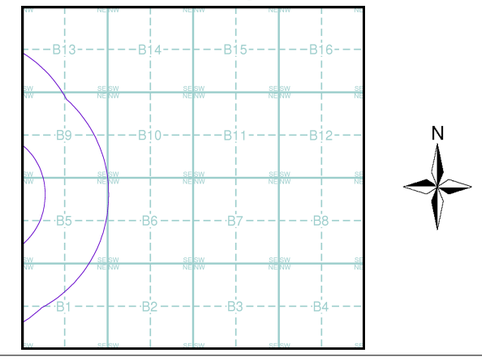
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg

- <100 mg/kg
- 100 - 200
- 200 - 300
- 300 - 600
- 600 - 1200
- >1200

Estimated Soil Chemistry Lead - Slice B



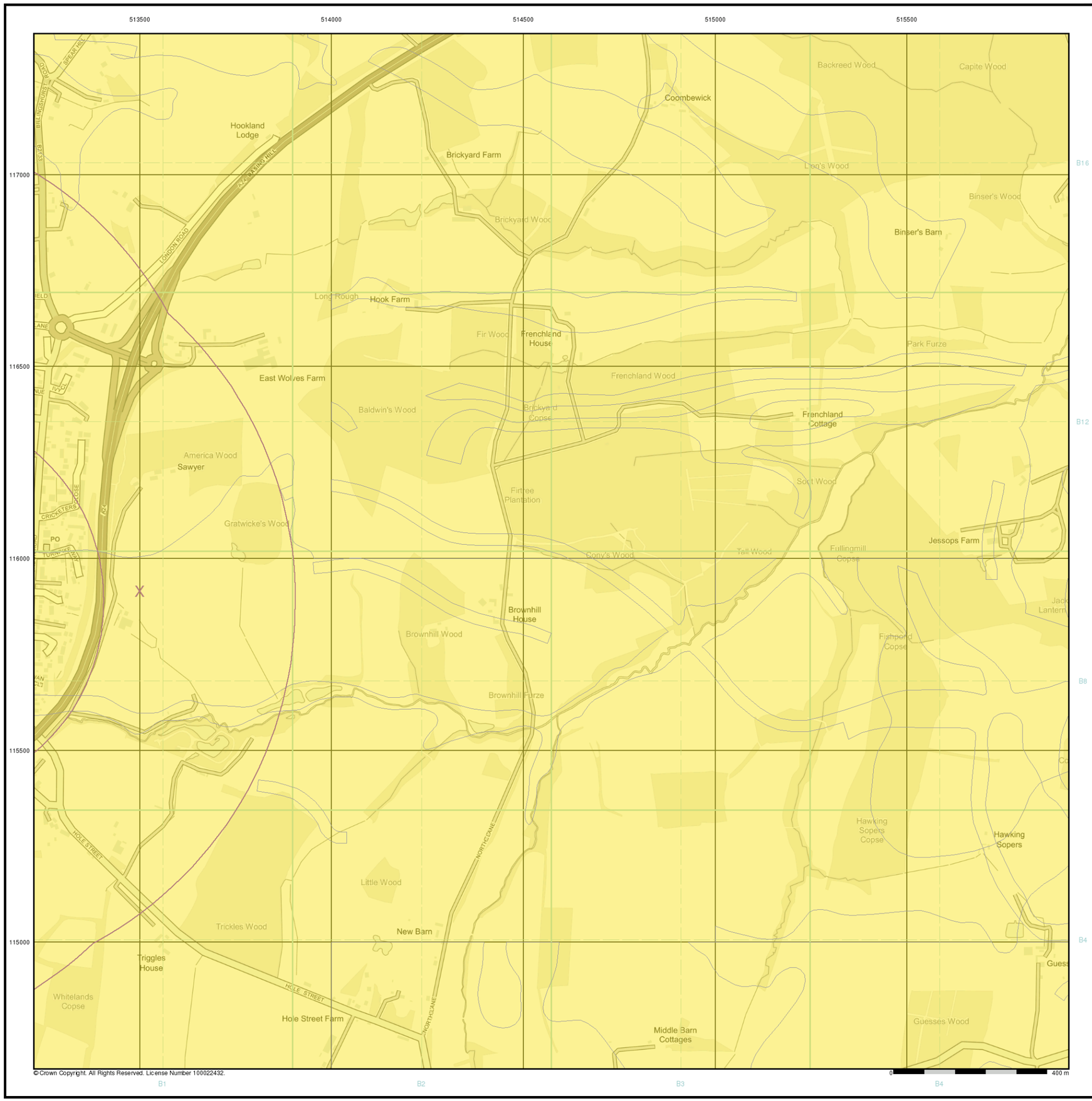
Order Details

Order Details:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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RSK

General

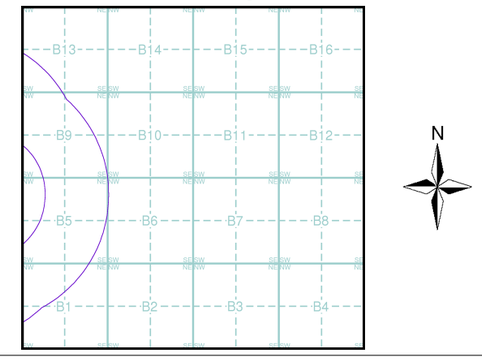
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg

- < 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 80
- 80 - 100
- > 100

Estimated Soil Chemistry Nickel - Slice B



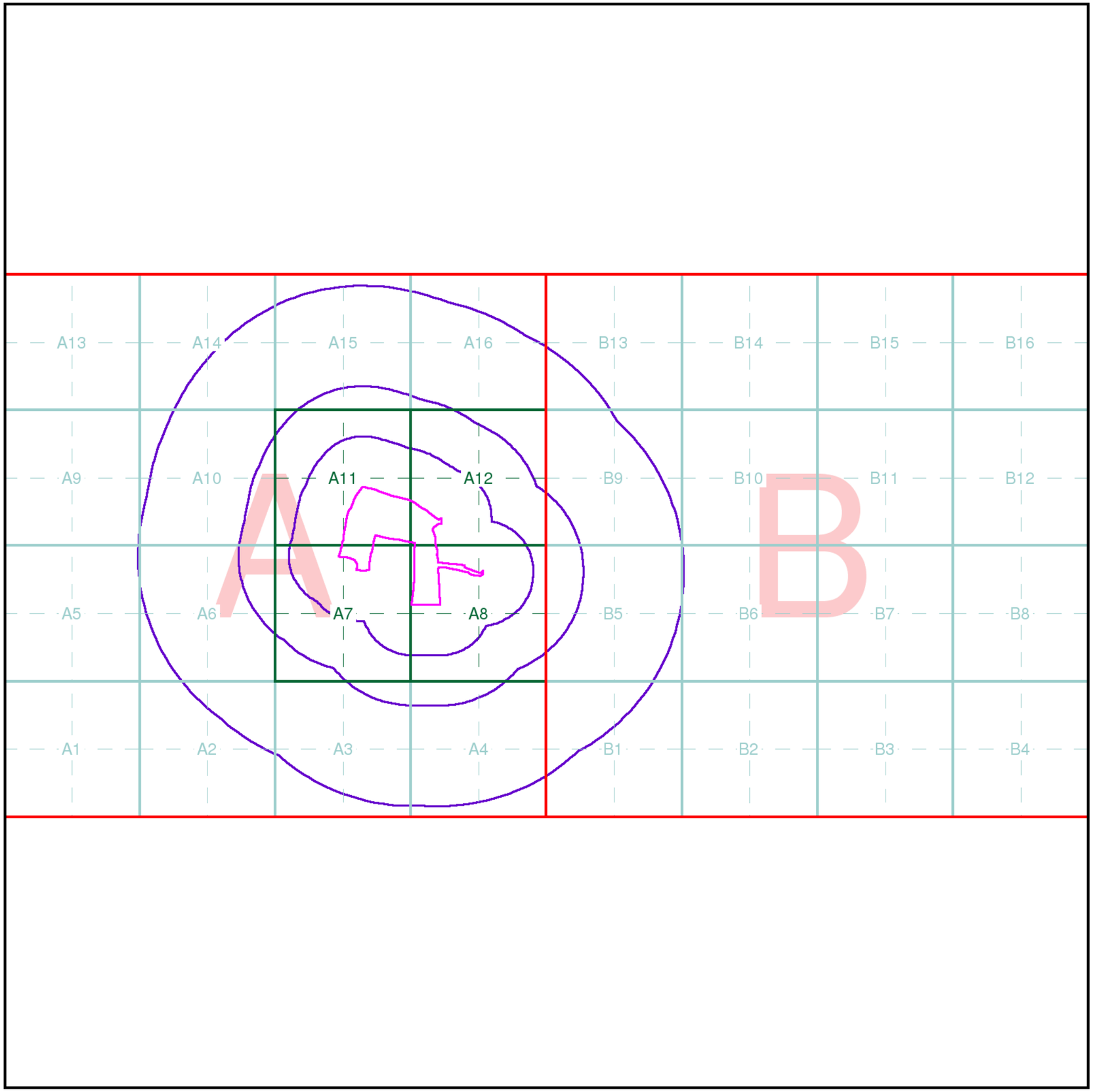
Order Details

Order Details:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	513500, 115920
Slice:	B
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

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Index Map

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.

Slice
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.

Segment
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.

Quadrant
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.

A selection of organisations who provide data within this report:

Envirocheck reports are compiled from 136 different sources of data.

Client Details

Miss S Gower, RSK Environment Ltd, 18 Frogmore Road, Hemel Hempstead, Hertfordshire, HP3 9RT

Order Details

Order Number:	287518451_1_1
Customer Ref:	52368
National Grid Reference:	512480, 116060
Site Area (Ha):	15.35
Search Buffer (m):	1000

Site Details

Firle, Church Lane, Ashington, PULBOROUGH, RH20 3JX

Full Terms and Conditions can be found on the following link:
http://www.landmarkinfo.co.uk/Terms/Show/515

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

APPENDIX E
SITE RECONNAISSANCE PHOTOGRAPHS

PHOTOGRAPHIC LOG

Photo no. 1	**Date:**
Description: Access into the east of the site from Church Lane. Looking west.	



Photo No. 2	**Date:**
Description: Access into the east of the site from Church Lane. Looking west.	



Photo No. 3	Date:	
Description: Eastern most field, looking north.		

Photo No. 4	Date:	
Description: Drainage ditch / stream along the side of the eastern most field, running from the pond (south) towards the north of the site. Looking north.		

Photo No. 5	Date:	
Description: Off-site farm pond feeding stream which runs along the eastern and northern site boundaries. Looking west towards the southern portion of the site.		

Photo No. 6	Date:	
Description: Northern end of access road into site and triangular shape area, built up from excavation of formerly infilled pond. Looking south.		

Photo No. 7	Date:	
Description: Overview of southernmost field. Looking north east from the south western corner of the field towards the access road and adjacent farmyard.		

Photo No. 8	Date:	
Description: Overview of large central field. Looking north from the triangular shape area next to pond.		

Photo No. 9	Date:	
Description: Overview of large central field, looking south from eastern site boundary. A drainage ditch is present along the hedgerow bounding the field.		

Photo No. 10	Date:	
Description: Overview of large central field, looking south from north eastern site boundary. Overhead services observed. A drainage ditch is present along the treeline bounding the field.		

Photo No. 11	Date:	
Description: Northern end of large central field. Looking west towards the middle field in the northern reaches of site. A drainage ditch is present along the treeline bounding the field.		

Photo No. 12	Date:	
Description: Overview of middle field in the northern reaches of site. Looking south west. A drainage ditch is present along the treeline bounding the field.		

Photo No. 13	Date:	
Description: Overview of middle field in the northern reaches of site. Looking south east. Overhead services observed. A drainage ditch is present along the treeline bounding the field.		

Photo No. 14	Date:	
Description: Overview of western field in the northern reaches of site. Looking south. A drainage ditch is present along the treeline bounding the field.		

Photo No. 15	Date:	
Description: Edge of the westernmost field in the northern reaches of the site. Looking south towards the inaccessible overgrown area in the south west of the site.		

Photo No. 16	Date:	
Description: The stream in the northern reaches of the site which is fed by the surrounding drainage ditches. This stream is a tributary of Lancing Brook.		

APPENDIX F
TECHNICAL BACKGROUND

F1 Desk Study

Aquifer designation and Source protection zones

Principal aquifer: layers of rock or drift deposit that have high intergranular and/or fracture permeability (usually providing a high level of water storage). They may support water supply and/or river base flow on a strategic scale.

Secondary A aquifer: permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

Secondary B aquifer: predominantly lower permeability layers that may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.

Secondary undifferentiated aquifer: it has not been possible to attribute either a category A or B to a rock type. In most cases this means that it was previously designated as both a minor and non-aquifer in different locations owing to the variable characteristics.

Unproductive' strata: low permeability with negligible significance for water supply or river base flow.

The EA generally adopts a three-fold classification of source protection zones (SPZ) surround abstractions for public water supply. The Site is situated in an area defined as follows:

- Zone 1 or the 'inner protection zone' is located immediately adjacent to the groundwater source and is based on a 50-day travel time from any point below the water table to the source. It is designed to protect against the effects of human activity and biological/chemical contaminants that may have an immediate effect on the source
- Zone 2 or the 'outer protection zone' is defined by a 400-day travel time from a point below the water table to the source. The travel time is designed to provide delay and attenuation of slowly degrading pollutants
- Zone 3 or the 'total catchment' is the area around the source within which all groundwater recharge is presumed to be discharged at the source.

Preliminary risk assessment methodology

LCRM outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. An outline conceptual model should be formed at the preliminary risk assessment stage that collates all the existing information pertaining to a site in text, tabular or diagrammatic form. The outline conceptual model identifies potentially complete (termed possible) contaminant linkages (contaminant–pathway–receptor) and is used as the basis for the design of the site investigation. The outline conceptual model is updated as further information becomes available, for example as a result of the site investigation.

Production of a conceptual model requires an assessment of risk to be made. Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the

likelihood and the consequences of an event must be taken into account when assessing risk. RSK has adopted guidance provided in CIRIA C552 for use in the production of conceptual models.

The likelihood of an event can be classified on a four-point system using the following terms and definitions based on CIRIA C552:

- highly likely: the event appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptor of harm or pollution
- likely: it is probable that an event will occur or circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term
- low likelihood: circumstances are possible under which an event could occur, but it is not certain even in the long term that an event would occur and it is less likely in the short term
- unlikely: circumstances are such that it is improbable the event would occur even in the long term.

The severity can be classified using a similar system also based on CIRIA C552. The terms and definitions relating to severity are:

- severe: short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. Short-term risk to an ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000)
- medium: chronic damage to human health ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000), pollution of sensitive water resources, significant change in an ecosystem or organism forming part of that ecosystem
- mild: pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures or the environment
- minor: harm, not necessarily significant, but that could result in financial loss or expenditure to resolve. Non-permanent human health effects easily prevented by use of personal protective clothing. Easily repairable damage to buildings, structures and services.

Once the probability of an event occurring and its consequences have been classified, a risk category can be assigned according to the table below.

		Consequences			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**Highly likely**	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very low	Very low

Definitions of these risk categories are as follows together with an assessment of the further work that may be required:

- very high: there is a high probability that severe harm could occur or there is evidence that severe harm is currently happening. This risk, if realised, could result in substantial liability; urgent investigation and remediation are likely to be required
- high: harm is likely to occur. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required. Remedial works may be necessary in the short term and are likely over the long term
- moderate: it is possible that harm could arise, but it is unlikely that the harm would be severe and it is more likely that the harm would be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term
- low: it is possible that harm could occur, but it is likely that if realised this harm would at worst normally be mild
- very low: there is a low possibility that harm could occur and if realised the harm is unlikely to be severe.

F2 Site Investigation Methodology

Ground gas monitoring

An infrared gas meter was used to measure gas flow, concentrations of carbon dioxide (CO_2), methane (CH_4) and oxygen (O_2) in percentage by volume, while hydrogen sulphide (H_2S) and carbon monoxide (CO) were recorded in parts per million. Initial and steady state concentrations were recorded. In addition, during the first monitoring round, all wells were screened with a PID to establish if there are any interferences and cross-sensitivity of other hydrocarbons with the infrared gas meter.

Low flow groundwater sampling

Groundwater samples were retrieved using a United States Environment Protection Agency (USEPA) approved low-flow purging and sampling methodology.

The low-flow method relies on moving groundwater through the well screen at approximately the same rate as it flows through the geological formation. This results in a significant reduction in the volume of water extracted before sampling and significantly reduces the amount of disturbance of the water in the monitoring well during purging and sampling. Drawdown levels in the monitoring well and water quality indicator parameters (pH, temperature, electrical conductivity, redox potential and dissolved oxygen) are monitored during low-flow purging and sampling, with stabilisation indicating that purging is complete and sampling can begin. As the flow rate used for purging, in most cases, is the same or only slightly higher than the flow rate used for sampling, and because purging and sampling are conducted as one continuous operation in the field, the process is referred to as low-flow purging and sampling.

Reuse of suitable materials

The Definition of Waste: Development Industry Code of Practice (CL:AIRE, 2011) (CoP) was developed in consultation with the Environment Agency and development industry to enable the

re-use of materials under certain scenarios and subject to demonstrating that specific criteria are met. The current reuse scenarios covered by the CoP comprise

- reuse on the site of origin (with or without treatment)
- direct transfer of clean and natural soils between sites
- use in the development of land other than the site of origin following treatment at an authorised Hub site (including a fixed soil treatment facility).

The importation of made ground soils (irrespective of contamination status) or crushed demolition materials is not permitted currently under the CoP and requires either a standard rules environmental permit or a U1 waste exemption (see below).

In the context of excavated materials used on-sites undergoing development, four factors are considered to be of particular relevance in determining if the material is a waste or when it ceases to be waste:

- the aim of the Waste Framework Directive is not undermined, i.e. if the use of the material will create an unacceptable risk of pollution of the environment or harm to human health it is likely to be waste
- the material is certain to be used
- the material is suitable for use both chemically and geotechnically
- only the required quantity of material will be used.

The CoP requires the preparation of a materials management plan (MMP) that confirms the above factors will be met. This plan needs to be reviewed by a 'Qualified Person' (QP) who will then issue a declaration form to the EA. As the project progresses, data must be collated and on completion a verification report produced that shows the MMP was followed and describes any changes.

The MMP establishes whether specific materials are classified as waste and how excavated materials will be treated and/or reused in line with the CoP. The MMP is likely to form part of the site waste management plan.

APPENDIX G
EXPLORATORY HOLE RECORDS

STRUCTURAL SOILS LTD

INSITU TESTING REPORT

1774

Report No. 750490R.01(00)

Date	24-November-2021	Contract	Church Lane, Ashington

Client RSK Environment
Address Accounts Payable
Spring Lodge
172 Chester Road
Helsby
WA6 0AR

For the Attention of Rob Dabbs

Order received	09-November-2021	Client Reference	None
Testing Started	23-November-2021	Client Order No.	52368
Testing Completed	23-November-2021	Instruction Type	Written

Tests marked 'Not UKAS Accredited' in this report are not included in the UKAS Accreditation Schedule for our Laboratory.

UKAS Accredited Tests

Not UKAS Accredited Tests

3no. Soakaway tests carried out at locations specified by the client.

The results represent the ground conditions at the specified locations and depths at the time of testing.

Please Note: Remaining samples will be retained for a period of one month from today and will then be disposed of.
Test were undertaken on samples 'as received' unless otherwise stated.
Opinions and interpretations expressed in this report are outside the scope of accreditation for this laboratory.

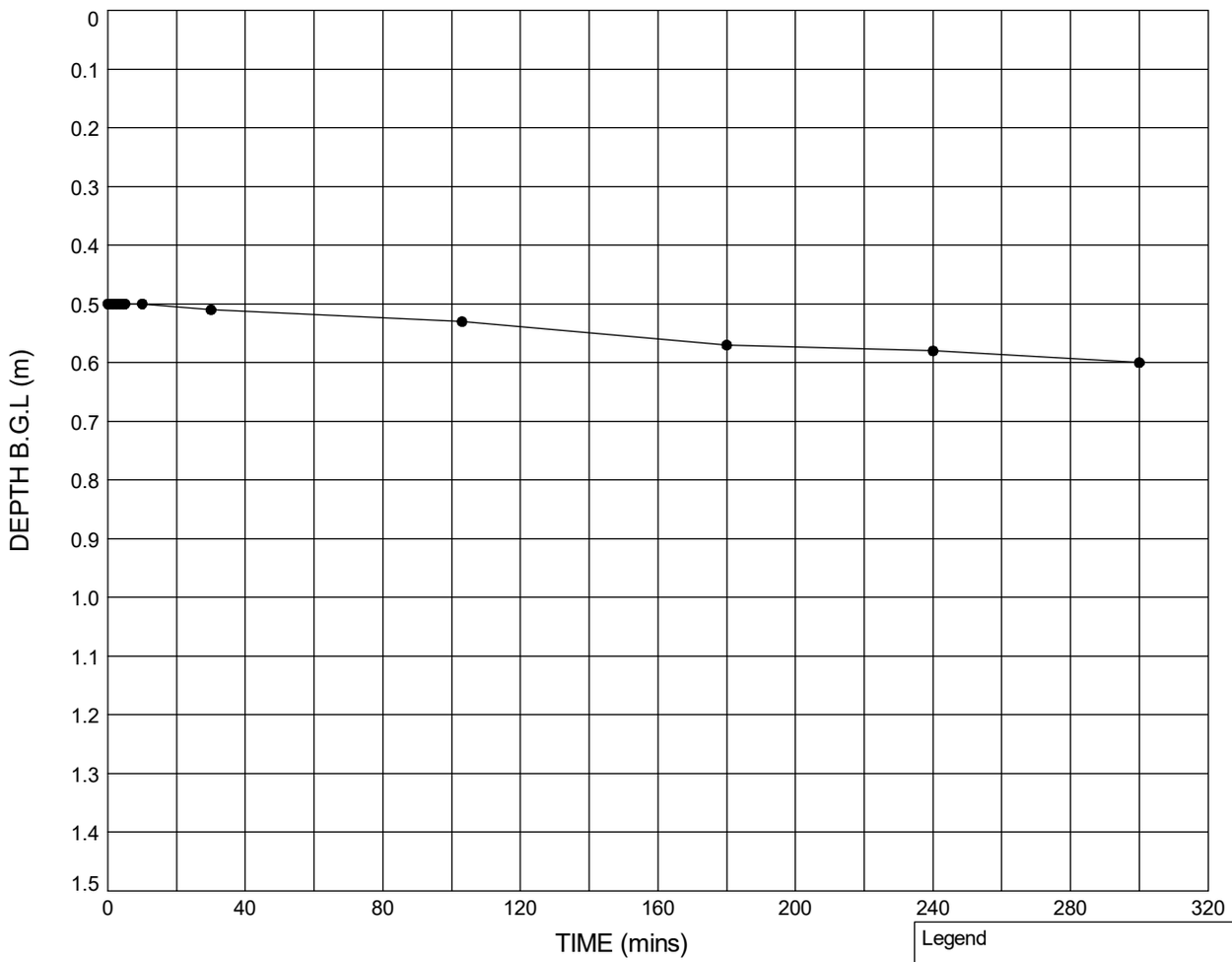
Structural Soils Ltd 1a Princess Street Bedminster Bristol BS3 4AG Tel.0117 9471000. e-mail dimitris.xirouchakis@soils.co.uk

FULL SCALE SOAKAWAY TEST

Non-standard test

Soakaway Test - Position ID : **TP1**

PLOT OF DEPTH OF WATER BELOW GROUND LEVEL AGAINST TIME



Test 1

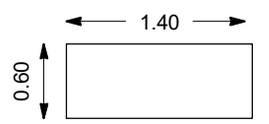
Pit start depth:	=	**1.50**	m
Pit final depth:	=	**1.42**	m
Effective depth, De	=	**0.92**	m
Effective storage volume, V_{p75-25}	=	**0.3864**	m^3
Surface area, a_{p50}	=	**2.6800**	m^2
Time, t_{p75-25}	=	**N/A**	secs
Infiltration rate, f	=	**N/A**	m/s

Notes: Test 1 - Unable to calculate infiltration rate due to insufficient drop in water level.

Legend

● Test 1 (23.11.21)

Plan (Not to scale)



No Bearing Taken

STRUCTURAL SOILS
1a Princess Street
Bedminster
Bristol
BS3 4AG

Compiled By	Date	Checked By	Date
KFlumacher	**24/11/21**		

Contract: **Church Lane, Ashington**

Contract Ref: **750490**

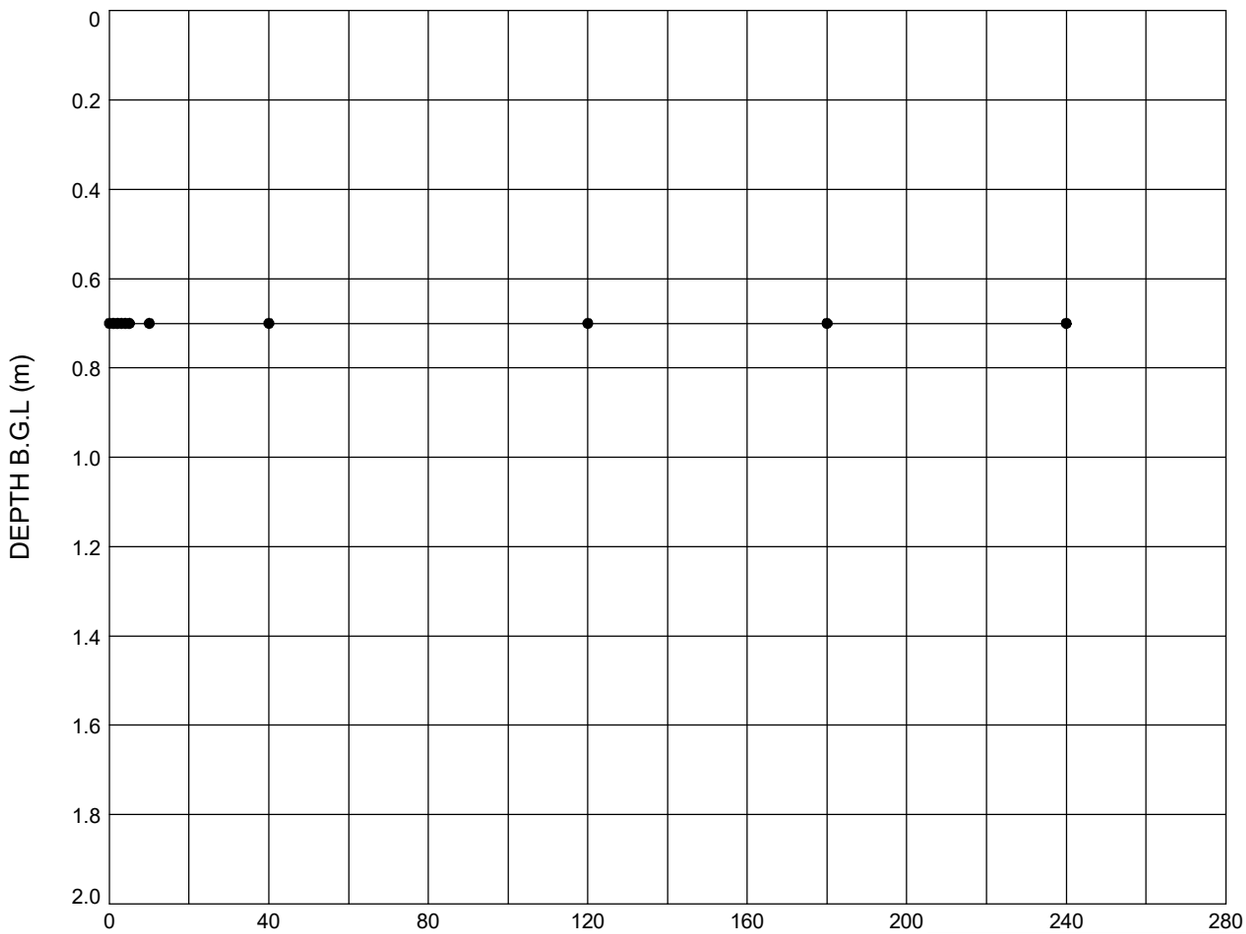
GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Graph I - TP SOAKAWAY - 2 - FINAL REPORT - A4P | 750490-GINT.GPJ - v10_01. | 24/11/21 - 10:07 | KL2 |

FULL SCALE SOAKAWAY TEST

Non-standard test

Soakaway Test - Position ID : **TP2**

PLOT OF DEPTH OF WATER BELOW GROUND LEVEL AGAINST TIME



Test 1

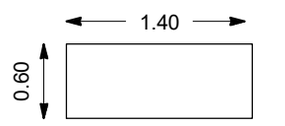
Pit start depth:	=	**1.90**	m
Pit final depth:	=	**1.82**	m
Effective depth, De	=	**1.12**	m
Effective storage volume, V_{p75-25}	=	**0.4704**	m^3
Surface area, a_{p50}	=	**3.0800**	m^2
Time, t_{p75-25}	=	**N/A**	secs
Infiltration rate, f	=	**N/A**	m/s

Notes: Test 1 - Unable to calculate infiltration rate due to insufficient drop in water level.

Legend

● Test 1 (23.11.21)

Plan (Not to scale)



No Bearing Taken

STRUCTURAL SOILS
1a Princess Street
Bedminster
Bristol
BS3 4AG

Compiled By	Date	Checked By	Date
KFlumacher	**24/11/21**		

Contract: **Church Lane, Ashington**

Contract Ref: **750490**

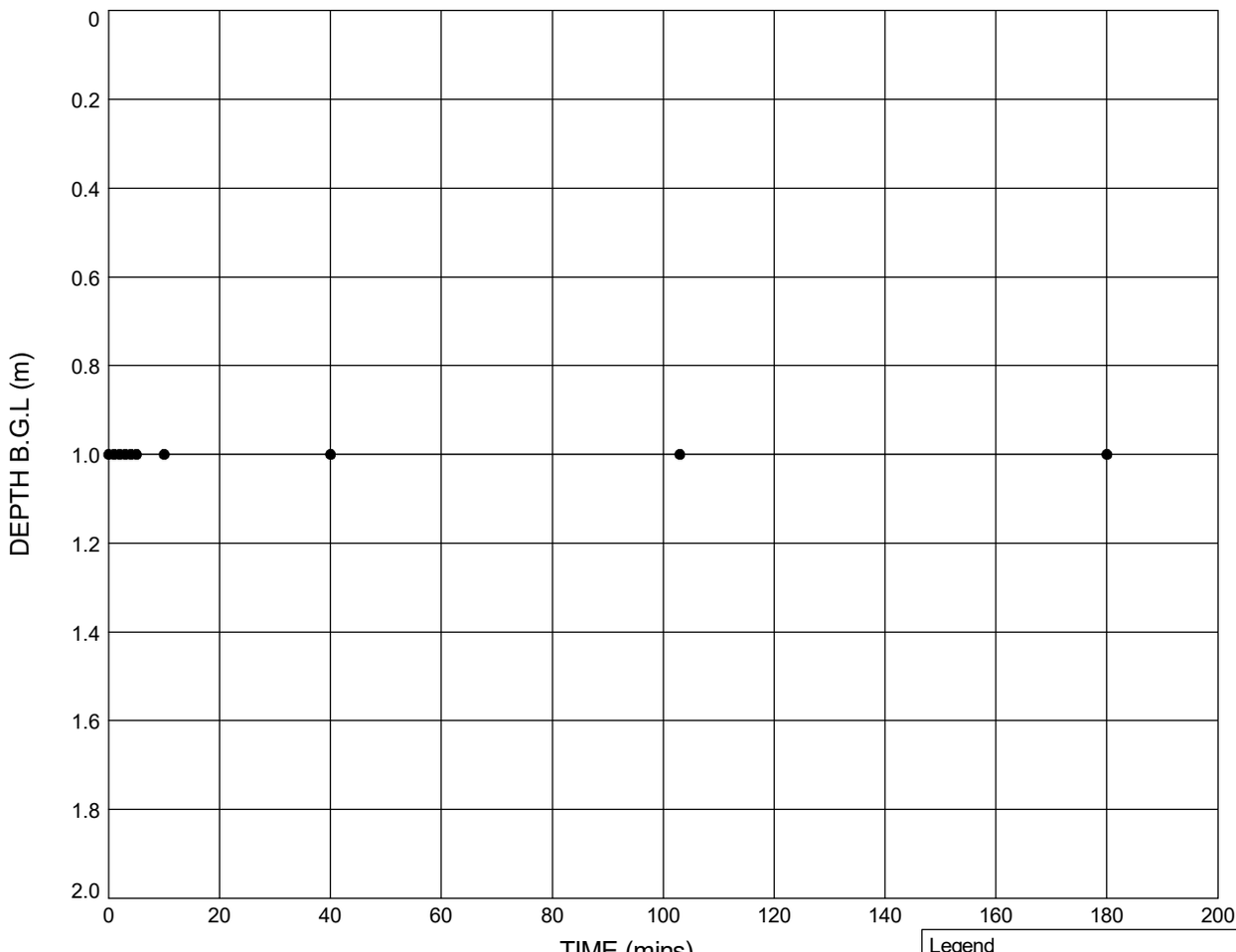
GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Graph I - TP SOAKAWAY - 2 - FINAL REPORT - A4P | 750490-GINT.GPJ - v10_01. | 24/11/21 - 10:08 | KL2 |

FULL SCALE SOAKAWAY TEST

Non-standard test

Soakaway Test - Position ID : **TP3**

PLOT OF DEPTH OF WATER BELOW GROUND LEVEL AGAINST TIME



Test 1

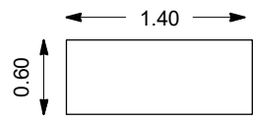
Pit start depth:	=	**2.00**	m
Pit final depth:	=	**2.00**	m
Effective depth, De	=	**1.00**	m
Effective storage volume, V_{p75-25}	=	**0.4200**	m^3
Surface area, a_{p50}	=	**2.8400**	m^2
Time, t_{p75-25}	=	**N/A**	secs
Infiltration rate, f	=	**N/A**	m/s

Notes: Test 1 - Unable to calculate infiltration rate due to insufficient drop in water level.

Legend

● Test 1 (23.11.21)

Plan (Not to scale)



No Bearing Taken

STRUCTURAL SOILS
1a Princess Street
Bedminster
Bristol
BS3 4AG

Compiled By	Date	Checked By	Date
KFlumacher	**24/11/21**		

Contract: **Church Lane, Ashington**

Contract Ref: **750490**

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Graph I - TP SOAKAWAY - 2 - FINAL REPORT - A4P | 750490-GINT.GPJ - v10_01. | 24/11/21 - 10:09 | KL2 |

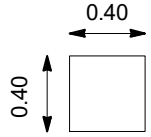
INSPECTION PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**HP01**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**01.12.21**	**---**	**---**	**1** of **1**
	End: **01.12.21**			

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						Soft dark brown sandy silty CLAY with frequent fine rootlets.	(0.20)	
							0.20	
						Firm to stiff light brown to orangish brown silty CLAY.		
0.40-0.60	1	B					(0.40)	
							0.60	

Plan (Not to Scale)



General Remarks

All dimensions in metres | Scale: **1:10**

Method Used:	Plant Used:	Logged By:	Checked By:
Inspection pit	**Hand tools**	**JCurnow**	

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log INSPECTION PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:09 | JC12 |

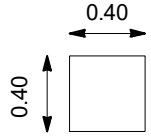
INSPECTION PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**HP02**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**01.12.21**	**---**	**---**	**1** of **1**
	End: **01.12.21**			

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						Soft dark brown sandy silty CLAY with frequent fine rootlets.	(0.35)	
							0.35	
0.40-0.60	1	B				Firm to stiff light brown to orangish brown silty CLAY.	(0.25)	
							0.60	

Plan (Not to Scale)



General Remarks

All dimensions in metres | Scale: **1:10**

Method Used:	Plant Used:	Logged By:	Checked By:
Inspection pit	**Hand auger**	**JCurnow**	

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log INSPECTION PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:09 | JC12 |

RSK GEOSCIENCES

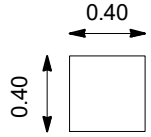
INSPECTION PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**HP03**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**01.12.21**	**---**	**---**	**1** of **1**
	End: **01.12.21**			

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						Soft dark brown sandy silty CLAY with occasional fine rootlets.	(0.30) 0.30	
0.40-0.60	1	B				Firm light brown to orangish brown silty CLAY.	(0.30) 0.60	

Plan (Not to Scale)



General Remarks

All dimensions in metres | Scale: **1:10**

Method Used:	Plant Used:	Logged By:	Checked By:
Inspection pit	**Hand tools**	**JCurnow**	

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log INSPECTION PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:10 | JC12 |

RSK GEOSCIENCES

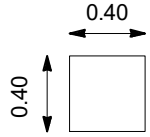
INSPECTION PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**HP04**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**01.12.21**	**---**	**---**	**1** of **1**
	End: **01.12.21**			

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						Soft dark brown sandy silty CLAY with frequent fine rootlets.	(0.20)	
							0.20	
						Firm to stiff light brown to orangish brown silty CLAY.	(0.40)	
0.40-0.60	1	B						
							0.60	

Plan (Not to Scale)



General Remarks

All dimensions in metres | Scale: **1:10**

Method Used:	Plant Used:	Logged By:	Checked By:
Inspection pit	**Hand tools**	**JCurnow**	

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log INSPECTION PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:10 | JC12 |

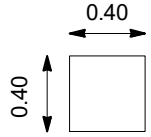
INSPECTION PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**HP05**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**01.12.21**	**---**	**---**	**1** of **1**
	End: **01.12.21**			

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						Soft dark brown sandy silty CLAY with occasional fine rootlets.	(0.30) 0.30	
0.50-0.60	1	B				Firm light brown to orangish brown silty CLAY.	(0.30) 0.60	

Plan (Not to Scale)



General Remarks

All dimensions in metres | Scale: **1:10**

Method Used:	Plant Used:	Logged By:	Checked By:
Inspection pit	**Hand tools**	**JCurnow**	

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log INSPECTION PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:10 | JC12 |

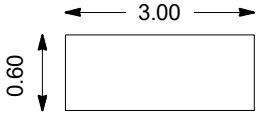
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TP01**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**22.11.21** End: **22.11.21**	**28.44**	**E:512691.7 N:115980.5**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.30 0.00	1	ES PID	0.0ppm			Brown gravelly silty SAND with frequent glass, porcelain and brick fragments, occasional rootlets and plastic. Sand is fine to coarse. Gravel is subangular to subrounded fine flint and chalk. (MADE GROUND)	(0.30) 0.30	
						Dark brown silty firm to stiff slightly gravelly CLAY with occasional brick fragments. Gravel is fine to coarse subrounded to subangular flint and chalk. (MADE GROUND)	(0.40) 0.70	
0.90-1.10	1	D				Firm light brown mottled reddish brown silty slightly gravelly CLAY with occasional lignite. Gravel is fine to coarse subangular to subrounded flint and chalk. (WEALD CLAY FORMATION)	0.90	
1.90-2.10	2	D				Soft to firm grey mottled orangish brown silty CLAY. (WEALD CLAY FORMATION) . . . From 2.00m depth: Becoming firm to stiff friable grey mottled orangish red silty CLAY.	(2.10)	
2.80-3.00	3	D				. . . From 2.80m depth: Becoming very friable (same description otherwise).	3.00	
						Trial pit terminated at 3.00m depth.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Trial pit remained dry during excavation.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:06 | JC12 |

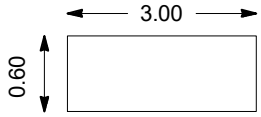
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TP02**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**22.11.21** End: **22.11.21**	**32.07**	**E:512629.6 N:115882.8**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.30 0.00	1	ES PID	0.0ppm			Brown gravelly silty SAND with frequent glass and brick fragments, rootlets and rare plastic. Sand is fine to coarse. Gravel is fine to medium subrounded to subangular flint and chalk. (MADE GROUND)	(0.30) 0.30	
						Brown firm to stiff slightly gravelly silty CLAY with occasional brick fragments, whole bricks, plastic, rare wood and cable. Gravel is fine to cobble size subangular to subrounded flint and chalk. (MADE GROUND)	(0.40) 0.70	
0.90-1.10	1	D				Soft to firm light brown mottled grey silty CLAY. (MADE GROUND)	(1.10) 1.80	
1.90-2.10	2	D		≈		Multicolour firm to stiff friable silty CLAY with occasional brick, glass and decayed organics. (MADE GROUND)	(1.20)	
2.50-3.00	3	D					3.00	
						Trial pit terminated at 3.00m depth.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Water seepage at 2.00m depth.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:06 | JC12 |

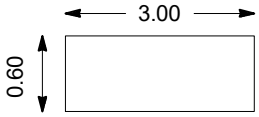
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TP03**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**22.11.21** End: **22.11.21**	**34.72**	**E:512607.5 N:115761.5**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.20 0.00	1	ES PID	0.0ppm			Soft light brown mottled reddish brown slightly gravelly sandy silty CLAY with fine rootlets. Sand is fine. Gravel is fine to medium subangular to subrounded flint. (TOPSOIL)	(0.50) 0.50	
						Soft to firm mottled grey and orangish brown silty CLAY with rare brick fragments. (MADE GROUND)	(0.30) 0.80	
1.00-1.20	1	D				Firm to stiff grey mottled orangish brown silty CLAY. (WEALD CLAY FORMATION)		
1.80-2.00	2	D					(2.20)	
2.80-3.00	3	D					3.00	
						Trial pit terminated at 3.00m depth.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Trial pit remained dry during excavation.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:06 | JC12 |

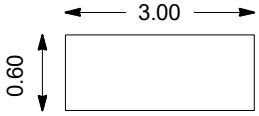
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TP04**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**22.11.21** End: **22.11.21**	**29.01**	**E:512589.5 N:115949.4**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.30 0.00	1	ES PID	0.0ppm			Soft brown silty slightly sandy slightly gravelly CLAY with occasional fine rootlets. Gravel is subrounded to subangular chalk. Sand is fine. (TOPSOIL)	(0.30) 0.30	
0.40-0.60	1	D				Firm to stiff orangish brown mottled grey silty CLAY with rare brick fragments. (MADE GROUND)	0.50	
						Firm to stiff orangish brown mottled grey silty CLAY. (WEALD CLAY FORMATION)		
						. . . At 1.60m depth: Pocket of gravel - fine to coarse subangular black mudstone.	(2.50)	
2.20-2.40	2	D				. . . From 2.20m depth: Becoming stiff friable grey mottled orangish brown silty CLAY.		
						. . . From 2.60m depth: Becoming extremely friable grey mottled orangish brown silty CLAY.	3.00	
						Trial pit terminated at 3.00m depth.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Trial pit remained dry during excavation.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

AGS

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:06 | JC12 |

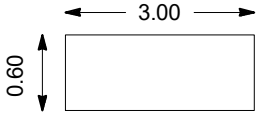
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TP05**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**22.11.21** End: **22.11.21**	**28.25**	**E:512634.6 N:116025.9**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.30 0.00	1	ES PID	0.0ppm			Soft brown silty slightly sandy slightly gravelly CLAY with occasional fine rootlets. Sand is fine. Gravel is subrounded to subangular fine chalk. (TOPSOIL)	(0.30) 0.30	
						Firm to stiff orangish brown mottled grey silty CLAY with occasional root to 0.90m. (from nearby tree) (WEALD CLAY FORMATION)		
0.90-1.10	1	D				. . . From 1.10m depth: Becoming friable orangish brown to grey silty CLAY.		
						. . . From 1.30m depth: Becoming extremely friable orangish brown to grey silty CLAY.	(2.60)	
2.00-2.20	2	D						
2.20-2.90	3	D				. . . From 2.60m depth: Becoming weak mudstone in a matrix of hard friable orangish brown mottled grey silty CLAY.		
							2.90	
						Trial pit terminated at 2.9m depth on mudstone/very hard clay.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Trial pit remained dry during excavation.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:06 | JC12 |

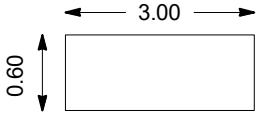
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TP06**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**23.11.21** End: **23.11.21**	**27.84**	**E:512629.4 N:116085.7**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.20 0.00	1	ES PID	0.0ppm			Firm brown silty slightly sandy CLAY with occasional rootlets. (TOPSOIL)	0.20	
0.90-1.10 0.90	1	D V	c_u=53			Firm to stiff medium strength orangish brown mottled bluish grey silty CLAY. (WEALD CLAY FORMATION)	(2.20)	
2.00-2.20	2	D		≈		. . . From 1.40m depth: Becoming soft friable multicolour silty CLAY.		
2.40-2.60	3	D				. . . From 2.20m depth: Becoming extremely friable multicolour silty CLAY.	2.40	
						. . . From 2.30m depth: Becoming weak multicolour mudstone on a matrix of extremely friable multicolour silty CLAY.	2.60	
						Medium light brown gravelly SAND. Gravel is fine to coarse subangular to weak siltstone/sandstone. (WEALD CLAY FORMATION)	2.70	
						Bluish grey extremely friable silty CLAY/GRAVEL of bluish grey weak siltstone. Gravel is fine to coarse subangular. (WEALD CLAY FORMATION)		
						Trial pit terminated at 2.70m depth.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Water seepage at 2.20m depth.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:06 | JC12 |

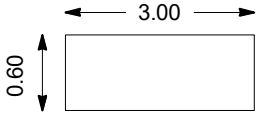
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TP07**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**23.11.21** End: **23.11.21**	**27.26**	**E:512554.8 N:116057.2**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.20 0.00	1	ES PID	0.0ppm			Soft brown slightly sandy silty CLAY with frequent rootlets. Sand is fine. (TOPSOIL)	0.20	
0.60		V	c_u=51			Firm to stiff medium strength orangish brown mottled bluish grey silty CLAY. (WEALD CLAY FORMATION)		
0.90-1.10	1	D						
1.00-2.10	2	D						
1.10		V	c_u=53					
						. . . From 1.30m depth: Becoming black mudstone in a matrix of firm orangish brown to bluish grey friable silty CLAY.	(2.80)	
						. . . From 1.80m depth: Becoming extremely friable reddish brown silty CLAY.		
						. . . From 2.20m depth: Becoming firm friable mutlicolour silty CLAY.		
2.80-3.00	3	D					3.00	
						Trial pit terminated at 3.00m depth.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Trial pit remained dry during excavation.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:06 | JC12 |

RSK GEOSCIENCES

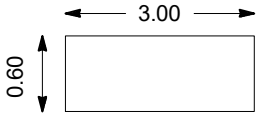
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TP08**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**23.11.21** End: **23.11.21**	**26.54**	**E:512504.8 N:116168.7**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.20 0.00	1	ES PID	0.0ppm			Firm dark brown silty CLAY with frequent rootlets. (TOPSOIL)	0.20	
						Firm orangish brown slightly gravelly silty CLAY with occasional roots and rootlets. Gravel is subangular medium flints. (WEALD CLAY FORMATION)		
0.80-1.00	1	D				. . . From 0.70m depth: Becoming firm to stiff orangish brown mottled bluish grey silty CLAY.	(2.80)	
1.80-2.00	2	D				. . . From 1.70m depth: Becoming friable orangish brown mottled bluish grey silty CLAY. . . . From 1.80m depth: Becoming extremely friable orangish brown to bluish grey silty CLAY.		
						. . . From 2.30m depth: Becoming weak mudstone in a matrix of extremely friable orangish brown to bluish grey silty CLAY. . . . From 2.50m depth: Becoming multicolour.		
2.80-3.00	3	D					3.00	
						Trial pit terminated at 3.00m depth.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Trial pit remained dry during excavation.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

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GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:06 | JC12 |

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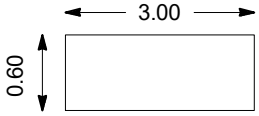
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TP09**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**24.11.21**	**27.34**	**E:512466.8 N:116082.2**	**1** of **1**
	End: **24.11.21**			

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.20	1	ES				Soft brown silty CLAY with frequent decayed wood and rootlets. (TOPSOIL)	0.10	
0.00		PID	0.0ppm			Firm light brown slightly gravelly silty CLAY with occasional roots. Gravel is subangular to subrounded fine to medium chalk. (TOPSOIL)	0.30	
0.40-0.60	1	D				Firm to stiff medium strength orangish brown mottled bluish grey silty CLAY with occasional roots. (WEALD CLAY FORMATION)	(1.20)	
0.50		V	c_u=54					
0.90-1.10	2	D						
1.20		V	c_u=52			. . . From 1.20m depth: Becoming stiff reddish brown mottled bluish grey silty CLAY.		
1.40-1.50	3	D					1.50	
						Trial pit terminated at 1.50m depth.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Trial pit remained dry during excavation.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

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GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:07 | JC12 |

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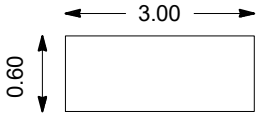
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TP10**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**24.11.21**	**28.35**	**E:512366.5 N:116091.1**	**1** of **1**
	End: **24.11.21**			

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.10	1	ES				Soft brown silty CLAY with frequent decayed wood and rootlets. (TOPSOIL)	0.10	
0.00		PID	0.0ppm					
0.20-0.30	1	D				Firm to stiff light brown silty CLAY with frequent roots. (TOPSOIL)	(0.30)	
0.20		PID	0.0ppm				0.40	
0.40-0.60	2	D				Firm to stiff medium strength orangish brown mottled grey silty CLAY with occasional roots. (WEALD CLAY FORMATION)		
0.50		V	c_u=51					
0.90-1.10	3	D				. . . From 0.90m depth: Becoming stiff friable bluish grey mottled reddish brown silty CLAY.		
						. . . From 1.30m depth: Becoming extremely friable reddish brown to grey silty CLAY.	(2.10)	
1.60-1.80	4	D				. . . From 1.60m depth: Becoming weak reddish brown to grey siltstone in a matrix of extremely friable reddish brown to grey silty CLAY.		
						. . . From 1.80m depth: Becoming GRAVEL of weak reddish brown to grey siltstone. Gravel is fine to coarse subangular.		
							2.50	
						Trial pit terminated at 2.50m depth.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Trial pit remained dry during excavation.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

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GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:07 | JC12 |

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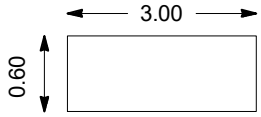
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TP11**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**24.11.21**	**25.79**	**E:512273.0 N:116222.0**	**1** of **1**
	End: **24.11.21**			

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.10 0.00	1	ES PID	0.0ppm			Soft brown silty sandy slightly gravelly CLAY with frequent root, rootlets and decayed wood. Sand is fine to medium. Gravel is subangular to subrounded fine chalk and flint. (TOPSOIL)	(0.30) 0.30	
0.40-0.60 0.50	1	D V	c_u=42			Firm to stiff medium strength orangish brown mottled bluish grey silty CLAY with occasional roots and rare lignite. (WEALD CLAY FORMATION)		
0.90-1.10	2	D				. . . From 0.90m depth: Becoming firm friable orangish brown mottled bluish grey silty CLAY.	(2.00)	
1.40-1.60	3	D				. . . From 1.40m depth: Becoming weak multicolour in a matrix of soft multicolour friable silty CLAY. . . . From 1.70m depth: Becoming firm friable orangish brown to bluish grey silty CLAY.	2.30	
				≈		Orangish brown to bluish grey gravelly SAND. Sand is coarse. Gravel is fine to coarse subangular weak siltstone. (WEALD CLAY FORMATION)	2.50	
						Trial pit terminated at 2.50m depth on hard layer of sand and siltstone.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Water seepage at 2.40m depth.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

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GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:07 | JC12 |

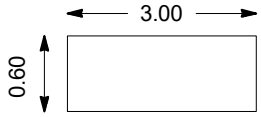
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TP12**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**24.11.21** End: **24.11.21**	**27.25**	**E:512258.8 N:116122.7**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.20 0.00	1	ES PID	0.0ppm			Dark brown silty CLAY with abundant decayed wood, roots and rootlets. (TOPSOIL)	0.20	
						Firm light brown sandy silty CLAY with frequent roots and rootlets. Sand is fine to coarse. (WEALD CLAY FORMATION)	0.40	
0.40-0.60 0.50	1	D V	c_u=63			Firm to stiff medium strength orangish brown to bluish grey silty CLAY with frequent roots. (WEALD CLAY FORMATION) . . . From 0.70m depth: Becoming firm friable orangish brown mottled bluish grey silty CLAY with rare roots.		
0.90-1.10 1.00	2	D V	c_u=65			. . . From 0.90m depth: Becoming firm to stiff slightly friable reddish brown mottled bluish grey silty CLAY with rare roots.	(1.40)	
						. . . From 1.30m depth: Becoming extremely friable stiff reddish brown mottled bluish grey silty CLAY.	1.80	
1.90-2.10	3	D				Weak multicolour mudstone in a matrix of extremely friable orangish brown to bluish grey silty CLAY. (WEALD CLAY FORMATION)	(0.70)	
						Trial pit terminated at 2.50m depth on very hard claystone/clay.	2.50	

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Trial pit remained dry during excavation.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

AGS

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:07 | JC12 |

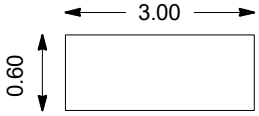
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TP13**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**23.11.21**	**27.25**	**E:512457.5 N:116152.1**	**1** of **1**
	End: **23.11.21**			

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.10 0.00	1	ES PID	0.0ppm			Soft dark brown sandy slightly gravelly CLAY with frequent roots and rootlets and decayed organics. Sand is fine to coarse. Gravel is fine to coarse subrounded to subangular flint. (TOPSOIL)	0.20	
0.40-0.60 0.50	1	D V	c_u=28			Soft low strength orangish brown mottled bluish grey silty CLAY with occasional roots and rootlets. (WEALD CLAY FORMATION)		
						. . . From 1.20m depth: Becoming extremely friable orangish brown to bluish grey silty CLAY.		
1.40-1.60	2	D					(2.80)	
						. . . From 2.10m depth: Becoming extremely friable multicolour silty CLAY.		
2.40-2.60	3	D				. . . From 2.40m depth: Becoming weak multicolour mudstone in a matrix of extremely friable multicolour silty CLAY.		
							3.00	
						Trial pit terminated at 3.00m depth.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Trial pit remained dry during excavation.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:07 | JC12 |

RSK GEOSCIENCES

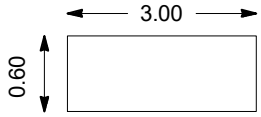
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TP14**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**24.11.21**	**26.83**	**E:512384.6 N:116214.6**	**1** of **1**
	End: **24.11.21**			

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00 0.00	1	ES PID	0.0ppm			Soft brown silty CLAY with frequent decayed wood, roots and rootlets. (TOPSOIL)	0.20	
						Firm light brown silty CLAY with frequent roots and lignite. Rare flints. (WEALD CLAY FORMATION)	0.40	
0.50		V	c_u=48			Firm to stiff medium strength multicoloured silty CLAY with pockets of black mudstone gravel and rare roots. (WEALD CLAY FORMATION)	(2.60)	
0.90	1	D						
1.20		V	c_u=68					
						. . . From 1.50m depth: Reddish brown friable silty CLAY.		
						. . . From 1.70m depth: Becoming extremely friable reddish brown silty CLAY.		
1.90	2	D				. . . From 1.80m depth: Becoming stiff bluish grey mottled orangish brown silty CLAY.		
						. . . From 1.90m depth: Band of black mudstone gravel, fine to coarse subangular.		
						From 1.90m depth: Friable stiff bluish grey mottled orangish brown silty CLAY with frequent decayed rootlets.		
						. . . From 2.00m depth: Becoming extremely friable reddish brown to bluish grey silty CLAY.		
						. . . From 2.60m depth: Becoming weak multicolour mudstone in a matrix multicolour silty CLAY.	3.00	
						Trial pit terminated at 3.00m depth.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Trial pit remained dry during excavation.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

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GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:07 | JC12 |

RSK GEOSCIENCES

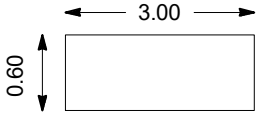
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TP15**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**24.11.21**	**27.98**	**E:512349.3 N:116149.1**	**1** of **1**
	End: **24.11.21**			

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.20 0.00	1	ES PID	0.0ppm			Soft dark brown silty CLAY with frequent decayed wood and rootlets. (TOPSOIL)	0.20	
						Firm light brown sandy silty CLAY with frequent roots and rootlets. Sand is fine to coarse. (WEALD CLAY FORMATION)	0.40	
0.40-0.60 0.50	1	D V	c_u=51			Firm to stiff medium strength orangish brown mottled bluish grey silty CLAY with occasional roots. (WEALD CLAY FORMATION)		
						. . . From 0.70m depth: Becoming stiff reddish brown mottled bluish grey silty CLAY.		
0.90-1.10 1.00	2	D V	c_u=63					
						. . . From 1.40m depth: Stiff orangish brown mottled bluish grey silty CLAY with frequent pockets of reddish brown to black mudstone gravel.	(2.60)	
						. . . From 1.70m depth: weak orange grey siltstone in a matrix of extremely friable orangish brown to grey silty CLAY.		
						. . . From 2.60m depth: Gravel of weak reddish brown to grey mudstone. Gravel is fine to coarse, subangular.		
2.90-3.00	3	D					3.00	
						Trial pit terminated at 3.00m depth.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Trial pit remained dry during excavation.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

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GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:07 | JC12 |

RSK GEOSCIENCES

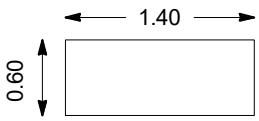
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TPS01**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**23.11.21** End: **23.11.21**	**28.52**	**E:512699.5 N:115954.0**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.30 0.00	1	ES PID	0.0ppm			Brown gravelly silty SAND with frequent glass, porcelain, brick fragments and occasional rootlets. Sand is fine to coarse. Gravel is subangular to subrounded fine flint and chalk. (MADE GROUND)	(0.30) 0.30	
0.50-0.60	1	D				Orangish brown mottled grey firm to stiff silty slightly gravelly CLAY with occasional brick fragments. Gravel is fine to coarse subangular to subrounded flint and chalk. (WEALD CLAY FORMATION)	(0.40) 0.70	
0.90-1.10	2	D				Firm orangish brown mottled grey silty CLAY. (WEALD CLAY FORMATION)	(0.80)	
1.40-1.50	3	D		≈			1.50	
						Trial pit terminated at 1.50m depth.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Water seepage at 1.50m depth.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

AGS

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:07 | JC12 |

RSK GEOSCIENCES

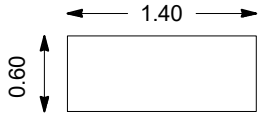
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TPS02**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**23.11.21** End: **23.11.21**	**26.66**	**E:512515.0 N:116093.5**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.20 0.00	1	ES PID	0.0ppm			Soft light brown mottled reddish brown slightly gravelly sandy silty CLAY with fine rootlets. Sand is fine. Gravel is fine subangular flint. (TOPSOIL)	(0.30) 0.30	
0.40-0.60	1	D				Soft to firm grey mottled orangish brown silty CLAY with frequent lignite. (WEALD CLAY FORMATION) . . . From 0.90m depth: Stiff bluish grey mottled orangish brown silty CLAY.	(1.60)	
1.40-1.60	2	D				. . . From 1.70m depth: Becoming slightly friable (same description otherwise).	1.90	
						Trial pit terminated at 1.90m depth.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Trial pit remained dry during excavation.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

AGS

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:07 | JC12 |

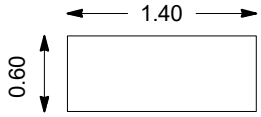
TRIAL PIT LOG

Contract:	Client:	Trial Pit:
Church Lane, Ashington	**Bellway Homes Limited**	**TPS03**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**23.11.21** End: **23.11.21**	**27.80**	**E:512385.2 N:116151.7**	**1** of **1**

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.20 0.00	1	ES PID	0.0ppm			Firm dark brown silty CLAY with frequent rootlets. (TOPSOIL)	(0.40) 0.40	
0.40-0.50	1	D				Firm orangish brown mottled grey silty CLAY with rootlets and roots and rare brick fragments. (MADE GROUND)	0.50	
						Firm orangish brown mottled grey silty CLAY. (WEALD CLAY FORMATION)		
1.20-1.30	2	D				. . . From 1.30m depth: Becoming firm friable orangish brown mottled grey silty CLAY with rare roots.	(1.50)	
						. . . From 1.50m depth:Becoming extremely friable orangish brown mottled grey silty CLAY.		
1.80-2.00	3	D					2.00	
						Trial pit terminated at 2.00m depth.		

Plan (Not to Scale)



General Remarks

1. Trial pit remained stable during excavation.
2. Trial pit remained dry during excavation.
3. Trial pit backfilled with arisings.

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Logged By:	Checked By:
Machine dug	**8 Ton Tracked Excavator**	**JCurnow**	

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log TRIAL PIT LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:07 | JC12 |

WINDOW SAMPLE LOG

Contract:	Client:	Window Sample:
Church Lane, Ashington	**Bellway Homes Limited**	**WS01**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**24.11.21** End: **24.11.21**	**33.07**	**E:512630.6 N:115882.8**	**1** of **2**

Progress	Samples / Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
	0.10-0.20 0.20	1	ES PID	 0.0ppm			MADE GROUND: Grass over soft brown silty sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to medium flint, brick, wood, glass and clinker. (MADE GROUND)	(0.50) 0.50	
	0.60-0.70 0.60	2	ES PID	 0.0ppm			MADE GROUND: Soft brown silty sandy very gravelly CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse flint, brick, clinker, ceramic and chalk. (MADE GROUND)	(0.60) 1.10	
	1.00-1.45 1.10-1.20 1.20	1 3	SPT ES PID	N=4 0.4ppm			MADE GROUND: Soft to firm bluish grey sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine to medium flint, brick, glass, clinker and wood. (MADE GROUND)	(1.00) 2.10	
	2.00-2.45 2.20-2.40 2.50	2 1	SPT D V	N=7 c_u=52/50/44			Firm to stiff medium strength orangish brown grey mottled sandy CLAY. Sand is fine to coarse with frequent black organics (decayed roots). (WEALD CLAY FORMATION)	(0.90) 3.00	
	3.00-3.45 3.30-3.50	3 2	SPT D	N=13 			Very stiff orange grey mottled sandy dessicated CLAY. (WEALD CLAY FORMATION)	(1.60)	
	4.00-4.45	4	SPT	N=23					

Drilling Progress and Water Observations					
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)

General Remarks

1. Inspection pit hand dug to 1.00m depth.
2. No groundwater encountered.
3. Installed to 4.60m - 1.00m plain pipe, 4.00m slotted pipe (0.4m plain pipe above ground level).

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Drilled By:	Logged By:	Checked By:
Tracked window sampling	**Premier 110**	**GEH**	**JCurnow**	AGS

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log WINDOW SAMPLE LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:04 | JC12 |

WINDOW SAMPLE LOG

Contract:	Client:	Window Sample:
Church Lane, Ashington	**Bellway Homes Limited**	**WS01**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**24.11.21** End: **24.11.21**	**33.07**	**E:512630.6 N:115882.8**	**2** of **2**

Progress	Samples / Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
								4.60	
							Window sample hole terminated at 4.60m depth.		

Drilling Progress and Water Observations					
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)

General Remarks

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Drilled By:	Logged By:	Checked By:
Tracked window sampling	**Premier 110**	**GEH**	**JCurnow**	

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log WINDOW SAMPLE LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:04 | JC12 |

WINDOW SAMPLE LOG

Contract:	Client:	Window Sample:
Church Lane, Ashington	**Bellway Homes Limited**	**WS02**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**24.11.21** End: **24.11.21**	**28.23**	**E:512609.0 N:116019.6**	**1** of **1**

Progress	Samples / Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
	0.10-0.20 0.20	1	ES PID	0.0ppm			Grass over soft brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine to medium flint and wood. Frequent rootlets. (TOPSOIL)	0.20	
							Soft orangish brown sandy CLAY. Sand is fine to coarse. Frequent rootlets. (WEALD CLAY FORMATION)	0.40 (0.40)	
	0.50-0.60	1	D				Firm orangish brown light grey mottled slightly gravelly angular to subangular fine to coarse flint sandy CLAY. Sand is fine to coarse. Occasional rootlets. (WEALD CLAY FORMATION)	0.80 (0.30)	
	1.00-1.45	1	SPT	N=10			Firm light grey orange mottled sandy CLAY. Sand is fine to coarse. Red weathering at 0.90m. (WEALD CLAY FORMATION)	1.10	
	1.50-1.70 1.50	2	D V	c_u=58/55/54			Firm to stiff medium strength light grey orange mottled sandy CLAY. Sand is fine to coarse. Brown stained. (WEALD CLAY FORMATION)	(1.00)	
	2.00-2.45	2	SPT	N=18				2.10	
	2.50-3.50 2.50	3	D V	c_u=68/67/65			Stiff medium strength dark grey brown mottled sandy CLAY. Sand is fine to coarse. Rare black organics (decayed roots). (WEALD CLAY FORMATION)	(1.35)	
	3.00-3.45	3	SPT	N=42				3.45	
							Window sample hole terminated at 3.45m depth.		

Drilling Progress and Water Observations					
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)

General Remarks

1. Inspection pit hand dug to 1.00m depth.
2. No groundwater encountered.
3. Installed to 3.45m - 1.00m plain pipe, 3.00m slotted (0.45m plain pipe above ground level).

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Drilled By:	Logged By:	Checked By:
Tracked window sampling	**Premier 110**	**GEH**	**JCurnow**	AGS

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log WINDOW SAMPLE LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:04 | JC12 |

WINDOW SAMPLE LOG

Contract:	Client:	Window Sample:
Church Lane, Ashington	**Bellway Homes Limited**	**WS03**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**24.11.21** End: **24.11.21**	**26.88**	**E:512582.1 N:116095.9**	**1** of **1**

Progress	Samples / Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
	0.10-0.20	1	ES				Grass over soft brown silty sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular fine to medium chalk and wood. Frequent rootlets. (TOPSOIL)	0.20	
	0.20		PID	0.0ppm			Soft orangish brown sandy CLAY. Sand is fine to coarse. Occasional rootlets. (WEALD CLAY FORMATION)	0.40	
	0.50-0.70	1	D				Firm orangish brown grey mottled slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to medium flint. Frequent black organics (decayed roots). (WEALD CLAY FORMATION)	(0.80)	
	1.00-1.45	1	SPT	N=20				1.20	
							Firm orange light grey mottled very sandy CLAY. Sand is fine to coarse. Frequent black organics. (WEALD CLAY FORMATION)	1.30	
	1.50-1.70	2	D				Orange light grey mottled clayey fine to coarse SAND. (WEALD CLAY FORMATION)	1.50	
	1.80		V	c_u=76/73/72			Stiff medium strength light grey orange mottled sandy CLAY. Sand is fine to coarse. Frequent black organics. (WEALD CLAY FORMATION)	(0.40)	
	2.00-2.45	2	SPT	N=34			Stiff light grey orange mottled very sandy CLAY. Sand is fine to coarse. (WEALD CLAY FORMATION)	1.90	
							Orangish brown clayey fine to coarse SAND. (WEALD CLAY FORMATION)	2.00	
	2.50-2.70	3	D				Very stiff high strength dark grey orange mottled sandy CLAY. Sand is fine to coarse. (WEALD CLAY FORMATION)	(0.30)	
	2.50		V	c_u=87/85/84				2.30	
	2.70-3.15	3	SPT	N=35				(0.85)	
							Window sample hole terminated at 3.15m depth due to refusal.	3.15	

Drilling Progress and Water Observations					
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)

General Remarks

1. Inspection pit hand dug to 1.00m depth.
2. No groundwater encountered.
3. Installed to 2.70m - 1.00m plain pipe, 2.00m slotted (0.30m plain pipe above ground level).

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Drilled By:	Logged By:	Checked By:
Tracked window sampling	**Premier 110**	**GEH**	**JCurnow**	AGS

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log WINDOW SAMPLE LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:04 | JC12 |

RSK GEOSCIENCES

WINDOW SAMPLE LOG

Contract:	Client:	Window Sample:
Church Lane, Ashington	**Bellway Homes Limited**	**WS04**

Contract Ref:	Start: **24.11.21** End: **24.11.21**	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368		**26.88**	**E:512416.1 N:116189.3**	**1** of **1**

Progress	Samples / Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
	0.10-0.20 0.20	1	ES PID	0.0ppm			Soft brown silty sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular flint and wood. (TOPSOIL)	0.20	
	0.50-0.70	1	D				Soft orangish brown grey mottled sandy CLAY. Sand is fine to coarse. Occasional rootlets. (WEALD CLAY FORMATION)	(0.50) 0.70	
	1.00-1.45	1	SPT	N=18			Firm light grey orange mottled sandy slightly fissured CLAY. Sand is fine to coarse. Rare rootlets. (WEALD CLAY FORMATION)	(0.30) 1.00	
	1.50-1.70	2	D				Stiff light grey orange mottled sandy CLAY. Sand is fine to coarse. Occasional black organics (decayed roots). (WEALD CLAY FORMATION) . . . Between 1.80m to 2.00m depth: Heavily weathered.	(1.00) 2.00	
	2.00-2.45	2	SPT	N=17			Very stiff bluish grey orange mottled sandy CLAY. Sand is fine to coarse. Frequent black organics (decayed roots) and occasional weathering. (WEALD CLAY FORMATION)		
	2.50-2.70	3	D				. . . Between 2.70m to 3.00m depth: Fractures infilled with fine to coarse orange sand.	(1.45)	
	3.00-3.45	3	SPT	N=50				3.45	
							Window sample hole terminated at 3.45m depth due to refusal.		

Drilling Progress and Water Observations

Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)

General Remarks

1. Inspection pit hand dug to 1.00m depth.
2. No groundwater encountered.
3. Installed to 3.45m - 2.00m plain pipe, 2.00m slotted (0.45m plain pipe above ground level).

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Drilled By:	Logged By:	Checked By:
Tracked window sampling	**Premier 110**	**GEH**	**JCurnow**	AGS

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log WINDOW SAMPLE LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:04 | JC12 |

RSK GEOSCIENCES

WINDOW SAMPLE LOG

Contract:	Client:	Window Sample:
Church Lane, Ashington	**Bellway Homes Limited**	**WS05**

Contract Ref:	Start:	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
52368	**24.11.21** End: **24.11.21**	**27.18**	**E:512294.4 N:116190.4**	**1** of **1**

Progress	Samples / Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
	0.10-0.20 0.20	1	ES PID	0.0ppm			Soft brown silty sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to coarse flint and wood. Frequent rootlets. (TOPSOIL)	0.20	
	0.50-0.60	1	D				Soft brown orange grey mottled sandy CLAY. Sand is fine to coarse. Occasional rootlets. (WEALD CLAY FORMATION)	(0.40) 0.60	
	1.00-1.45	1	SPT	N=10			Firm light grey orange mottled sandy CLAY. Sand is fine to coarse. Weathered red at 0.90m. (WEALD CLAY FORMATION)	(0.60) 1.20	
	1.50-1.75 1.50	2	D V	c_u=48/52/46			Stiff medium strength light grey orange mottled sandy CLAY. Sand is fine to coarse. (WEALD CLAY FORMATION)	(0.50) 1.70	
	2.00-2.45	2	SPT	N=19			Very stiff light grey orange mottled sandy fissured CLAY. Occasional black organics (decayed roots). (WEALD CLAY FORMATION)	(0.50) 2.20	
	2.50-2.75 2.50	3	D V	c_u=64/60/59			Very stiff medium strength bluish grey orange mottled slightly sandy CLAY. Frequent black organics (decayed roots). Frequently orange stained after 2.70m. (WEALD CLAY FORMATION)	(1.25) 3.45	
	3.00-3.45	3	SPT	N=36			Window sample hole terminated at 3.45m depth.		

Drilling Progress and Water Observations					
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)

General Remarks

1. Inspection pit hand dug to 1.00m depth.
2. No groundwater encountered.
3. Installed to 3.45m - 1.00m plain pipe, 3.00m slotted (0.45m plain pipe above ground level).

All dimensions in metres | Scale: **1:25**

Method Used:	Plant Used:	Drilled By:	Logged By:	Checked By:
Tracked window sampling	**Premier 110**	**GEH**	**JCurnow**	AGS

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Log WINDOW SAMPLE LOG - A4P | 52368-CHURCH-LANE-ASHINGTON.GPJ - v10_01. | 26/01/22 - 15:04 | JC12 |

APPENDIX H
GROUND GAS MONITORING DATA AND SITE CONDITIONS

IN-SITU GAS MONITORING RESULTS

	Start Date	End Date	Pressures Previous	During	Start	End	Equipment Used & Remarks
Round 1	01/12/2021	01/12/2021	-	Falling	998	997	Ground: Damp | Wind: Light | Air Temp: 10°C
Round 2	08/12/2021	08/12/2021	-	Rising	992	993	Ground: Wet | Wind: Light | Air Temp: 8°C
Round 3	15/12/2021	15/12/2021	-	Constant	1030	1030	Ground: Wet | Wind: Light | Air Temp: 12°C

Exploratory Position ID	Pipe ref	Pipe diameter (mm)	Monitoring Round	Reported Installation Depth (m)	Measured Installation Depth (mbgl)	Response Zone	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
WS01	1	50	1	4.60	---	0.60 to 4.00	01/12/2021 10:50:00	-	997	$0.0_{(I)}$	-	-	-	-	-	-	
WS01	1	50	1	---	---	0.60 to 4.00	60 secs	-	-	$0.0_{(SS)}$	-	-	-	-	-	-	
WS01	1	50	1	4.60	---	0.60 to 4.00	01/12/2021 10:52:00	-	-	-	-	1.1	0.0	21.6	2	0	
WS01	1	50	1	---	---	0.60 to 4.00	15 secs	-	-	-	-	1.4	0.0	20.9	2	0	
WS01	1	50	1	---	---	0.60 to 4.00	30 secs	-	-	-	-	1.5	0.0	20.1	2	0	
WS01	1	50	1	---	---	0.60 to 4.00	60 secs	-	-	-	-	3.6	0.0	18.9	2	0	
WS01	1	50	1	---	---	0.60 to 4.00	90 secs	-	-	-	-	6.3	0.0	17.1	2	0	
WS01	1	50	1	---	---	0.60 to 4.00	120 secs	-	-	-	-	6.6	0.0	17.1	2	0	
WS01	1	50	1	---	---	0.60 to 4.00	180 secs	-	-	-	-	6.3	0.0	17.3	1	0	
WS01	1	50	1	---	---	0.60 to 4.00	240 secs	-	-	-	-	5.5	0.0	17.8	1	0	
WS01	1	50	1	---	4.60	0.60 to 4.00	480 secs	-	-	-	2.50	-	-	-	-	-	
WS01	1	50	2	4.60	---	0.60 to 4.00	08/12/2021 10:40:00	-	-	$0.0_{(I)}$	-	-	-	-	-	-	
WS01	1	50	2	---	---	0.60 to 4.00	60 secs	-	-	$0.0_{(SS)}$	-	-	-	-	-	-	
WS01	1	50	2	4.60	---	0.60 to 4.00	08/12/2021 10:42:00	-	-	-	-	0.1	0.0	21.6	1	0	
WS01	1	50	2	---	---	0.60 to 4.00	15 secs	-	-	-	-	0.6	0.0	21.5	1	0	
WS01	1	50	2	---	---	0.60 to 4.00	30 secs	-	-	-	-	0.3	0.0	21.5	1	0	
WS01	1	50	2	---	---	0.60 to 4.00	60 secs	-	-	-	-	0.2	0.0	21.5	1	0	
WS01	1	50	2	---	---	0.60 to 4.00	90 secs	-	-	-	-	0.1	0.0	21.5	1	0	

Key: I = Initial, Min = Minimum, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.

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IN-SITU GAS MONITORING RESULTS

Exploratory Position ID	Pipe ref	Pipe diameter (mm)	Monitoring Round	Reported Installation Depth (m)	Measured Installation Depth (mbgl)	Response Zone	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
WS01	1	50	2	---	---	0.60 to 4.00	120 secs	-	-	-	-	0.1	0.0	21.5	1	0	
WS01	1	50	2	---	---	0.60 to 4.00	180 secs	-	-	-	-	0.1	0.0	21.5	1	0	
WS01	1	50	2	---	4.60	0.60 to 4.00	360 secs	-	-	-	0.66	-	-	-	-	-	
WS01	1	50	3	4.60	---	0.60 to 4.00	15/12/2021 10:40:00	-	-	$0.4_{(I)}$	-	-	-	-	-	-	
WS01	1	50	3	---	---	0.60 to 4.00	60 secs	-	-	$0.0_{(SS)}$	-	-	-	-	-	-	
WS01	1	50	3	4.60	---	0.60 to 4.00	15/12/2021 10:42:00	-	-	-	-	0.1	0.0	21.1	-	-	
WS01	1	50	3	---	---	0.60 to 4.00	15 secs	-	-	-	-	0.5	0.0	21.0	-	-	
WS01	1	50	3	---	---	0.60 to 4.00	30 secs	-	-	-	-	0.3	0.0	21.1	-	-	
WS01	1	50	3	---	---	0.60 to 4.00	60 secs	-	-	-	-	0.1	0.0	21.1	-	-	
WS01	1	50	3	---	---	0.60 to 4.00	90 secs	-	-	-	-	0.1	0.0	21.1	-	-	
WS01	1	50	3	---	---	0.60 to 4.00	120 secs	-	-	-	-	0.1	0.0	21.1	-	-	
WS01	1	50	3	---	---	0.60 to 4.00	180 secs	-	-	-	-	0.1	0.0	21.1	-	-	
WS01	1	50	3	---	---	0.60 to 4.00	240 secs	-	-	-	-	0.1	0.0	21.1	-	-	
WS01	1	50	3	---	4.60	0.60 to 4.00	420 secs	-	-	-	0.88	-	-	-	-	-	
WS02	1	50	1	3.45	---	0.45 to 3.45	01/12/2021 10:40:00	-	-	$0.0_{(I)}$	-	-	-	-	-	-	
WS02	1	50	1	---	---	0.45 to 3.45	60 secs	-	-	$0.0_{(SS)}$	-	-	-	-	-	-	
WS02	1	50	1	3.45	---	0.45 to 3.45	01/12/2021 10:42:00	-	-	-	-	0.2	0.0	21.6	6	0	
WS02	1	50	1	---	---	0.45 to 3.45	15 secs	-	-	-	-	0.3	0.0	21.4	9	0	
WS02	1	50	1	---	---	0.45 to 3.45	30 secs	-	-	-	-	0.3	0.0	21.3	2	0	
WS02	1	50	1	---	---	0.45 to 3.45	60 secs	-	-	-	-	0.4	0.0	21.3	1	0	
WS02	1	50	1	---	---	0.45 to 3.45	90 secs	-	-	-	-	0.4	0.0	21.3	1	0	
WS02	1	50	1	---	---	0.45 to 3.45	120 secs	-	-	-	-	0.4	0.0	21.3	1	0	
WS02	1	50	1	---	---	0.45 to 3.45	180 secs	-	-	-	-	0.4	0.0	21.3	1	0	
WS02	1	50	1	---	3.41	0.45 to 3.45	360 secs	-	-	-	2.90	-	-	-	-	-	

Key: I = Initial, Min = Minimum, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.

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IN-SITU GAS MONITORING RESULTS

Exploratory Position ID	Pipe ref	Pipe diameter (mm)	Monitoring Round	Reported Installation Depth (m)	Measured Installation Depth (mbgl)	Response Zone	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
WS02	1	50	2	3.45	---	0.45 to 3.45	08/12/2021 10:30:00	-	-	$0.0_{(I)}$	-	-	-	-	-	-	
WS02	1	50	2	---	---	0.45 to 3.45	60 secs	-	-	$0.0_{(SS)}$	-	-	-	-	-	-	
WS02	1	50	2	3.45	---	0.45 to 3.45	08/12/2021 10:32:00	-	-	-	-	0.1	0.0	21.2	1	0	
WS02	1	50	2	---	---	0.45 to 3.45	15 secs	-	-	-	-	0.2	0.0	21.1	2	0	
WS02	1	50	2	---	---	0.45 to 3.45	30 secs	-	-	-	-	0.3	0.0	21.0	1	0	
WS02	1	50	2	---	3.35	0.45 to 3.45	180 secs	-	-	-	0.00	-	-	-	-	-	
WS02	1	50	3	3.45	---	0.45 to 3.45	15/12/2021 10:30:00	-	-	$0.0_{(I)}$	-	-	-	-	-	-	
WS02	1	50	3	---	---	0.45 to 3.45	60 secs	-	-	$0.0_{(SS)}$	-	-	-	-	-	-	
WS02	1	50	3	3.45	---	0.45 to 3.45	15/12/2021 10:32:00	-	-	-	-	0.1	0.0	21.0	1	-	
WS02	1	50	3	---	---	0.45 to 3.45	15 secs	-	-	-	-	0.1	0.0	21.0	1	-	
WS02	1	50	3	---	3.40	0.45 to 3.45	180 secs	-	-	-	0.09	-	-	-	-	-	
WS03	1	50	1	2.70	---	0.37 to 2.70	01/12/2021 10:30:00	-	998	$0.0_{(I)}$	-	-	-	-	-	-	
WS03	1	50	1	---	---	0.37 to 2.70	60 secs	-	-	$0.0_{(SS)}$	-	-	-	-	-	-	
WS03	1	50	1	2.70	---	0.37 to 2.70	01/12/2021 10:32:00	-	-	-	-	1.2	0.0	20.8	2	0	
WS03	1	50	1	---	---	0.37 to 2.70	15 secs	-	-	-	-	1.2	0.0	20.6	2	0	
WS03	1	50	1	---	---	0.37 to 2.70	30 secs	-	-	-	-	1.2	0.0	20.3	1	0	
WS03	1	50	1	---	---	0.37 to 2.70	60 secs	-	-	-	-	1.2	0.0	20.5	1	0	
WS03	1	50	1	---	---	0.37 to 2.70	90 secs	-	-	-	-	1.2	0.0	20.5	1	0	
WS03	1	50	1	---	---	0.37 to 2.70	120 secs	-	-	-	-	1.2	0.0	20.5	1	0	
WS03	1	50	1	---	---	0.37 to 2.70	180 secs	-	-	-	-	1.2	0.0	20.5	1	0	
WS03	1	50	1	---	2.67	0.37 to 2.70	360 secs	-	-	-	1.15	-	-	-	-	-	
WS03	1	50	2	2.70	---	0.37 to 2.70	08/12/2021 10:20:00	-	-	$0.0_{(I)}$	-	-	-	-	-	-	
WS03	1	50	2	---	---	0.37 to 2.70	60 secs	-	-	$0.0_{(SS)}$	-	-	-	-	-	-	
WS03	1	50	2	2.70	---	0.37 to 2.70	08/12/2021 10:22:00	-	-	-	-	0.1	0.0	21.2	1	0	

Key: I = Initial, Min = Minimum, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.

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IN-SITU GAS MONITORING RESULTS

Exploratory Position ID	Pipe ref	Pipe diameter (mm)	Monitoring Round	Reported Installation Depth (m)	Measured Installation Depth (mbgl)	Response Zone	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
WS03	1	50	2	---	---	0.37 to 2.70	15 secs	-	-	-	-	0.2	0.0	21.6	2	0	
WS03	1	50	2	---	---	0.37 to 2.70	30 secs	-	-	-	-	0.2	0.0	21.3	1	0	
WS03	1	50	2	---	---	0.37 to 2.70	60 secs	-	-	-	-	0.1	0.0	21.1	1	0	
WS03	1	50	2	---	---	0.37 to 2.70	90 secs	-	-	-	-	0.1	0.0	21.1	1	0	
WS03	1	50	2	---	---	0.37 to 2.70	120 secs	-	-	-	-	0.1	0.0	21.1	1	0	
WS03	1	50	2	---	2.55	0.37 to 2.70	300 secs	-	-	-	0.21	-	-	-	-	-	
WS03	1	50	3	2.70	---	0.37 to 2.70	15/12/2021 10:20:00	-	-	$0.5_{(I)}$	-	-	-	-	-	-	
WS03	1	50	3	---	---	0.37 to 2.70	60 secs	-	-	$0.0_{(SS)}$	-	-	-	-	-	-	
WS03	1	50	3	2.70	---	0.37 to 2.70	15/12/2021 10:22:00	-	-	-	-	0.1	0.0	20.8	1	-	
WS03	1	50	3	---	---	0.37 to 2.70	15 secs	-	-	-	-	0.7	0.0	20.1	1	-	
WS03	1	50	3	---	---	0.37 to 2.70	30 secs	-	-	-	-	0.7	0.0	19.7	1	-	
WS03	1	50	3	---	---	0.37 to 2.70	60 secs	-	-	-	-	0.9	0.0	19.3	1	-	
WS03	1	50	3	---	---	0.37 to 2.70	90 secs	-	-	-	-	1.0	0.0	18.9	1	-	
WS03	1	50	3	---	---	0.37 to 2.70	120 secs	-	-	-	-	1.0	0.0	19.0	1	-	
WS03	1	50	3	---	---	0.37 to 2.70	180 secs	-	-	-	-	0.9	0.0	19.6	1	-	
WS03	1	50	3	---	---	0.37 to 2.70	240 secs	-	-	-	-	0.7	0.0	20.0	1	-	
WS03	1	50	3	---	---	0.37 to 2.70	300 secs	-	-	-	-	0.7	0.0	20.0	1	-	
WS03	1	50	3	---	2.50	0.37 to 2.70	480 secs	-	-	-	0.91	-	-	-	-	-	
WS04	1	50	1	3.45	---	1.45 to 3.45	01/12/2021 10:20:00	-	998	$0.0_{(I)}$	-	-	-	-	-	-	
WS04	1	50	1	---	---	1.45 to 3.45	60 secs	-	-	$0.0_{(SS)}$	-	-	-	-	-	-	
WS04	1	50	1	3.45	---	1.45 to 3.45	01/12/2021 10:22:00	-	-	-	-	1.3	0.0	20.6	10	0	
WS04	1	50	1	---	---	1.45 to 3.45	15 secs	-	-	-	-	1.3	0.0	20.6	8	0	
WS04	1	50	1	---	---	1.45 to 3.45	30 secs	-	-	-	-	1.3	0.0	20.5	3	0	
WS04	1	50	1	---	---	1.45 to 3.45	60 secs	-	-	-	-	1.3	0.0	20.5	2	0	

Key: I = Initial, Min = Minimum, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.

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IN-SITU GAS MONITORING RESULTS

Exploratory Position ID	Pipe ref	Pipe diameter (mm)	Monitoring Round	Reported Installation Depth (m)	Measured Installation Depth (mbgl)	Response Zone	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
WS04	1	50	1	---	---	1.45 to 3.45	90 secs	-	-	-	-	1.3	0.0	20.5	1	0	
WS04	1	50	1	---	---	1.45 to 3.45	120 secs	-	-	-	-	1.3	0.0	20.5	1	0	
WS04	1	50	1	---	---	1.45 to 3.45	180 secs	-	-	-	-	1.3	0.0	20.5	1	0	
WS04	1	50	1	---	3.50	1.45 to 3.45	360 secs	-	-	-	DRY	-	-	-	-	-	
WS04	1	50	2	3.45	---	1.45 to 3.45	08/12/2021 10:10:00	-	-	$0.0_{(I)}$	-	-	-	-	-	-	
WS04	1	50	2	---	---	1.45 to 3.45	60 secs	-	993	$0.0_{(SS)}$	-	-	-	-	-	-	
WS04	1	50	2	3.45	---	1.45 to 3.45	08/12/2021 10:12:00	-	-	-	-	0.2	0.0	21.4	3	0	
WS04	1	50	2	---	---	1.45 to 3.45	15 secs	-	-	-	-	0.2	0.0	21.1	1	0	
WS04	1	50	2	---	---	1.45 to 3.45	30 secs	-	-	-	-	0.1	0.0	21.1	1	0	
WS04	1	50	2	---	---	1.45 to 3.45	60 secs	-	-	-	-	0.1	0.0	21.1	1	0	
WS04	1	50	2	---	---	1.45 to 3.45	90 secs	-	-	-	-	0.1	0.0	21.0	1	0	
WS04	1	50	2	---	---	1.45 to 3.45	120 secs	-	-	-	-	0.1	0.0	21.0	1	0	
WS04	1	50	2	---	---	1.45 to 3.45	180 secs	-	-	-	-	0.1	0.0	21.0	1	0	
WS04	1	50	2	---	3.50	1.45 to 3.45	360 secs	-	-	-	0.16	-	-	-	-	-	
WS04	1	50	3	3.45	---	1.45 to 3.45	15/12/2021 10:10:00	-	-	$0.6_{(I)}$	-	-	-	-	-	-	
WS04	1	50	3	---	---	1.45 to 3.45	60 secs	-	-	$0.0_{(SS)}$	-	-	-	-	-	-	
WS04	1	50	3	3.45	---	1.45 to 3.45	15/12/2021 10:12:00	-	-	-	-	0.1	0.0	20.8	1	-	
WS04	1	50	3	---	---	1.45 to 3.45	15 secs	-	-	-	-	0.1	0.0	20.8	2	-	
WS04	1	50	3	---	---	1.45 to 3.45	30 secs	-	-	-	-	0.1	0.0	20.8	1	-	
WS04	1	50	3	---	---	1.45 to 3.45	60 secs	-	-	-	-	0.1	0.0	20.8	1	-	
WS04	1	50	3	---	---	1.45 to 3.45	90 secs	-	-	-	-	0.1	0.0	20.8	1	-	
WS04	1	50	3	---	---	1.45 to 3.45	120 secs	-	-	-	-	0.1	0.0	20.8	1	-	
WS04	1	50	3	---	---	1.45 to 3.45	180 secs	-	-	-	-	0.1	0.0	20.8	1	-	
WS04	1	50	3	---	3.50	1.45 to 3.45	360 secs	-	-	-	0.34	-	-	-	-	-	

Key: I = Initial, Min = Minimum, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.

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IN-SITU GAS MONITORING RESULTS

Exploratory Position ID	Pipe ref	Pipe diameter (mm)	Monitoring Round	Reported Installation Depth (m)	Measured Installation Depth (mbgl)	Response Zone	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
WS05	1	50	1	3.45	---	0.45 to 3.45	01/12/2021 10:10:00	-	998	$0.0_{(I)}$	-	-	-	-	-	-	
WS05	1	50	1	---	---	0.45 to 3.45	60 secs	-	-	$0.0_{(SS)}$	-	-	-	-	-	-	
WS05	1	50	1	3.45	---	0.45 to 3.45	01/12/2021 10:12:00	-	-	-	-	0.2	0.0	21.2	1	0	
WS05	1	50	1	---	---	0.45 to 3.45	15 secs	-	-	-	-	0.2	0.0	21.2	1	0	
WS05	1	50	1	---	---	0.45 to 3.45	30 secs	-	-	-	-	0.2	0.0	21.2	1	0	
WS05	1	50	1	---	---	0.45 to 3.45	60 secs	-	-	-	-	0.2	0.0	21.2	1	0	
WS05	1	50	1	---	---	0.45 to 3.45	90 secs	-	-	-	-	0.2	0.0	21.2	1	0	
WS05	1	50	1	---	---	0.45 to 3.45	120 secs	-	-	-	-	0.2	0.0	21.2	1	0	
WS05	1	50	1	---	---	0.45 to 3.45	180 secs	-	-	-	-	0.2	0.0	21.2	1	0	
WS05	1	50	1	---	3.60	0.45 to 3.45	360 secs	-	-	-	3.50	-	-	-	-	-	
WS05	1	50	2	3.45	---	0.45 to 3.45	08/12/2021 10:00:00	-	992	$0.0_{(I)}$	-	-	-	-	-	-	
WS05	1	50	2	---	---	0.45 to 3.45	60 secs	-	-	$0.0_{(SS)}$	-	-	-	-	-	-	
WS05	1	50	2	3.45	---	0.45 to 3.45	08/12/2021 10:02:00	-	-	-	-	0.2	0.0	21.1	1	0	
WS05	1	50	2	---	---	0.45 to 3.45	15 secs	-	-	-	-	0.1	0.0	21.5	1	0	
WS05	1	50	2	---	---	0.45 to 3.45	30 secs	-	-	-	-	0.1	0.0	21.7	1	0	
WS05	1	50	2	---	---	0.45 to 3.45	60 secs	-	-	-	-	0.1	0.0	21.2	0	0	
WS05	1	50	2	---	---	0.45 to 3.45	90 secs	-	-	-	-	0.1	0.0	21.1	0	0	
WS05	1	50	2	---	---	0.45 to 3.45	120 secs	-	-	-	-	0.1	0.0	21.1	0	0	
WS05	1	50	2	---	---	0.45 to 3.45	180 secs	-	-	-	-	0.1	0.0	21.1	0	0	
WS05	1	50	2	---	3.60	0.45 to 3.45	360 secs	-	-	-	0.34	-	-	-	-	-	
WS05	1	50	3	3.45	---	0.45 to 3.45	15/12/2021 10:00:00	-	-	$0.8_{(I)}$	-	-	-	-	-	-	
WS05	1	50	3	---	---	0.45 to 3.45	60 secs	-	-	$0.0_{(SS)}$	-	0.1	0.0	21.0	1	-	
WS05	1	50	3	3.45	---	0.45 to 3.45	15/12/2021 10:02:00	-	-	-	-	0.1	0.0	21.0	1	-	
WS05	1	50	3	---	---	0.45 to 3.45	15 secs	-	-	-	-	0.1	0.0	21.0	1	-	
WS05	1	50	3	---	---	0.45 to 3.45	30 secs	-	-	-	-	0.1	0.0	21.0	0	-	

Key: I = Initial, Min = Minimum, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.

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IN-SITU GAS MONITORING RESULTS

Exploratory Position ID	Pipe ref	Pipe diameter (mm)	Monitoring Round	Reported Installation Depth (m)	Measured Installation Depth (mbgl)	Response Zone	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
WS05	1	50	3	---	---	0.45 to 3.45	60 secs	-	-	-	-	0.1	0.0	20.9	1	-	
WS05	1	50	3	---	---	0.45 to 3.45	90 secs	-	-	-	-	0.1	0.0	20.9	0	-	
WS05	1	50	3	---	---	0.45 to 3.45	120 secs	-	-	-	-	0.1	0.0	20.9	0	-	
WS05	1	50	3	---	---	0.45 to 3.45	180 secs	-	-	-	-	0.1	0.0	20.9	0	-	
WS05	1	50	3	---	3.58	0.45 to 3.45	360 secs	-	-	-	0.30	-	-	-	-	-	

Key: I = Initial, Min = Minimum, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.

Compiled By	Date	Checked By	Date	Contract Ref:
	**17/12/2021**			**52368**
Contract: **Church Lane, Ashington**				Page: **7** of **7**

APPENDIX I
LABORATORY CERTIFICATES FOR SOIL ANALYSIS

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RSK
Anerley Court
Half Moon Lane
Hildenborough
Tonbridge
Kent
TN11 9HU

Derwentside Environmental Testing Services Ltd
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Kent
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t: 01622 850410

DETS Report No: 21-14376

Site Reference:	Church Lane, Ashington
Project / Job Ref:	52368
Order No:	PO2120392
Sample Receipt Date:	26/11/2021
Sample Scheduled Date:	03/12/2021
Report Issue Number:	1
Reporting Date:	13/12/2021

Authorised by:

Nick Watson
General Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

For Topsoil and WAC analysis the expanded uncertainty measurement should be considered while evaluating results against compliance values.

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Soil Analysis Certificate						
DETS Report No: 21-14376	**Date Sampled**	22/11/21	22/11/21	22/11/21	22/11/21	23/11/21
RSK	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Church Lane, Ashington	**TP / BH No**	TP1	TP2	TP3	TP4	TP6
Project / Job Ref: 52368	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: PO2120392	**Depth (m)**	GL - 0.30	GL - 0.30	GL - 0.20	GL - 0.30	GL - 0.20
Reporting Date: 13/12/2021	**DETS Sample No**	577922	577923	577924	577925	577926

Determinand	Unit	RL	Accreditation				(n)	
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected		Not Detected
pH	pH Units	N/a	MCERTS			6.6		6.9
pH	pH Units	N/a	MCERTS		7.7	6.6	6.3	6.9
Total Sulphate as SO_4	mg/kg	< 200	MCERTS			387		320
Total Sulphate as SO_4	%	< 0.02	MCERTS			0.04		0.03
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS			55		18
Total Sulphur	%	< 0.02	NONE			0.03		0.02
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	1.7		1.6		1.3
Arsenic (As)	mg/kg	< 2	MCERTS		9	6	9	8
Barium (Ba)	mg/kg	< 2.5	MCERTS					
Beryllium (Be)	mg/kg	< 0.5	MCERTS					
W/S Boron	mg/kg	< 1	NONE					
Cadmium (Cd)	mg/kg	< 0.2	MCERTS		0.4	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS					
Chromium (III)	mg/kg	< 2	NONE		18	9	18	12
Copper (Cu)	mg/kg	< 4	MCERTS		46	11	15	10
Lead (Pb)	mg/kg	< 3	MCERTS		360	46	30	19
Mercury (Hg)	mg/kg	< 1	MCERTS		< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS		12	6	8	5
Selenium (Se)	mg/kg	< 2	MCERTS		< 3	< 3	< 3	< 3
Vanadium (V)	mg/kg	< 1	MCERTS					
Zinc (Zn)	mg/kg	< 3	MCERTS		178	31	43	34
EPH (C10 - C40)	mg/kg	< 6	MCERTS					
Tentative Petroleum Type	N/a	N/a	NONE					

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)
(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation

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Soil Analysis Certificate						
DETS Report No: 21-14376	**Date Sampled**	23/11/21	24/11/21	24/11/21	23/11/21	24/11/21
RSK	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Church Lane, Ashington	**TP / BH No**	TP8	TP10	TP11	TP13	TP15
Project / Job Ref: 52368	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: PO2120392	**Depth (m)**	GL - 0.20	GL - 0.10	GL - 0.10	GL - 0.10	GL - 0.20
Reporting Date: 13/12/2021	**DETS Sample No**	577927	577928	577929	577930	577931

Determinand	Unit	RL	Accreditation		(n)	(n)	(n)	(n)
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS			7.2		
pH	pH Units	N/a	MCERTS	6.3	5.9	7.2	6.4	6.5
Total Sulphate as SO_4	mg/kg	< 200	MCERTS			332		
Total Sulphate as SO_4	%	< 0.02	MCERTS			0.03		
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS			10		
Total Sulphur	%	< 0.02	NONE			0.02		
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	2.9		2.1	3.3	
Arsenic (As)	mg/kg	< 2	MCERTS	7	12	8	8	11
Barium (Ba)	mg/kg	< 2.5	MCERTS					
Beryllium (Be)	mg/kg	< 0.5	MCERTS					
W/S Boron	mg/kg	< 1	NONE					
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	0.2	< 0.2	0.3	0.2
Chromium (Cr)	mg/kg	< 2	MCERTS					
Chromium (III)	mg/kg	< 2	NONE	21	22	17	22	25
Copper (Cu)	mg/kg	< 4	MCERTS	10	15	10	11	15
Lead (Pb)	mg/kg	< 3	MCERTS	24	34	17	22	24
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	6	9	6	7	8
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Vanadium (V)	mg/kg	< 1	MCERTS					
Zinc (Zn)	mg/kg	< 3	MCERTS	31	39	32	33	37
EPH (C10 - C40)	mg/kg	< 6	MCERTS					
Tentative Petroleum Type	N/a	N/a	NONE					

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)

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Soil Analysis Certificate						
DETS Report No: 21-14376	**Date Sampled**	24/11/21	24/11/21	24/11/21	24/11/21	24/11/21
RSK	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Church Lane, Ashington	**TP / BH No**	WS01 - ES01	WS01 - ES02	WS01 - ES03	WS02 - ES01	WS05 - ES01
Project / Job Ref: 52368	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: PO2120392	**Depth (m)**	0.20	0.60	1.20	0.20	0.20
Reporting Date: 13/12/2021	**DETS Sample No**	577932	577933	577934	577935	577936

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected		Not Detected
pH	pH Units	N/a	MCERTS	7.5		7.5		
pH	pH Units	N/a	MCERTS	7.5	7.6	7.5	7.6	
Total Sulphate as SO_4	mg/kg	< 200	MCERTS	15840		591		
Total Sulphate as SO_4	%	< 0.02	MCERTS	1.58		0.06		
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	1460		110		
Total Sulphur	%	< 0.02	NONE	0.55		0.04		
TOC (Total Organic Carbon)	%	< 0.1	MCERTS					
Arsenic (As)	mg/kg	< 2	MCERTS	9	9	7	9	
Barium (Ba)	mg/kg	< 2.5	MCERTS		93			
Beryllium (Be)	mg/kg	< 0.5	MCERTS		< 0.5			
W/S Boron	mg/kg	< 1	NONE		1.4			
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.4	0.4	< 0.2	< 0.2	
Chromium (Cr)	mg/kg	< 2	MCERTS		16			
Chromium (III)	mg/kg	< 2	NONE	16		11	18	
Copper (Cu)	mg/kg	< 4	MCERTS	40	38	17	14	
Lead (Pb)	mg/kg	< 3	MCERTS	252	119	32	22	
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	
Nickel (Ni)	mg/kg	< 3	MCERTS	11	10	9	8	
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	
Vanadium (V)	mg/kg	< 1	MCERTS		21			
Zinc (Zn)	mg/kg	< 3	MCERTS	161	114	44	42	
EPH (C10 - C40)	mg/kg	< 6	MCERTS		60			
Tentative Petroleum Type	N/a	N/a	NONE		Typical of PAH and lubricating oil range organics			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-14376	**Date Sampled**	22/11/21	22/11/21	22/11/21	23/11/21	23/11/21
RSK	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Church Lane, Ashington	**TP / BH No**	TP2	TP3	TP4	TP6	TP8
Project / Job Ref: 52368	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: PO2120392	**Depth (m)**	GL - 0.30	GL - 0.20	GL - 0.30	GL - 0.20	GL - 0.20
Reporting Date: 13/12/2021	**DETS Sample No**	577923	577924	577925	577926	577927

Determinand	Unit	RL	Accreditation			(n)		
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	0.23	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	0.68	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	0.62	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.34	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	0.34	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.59	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.20	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.43	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.33	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.34	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	4.1	< 1.6	< 1.6	< 1.6	< 1.6

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-14376	**Date Sampled**	24/11/21	24/11/21	23/11/21	24/11/21	24/11/21
RSK	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Church Lane, Ashington	**TP / BH No**	TP10	TP11	TP13	TP15	WS01 - ES01
Project / Job Ref: 52368	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: PO2120392	**Depth (m)**	GL - 0.10	GL - 0.10	GL - 0.10	GL - 0.20	0.20
Reporting Date: 13/12/2021	**DETS Sample No**	577928	577929	577930	577931	577932

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.23
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.58
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.52
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.29
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.25
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.47
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.22
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.39
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.31
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.34
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	3.6

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-14376	Date Sampled	24/11/21	24/11/21			
RSK	Time Sampled	None Supplied	None Supplied			
Site Reference: Church Lane, Ashington	TP / BH No	WS01 - ES03	WS02 - ES01			
Project / Job Ref: 52368	Additional Refs	None Supplied	None Supplied			
Order No: PO2120392	Depth (m)	1.20	0.20			
Reporting Date: 13/12/2021	DETS Sample No	577934	577935			

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6			

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-14376	**Date Sampled**	24/11/21				
RSK	**Time Sampled**	None Supplied				
Site Reference: Church Lane, Ashington	**TP / BH No**	WS01 - ES02				
Project / Job Ref: 52368	**Additional Refs**	None Supplied				
Order No: PO2120392	**Depth (m)**	0.60				
Reporting Date: 13/12/2021	**DETS Sample No**	577933				

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1				
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1				
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1				
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1				
Phenanthrene	mg/kg	< 0.1	MCERTS	0.34				
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1				
Fluoranthene	mg/kg	< 0.1	MCERTS	0.96				
Pyrene	mg/kg	< 0.1	MCERTS	0.90				
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.47				
Chrysene	mg/kg	< 0.1	MCERTS	0.39				
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.67				
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.31				
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.54				
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.46				
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1				
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.48				
Coronene	mg/kg	< 0.1	NONE	0.13				
Total Oily Waste PAHs	mg/kg	< 1	MCERTS	2.8				
Total Dutch 10 PAHs	mg/kg	< 1	MCERTS	4				
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	5.5				
Total WAC-17 PAHs	mg/kg	< 1.7	NONE	5.6				

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Soil Analysis Certificate - EPH Texas Banded						
DETS Report No: 21-14376	**Date Sampled**	22/11/21	22/11/21	23/11/21	23/11/21	24/11/21
RSK	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Church Lane, Ashington	**TP / BH No**	TP1	TP3	TP6	TP8	TP11
Project / Job Ref: 52368	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: PO2120392	**Depth (m)**	GL - 0.30	GL - 0.20	GL - 0.20	GL - 0.20	GL - 0.10
Reporting Date: 13/12/2021	**DETS Sample No**	577922	577924	577926	577927	577929

Determinand	Unit	RL	Accreditation					(n)
EPH Texas (C6 - C8)	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
EPH Texas (>C8 - C10)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C10 - C12)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C12 - C16)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C16 - C21)	mg/kg	< 1	MCERTS	5	< 1	< 1	< 1	< 1
EPH Texas (>C21 - C40)	mg/kg	< 6	MCERTS	140	< 6	< 6	< 6	< 6
EPH Texas (C6 - C40)	mg/kg	< 6	NONE	145	< 6	< 6	< 6	< 6

(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation

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Soil Analysis Certificate - EPH Texas Banded						
DETS Report No: 21-14376	**Date Sampled**	23/11/21				
RSK	**Time Sampled**	None Supplied				
Site Reference: Church Lane, Ashington	**TP / BH No**	TP13				
Project / Job Ref: 52368	**Additional Refs**	None Supplied				
Order No: PO2120392	**Depth (m)**	GL - 0.10				
Reporting Date: 13/12/2021	**DETS Sample No**	577930				

Determinand	Unit	RL	Accreditation	(n)				
EPH Texas (C6 - C8)	mg/kg	< 0.05	NONE	< 0.05				
EPH Texas (>C8 - C10)	mg/kg	< 1	MCERTS	< 1				
EPH Texas (>C10 - C12)	mg/kg	< 1	MCERTS	< 1				
EPH Texas (>C12 - C16)	mg/kg	< 1	MCERTS	< 1				
EPH Texas (>C16 - C21)	mg/kg	< 1	MCERTS	< 1				
EPH Texas (>C21 - C40)	mg/kg	< 6	MCERTS	< 6				
EPH Texas (C6 - C40)	mg/kg	< 6	NONE	< 6				

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Soil Analysis Certificate - Organochlorine Pesticides						
DETS Report No: 21-14376	**Date Sampled**	22/11/21	23/11/21	24/11/21		
RSK	**Time Sampled**	None Supplied	None Supplied	None Supplied		
Site Reference: Church Lane, Ashington	**TP / BH No**	TP3	TP6	TP11		
Project / Job Ref: 52368	**Additional Refs**	None Supplied	None Supplied	None Supplied		
Order No: PO2120392	**Depth (m)**	GL - 0.20	GL - 0.20	GL - 0.10		
Reporting Date: 13/12/2021	**DETS Sample No**	577924	577926	577929		

Determinand	Unit	RL	Accreditation			(n)		
Aldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
alpha-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
beta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
cis-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
delta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Dieldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Endosulfan A	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Endosulfan B	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Endrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
gamma-HCH (Lindane)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Heptachlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Heptachlor epoxide	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Hexachlorobenzene (HCB)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Isodrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Methoxychlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
o,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
o,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
o,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
p,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
p,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
p,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
trans-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Trifluralin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		

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Soil Analysis Certificate - Organophosphorus Pesticides						
DETS Report No: 21-14376	**Date Sampled**	22/11/21	23/11/21	24/11/21		
RSK	**Time Sampled**	None Supplied	None Supplied	None Supplied		
Site Reference: Church Lane, Ashington	**TP / BH No**	TP3	TP6	TP11		
Project / Job Ref: 52368	**Additional Refs**	None Supplied	None Supplied	None Supplied		
Order No: PO2120392	**Depth (m)**	GL - 0.20	GL - 0.20	GL - 0.10		
Reporting Date: 13/12/2021	**DETS Sample No**	577924	577926	577929		

Determinand	Unit	RL	Accreditation			(n)		
Azinphos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Chlorfenvinphos, alpha	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Chlorfenvinphos, beta	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Chlorpyriphos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Diazinon	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Dichlorvos	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Dimethoate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Fenitrothion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Fenthion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Malathion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Mevinphos, €	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Mevinphos, (Z)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Parathion-ethyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Parathion-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Phorate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		

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Soil Analysis Certificate - Triazine Herbicides						
DETS Report No: 21-14376	**Date Sampled**	22/11/21	23/11/21	24/11/21		
RSK	**Time Sampled**	None Supplied	None Supplied	None Supplied		
Site Reference: Church Lane, Ashington	**TP / BH No**	TP3	TP6	TP11		
Project / Job Ref: 52368	**Additional Refs**	None Supplied	None Supplied	None Supplied		
Order No: PO2120392	**Depth (m)**	GL - 0.20	GL - 0.20	GL - 0.10		
Reporting Date: 13/12/2021	**DETS Sample No**	577924	577926	577929		

Determinand	Unit	RL	Accreditation			(n)		
Atrazine	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Prometryn	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Propazine	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Simazine	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Terbuthylazine	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Terbutryn	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Ametryn	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		

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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3

DETS Report No: 21-14376	**Date Sampled**	24/11/21	
RSK	**Time Sampled**	None Supplied	
Site Reference: Church Lane, Ashington	**TP / BH No**	WS01 - ES02	
Project / Job Ref: 52368	**Additional Refs**	None Supplied	
Order No: PO2120392	**Depth (m)**	0.60	
Reporting Date: 13/12/2021	**DETS Sample No**	577933	

Determinand	**Unit**	**MDL**		**Landfill Waste Acceptance Criteria Limits**		
				Inert Waste Landfill	**Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
TOC[MU]	%	< 0.1	1.7	3%	5%	6%
Loss on Ignition	%	< 0.01	5.40	--	--	10%
BTEX[MU]	mg/kg	< 0.05	< 0.05	6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1	1	--	--
Mineral Oil[MU]	mg/kg	< 10	< 10	500	--	--
Total PAH[MU]	mg/kg	< 1.7	5.6	100	--	--
pH[MU]	pH Units	N/a	7.6	--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	1.4	--	To be evaluated	To be evaluated

Eluate Analysis	**2:1 mg/l**	**8:1 mg/l**		**Cumulative 10:1 mg/kg**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
Arsenic[U]	< 0.01	< 0.01		< 0.2	0.5	2	25
Barium[U]	0.07	0.04		0.4	20	100	300
Cadmium[U]	< 0.0005	< 0.0005		< 0.02	0.04	1	5
Chromium[U]	< 0.005	< 0.005		< 0.20	0.5	10	70
Copper[U]	< 0.01	< 0.01		< 0.5	2	50	100
Mercury[U]	< 0.0005	< 0.0005		< 0.005	0.01	0.2	2
Molybdenum[U]	0.006	0.003		< 0.1	0.5	10	30
Nickel[U]	< 0.007	< 0.007		< 0.2	0.4	10	40
Lead[U]	< 0.005	< 0.005		< 0.2	0.5	10	50
Antimony[U]	< 0.005	< 0.005		< 0.05	0.06	0.7	5
Selenium[U]	< 0.005	< 0.005		< 0.05	0.1	0.5	7
Zinc[U]	0.047	0.017		< 0.2	4	50	200
Chloride[U]	3	2		24	800	15000	25000
Fluoride[U]	0.5	< 0.5		< 1	10	150	500
Sulphate[U]	1515	454		5534	**1000**	20000	50000
TDS	1830	532		6531	**4000**	60000	100000
Phenol Index	< 0.01	< 0.01		< 0.5	1	-	-
DOC	18.1	7.9		88.7	500	800	1000
Leach Test Information							
Sample Mass (kg)	0.21						
Dry Matter (%)	82.7						
Moisture (%)	21						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.16						

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion
Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepencies with current legislation
M Denotes MCERTS accredited test
U Denotes ISO17025 accredited test

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Soil Analysis Certificate - Sample Descriptions
DETS Report No: 21-14376
RSK
Site Reference: Church Lane, Ashington
Project / Job Ref: 52368
Order No: PO2120392
Reporting Date: 13/12/2021

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
$ 577922	TP1	None Supplied	GL - 0.30	15.2	Light brown sandy clay with stones and brick
$ 577923	TP2	None Supplied	GL - 0.30	18.1	Light brown sandy clay with stones
$ 577924	TP3	None Supplied	GL - 0.20	21.8	Brown sandy clay
$ 577925	TP4	None Supplied	GL - 0.30	21.5	Light brown clay with vegetation
577926	TP6	None Supplied	GL - 0.20	19.6	Brown clay
577927	TP8	None Supplied	GL - 0.20	28	Brown clay
577928	TP10	None Supplied	GL - 0.10	26.7	Brown clay with vegetation
577929	TP11	None Supplied	GL - 0.10	24.5	Brown clay with vegetation
577930	TP13	None Supplied	GL - 0.10	28.7	Brown clay with vegetation
577931	TP15	None Supplied	GL - 0.20	25	Brown clay with stones
577932	WS01 - ES01	None Supplied	0.20	17.2	Brown sandy clay
577933	WS01 - ES02	None Supplied	0.60	17.3	Brown sandy clay
577934	WS01 - ES03	None Supplied	1.20	18	Brown clay
577935	WS02 - ES01	None Supplied	0.20	18.6	Brown clay

Moisture content is part of procedure E003 & is not an accredited test
Insufficient Sample I/S
Unsuitable Sample U/S

$ samples exceeded recommended holding times

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Soil Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 21-14376
RSK
Site Reference: Church Lane, Ashington
Project / Job Ref: 52368
Order No: PO2120392
Reporting Date: 13/12/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

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Water Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 21-14376
RSK
Site Reference: Church Lane, Ashington
Project / Job Ref: 52368
Order No: PO2120392
Reporting Date: 13/12/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR dete	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 – C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichlorometha	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered

Parameter	Matrix Type	Suite Reference	Expanded Uncertainity Measurement	Unit
TOC	Soil	BS EN 12457	20.0	%
Loss on Ignition	Soil	BS EN 12457	35.0	%
BTEX	Soil	BS EN 12457	14.0	%
Sum of PCBs	Soil	BS EN 12457	23.0	%
Mineral Oil	Soil	BS EN 12457	9.0	%
Total PAH	Soil	BS EN 12457	11.6	%
pH	Soil	BS EN 12457	0.28	Units
Acid Neutralisation Capacity	Soil	BS EN 12457	18.0	%
Arsenic	Leachate	BS EN 12457	18.7	%
Barium	Leachate	BS EN 12457	11.6	%
Cadmium	Leachate	BS EN 12457	20.3	%
Chromium	Leachate	BS EN 12457	18.3	%
Copper	Leachate	BS EN 12457	24.3	%
Mercury	Leachate	BS EN 12457	23.7	%
Molybdenum	Leachate	BS EN 12457	14.7	%
Nickel	Leachate	BS EN 12457	16.1	%
Lead	Leachate	BS EN 12457	15.7	%
Antimony	Leachate	BS EN 12457	17.9	%
Selenium	Leachate	BS EN 12457	22.0	%
Zinc	Leachate	BS EN 12457	17.4	%
Chloride	Leachate	BS EN 12457	15.3	%
Fluoride	Leachate	BS EN 12457	16.4	%
Sulphate	Leachate	BS EN 12457	20.6	%
TDS	Leachate	BS EN 12457	12.0	%
Phenol Index	Leachate	BS EN 12457	14.0	%
DOC	Leachate	BS EN 12457	10.0	%
Clay Content	Soil	BS 3882: 2015	15.0	%
Silt Content	Soil	BS 3882: 2015	14.0	%
Sand Content	Soil	BS 3882: 2015	13.0	%
Loss on Ignition	Soil	BS 3882: 2015	35.0	%
pH	Soil	BS 3882: 2015	0.14	Units
Carbonate	Soil	BS 3882: 2015	16.0	%
Total Nitrogen	Soil	BS 3882: 2015	12.0	%
Phosphorus (Extractable)	Soil	BS 3882: 2015	24.0	%
Potassium (Extractable)	Soil	BS 3882: 2015	20.0	%
Magnesium (Extractable)	Soil	BS 3882: 2015	26.0	%
Zinc	Soil	BS 3882: 2015	14.9	%
Copper	Soil	BS 3882: 2015	16.0	%
Nickel	Soil	BS 3882: 2015	17.7	%
Available Sodium	Soil	BS 3882: 2015	23.0	%
Available Calcium	Soil	BS 3882: 2015	23.0	%
Electrical Conductivity	Soil	BS 3882: 2015	10.0	%

APPENDIX J
LABORATORY CERTIFICATES FOR GEOTECHNICAL ANALYSIS

STRUCTURAL SOILS LTD

TEST REPORT

Report No. 584716-01 (00) 1774

Date 17-January-2022 Contract Church Lane, Ashington

Client RSK
Address Anerley Court
Half Moon Lane
Hildenborough
Tonbridge
TN11 9HU
For the Attention of Chris J Ball

Samples submitted by client	29-November-2021	Client Reference	52368
Testing Started	05-December-2021	Client Order No.	n/a
Testing Completed	13-January-2022	Instruction Type	Written

Tests marked 'Not UKAS Accredited' in this report are not included in the UKAS Accreditation Schedule for our Laboratory.

UKAS Accredited Tests

1.01	Moisture Content (oven drying method) BS1377:Part 2:1990:clause 3.2 (superseded)*
1.03	Liquid Limit (one point method) & Plastic Limit BS1377:Part 2:1990,clause 4.4/5.3 (superseded)*

Undertaken by a sub-contractor

2.06	Sulphate content (acid extract) in accordance with BRE Special Digest 1:2005
2.04	Sulphate content (water extract) in accordance with BRE Special Digest 1:2005
2.07	pH value in accordance with BRE Special Digest 1:2005
2.05	Total sulphur in accordance with BRE Special Digest 1:2005
3.01	Dry density/moisture content relationship 2.5kg rammer method BS1377:Part 4:1990 clause 3.3
3.10	California Bearing Ratio BS1377:Part 4:1990,clause 7.4

* This clause of BS1377 is no longer the most up to date method due to the publication of ISO17892

Please Note: Remaining samples will be retained for a period of one month from today and will then be disposed of .
Test were undertaken on samples 'as received' unless otherwise stated.
Opinions and interpretations expressed in this report are outside the scope of accreditation for this laboratory.

Structural Soils Ltd 18 Frogmore Rd Hemel Hempstead HP3 9RT Tel.01442 416661 e-mail dimitris.xirouchakis@soils.co.uk

TESTING VERIFICATION CERTIFICATE

1774

The test results included in this report are certified as:-

ISSUE STATUS: **FINAL**

In accordance with the Structural Soils Ltd Laboratory Quality Management System, results sheets and summaries of results issued by the laboratory are checked by an approved signatory. The integrity of the test data and results are ensured by control of the computer system employed by the laboratory as part of the Software Verification Program as detailed in the Laboratory Quality Manual.

This testing verification certificate covers all testing compiled on or before the following datetime: **21/12/2021 11:10:59**.

Testing reported after this date is not covered by this Verification Certificate.

Approved Signatory
Sharon Cairns (Laboratory Manager)

(Head Office)
Bristol Laboratory
Unit 1A, Princess Street
Bedminster
Bristol
BS3 4AG

Castleford Laboratory
The Potteries, Pottery Street
Castleford
West Yorkshire
WF10 1NJ

Hemel Laboratory
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Tonbridge Laboratory
Anerley Court, Half Moon Lane
Hildenborough
Tonbridge
TN11 9HU

STRUCTURAL SOILS LTD	Contract: **Church Lane, Ashington**	Job No: **584716**

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | GrfcText L - LAB VERIFICATION REPORT - V02 - A4P | 584716-CHURCH-LANE-ASHINGTON-RSK-52368.GPJ - v10_01
Structural Soils Ltd, Branch Office - Hemel Hempstead: 18 Frogmore Road, Hemel Hempstead, Hertfordshire, HP3 9RT. Tel: 01442 262323, Fax: 01442 262683, Web: www.soils.co.uk, Email: ask@soils.co.uk. | 21/12/21 - 11:15 | SC1 |

SUMMARY OF SOIL CLASSIFICATION TESTS

In accordance with clauses 3.2,4.3,4.4,5.3,5.4,7.2,8.2,8.3 of BS1377:Part 2:1990

Exploratory Position ID	Sample Ref	Sample Type	Depth (m)	Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity Index	% <425µm	Description of Sample
TP1		D	0.90	23	38	20	18	97	Brown mottled grey and red slightly gravelly slightly sandy CLAY
TP3		D	2.80	20	53	23	30	99	Brown mottled grey slightly gravelly slightly sandy CLAY
TP4		D	0.40	23	52	22	30	98	Light brown mottled grey slightly gravelly slightly sandy CLAY
TP5		D	0.90	32	78	31	47	98	Brown mottled grey slightly gravelly slightly sandy CLAY
TP5		D	2.70	17	48	22	26	58	Brown and orange clayey weak MUDSTONE
TP6		D	2.00	20	51	24	27	74	Brown mottled grey slightly gravelly slightly sandy CLAY
TP7		D	0.90	23	62	25	37	89	Brown mottled grey slightly gravelly slightly sandy CLAY
TP7		D	1.90	20	61	27	34	26	Brown mottled grey sandy gravelly CLAY

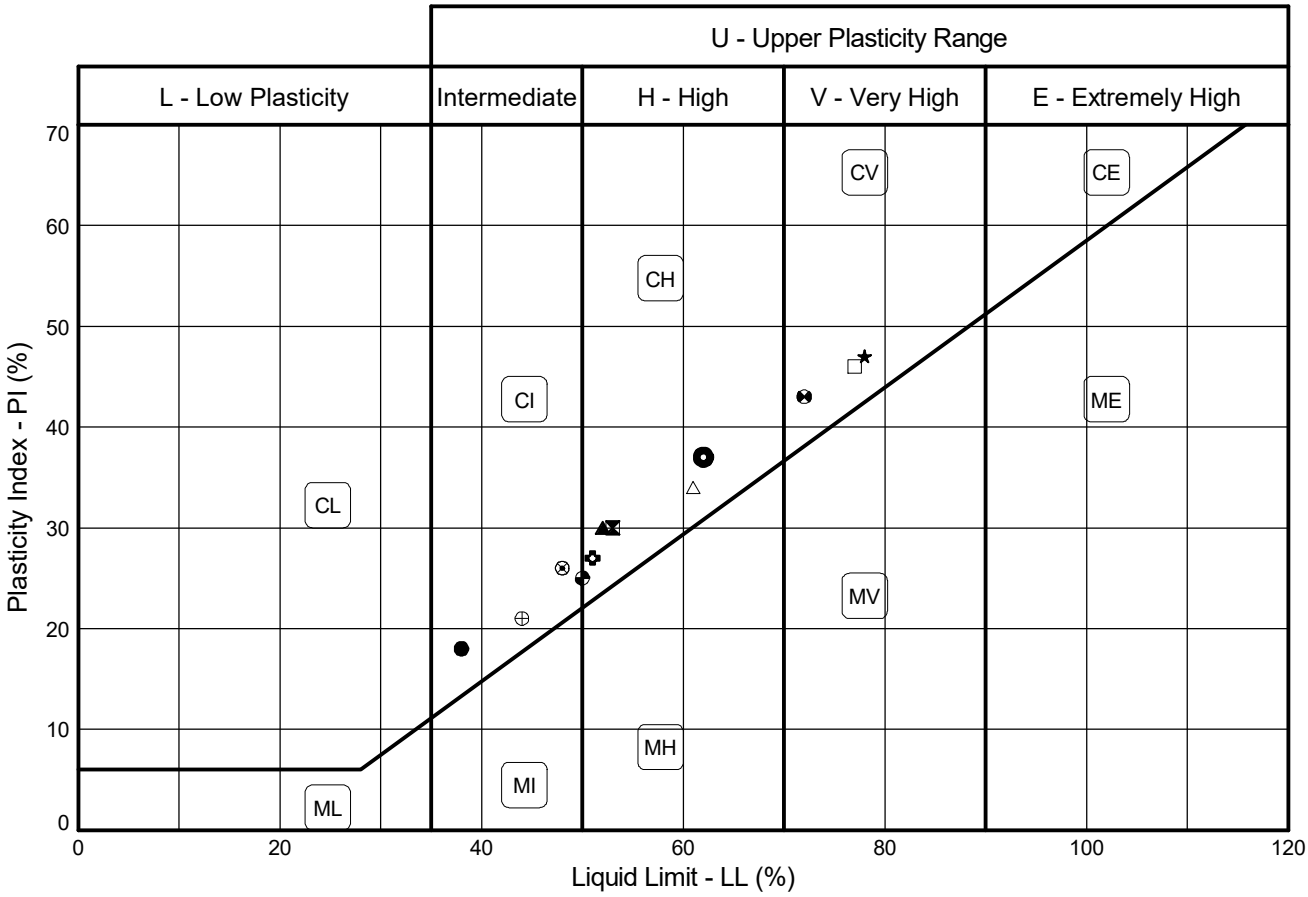
SUMMARY OF SOIL CLASSIFICATION TESTS

In accordance with clauses 3.2,4.3,4.4,5.3,5.4,7.2,8.2,8.3 of BS1377:Part 2:1990

Exploratory Position ID	Sample Ref	Sample Type	Depth (m)	Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity Index	% <425µm	Description of Sample
TP8		D	0.80	24	48	22	26	96	Light brown and grey slightly gravelly slightly sandy CLAY
TP9		D	0.90	25	44	23	21	99	Brown mottled grey slightly gravelly slightly sandy CLAY
TP10		D	0.90	30	77	31	46	87	Brown motled grey slightly gravelly slightly sandy CLAY
TP12		D	0.90	29	72	29	43	84	Brown mottled grey slightly gravelly slightly sandy CLAY
TP13		D	2.40	21	50	25	25	73	Brown mottled grey slightly gravelly slightly sandy CLAY. Gravel is mudstone
TP15		D	0.90	26	62	25	37	91	Brown mottled grey slightly gravelly slightly sandy CLAY
WS01		D	3.30	21	53	25	28	94	Brown mottled grey slightly gravelly slightly sandy CLAY

PLASTICITY CHART - PI Vs LL

In accordance with BS5930:2015
Testing in accordance with BS1377-2:1990



Sample Identification				BS Test Method #	Preparation Method +	MC	LL	PL	PI	<425µm	Lab location	Notes
	Exploratory Position ID	Sample	Depth (m)			%	%	%	%	%		
●	TP1	D	0.90	3.2/4.4/5.3/5.4	4.2.4	23	38	20	18	97	T	
⊠	TP3	D	2.80	3.2/4.4/5.3/5.4	4.2.4	20	53	23	30	99	T	
▲	TP4	D	0.40	3.2/4.4/5.3/5.4	4.2.4	23	52	22	30	98	T	
★	TP5	D	0.90	3.2/4.4/5.3/5.4	4.2.4	32	78	31	47	98	T	
⊙	TP5	D	2.70	3.2/4.4/5.3/5.4	4.2.4	17	48	22	26	58	T	
✿	TP6	D	2.00	3.2/4.4/5.3/5.4	4.2.4	20	51	24	27	74	T	
◉	TP7	D	0.90	3.2/4.4/5.3/5.4	4.2.4	23	62	25	37	89	T	
△	TP7	D	1.90	3.2/4.4/5.3/5.4	4.2.4	20	61	27	34	26	T	
⊗	TP8	D	0.80	3.2/4.4/5.3/5.4	4.2.4	24	48	22	26	96	T	
⊕	TP9	D	0.90	3.2/4.4/5.3/5.4	4.2.4	25	44	23	21	99	T	
□	TP10	D	0.90	3.2/4.4/5.3/5.4	4.2.4	30	77	31	46	87	T	
⊠	TP12	D	0.90	3.2/4.4/5.3/5.4	4.2.4	29	72	29	43	84	T	
◓	TP13	D	2.40	3.2/4.4/5.3/5.4	4.2.4	21	50	25	25	73	T	

Tested in accordance with the following clauses of BS1377-2:1990.

3.2 - Moisture Content
4.3 - Cone Penetrometer Method
4.4 - One Point Cone Penetrometer Method
4.6 - One Point Casagrande Method
5.3 - Plastic Limit Method
5.4 - Plasticity Index

+ Tested in accordance with the following clauses of BS1377-2:1990.

4.2.3 - Natural State
4.2.4 - Wet Sieved

Key: * = Non-standard test, NP = Non plastic.

Lab location: B = Bristol (BS3 4AG), C = Castleford (WF10 1NJ), H = Hemel Hempstead (HP3 9RT), T = Tonbridge (TN11 9HU)

STRUCTURAL SOILS
Anerley Court
Half Moon Lane
Hildenborough
Tonbridge TN11 9HU

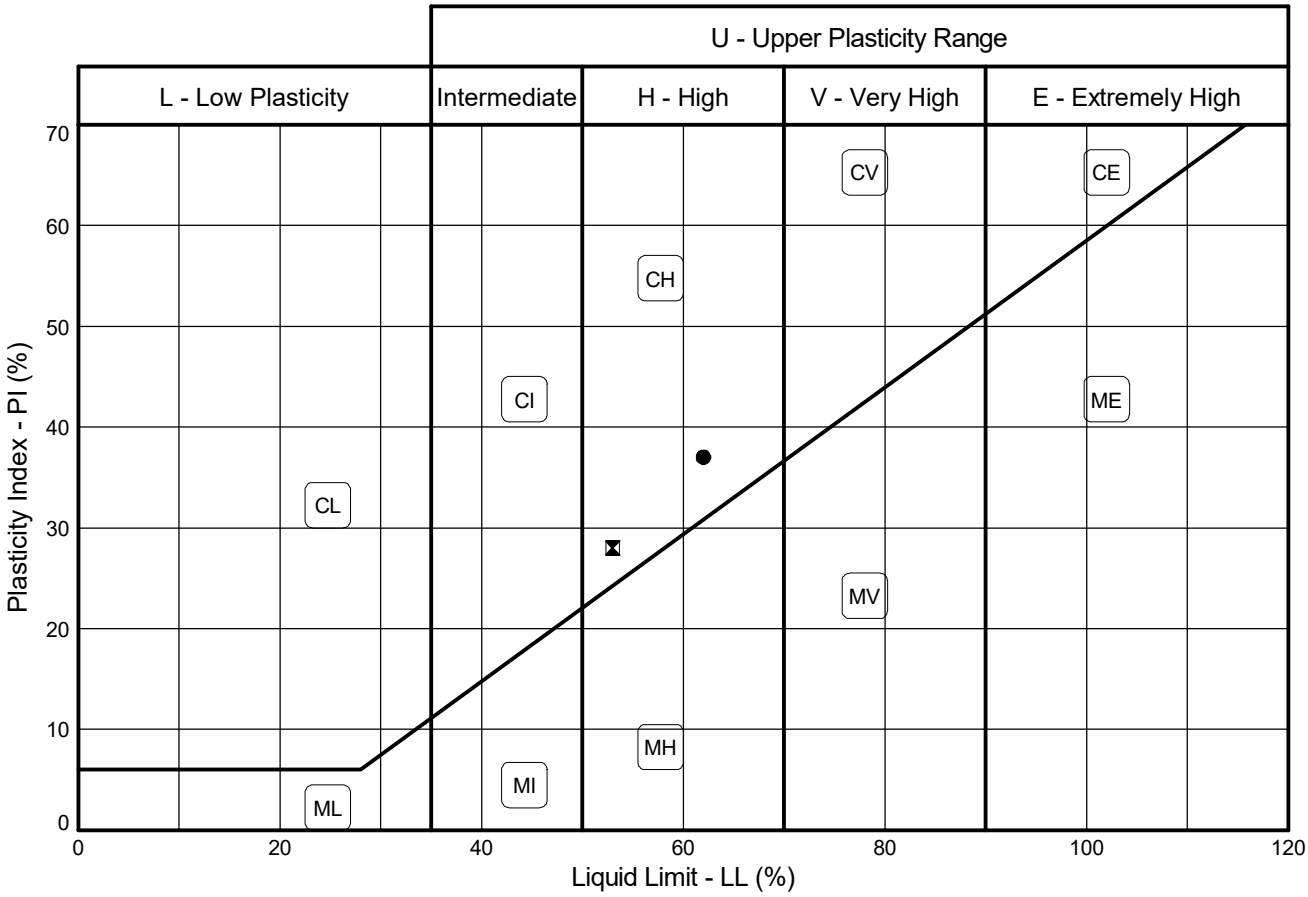
Compiled By		Date
SC	**SHARON CAIRNS**	**21/12/21**

Contract	Contract Ref:
Church Lane, Ashington	**584716**

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Graph L - ALINE STANDARD - A4P | 584716-CHURCH-LANE-ASHINGTON-RSK-52368.GPJ - v10_01.
Structural Soils Ltd, Branch Office - Hemel Hempstead: 18 Frogmore Road, Hemel Hempstead, Hertfordshire, HP3 9RT. Tel: 01442 262323, Fax: 01442 262683, Web: www.soils.co.uk, Email: ask@soils.co.uk. | 21/12/21 - 11:12 | SC1 |

PLASTICITY CHART - PI Vs LL

In accordance with BS5930:2015
Testing in accordance with BS1377-2:1990



Sample Identification				BS Test Method #	Preparation Method +	MC	LL	PL	PI	<425µm	Lab location	Notes
	Exploratory Position ID	Sample	Depth (m)			%	%	%	%	%		
●	TP15	D	0.90	3.2/4.4/5.3/5.4	4.2.4	26	62	25	37	91	T	
⊠	WS01	D	3.30	3.2/4.4/5.3/5.4	4.2.4	21	53	25	28	94	T	

Tested in accordance with the following clauses of BS1377-2:1990.

3.2 - Moisture Content
4.3 - Cone Penetrometer Method
4.4 - One Point Cone Penetrometer Method
4.6 - One Point Casagrande Method
5.3 - Plastic Limit Method
5.4 - Plasticity Index

+ Tested in accordance with the following clauses of BS1377-2:1990.

4.2.3 - Natural State
4.2.4 - Wet Sieved

Key: * = Non-standard test, NP = Non plastic.

Lab location: B = Bristol (BS3 4AG), C = Castleford (WF10 1NJ), H = Hemel Hempstead (HP3 9RT), T = Tonbridge (TN11 9HU)

STRUCTURAL SOILS
Anerley Court
Half Moon Lane
Hildenborough
Tonbridge TN11 9HU

Compiled By		Date
SC	**SHARON CAIRNS**	**21/12/21**

Contract	Contract Ref:
Church Lane, Ashington	**584716**

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PrjVersion: v8_07 | Graph L - ALINE STANDARD - A4P | 584716-CHURCH-LANE-ASHINGTON-RSK-52368.GPJ - v10_01.
Structural Soils Ltd, Branch Office - Hemel Hempstead: 18 Frogmore Road, Hemel Hempstead, Hertfordshire, HP3 9RT. Tel: 01442 262323, Fax: 01442 262683, Web: www.soils.co.uk, Email: ask@soils.co.uk. | 21/12/21 - 11:12 | SC1 |

BS1377:Part 4:1990 Clause 3.3

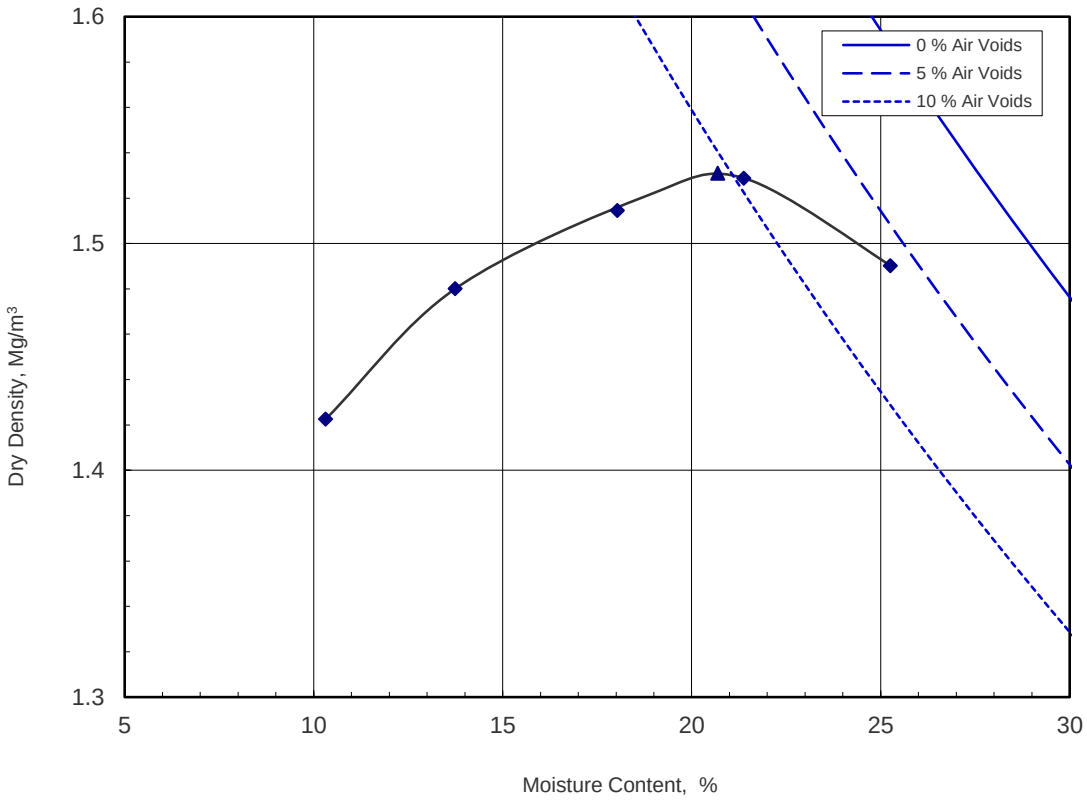
MOISTURE CONTENT / DRY DENSITY RELATIONSHIP

Location	HP01
Depth (m)	0.40-0.60
Sample Type	B

Description:

Yellowish brown slightly sandy CLAY with roots.

Preparation		Oven dried
Test Method		2.5kg Rammer for soils with particles up to medium-gravel size
Samples Used		Single
Mass Retained on 37.5 mm Sieve	%	0
Mass Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.65
Maximum Dry Density	Mg/m³	1.53
Optimum Moisture Content	%	20.7



Determination		1	2	3	4	5
Moisture Content	%	10.3	13.7	18.0	21.4	25.3
Dry Density	Mg/m³	1.42	1.48	1.51	1.53	1.49

Tested by ME
Checked and Approved by

J Sturges - Operations Manager
23/12/2021

Project Number:
GEO / 34541

Project Name:
CHURCH LANE, ASHINGTON
584716

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UKAS TESTING 1982

BS1377:Part 4:1990 Clause 3.3

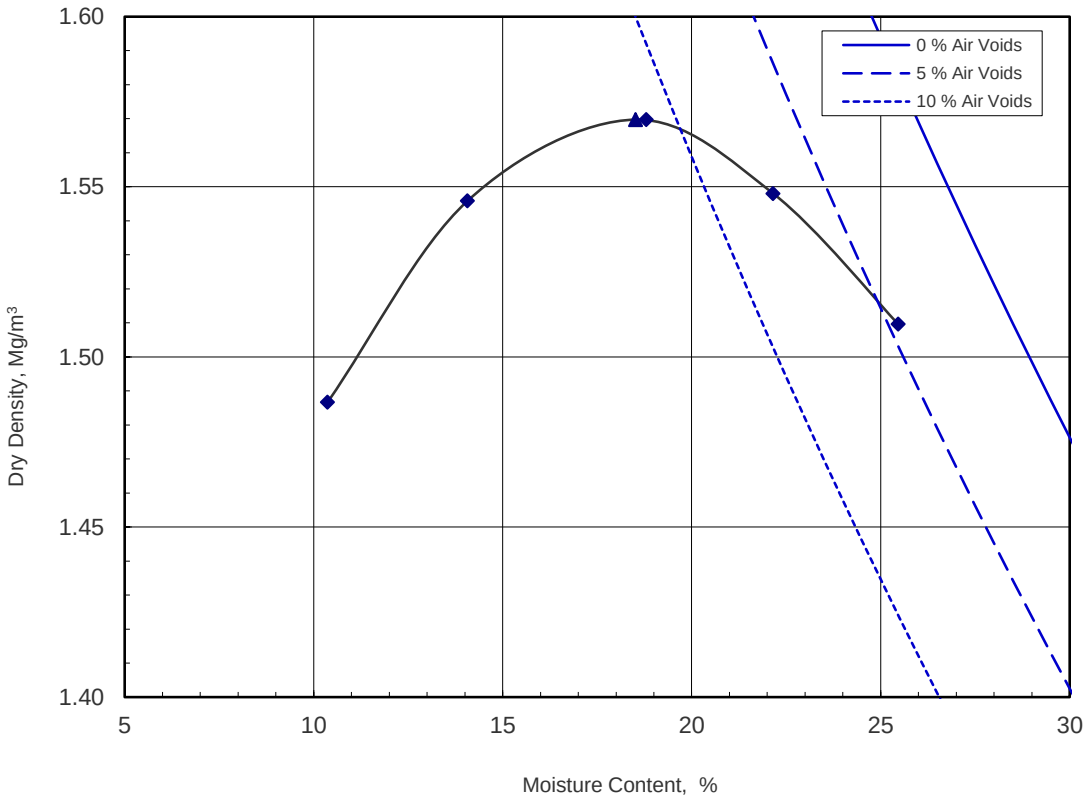
MOISTURE CONTENT / DRY DENSITY RELATIONSHIP

Location	HP02
Sample Type	B

Description:

Yellowish brown mottled dark brown slightly sandy CLAY.

Preparation		Oven dried
Test Method		2.5kg Rammer for soils with particles up to medium-gravel size
Samples Used		Single
Mass Retained on 37.5 mm Sieve	%	0
Mass Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.65
Maximum Dry Density	Mg/m³	1.57
Optimum Moisture Content	%	18.5



Determination		1	2	3	4	5
Moisture Content	%	10.4	14.1	18.8	22.2	25.5
Dry Density	Mg/m³	1.49	1.55	1.57	1.55	1.51

Tested by KP
Checked and Approved by

J Sturges - Operations Manager
23/12/2021

Project Number:
GEO / 34541

Project Name:
CHURCH LANE, ASHINGTON
584716

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UKAS TESTING 1982

BS1377:Part 4:1990 Clause 3.3

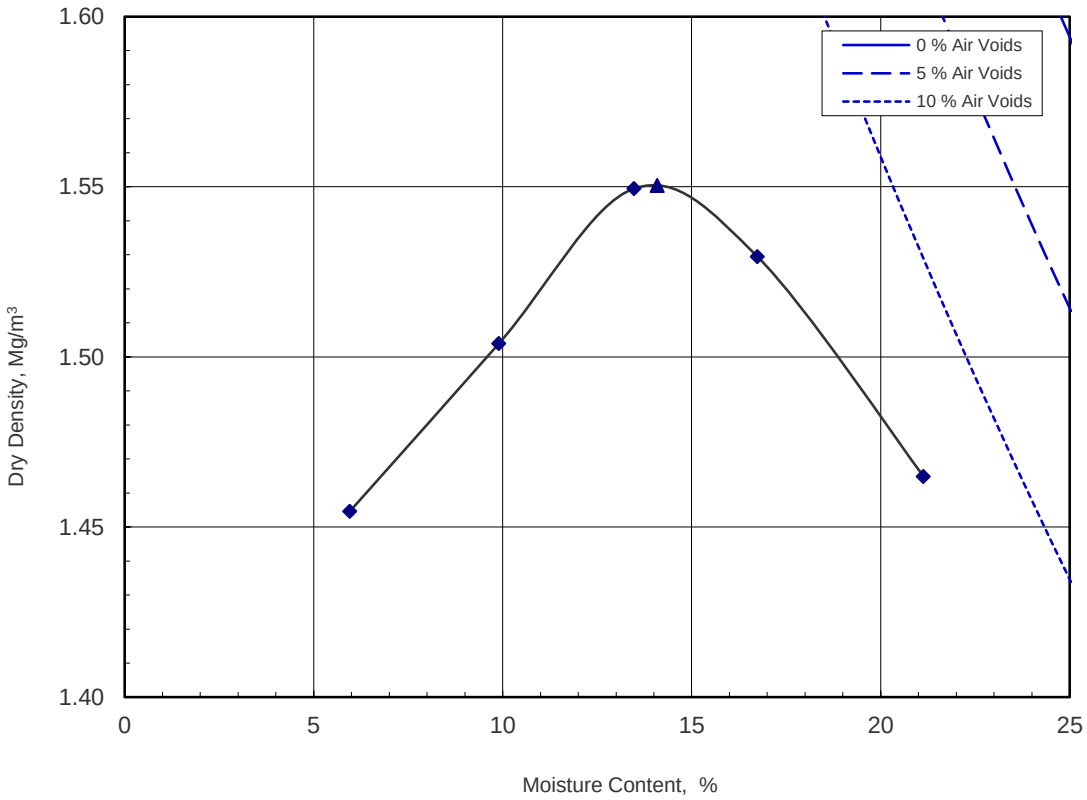
MOISTURE CONTENT / DRY DENSITY RELATIONSHIP

Location	HP03
Sample Type	B

Description:

Yellowish brown mottled grey slightly sandy CLAY.

Preparation		Oven dried
Test Method		2.5kg Rammer for soils with particles up to medium-gravel size
Samples Used		Single
Mass Retained on 37.5 mm Sieve	%	0
Mass Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.65
Maximum Dry Density	Mg/m³	1.55
Optimum Moisture Content	%	14.1



Determination		1	2	3	4	5
Moisture Content	%	6.0	9.9	13.5	16.7	21.1
Dry Density	Mg/m³	1.45	1.50	1.55	1.53	1.46

Tested by KP
Checked and Approved by

J Sturges - Operations Manager
23/12/2021

Project Number:

GEO / 34541

Project Name:

CHURCH LANE, ASHINGTON
584716

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UKAS TESTING 1982

BS1377:Part 4:1990 Clause 3.3

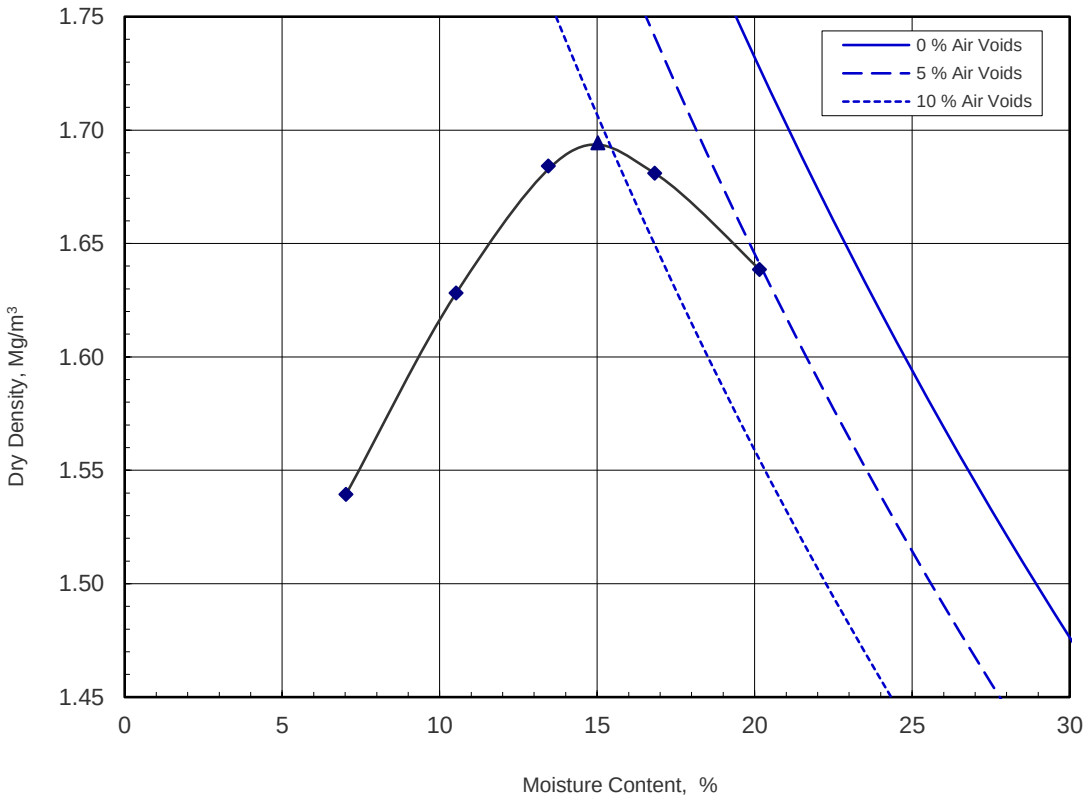
MOISTURE CONTENT / DRY DENSITY RELATIONSHIP

Location	HP04
Sample Type	B

Description:

Greyish brown slightly sandy CLAY.

Preparation		Oven dried
Test Method		2.5kg Rammer for soils with particles up to medium-gravel size
Samples Used		Single
Mass Retained on 37.5 mm Sieve	%	0
Mass Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.65
Maximum Dry Density	Mg/m³	1.69
Optimum Moisture Content	%	15.0



Determination		1	2	3	4	5
Moisture Content	%	7.0	10.5	13.5	16.8	20.2
Dry Density	Mg/m³	1.54	1.63	1.68	1.68	1.64

Tested by ME
Checked and Approved by

J Sturges - Operations Manager
23/12/2021

Project Number:

GEO / 34541

Project Name:

CHURCH LANE, ASHINGTON
584716

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BS1377:Part 4:1990 Clause 3.3

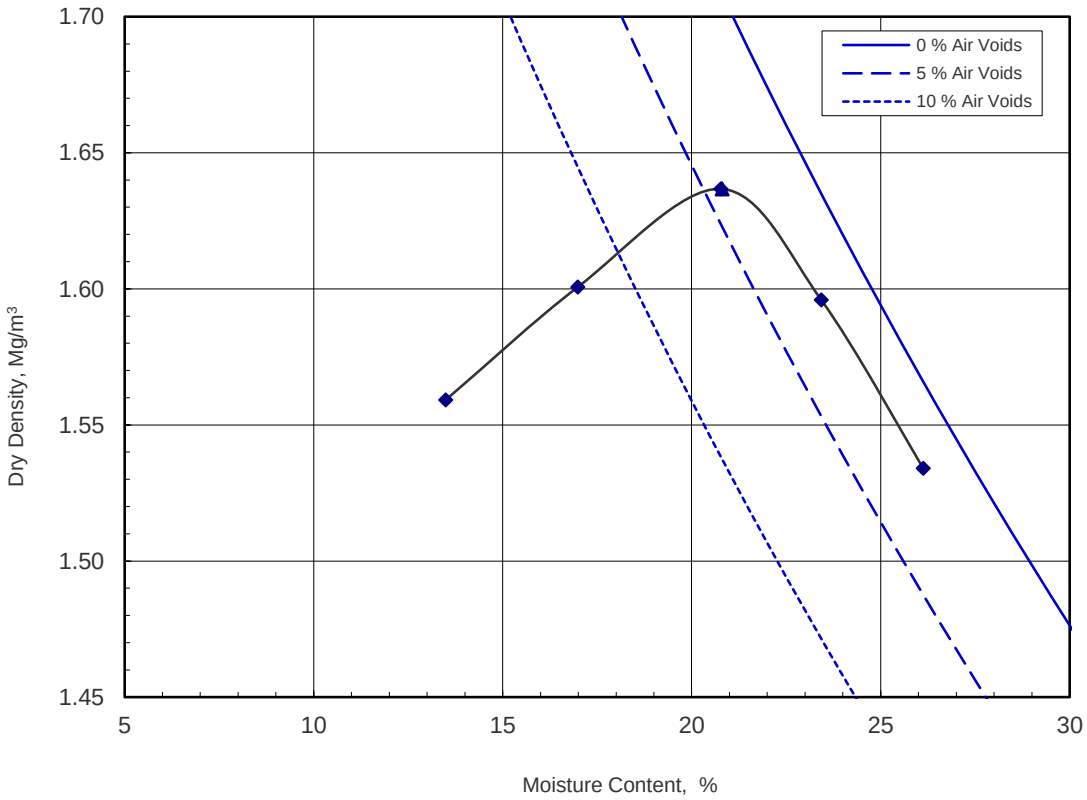
MOISTURE CONTENT / DRY DENSITY RELATIONSHIP

Location	HP05
Depth (m)	0.50-0.60
Sample Type	B

Description:

Yellowish brown slightly sandy CLAY with rare gravel. Gravel is fine to medium.

Preparation		Oven dried
Test Method		2.5kg Rammer for soils with particles up to medium-gravel size
Samples Used		Single
Mass Retained on 37.5 mm Sieve	%	0
Mass Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.65
Maximum Dry Density	Mg/m³	1.64
Optimum Moisture Content	%	20.8



Determination		1	2	3	4	5
Moisture Content	%	13.5	17.0	20.8	23.4	26.1
Dry Density	Mg/m³	1.56	1.60	1.64	1.60	1.53

Tested by ME
Checked and Approved by

J Sturges - Operations Manager
23/12/2021

Project Number:

GEO / 34541

Project Name:

CHURCH LANE, ASHINGTON
584716

GEOLABS
UKAS TESTING 1982

BS1377 : Part 4 : Clause 7 : 1990

CALIFORNIA BEARING RATIO

Location:	HP01
Depth (m):	0.40-0.60
Sample Type:	B

Description:

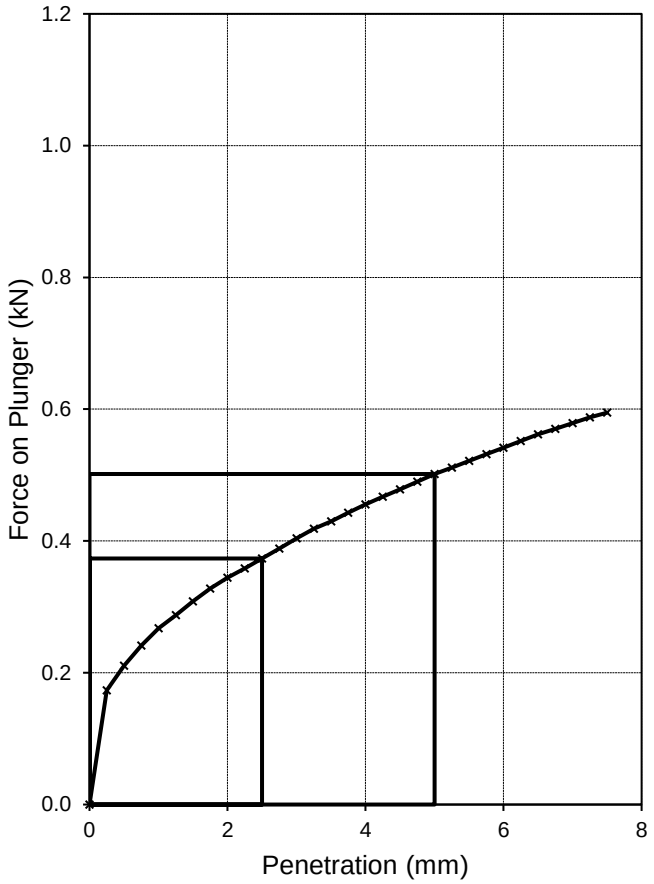
Yellowish brown slightly sandy CLAY with roots.

PREPARATION DETAILS

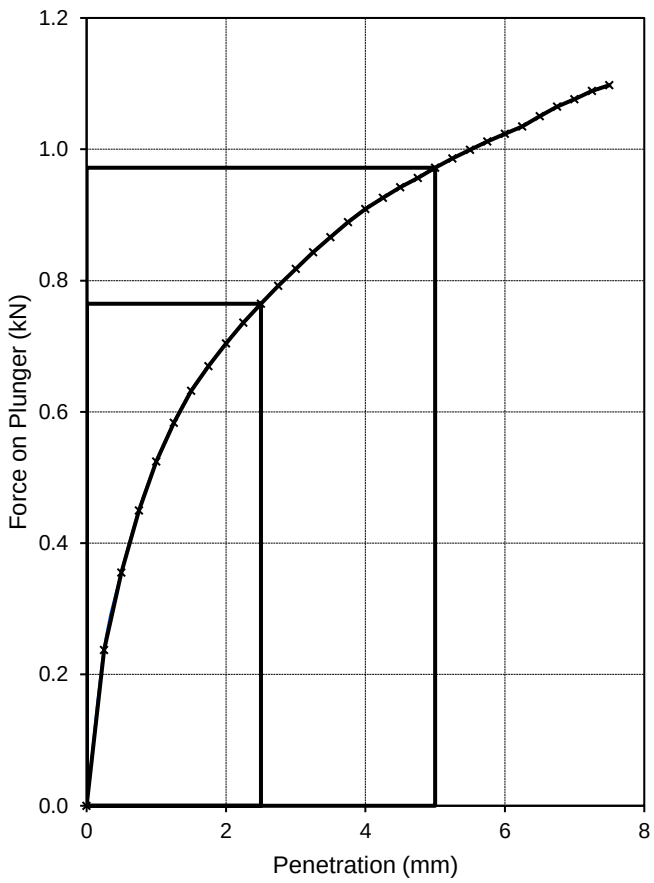
The specimen was soaked for 4 days, after which swelling equilibrium had been reached with 2.1 % vertical swell.
The specimen was prepared at its existing moisture content of 25%
The specimen was prepared by dynamic compaction using a 2.5 kg rammer
Soaked specimen bulk density 1.93 Mg/m³ (1.92 Mg/m³ before soaking)
Soaked specimen dry density 1.50 Mg/m³ (1.53 Mg/m³ before soaking)
0.0 % of the sample was retained on a 20mm sieve

Test Details	Top	Base
Surcharge	4.0 kg	4.0 kg
Seating load	10 N	10 N
Water content	30 %	28 %
CBR Value	2.8 %	5.8 %

Top of Specimen



Base of Specimen



Checked and Approved by:

S Burke - Senior Technician
13/01/2022

Project Number:

GEO / 34541

Project Name:

CHURCH LANE, ASHINGTON
584716

GEOLABS

UKAS TESTING 1982

BS1377 : Part 4 : Clause 7 : 1990

CALIFORNIA BEARING RATIO

Location: HP02
Sample Type: B

Description:

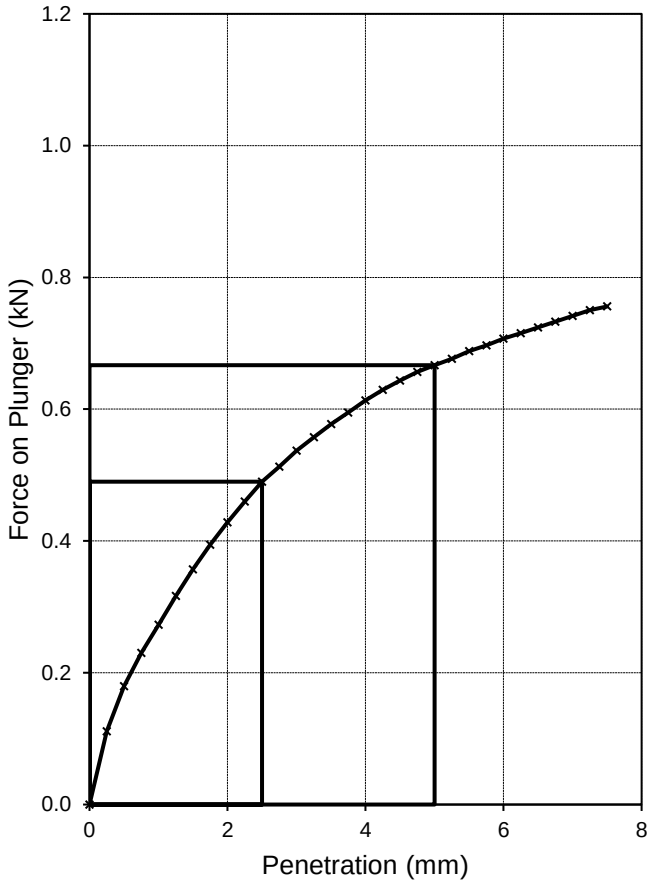
Yellowish brown mottled dark brown slightly sandy CLAY.

PREPARATION DETAILS

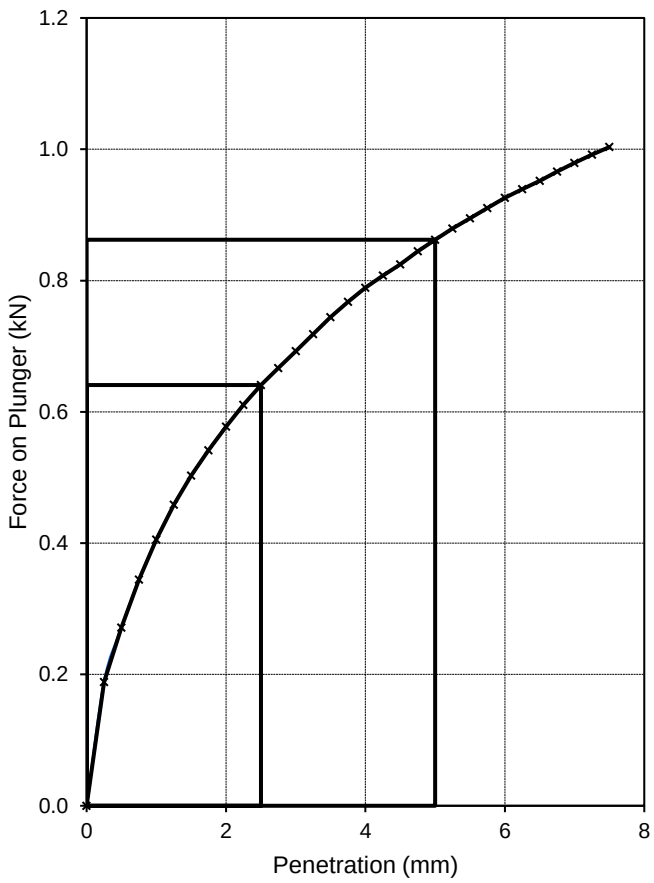
The specimen was soaked for 4 days, after which swelling equilibrium had been reached with 0.7 % vertical swell.
The specimen was prepared at its existing moisture content of 28%
The specimen was prepared by dynamic compaction using a 2.5 kg rammer
Soaked specimen bulk density 1.93 Mg/m³ (1.92 Mg/m³ before soaking)
Soaked specimen dry density 1.49 Mg/m³ (1.50 Mg/m³ before soaking)
0.0 % of the sample was retained on a 20mm sieve

Test Details	Top	Base
Surcharge	4.0 kg	4.0 kg
Seating load	10 N	10 N
Water content	30 %	28 %
CBR Value	3.7 %	4.9 %

Top of Specimen



Base of Specimen



Checked and Approved by:

S Burke - Senior Technician
13/01/2022

Project Number:

GEO / 34541

Project Name:

CHURCH LANE, ASHINGTON
584716

GEOLABS
UKAS TESTING 1982

BS1377 : Part 4 : Clause 7 : 1990

CALIFORNIA BEARING RATIO

Location: HP03
Sample Type: B

Description:

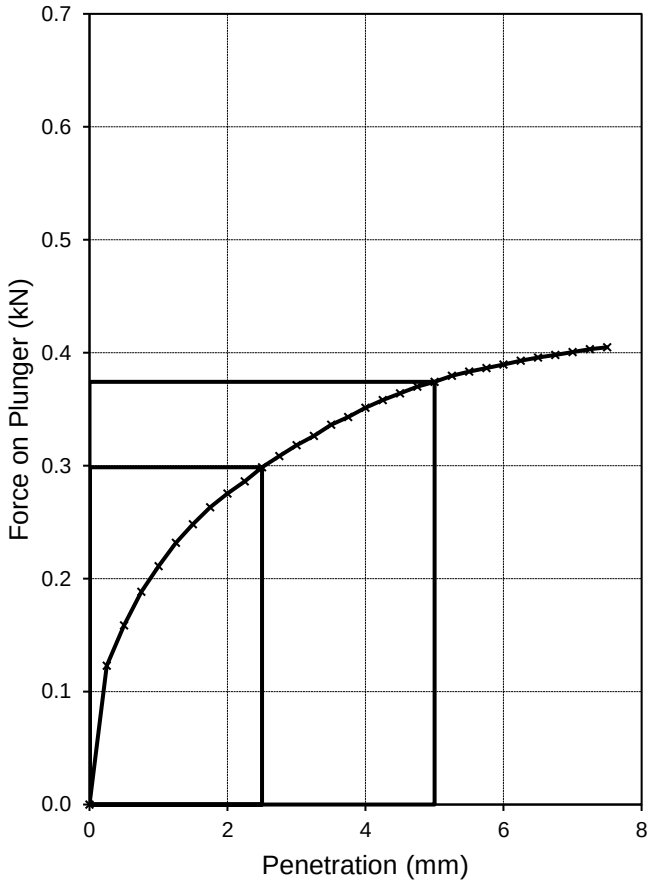
Yellowish brown mottled grey slightly sandy CLAY.

PREPARATION DETAILS

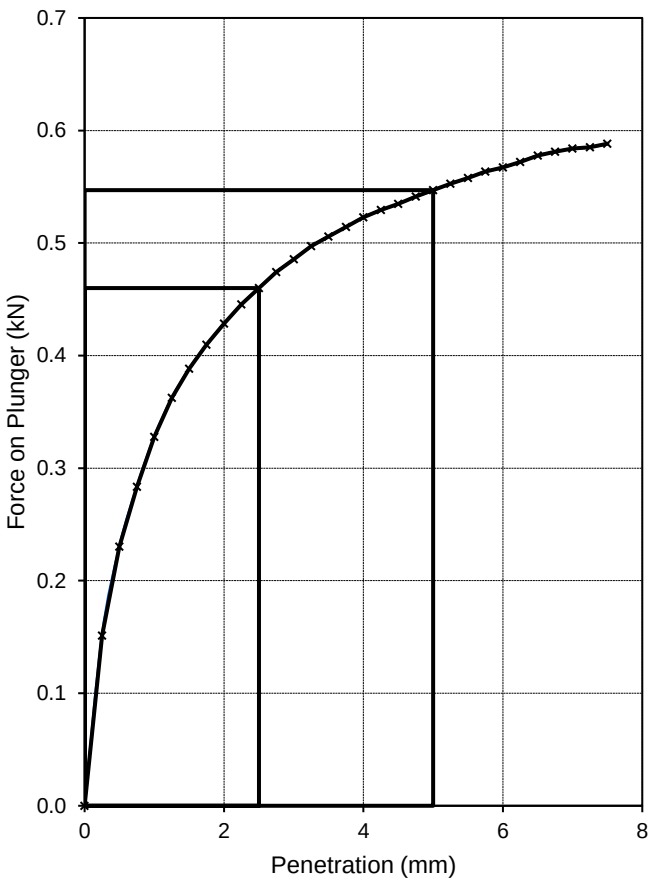
The specimen was soaked for 4 days, after which swelling equilibrium had been reached with 0.6 % vertical swell.
The specimen was prepared at its existing moisture content of 33%
The specimen was prepared by dynamic compaction using a 2.5 kg rammer
Soaked specimen bulk density 1.88 Mg/m³ (1.88 Mg/m³ before soaking)
Soaked specimen dry density 1.41 Mg/m³ (1.42 Mg/m³ before soaking)
0.0 % of the sample was retained on a 20mm sieve

Test Details	Top	Base
Surcharge	4.0 kg	4.0 kg
Seating load	10 N	10 N
Water content	34 %	33 %
CBR Value	2.3 %	3.5 %

Top of Specimen



Base of Specimen



Checked and Approved by:

S Burke - Senior Technician
13/01/2022

Project Number:

GEO / 34541

Project Name:

CHURCH LANE, ASHINGTON
584716

GEOLABS UKAS TESTING 1982

BS1377 : Part 4 : Clause 7 : 1990

CALIFORNIA BEARING RATIO

Location: HP04
Sample Type: B

Description:

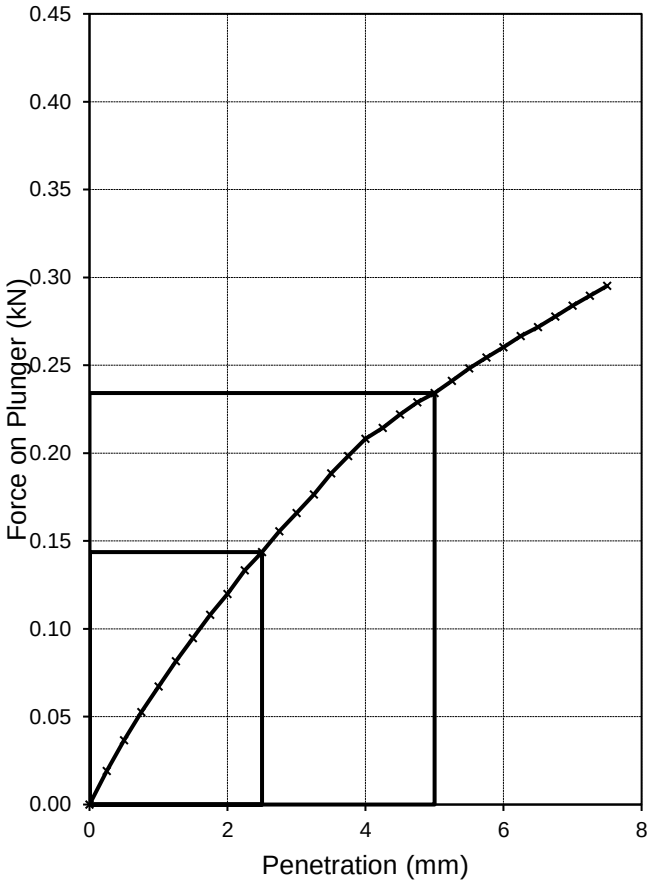
Greyish brown slightly sandy CLAY.

PREPARATION DETAILS

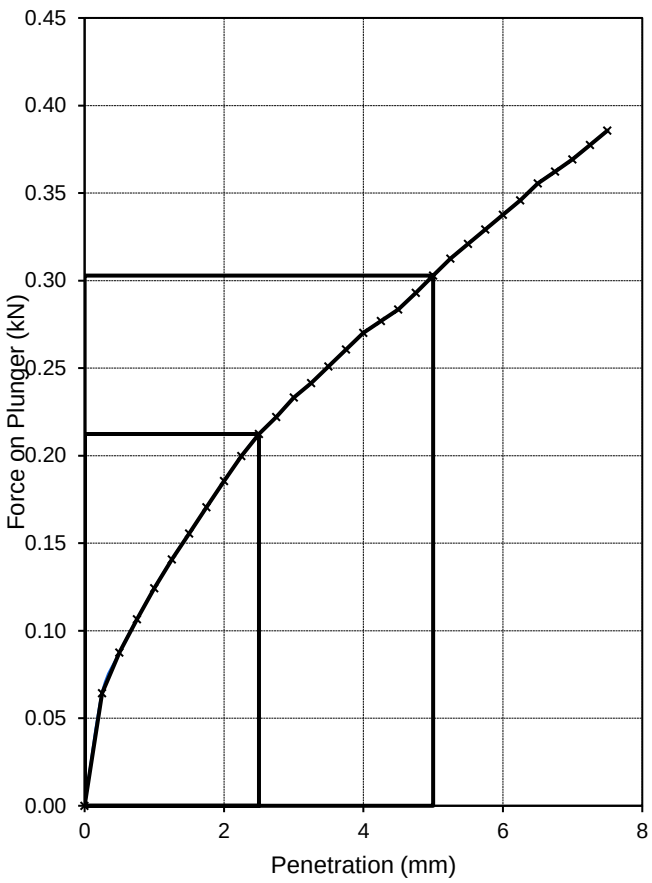
The specimen was soaked for 4 days, after which swelling equilibrium had been reached with 0.1 % vertical swell.
The specimen was prepared at its existing moisture content of 26%
The specimen was prepared by dynamic compaction using a 2.5 kg rammer
Soaked specimen bulk density 1.93 Mg/m³ (1.93 Mg/m³ before soaking)
Soaked specimen dry density 1.53 Mg/m³ (1.53 Mg/m³ before soaking)
0.0 % of the sample was retained on a 20mm sieve

Test Details	Top	Base
Surcharge	4.0 kg	4.0 kg
Seating load	10 N	10 N
Water content	27 %	26 %
CBR Value	1.2 %	1.6 %

Top of Specimen



Base of Specimen



Checked and Approved by:

S Burke - Senior Technician
13/01/2022

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GEO / 34541

Project Name:

CHURCH LANE, ASHINGTON
584716

GEOLABS

UKAS TESTING 1982

BS1377 : Part 4 : Clause 7 : 1990

CALIFORNIA BEARING RATIO

Location:	HP05
Depth (m):	0.50-0.60
Sample Type:	B

Description:

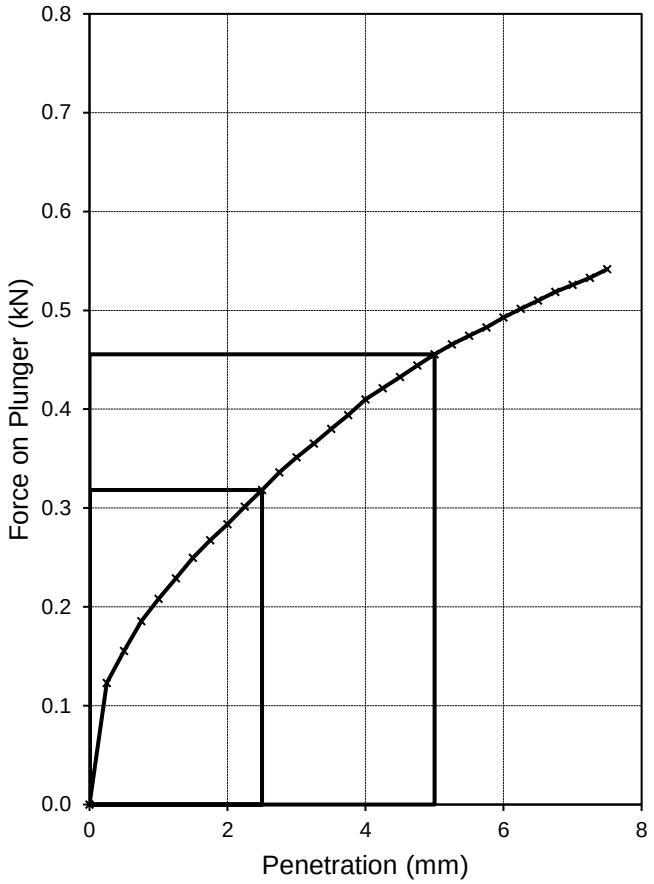
Yellowish brown slightly sandy CLAY with rare gravel. Gravel is fine to medium.

PREPARATION DETAILS

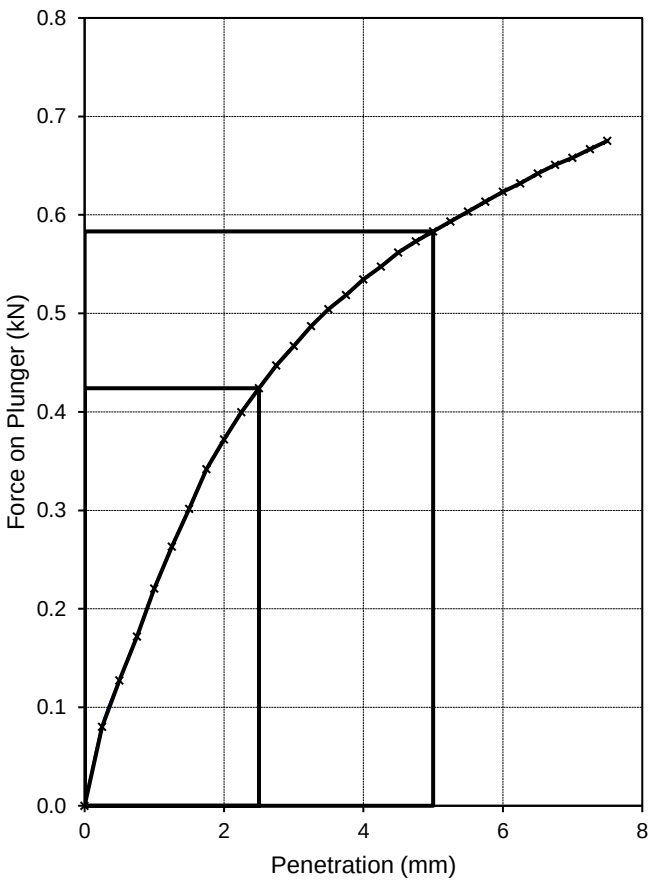
The specimen was soaked for 4 days, after which swelling equilibrium had been reached with 0.4 % vertical swell.
The specimen was prepared at its existing moisture content of 26%
The specimen was prepared by dynamic compaction using a 2.5 kg rammer
Soaked specimen bulk density 1.97 Mg/m³ (1.96 Mg/m³ before soaking)
Soaked specimen dry density 1.55 Mg/m³ (1.55 Mg/m³ before soaking)
0.0 % of the sample was retained on a 20mm sieve

Test Details	Top	Base
Surcharge	4.0 kg	4.0 kg
Seating load	10 N	10 N
Water content	27 %	27 %
CBR Value	2.4 %	3.2 %

Top of Specimen



Base of Specimen



Checked and Approved by:

S Burke - Senior Technician
13/01/2022

Project Number:

GEO / 34541

Project Name:

CHURCH LANE, ASHINGTON
584716

GEOLABS

UKAS TESTING 1982

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 21/13226
Issue Number: 1 **Date:** 15 December, 2021

Client:
Structural Soils Limited (Tonbridge Lab)
Anerley Court
Half Moon Lane
Hildenborough
Kent
UK
TN11 9HU

Project Manager: Richard Ashby
Project Name: Church Lane, Ashington
Project Ref: 52368
Order No: N/A
Date Samples Received: 07/12/21
Date Instructions Received: 07/12/21
Date Analysis Completed: 15/12/21

Approved by:



Sophie France
Client Service Manager

Envirolab Job Number: 21/13226

Client Project Name: Church Lane, Ashington

Client Project Ref: 52368

Lab Sample ID	21/13226/1	21/13226/2	21/13226/3	21/13226/4	21/13226/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP4	TP6	TP12	TP14	WS01					
Depth to Top	2.20	0.90	0.40	0.90	3.30					
Depth To Bottom	2.40	1.10	0.60	1.10	3.50					
Date Sampled										
Sample Type	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D					
Sample Matrix Code	6A	3A	3A	6A	3A					
% Stones >10mm$_A$	<0.1	<0.1	<0.1	<0.1	<0.1			% w/w	0.1	A-T-044
pH BRE$_D^{M\#}$	7.42	8.06	8.21	6.06	7.92			pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D^{M\#}$	481	14	<10	257	35			mg/l	10	A-T-026s
Sulphate BRE (acid sol)$_D^{M\#}$	0.16	<0.02	<0.02	0.08	<0.02			% w/w	0.02	A-T-028s
Sulphur BRE (total)$_D$	0.06	<0.01	0.01	0.03	<0.01			% w/w	0.01	A-T-024s

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

v1

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Structural Soils Limited (Tonbridge Lab), Anerley Court, Half Moon Lane, Hildenborough, Kent, UK, TN11 9HU

Project: Church Lane, Ashington

Clients Project No: 52368

Project No: 21/13226

Date Received: 07/12/2021 (am)

Cool Box Temperatures (°C): 6.5

Lab Sample ID	21/13226/1	21/13226/2	21/13226/3	21/13226/4	21/13226/5
Client Sample No					
Client Sample ID/Depth	TP4 2.20-2.40m	TP6 0.90-1.10m	TP12 0.40-0.60m	TP14 0.90-1.10m	WS01 3.30-3.50m
Date Sampled					
Deviation Code					
E (no date)	✓	✓	✓	✓	✓

Key
E (no date) *No sampling date provided (all results affected if not provided)*

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	21/13226/1	21/13226/2	21/13226/3	21/13226/4	21/13226/5
Client Sample No					
Client Sample ID/Depth	TP4 2.20-2.40m	TP6 0.90-1.10m	TP12 0.40-0.60m	TP14 0.90-1.10m	WS01 3.30-3.50m
Date Sampled					
A-T-024s	15/12/2021	13/12/2021	13/12/2021	13/12/2021	13/12/2021
A-T-026s	13/12/2021	13/12/2021	13/12/2021	13/12/2021	13/12/2021
A-T-028s	15/12/2021	14/12/2021	14/12/2021	14/12/2021	14/12/2021
A-T-031s	13/12/2021	13/12/2021	13/12/2021	13/12/2021	13/12/2021
A-T-044	09/12/2021	09/12/2021	09/12/2021	09/12/2021	09/12/2021

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

APPENDIX K
GENERIC ASSESSMENT CRITERIA FOR HUMAN HEALTH

Generic assessment criteria for human health: Public open space (near residential housing) scenario

Background

RSK's generic assessment criteria (GAC) were initially prepared following the publication by the Environment Agency (EA) of soil guideline value (SGV) and toxicological (TOX) reports, and associated publications in 2009[1]. RSK GAC were updated following the publication of GAC by LQM/CIEH in 2009[2]. RSK GAC are periodically revised when updated information on toxicological, land use or receptor parameters is published.

Updates to the RSK GAC

In 2014 the publication of Category 4 Screening Levels (C4SL)[3,4], as part of the Defra-funded research project SP1010, included modifications to certain exposure assumptions documented within EA Science Report SC050221/SR3 (herein after referred to as SR3)[5] used in the generation of SGVs. The publication of C4SL introduced two new land-use scenarios relating to public open spaces.

C4SL were initially published for six substances (cadmium, arsenic, benzene, benzo(a)pyrene, chromium VI and lead) for a sandy loam soil type with 6% soil organic matter, based on a low level of toxicological concern (LLTC; see Section 2.3 of research project report SP1010[3]). Further C4SL were published in 2021 for vinyl chloride, tetrachloroethene (PCE) and trichloroethene (TCE). Where a C4SL has been published, the RSK GAC duplicates the C4SL using all input parameters within the SP1010 final project report[3] and associated chemical specific reports[6], and adopts them as GAC for these substances. Due to the use of decimal places rather than significant figures applied to the Contaminated Land Exposure Assessment (CLEA) tool outputs, the GAC presented may be marginally differently to the C4SL values, however any differences between the values are minimal and would not equate to an unacceptable risk.

For all other substances the C4SL exposure modifications have been applied to the RSK GAC. The current RSK GAC also use updated toxicology published by LQM/CIEH in 2015[7] or by the USEPA[14], where a C4SL has not been published.

RSK GAC derivation for metals and organic compounds

Model selection

Soil assessment criteria (SAC) were calculated using the CLEA tool v1.071, supporting EA guidance[5,8,9] and revised exposure scenarios published for the C4SL[3].

Conceptual model

This GAC derivation considers POS_{Resi} to relate to public open space in close proximity to residential housing. This includes predominantly grassed areas adjacent to high-density housing such as a green surrounded by houses, in accordance with the C4SL POS_{Resi} land-use scenario[3]. This would also include smaller areas incorporated in newer developments.

The POS_{Resi} scenario considers risk to a child receptor (female) between the ages of >3 and <9years old. In accordance with Section 3.6.3.3 of the SP1010 project report[3], exposure

assumptions are based on the adaptation of the CLEA residential land–use scenario without consumption of home-grown produce and vapour ingress to the building. The pathways considered for production of the SAC in the POS_{Resi} scenario are

- ingestion of soil and dust (outdoors and indoors respectively)
- dermal contact with soil (outdoors; and soil-derived dust indoors)
- inhalation of dust (outdoors and indoors)
- inhalation of vapours outdoors.

Figure 1 is a conceptual model illustrating these linkages.

In line with guidance in the EA SGV report for cadmium[1], the RSK GAC for cadmium has been derived based on estimates representative of lifetime exposure. Although young children are generally more likely to have higher exposures to soil contaminants, the renal toxicity of cadmium, and the derivation of the TDI_{oral} and TDI_{inh}, are based on considerations of the kidney burden accumulated over 50 years or so. It is therefore reasonable to consider exposure not just in childhood but averaged over a longer period.

With respect to volatilisation, the CLEA model assumes a simple linear partitioning of a chemical in the soil between the sorbed, dissolved and vapour phase[9]. The upper boundaries of this partitioning are represented by the maximum aqueous solubility and pure saturated vapour concentration of the chemical. The CLEA model estimates saturated soil concentrations where these limits are reached[9]. The CLEA software uses a traffic light system to identify when individual and/or combined assessment criteria exceed the lower of either the aqueous- or vapour-based soil saturation limits. Model output cells are flagged red where the saturated soil concentration has been exceeded and the contribution of the indoor and outdoor vapour pathway to total exposure is greater than 10%. In this case, further consideration of the following is required[9]:

- Free phase contamination may be present.
- Exposure from the vapour pathways will be over-predicted by the model, as in reality the vapour phase concentration will not increase at concentrations above saturation limits.
- Where the vapour pathway is greater than 90%, it is unlikely the relevant health criteria value (HCV) will be exceeded at soil concentrations at least a factor of ten higher than the relevant HCV.

Where the vapour pathway is the predominant pathway (contributes greater than 90% of exposure) or the only exposure route considered and the cell is highlighted red (SAC exceeds saturation limit), the risk based on the assumed conceptual model is likely to be negligible, as the vapour risk is assumed to be tolerable at maximum possible soil concentrations. In such circumstances, the vapour pathway exposure should be considered based on the presence of free phase or non-aqueous phase liquid sources and the measured concentrations of volatile organic compounds (VOC) in the vapour phase. Screening could be considered based on setting the SAC as the modelled soil saturation limits. However, as stated within the CLEA handbook[9], this is likely to not be practical in many cases because of the very low saturation limits and, in any case, is highly conservative.

It should also be noted that for mixtures of compounds, free phase may be present where soil (or groundwater) concentrations are well below saturation limits for individual compounds.

Where the vapour pathway is only one of the exposure pathways considered, an additional approach can then be utilised as detailed within Section 4.12 of the CLEA model handbook[9], which explains how to calculate an effective assessment criterion manually.

SR3[5] states that, as a general rule of thumb, it is recognised that estimating vapour phase concentrations from dissolved and sorbed phase contamination by petroleum hydrocarbons are at least a factor of ten higher than those likely to be measured on site. RSK has therefore applied an empirical subsurface correction factor of 10 into the CLEA chemical database for all petroleum hydrocarbons (including BTEX, trimethylbenzenes, and the polycyclic aromatic hydrocarbons (PAH) naphthalene, acenaphthene and acenaphthylene) to reduce this conservatism.

Input selection

The most up-to-date published chemical and toxicological data was obtained from EA Report SC050021/SR7[10], the EA TOX[1] reports, the C4SL SP1010 project report and associated chemical specific reports[3,6], the 2015 LQM/CIEH report[7] or the USEPA IRIS database[14]. Where a LLTC[3,6] has been published for a substance, RSK has used these input parameters to derive the RSK GAC. Toxicological and specific chemical parameters for 1,2,4-trimethylbenzene, barium and methyl tertiary-butyl ether (MTBE) were obtained from the CL:AIRE Soil Generic Assessment Criteria report[11].

For TPH, aromatic hydrocarbons C_5–C_8 were not modelled, as this range comprises benzene (>EC5-EC7) and toluene (>EC7-EC8), which are modelled separately.

Physical parameters

For the POS_{Resi} scenario, project report SP1010[3] considers the potential for soil to be tracked into nearby houses with the potential for ingestion and inhalation of dust within the house. The CLEA default building is a small, two-storey terrace house.

POS_{resi} is considered to be a predominantly grassed area of up to 500m^2 (0.05 ha) with up to 50% potentially being bare soil. The input parameters were based on the air dispersion model and the vapour model detailed in SR3[5]. Full details of the land use scenario are presented in Table 3.6 of project report SP1010[3].

The parameters for a sandy loam soil type were used in line with SR3[5]. This includes a value of 6% for the percentage of soil organic matter (SOM) within the soil. In RSK's experience, this is rather high for many sites. To avoid undertaking site-specific risk assessments for this parameter, RSK has produced an additional set of SAC for an SOM of 1% and 2.5%.

The SAC were produced using the input parameters in Table 1 below and Table 3.6 of project report SP1010[3]. The GAC by pathway are presented in Table 2 and the combined GAC presented in Table 3.

Figure 1: Conceptual model for CLEA public open space (residential) scenario

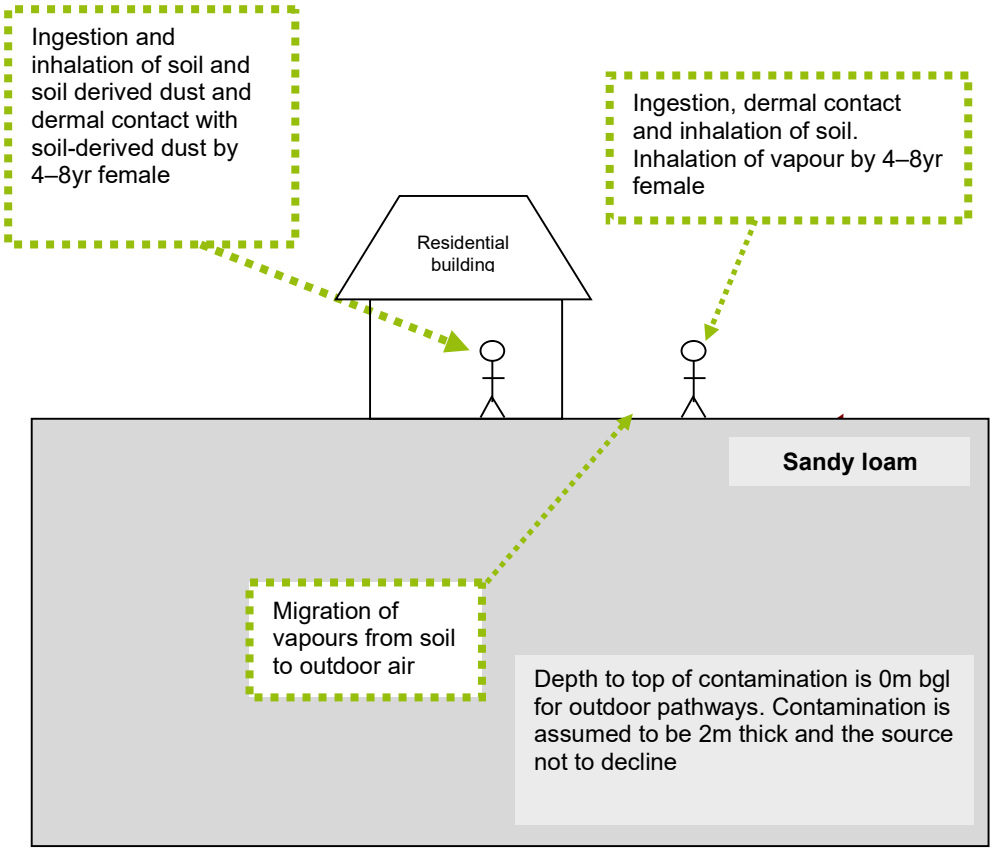


Table 1: Exposure assessment parameters for public open space (residential) scenario – inputs for CLEA model

Parameter	Value	Justification
Land use	Public open space (residential)	Chosen land use. Table 3.6 of SP1010[3]
Receptor	Female child	Taken as female child exposed over 6 years from 4 to 8 years, Table 3.6, SP1010[5]
Soil type	Sandy loam	Most common UK soil type (Section 4.3.1, Table 4.4, SR3[5]).
Start age class (AC)	4	Range of AC corresponding to key generic assumption that the critical receptor is a young female child aged 4–8 years (>3-<9). From Table 3.6, SP1010[5]
End AC	9	
SOM (%)	6	Representative of sandy loam according to EA guidance note dated January 2009 entitled 'Changes We Have Made to the CLEA Framework Documents'[13]
	1	To provide SAC for sites where SOM < 6% as often observed by RSK
	2.5	
pH	7	Model default

References

1. Environment Agency (2009), Science Reports SC050021 - SGV and TOX reports for: benzene, toluene, ethylbenzene, xylene, mercury, selenium, nickel, arsenic, cadmium, phenol, dioxins, furans and dioxin-like PCBs'; 'Supplementary information for the derivation of SGV for: benzene, toluene, ethylbenzene, xylene, mercury, selenium, nickel, arsenic, cadmium, phenol, dioxins, furans and dioxin-like PCBs' and 'Contaminants in soil: updated collation of toxicological data and intake values for humans: benzene, toluene, ethylbenzene, xylene, mercury, selenium, nickel, arsenic, cadmium, phenol, dioxins, furans and dioxin-like PCBs'. Available at: https://www.gov.uk/government/publications/contaminants-in-soil-updated-collation-of-toxicological-data-and-intake-values-for-humans and https://www.gov.uk/government/publications/land-contamination-soil-guideline-values-sgvs (accessed 4 February 2015)

2. Nathanial, C. P., McCaffrey, C., Ashmore, M., Cheng, Y., Gillet, A. G., Ogden, R. C. and Scott, D. (2009), *LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment*, second edition (Nottingham: Land Quality Press).

3. Contaminated Land: Applications in Real Environment (CL:AIRE) (2014), 'Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination', Revision 2, DEFRA research project SP1010.

4. Department for Environment, Food and Rural Affairs (Defra) (2014), 'SP1010: Development of Category 4 Screening Levels for assessment of land affected by contamination – Policy Companion Document', Revision 2.

5. Environment Agency (2009), *Science Report – SC050021/SR3. Updated technical background to the CLEA model* (Bristol: Environment Agency).

6. Contaminated Land: Applications in Real Environment (CL:AIRE) (2014), 'Appendices C to H). DEFRA research project SP1010'. CL:AIRE (2021). Category 4 Screening Levels: Trichloroethene (TCE). CL:AIRE, London. ISBN 978-1-905046-38-6. CL:AIRE (2021). Category 4 Screening Levels: Vinyl Chloride. CL:AIRE, London. ISBN 978-1-905046-36-2. CL:AIRE (2021). Category 4 Screening Levels: Tetrachloroethene (PCE). CL:AIRE, London. ISBN 978-1-905046-37-9.

7. Nathanial, C. P., McCaffrey, C., Gillet, A. G., Ogden, R. C. and Nathanial, J. F. (2015), *The LQM/CIEH S4ULs for Human Health Risk Assessment* (Nottingham Land Quality Press).

8. Environment Agency (2009), *Human health toxicological assessment of contaminants in soil. Science Report – Final SC050021/SR2* (Bristol: Environment Agency).

9. Environment Agency (2009), *Science Report – SC050021/SR4 CLEA Software (version 1.05) Handbook* (Bristol: Environment Agency).

10. Environment Agency (2008), *Science Report SC050021/SR7. Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values* (Bristol: Environment Agency).

11. CL:AIRE (2010), *Soil Generic Assessment Criteria for Human Health Risk Assessment* (London: CL:AIRE).

12. USEPA (2011), *Exposure factors handbook*, EPA/600/R-090/052F (Washington DC: Office of Research and Development).

13. Environment Agency (2009), 'Changes made to the CLEA framework documents after the three-month evaluation period in 2008', released January 2009.

14. USEPA (2010). Hydrogen cyanide and cyanide salts. Integrated Risk Information Systems (IRIS) Chemical Assessment Summary. September 2010. https://www.epa.gov/iris (accessed 9 December 2015)

GENERIC ASSESSMENT CRITERIA FOR HUMAN HEALTH - PUBLIC OPEN SPACE (IN CLOSE PROXIMITY TO RESIDENTIAL HOUSING)

Table 2

Human Health Generic Assessment Criteria for Public Open Space (in close proximity to residential housing)

Compound	Notes	SAC Appropriate to Pathway SOM 1% (mg/kg)			Soil Saturation Limit (mg/kg)	SAC Appropriate to Pathway SOM 2.5% (mg/kg)			Soil Saturation Limit (mg/kg)	SAC Appropriate to Pathway SOM 6% (mg/kg)			Soil Saturation Limit (mg/kg)
		Oral	Inhalation	Combined		Oral	Inhalation	Combined		Oral	Inhalation	Combined	
Metals													
Arsenic	(a,b)	7.92E+01	5.31E+02	NR	NR	7.92E+01	5.31E+02	NR	NR	7.92E+01	5.31E+02	NR	NR
Barium	(b)	2.68E+03	NR	NR	NR	2.68E+03	NR	NR	NR	2.68E+03	NR	NR	NR
Beryllium		3.91E+02	2.19E+00	NR	NR	3.91E+02	2.19E+00	NR	NR	3.91E+02	2.19E+00	NR	NR
Boron		2.15E+04	6.62E+06	NR	NR	2.15E+04	6.62E+06	NR	NR	2.15E+04	6.62E+06	NR	NR
Cadmium	(a)	3.64E+02	4.94E+02	2.20E+02	NR	3.64E+02	4.94E+02	2.20E+02	NR	3.64E+02	4.94E+02	2.20E+02	NR
Chromium (III) - trivalent	(c)	3.98E+04	1.54E+03	NR	NR	3.98E+04	1.54E+03	NR	NR	3.98E+04	1.54E+03	NR	NR
Chromium (VI) - hexavalent	(a,d)	1.18E+02	2.08E+01	NR	NR	1.18E+02	2.08E+01	NR	NR	1.18E+02	2.08E+01	NR	NR
Copper		2.15E+04	1.95E+04	1.20E+04	NR	2.15E+04	1.95E+04	1.20E+04	NR	2.15E+04	1.95E+04	1.20E+04	NR
Lead	(a)	6.26E+02	NR	NR	NR	6.26E+02	NR	NR	NR	6.26E+02	NR	NR	NR
Elemental Mercury (Hg^0)	(d)	NR	1.57E+01	NR	4.31E+00	NR	1.58E+01	NR	1.07E+01	NR	1.58E+01	NR	2.58E+01
Inorganic Mercury (Hg^{2+})		1.28E+02	4.62E+03	1.24E+02	NR	1.28E+02	4.62E+03	1.24E+02	NR	1.28E+02	4.62E+03	1.24E+02	NR
Methyl Mercury (Hg^{4+})		3.97E+01	5.86E+03	3.94E+01	7.33E+01	3.97E+01	7.06E+03	3.95E+01	1.42E+02	3.97E+01	8.43E+03	3.95E+01	3.04E+02
Nickel	(d)	3.74E+02	2.31E+02	NR	NR	3.74E+02	2.31E+02	NR	NR	3.74E+02	2.31E+02	NR	NR
Selenium	(b)	1.14E+03	NR	NR	NR	1.14E+03	NR	NR	NR	1.14E+03	NR	NR	NR
Vanadium		2.47E+03	1.99E+03	NR	NR	2.47E+03	1.99E+03	NR	NR	2.47E+03	1.99E+03	NR	NR
Zinc	(b)	8.08E+04	4.62E+07	NR	NR	8.08E+04	4.62E+07	NR	NR	8.08E+04	4.62E+07	NR	NR
Cyanide (free)		8.02E+01	1.75E+04	8.01E+01	NR	8.02E+01	1.75E+04	8.01E+01	NR	8.02E+01	1.75E+04	8.01E+01	NR
Volatile Organic Compounds													
Benzene	(a)	1.44E+02	8.35E+03	1.41E+02	1.22E+03	1.44E+02	1.12E+04	1.42E+02	2.26E+03	1.44E+02	1.58E+04	1.43E+02	4.71E+03
Toluene		5.61E+04	6.86E+06	5.57E+04	8.69E+02	5.61E+04	9.88E+06	5.58E+04	1.92E+03	5.61E+04	1.42E+07	5.59E+04	4.36E+03
Ethylbenzene		2.52E+04	4.74E+05	2.39E+04	5.18E+02	2.52E+04	6.95E+05	2.43E+04	1.22E+03	2.52E+04	9.98E+05	2.46E+04	2.84E+03
Xylene - m		4.53E+04	4.14E+05	4.08E+04	6.25E+02	4.53E+04	6.05E+05	4.22E+04	1.47E+03	4.53E+04	8.62E+05	4.31E+04	3.46E+03
Xylene - o		4.53E+04	4.28E+05	4.10E+04	4.78E+02	4.53E+04	6.22E+05	4.23E+04	1.12E+03	4.53E+04	8.84E+05	4.32E+04	2.62E+03
Xylene - p		4.53E+04	4.07E+05	4.08E+04	5.76E+02	4.53E+04	5.93E+05	4.22E+04	1.35E+03	4.53E+04	8.46E+05	4.31E+04	3.17E+03
Total xylene		4.53E+04	4.07E+05	4.08E+04	6.25E+02	4.53E+04	5.93E+05	4.22E+04	1.47E+03	4.53E+04	8.46E+05	4.31E+04	3.46E+03
Methyl tertiary-Butyl ether (MTBE)		7.57E+04	5.10E+06	7.46E+04	2.04E+04	7.57E+04	6.33E+06	7.48E+04	3.31E+04	7.57E+04	8.36E+06	7.51E+04	6.27E+04
Trichloroethene (TCE)		7.59E+01	4.09E+03	NR	1.54E+03	7.75E+01	5.80E+03	NR	3.22E+03	7.87E+01	8.38E+03	NR	7.14E+03
Tetrachloroethene (PCE)		3.52E+03	3.67E+04	3.21E+03	4.24E+02	3.52E+03	5.37E+04	3.31E+03	9.51E+02	3.52E+03	7.86E+04	3.38E+03	2.18E+03
1,1,1-Trichloroethane		1.51E+05	1.46E+06	1.37E+05	1.43E+03	1.51E+05	2.06E+06	1.41E+05	2.92E+03	1.51E+05	2.98E+06	1.44E+05	6.39E+03
1,1,1,2 Tetrachloroethane		1.45E+03	5.44E+04	1.41E+03	2.60E+03	1.45E+03	7.78E+04	1.42E+03	6.02E+03	1.45E+03	1.09E+05	1.43E+03	1.40E+04
1,1,2,2-Tetrachloroethane		1.45E+03	8.07E+04	1.42E+03	2.67E+03	1.45E+03	1.07E+05	1.43E+03	5.46E+03	1.45E+03	1.42E+05	1.43E+03	1.20E+04
Carbon Tetrachloride		1.01E+03	4.08E+03	8.86E+02	1.52E+03	1.01E+03	5.95E+03	9.23E+02	3.32E+03	1.01E+03	8.76E+03	9.50E+02	7.54E+03
1,2-Dichloroethane		3.03E+01	6.29E+02	2.89E+01	3.41E+03	3.03E+01	7.45E+02	2.91E+01	4.91E+03	3.03E+01	9.52E+02	2.94E+01	8.43E+03
Vinyl Chloride (chloroethene)		7.85E+00	5.62E+03	7.84E+00	1.36E+03	7.85E+00	6.38E+03	7.84E+00	1.76E+03	7.85E+00	7.87E+03	7.84E+00	2.69E+03
1,2,4-Trimethylbenzene		NR	2.48E+02	NR	4.74E+02	NR	2.49E+02	NR	1.16E+03	NR	2.50E+02	NR	2.76E+03
1,3,5-Trimethylbenzene	(e)	NR	NR	NR	2.30E+02	NR	NR	NR	5.52E+02	NR	NR	NR	1.30E+03
Semi-Volatile Organic Compounds													
Acenaphthene		1.49E+04	3.25E+06	1.48E+04	5.70E+01	1.49E+04	3.64E+06	1.48E+04	1.41E+02	1.49E+04	3.94E+06	1.48E+04	3.36E+02
Acenaphthylene		1.49E+04	3.21E+06	1.48E+04	8.61E+01	1.49E+04	3.61E+06	1.48E+04	2.12E+02	1.49E+04	3.91E+06	1.48E+04	5.06E+02
Anthracene		7.44E+04	1.94E+07	7.41E+04	1.17E+00	7.44E+04	2.06E+07	7.41E+04	2.91E+00	7.44E+04	2.14E+07	7.41E+04	6.96E+00
Benzo(a)anthracene		3.84E+01	1.11E+02	2.85E+01	1.71E+00	3.84E+01	1.13E+02	2.86E+01	4.28E+00	3.84E+01	1.14E+02	2.87E+01	1.03E+01
Benzo(a)pyrene	(a)	1.04E+01	3.89E+01	NR	9.11E-01	1.04E+01	3.93E+01	NR	2.28E+00	1.04E+01	3.95E+01	NR	5.46E+00
Benzo(b)fluoranthene		9.67E+00	2.83E+01	7.21E+00	1.22E+00	9.67E+00	2.86E+01	7.23E+00	3.04E+00	9.67E+00	2.89E+01	7.24E+00	7.29E+00
Benzo(g,h,i)perylene		8.53E+02	2.50E+03	6.36E+02	1.54E-02	8.53E+02	2.51E+03	6.37E+02	3.85E-02	8.53E+02	2.52E+03	6.37E+02	9.23E-02
Benzo(k)fluoranthene		2.55E+02	7.49E+02	1.90E+02	6.87E-01	2.55E+02	7.56E+02	1.91E+02	1.72E+00	2.55E+02	7.61E+02	1.91E+02	4.12E+00
Chrysene		7.68E+01	2.21E+02	5.70E+01	4.40E-01	7.68E+01	2.24E+02	5.72E+01	1.10E+00	7.68E+01	2.27E+02	5.74E+01	2.64E+00
Dibenzo(a,h)anthracene		7.68E-01	2.25E+00	5.73E-01	3.93E-03	7.68E-01	2.27E+00	5.74E-01	9.82E-03	7.68E-01	2.29E+00	5.75E-01	2.36E-02
Fluoranthene		3.10E+03	8.82E+05	3.08E+03	1.89E+01	3.10E+03	9.10E+05	3.09E+03	4.73E+01	3.10E+03	9.27E+05	3.09E+03	1.13E+02
Fluorene		9.91E+03	2.34E+06	9.87E+03	3.09E+01	9.91E+03	2.57E+06	9.87E+03	7.65E+01	9.91E+03	2.73E+06	9.87E+03	1.83E+02

GENERIC ASSESSMENT CRITERIA FOR HUMAN HEALTH - PUBLIC OPEN SPACE (IN CLOSE PROXIMITY TO RESIDENTIAL HOUSING)

Table 2

Human Health Generic Assessment Criteria for Public Open Space (in close proximity to residential housing)

Compound	Notes	SAC Appropriate to Pathway SOM 1% (mg/kg)			Soil Saturation Limit (mg/kg)	SAC Appropriate to Pathway SOM 2.5% (mg/kg)			Soil Saturation Limit (mg/kg)	SAC Appropriate to Pathway SOM 6% (mg/kg)			Soil Saturation Limit (mg/kg)
		Oral	Inhalation	Combined		Oral	Inhalation	Combined		Oral	Inhalation	Combined	
Indeno(1,2,3-cd)pyrene		1.10E+02	3.19E+02	8.17E+01	6.13E-02	1.10E+02	3.24E+02	8.20E+01	1.53E-01	1.10E+02	3.26E+02	8.22E+01	3.68E-01
Naphthalene		4.89E+03	1.93E+04	3.90E+03	7.64E+01	4.89E+03	2.53E+04	4.10E+03	1.83E+02	4.89E+03	3.16E+04	4.24E+03	4.32E+02
Phenanthrene		3.08E+03	8.12E+05	3.07E+03	3.60E+01	3.08E+03	8.61E+05	3.07E+03	8.96E+01	3.08E+03	8.94E+05	3.07E+03	2.14E+02
Pyrene		7.43E+03	2.11E+06	7.41E+03	2.20E+00	7.43E+03	2.18E+06	7.41E+03	5.49E+00	7.43E+03	2.22E+06	7.41E+03	1.32E+01
Phenol		1.31E+05	1.11E+04	1.02E+04	2.42E+04	1.31E+05	1.12E+04	1.03E+04	3.81E+04	1.31E+05	1.12E+04	1.03E+04	7.03E+04
Total Petroleum Hydrocarbons													
Aliphatic hydrocarbons EC_5-EC_6		6.31E+05	2.03E+06	5.75E+05	3.04E+02	6.31E+05	2.74E+06	5.91E+05	5.58E+02	6.31E+05	3.92E+06	6.04E+05	1.15E+03
Aliphatic hydrocarbons >EC_6-EC_8		6.31E+05	3.16E+06	5.97E+05	1.44E+02	6.31E+05	4.68E+06	6.09E+05	3.22E+02	6.31E+05	6.99E+06	6.16E+05	7.36E+02
Aliphatic hydrocarbons >EC_8-EC_{10}		1.26E+04	3.80E+05	1.25E+04	7.77E+01	1.26E+04	5.83E+05	1.26E+04	1.90E+02	1.26E+04	8.74E+05	1.26E+04	4.51E+02
Aliphatic hydrocarbons >EC_{10}-EC_{12}		1.26E+04	8.12E+05	1.26E+04	4.75E+01	1.26E+04	1.23E+06	1.26E+04	1.18E+02	1.26E+04	1.80E+06	1.26E+04	2.83E+02
Aliphatic hydrocarbons >EC_{12}-EC_{16}		1.26E+04	2.07E+06	1.26E+04	2.37E+01	1.26E+04	2.95E+06	1.26E+04	5.91E+01	1.26E+04	3.99E+06	1.26E+04	1.42E+02
Aliphatic hydrocarbons >EC_{16}-EC_{35}	(b)	2.51E+05	NR	NR	8.48E+00	2.51E+05	NR	NR	2.12E+01	2.51E+05	NR	NR	5.09E+01
Aliphatic hydrocarbons >EC_{35}-EC_{44}	(b)	2.51E+05	NR	NR	8.48E+00	2.51E+05	NR	NR	2.12E+01	2.51E+05	NR	NR	5.09E+01
Aromatic hydrocarbons >EC_8-EC_{10}		5.05E+03	2.16E+05	5.02E+03	6.13E+02	5.05E+03	3.21E+05	5.03E+03	1.50E+03	5.05E+03	4.60E+05	5.04E+03	3.58E+03
Aromatic hydrocarbons >EC_{10}-EC_{12}		5.05E+03	4.48E+05	5.04E+03	3.64E+02	5.05E+03	6.34E+05	5.04E+03	8.99E+02	5.05E+03	8.52E+05	5.04E+03	2.15E+03
Aromatic hydrocarbons >EC_{12}-EC_{16}		5.05E+03	1.02E+06	5.05E+03	1.69E+02	5.05E+03	1.29E+06	5.05E+03	4.19E+02	5.05E+03	1.52E+06	5.05E+03	1.00E+03
Aromatic hydrocarbons >EC_{16}-EC_{21}	(b)	3.77E+03	NR	NR	5.37E+01	3.77E+03	NR	NR	1.34E+02	3.77E+03	NR	NR	3.21E+02
Aromatic hydrocarbons >EC_{21}-EC_{35}	(b)	3.77E+03	NR	NR	4.83E+00	3.77E+03	NR	NR	1.21E+01	3.77E+03	NR	NR	2.90E+01
Aromatic hydrocarbons >EC_{35}-EC_{44}	(b)	3.77E+03	NR	NR	4.83E+00	3.77E+03	NR	NR	1.21E+01	3.77E+03	NR	NR	2.90E+01

Notes:

Public open space (resi) and (park) GAC are based on the exposure parameters detailed within SP1010 "Development of Category 4 Screening Levels for Assessment of Land affected by Contamination", Final, 20th December 2013

EC - equivalent carbon. GrAC - groundwater assessment criteria. SAC - soil assessment criteria.

The CLEA model output is colour coded depending upon whether the soil saturation limit has been exceeded.

Calculated SAC exceeds soil saturation limit and may significantly affect the interpretation of any exceedances as the contribution of the indoor and outdoor vapour pathway to total exposure is >10%.

Calculated SAC exceeds soil saturation limit but the exceedance will not affect the SAC significantly as the contribution of the indoor and outdoor vapour pathway to total exposure is <10%.

Calculated SAC does not exceed the soil saturation limit.

The SAC for organic compounds are dependant upon soil organic matter (SOM) (%) content. To obtain SOM from total organic carbon (TOC) (%) divide by 0.58. 1% SOM is 0.58% TOC. DL Rowell Soil Science: Methods and Applications, Longmans, 1994.

SAC for TPH fractions, PAHs napthalene, acenaphthene and acenaphthylene, BTEX and trimethylbenzene compounds were produced using an attenuation factor for the indoor air inhalation pathway of 10 to reduce conservatism associated with the vapour inhalation pathway (Section 10.1.1, SR3)

(a) SAC for arsenic, benzene, benzo(a)pyrene, cadmium, chromium VI and lead are derived using the C4SL toxicology data.

(b) SAC for barium and selenium should not include the inhalation pathway as no expert group HCV has been derived; aliphatic and aromatic hydrocarbons >EC16 should not include inhalation pathway due to their non-volatile nature and inhalation exposure being minimal (oral, dermal and inhalation exposure is compared to the oral HCV); arsenic should only be based on oral contribution (rather than combined) owing to the relative small contribution from inhalation in accordance with the SGV.

(c) SAC for CrIII should be based on the lower of the oral and inhalation SAC (see LQM/CIEH 2015 Section 6.8)

(d) SAC for elemental mercury, chromium VI and nickel should be based on the inhalation pathway only.

(e) SAC for 1,3,5-trimethylbenzene is not recorded owing to the lack of toxicological data, SAC for 1,2,4 trimethylbenzene may be used.

GENERIC ASSESSMENT CRITERIA FOR HUMAN HEALTH - PUBLIC OPEN SPACE (IN CLOSE PROXIMITY TO RESIDENTIAL HOUSING)

Table 3
Human Health Generic Assessment Criteria for Public Open Space (in close proximity to residential housing)

Compound	SAC for Soil SOM 1% (mg/kg)	SAC for Soil SOM 2.5% (mg/kg)	SAC for Soil SOM 6% (mg/kg)
Metals			
Arsenic	79	79	79
Barium	2,680	2,680	2,680
Beryllium	2.2	2.2	2.2
Boron	21,500	21,500	21,500
Cadmium	220	220	220
Chromium (III) - trivalent	1,540	1,540	1,540
Chromium (VI) - hexavalent	21	21	21
Copper	12,000	12,000	12,000
Lead	630	630	630
Elemental Mercury (Hg^0)	16	16	16
Inorganic Mercury (Hg^{2+})	120	120	120
Methyl Mercury (Hg^{4+})	39	39	40
Nickel	230	230	230
Selenium	1,100	1,100	1,100
Vanadium	1,990	1,990	1,990
Zinc	81,000	81,000	81,000
Cyanide (free)	80	80	80
Volatile Organic Compounds			
Benzene	140	140	140
Toluene	55,700	55,800	55,900
Ethylbenzene	23,900	24,300	24,600
Xylene - m	40,800	42,200	43,100
Xylene - o	41,000	42,300	43,200
Xylene - p	40,800	42,200	43,100
Total xylene	40,800	42,200	43,100
Methyl tertiary-Butyl ether (MTBE)	74,600	74,800	75,100
Trichloroethene (TCE)	76	78	79
Tetrachloroethene (PCE)	3,200	3,300	3,400
1,1,1-Trichloroethane	140,000	140,000	140,000
1,1,1,2 Tetrachloroethane	1,400	1,400	1,400
1,1,2,2-Tetrachloroethane	1,400	1,400	1,400
Carbon Tetrachloride	886	923	950
1,2-Dichloroethane	29	29	29
Vinyl Chloride (chloroethene)	7.8	7.8	7.8
1,2,4-Trimethylbenzene	250	250	250
1,3,5-Trimethylbenzene	NR	NR	NR
Semi-Volatile Organic Compounds			
Acenaphthene	14,800	14,800	14,800
Acenaphthylene	14,800	14,800	14,800
Anthracene	74,100	74,100	74,100
Benzo(a)anthracene	29	29	29
Benzo(a)pyrene	10	10	10
Benzo(b)fluoranthene	7	7	7
Benzo(g,h,i)perylene	640	640	640
Benzo(k)fluoranthene	190	191	191
Chrysene	57	57	57
Dibenzo(a,h)anthracene	0.57	0.57	0.58
Fluoranthene	3,100	3,100	3,100
Fluorene	9,900	9,900	9,900
Indeno(1,2,3-cd)pyrene	82	82	82
Naphthalene	4,900	4,900	4,900
Phenanthrene	3,100	3,100	3,100
Pyrene	7,400	7,400	7,400
Phenol	440*	690*	1,300*
Total Petroleum Hydrocarbons			
Aliphatic hydrocarbons EC_5-EC_6	570,000 (304)	590,000	600,000
Aliphatic hydrocarbons >EC_6-EC_8	600,000	610,000	620,000
Aliphatic hydrocarbons >EC_8-EC_{10}	13,000	13,000	13,000
Aliphatic hydrocarbons >EC_{10}-EC_{12}	13,000	13,000	13,000
Aliphatic hydrocarbons >EC_{12}-EC_{16}	13,000	13,000	13,000
Aliphatic hydrocarbons >EC_{16}-EC_{35}	250,000	250,000	250,000
Aliphatic hydrocarbons >EC_{35}-EC_{44}	250,000	250,000	250,000
Aromatic hydrocarbons >EC_8-EC_{10}	5,000	5,000	5,000
Aromatic hydrocarbons >EC_{10}-EC_{12}	5,000	5,000	5,000
Aromatic hydrocarbons >EC_{12}-EC_{16}	5,000	5,000	5,000
Aromatic hydrocarbons >EC_{16}-EC_{21}	3,800	3,800	3,800
Aromatic hydrocarbons >EC_{21}-EC_{35}	3,800	3,800	3,800
Aromatic hydrocarbons >EC_{35}-EC_{44}	3,800	3,800	3,800
Minerals			
Asbestos	Stage 1 test – No asbestos detected with ID; Stage 2 test - <0.001% dry weight (exceedance of either equates to an exceedance of the GAC)[1]		

Notes:
'-' Generic assessment criteria not calculated owing to low volatility of substance and therefore no pathway, or an absence of toxicological data.
NR - SAC for 1,3,5-trimethylbenzene is not recorded owing to the lack of toxicological data, SAC for 1,2,4 trimethylbenzene may be used
EC - equivalent carbon. GrAC - groundwater assessment criteria. SAC - soil assessment criteria.
* The GAC for Phenol is based on a threshold which is protective of direct contact (SC050021/Phenol SGV report)

Public open space (resi) and (park) GAC are based on the exposure parameters detailed within SP1010 "Development of Category 4 Screening Levels for Assessment of Land affected by Contamination", Final, 20th December 2013

The SAC for organic compounds are dependent on Soil Organic Matter (SOM) (%) content. To obtain SOM from total organic carbon (TOC) (%) divide by 0.58.
1% SOM is 0.58% TOC. DL Rowell Soil Science: Methods and Applications, Longmans, 1994.

SAC for TPH fractions, PAHs napthalene, acenaphthene and acenaphthylene, BTEX and trimethylbenzene compounds were produced using an attenuation factor for the indoor air inhalation pathway of 10 to reduce conservatism associated with the vapour inhalation pathway, section 10.1.1, SR3.

(VALUE IN BRACKETS) The SAC has been set as the model calculated SAC with the saturation limit shown in brackets.

Generic assessment criteria for human health: residential scenario with home-grown produce

Background

RSK's generic assessment criteria (GAC) were initially prepared following the publication by the Environment Agency (EA) of soil guideline value (SGV) and toxicological (TOX) reports, and associated publications in 2009[1]. RSK GAC were updated following the publication of GAC by LQM/CIEH in 2009[2]. RSK GAC are periodically revised when updated information on toxicological, land use or receptor parameters is published.

Updates to the RSK GAC

In 2014, the publication of Category 4 Screening Levels (C4SL)[3,4], as part of the Defra-funded research project SP1010, included modifications to certain exposure assumptions documented within EA Science Report SC050221/SR3 (herein after referred to as SR3)[5] used in the generation of SGVs.

C4SL were initially published for six substances (cadmium, arsenic, benzene, benzo(a)pyrene, chromium VI and lead) for a sandy loam soil type with 6% soil organic matter, based on a low level of toxicological concern (LLTC; see Section 2.3 of research project report SP1010[3]). Further C4SL were published in 2021 for vinyl chloride, tetrachloroethene (PCE) and trichloroethene (TCE). Where a C4SL has been published, the RSK GAC duplicates the C4SL using all input parameters within the SP1010 final project report[3] and associated chemical specific reports[6], and adopts them as GAC for these substances. Due to the use of decimal places rather than significant figures applied to the Contaminated Land Exposure Assessment (CLEA) tool outputs, the GAC presented may be marginally differently to the C4SL values, however any differences between the values are minimal and would not equate to an unacceptable risk.

For all other substances the C4SL exposure modifications, with the exception of the "top two" produce type approach taken in the C4SL, have been applied to the current RSK GAC. These include alterations to daily inhalation rates for residential and commercial scenarios, reducing soil adherence factors in children (age classes 1 to 12 only) for residential land use, reducing exposure frequency for dermal contact outdoors for residential land use, and updated produce type consumption rates (90th percentile) based on recent data from the National Diet and Nutrition Survey.

The RSK GAC have also been revised with updated toxicology published by LQM/CIEH in 2015[7] or by the USEPA[14], where a C4SL has not been published.

RSK GAC derivation for metals and organic compounds

Model selection

Soil assessment criteria (SAC) were calculated using the CLEA tool v1.071, supporting EA guidance[5,8,9] and revised exposure scenarios published for the C4SL[3]. The SAC are also termed GAC.

Conceptual model

In accordance with SR3[5], the residential with home-grown produce scenario considers risks to a female child between the ages of 0 and 6 years old as the highest risk scenario. In accordance with Box 3.1 of SR3[5], the pathways considered for production of the SAC in the residential with home-grown produce scenario are

- direct soil and dust ingestion
- consumption of home-grown produce
- consumption of soil attached to home-grown produce
- dermal contact with soil and indoor dust
- inhalation of indoor and outdoor dust and vapours.

Figure 1 is a conceptual model illustrating these linkages.

In line with guidance in the EA SGV report for cadmium[1], the RSK GAC for cadmium has been derived based on estimates representative of lifetime exposure. Although young children are generally more likely to have higher exposures to soil contaminants, the renal toxicity of cadmium, and the derivation of the TDI_{oral} and TDI_{inh}, are based on considerations of the kidney burden accumulated over 50 years or so. It is therefore reasonable to consider exposure not just in childhood but averaged over a longer period.

With respect to volatilisation, the CLEA model assumes a simple linear partitioning of a chemical in the soil between the sorbed, dissolved and vapour phase[9]. The upper boundaries of this partitioning are represented by the maximum aqueous solubility and pure saturated vapour concentration of the chemical. The CLEA model estimates saturated soil concentrations where these limits are reached[9]. The CLEA software uses a traffic light system to identify when individual and/or combined assessment criteria exceed the lower of either the aqueous- or vapour-based soil saturation limits. Model output cells are flagged red where the saturated soil concentration has been exceeded and the contribution of the indoor and outdoor vapour pathway to total exposure is greater than 10%. In this case, further consideration of the following is required[9]:

- Free phase contamination may be present.
- Exposure from the vapour pathways will be over-predicted by the model, as in reality the vapour phase concentration will not increase at concentrations above saturation limits
- Where the vapour pathway contribution is greater than 90%, it is unlikely the relevant health criteria value (HCV) will be exceeded at soil concentrations at least a factor of ten higher than the relevant HCV.

Where the vapour pathway is the predominant pathway (contributes greater than 90% of exposure) or the only exposure route considered and the cell is highlighted red (SAC exceeds saturation limit), the risk based on the assumed conceptual model is likely to be negligible as the vapour risk is assumed to be tolerable at maximum possible soil concentrations. In such circumstances, the vapour pathway exposure should be considered based on the presence of free phase or non-aqueous phase liquid sources and the measured concentrations of volatile organic compounds (VOC) in the vapour phase. Screening could be considered based on setting the SAC as the modelled soil saturation limits. However, as stated within the CLEA handbook[9], this is likely to not be practical in many cases because of the very low saturation limits and, in any case, is highly conservative.

It should also be noted that for mixtures of compounds, free phase may be present where soil (or groundwater) concentrations are well below saturation limits for individual compounds.

Where the vapour pathway is only one of the exposure pathways considered, an additional approach can then be utilised as detailed within Section 4.12 of the CLEA model handbook[9], which explains how to calculate an effective assessment criterion manually.

SR3[5] states that, as a general rule of thumb, it is recognised that estimating vapour phase concentrations from dissolved and sorbed phase contamination by petroleum hydrocarbons are at least a factor of ten higher than those likely to be measured on-site. RSK has therefore applied an empirical subsurface to indoor air correction factor of 10 into the CLEA model chemical database for all petroleum hydrocarbon fractions (including BTEX, trimethylbenzenes and the polycyclic aromatic hydrocarbons (PAH) naphthalene, acenaphthene and acenaphthylene) to reduce this conservatism.

Input selection

The most up-to-date published chemical and toxicological data was obtained from EA Report SC050021/SR7[10], the EA TOX[1] reports, the C4SL SP1010 project report and associated appendices[3,6], the 2015 LQM/CIEH report[7] or the USEPA IRIS database[14]. Where a LLTC[3,6] has been published for a substance, RSK has used these input parameters to derive the RSK GAC. Toxicological and specific chemical parameters for 1,2,4-trimethylbenzene, barium, methyl tertiary-butyl ether (MTBE), 1,1,2-trichlorethane, 1,1-dichloroethene, 1,2-dichloropropane, 2-chloronaphthalene, chloroethane, chloromethane, cis 1,2-dichloroethene, dichloromethane, hexachloroethane and trans 1,2-dichloroethene were obtained from the CL:AIRE Soil Generic Assessment Criteria report[11].

For TPH, aromatic hydrocarbons C_5–C_8 were not modelled, as this range comprises benzene (>EC5-EC7) and toluene (>EC7-EC8), which are modelled separately.

Physical parameters

For the residential with home-grown produce scenario, the CLEA default building is a small, two-storey terrace house with a concrete ground-bearing slab. The house is assumed to have a 100m^2 private garden consisting of lawn and flowerbeds, incorporating a 20m^2 plot for growing fruit and vegetables consumed by the residents. SR3[5] notes this residential building type to be the most conservative in terms of potential for vapour intrusion. The building parameters used in the production of the RSK GACs are the default CLEA v1.06 inputs presented in Table 3.3 of SR3[3], with a dust loading factor detailed in Section 9.3 of SR3[5]. The parameters for a sandy loam soil type were used in line with Table 4.4 of SR3[5]. This includes a value of 6% for the percentage of soil organic matter (SOM) within the soil. In RSK's experience, this is rather high for many sites. To avoid undertaking site-specific risk assessments for SOM, RSK has produced an additional set of GAC for SOM of 1% and 2.5% for all substances using the CLEA tool.

Summary of modifications to the default CLEA SR3[5] input parameters for residential with home-grown produce land-use scenario

In summary, the RSK GAC were produced using the default input parameters for soil properties, the air dispersion model, building properties and the vapour model detailed in SR3[5]. Modifications to the default SR3[5] exposure scenarios based on the C4SL exposure scenarios[3] are presented in Tables 2 and 3 below.

The final selected GAC are presented by pathway in Table 4 and the combined GAC in Table 5.

Figure 1: Conceptual model for residential scenario with home-grown produce

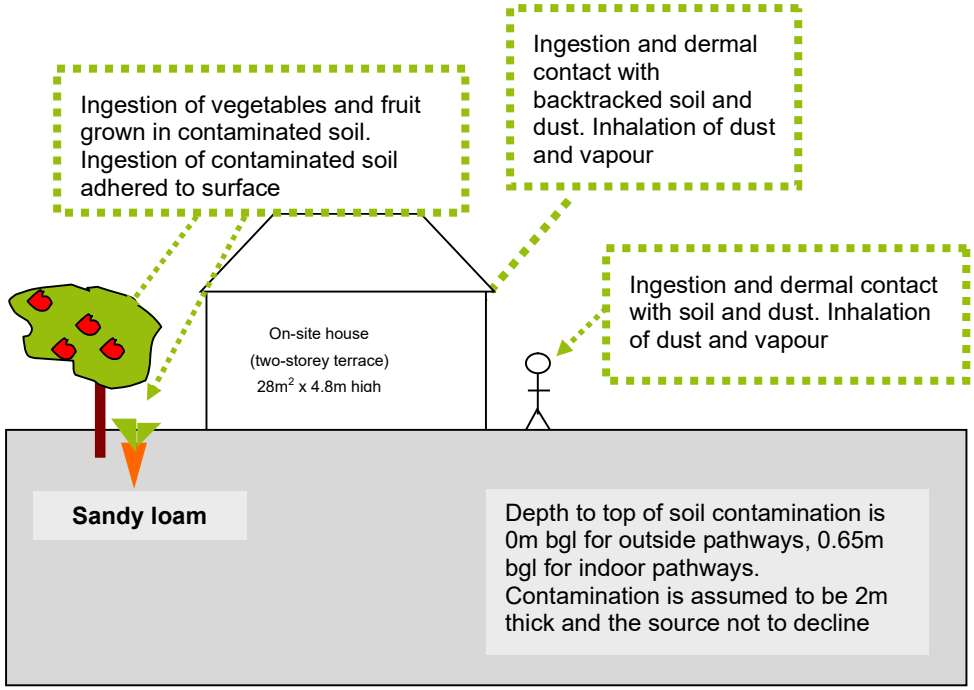


Table 1: Exposure assessment parameters for residential scenario with home-grown produce – inputs for CLEA model

Parameter	Value	Justification
Land use	Residential with homegrown produce	Chosen land use
Receptor	Female child age 1 to 6	Key generic assumption given in Box 3.1, SR3[5]
Building	Small terraced house	Key generic assumption given in Box 3.1, SR3. Small, two-storey terraced house chosen, as it is the most conservative residential building type in terms of protection from vapor intrusion (Section 3.4.6, SR3)[5]
Soil type	Sandy Loam	Most common UK soil type (Section 4.3.1, from Table 3.1, SR3)[5]
Start AC (age class)	1	Range of age classes corresponding to key generic assumption that the critical receptor is a young female child aged 0–6. From Box 3.1, SR3[5]
End AC (age class)	6	
SOM (%)	6	Representative of sandy loamy soil according to EA guidance note dated January 2009 entitled 'Changes We Have Made to the CLEA Framework Documents'[13]
	1	To provide SAC for sites where SOM <6% as often observed by RSK
	2.5	
pH	7	Model default

Table 2: Residential with home-grown produce – modified home-grown produce data

Name	Consumption rate 90th percentile (g FW kg^{-1} BW day^{-1}) by age class						Dry weight conversion factor (g DW g^{-1} FW)	Home-grown fraction (average)	Home-grown fraction (high end)	Soil loading factor (g g^{-1} DW)	Preparation correction factor
	1	2	3	4	5	6					
Green vegetables	7.12	5.87	5.87	5.87	4.53	4.53	0.096	0.05	0.33	1.00E-03	2.00E-01
Root vegetables	10.7	2.83	2.83	2.83	2.14	2.14	0.103	0.06	0.4	1.00E-03	1.00E+00
Tuber vegetables	16	6.6	6.6	6.6	4.95	4.95	0.21	0.02	0.13	1.00E-03	1.00E+00
Herbaceous fruit	1.83	3.39	3.39	3.39	2.24	2.24	0.058	0.06	0.4	1.00E-03	6.00E-01
Shrub fruit	2.23	0.46	0.46	0.46	0.19	0.19	0.166	0.09	0.6	1.00E-03	6.00E-01
Tree fruit	3.82	10.3	10.3	10.3	5.16	5.16	0.157	0.04	0.27	1.00E-03	6.00E-01
Justification	Table 3.4, SP1010 (3)						Table 6.3, SR3(5)	Table 4.19, SR3(5)		Table 6.3, SR3(5)	

Table 3: Residential with home-grown produce – modified and use and receptor data

Parameter	Unit	Age class					
		1	2	3	4	5	6
EF (soil and dust ingestion)	day yr^{-1}	180	365	365	365	365	365
EF (consumption of home-grown produce)	day yr^{-1}	180	365	365	365	365	365
EF (skin contact, indoor)	day yr^{-1}	180	365	365	365	365	365
EF (skin contact, outdoor)	day yr^{-1}	170	170	170	170	170	170
EF (inhalation of dust and vapour, indoor)	day yr^{-1}	365	365	365	365	365	365
EF (inhalation of dust and vapour, outdoor)	day yr^{-1}	365	365	365	365	365	365
Justification		Table 3.5, SP1010(3); Table 3.1, SR3(5)					
Soil to skin adherence factor (outdoor)	mg cm^{-2} day^{-1}	0.1	0.1	0.1	0.1	0.1	0.1
Justification		Table 3.5, SP1010(3)					
Inhalation rate	m^3 day^{-1}	5.4	8.0	8.9/f	10.1	10.1	10.1
Justification		Mean value USEPA, 2011(12); Table 3.2, SP1010(3)					
Notes: For **cadmium**, the exposure assessment for a residential land use is based on estimates representative of lifetime exposure AC1-18. This is because the TDI_{oral} and TDI_{inh} are based on considerations of the kidney burden accumulated over 50 years. It is therefore reasonable to consider exposure not just in childhood but averaged over a longer period. See the Environment Agency Science Report SC05002/ TOX 3(1), Science Report SC050021/Cadmium SGV(1) and the project report SP1010(3) for more information.							

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GENERIC ASSESSMENT CRITERIA FOR HUMAN HEALTH - RESIDENTIAL WITH HOME-GROWN PRODUCE

Table 4

Human Health Generic Assessment Criteria by Pathway for Residential With Home-Grown Produce Scenario

Compound	Notes	SAC Appropriate to Pathway SOM 1% (mg/kg)			Soil Saturation Limit (mg/kg)	SAC Appropriate to Pathway SOM 2.5% (mg/kg)			Soil Saturation Limit (mg/kg)	SAC Appropriate to Pathway SOM 6% (mg/kg)			Soil Saturation Limit (mg/kg)
		Oral	Inhalation	Combined		Oral	Inhalation	Combined		Oral	Inhalation	Combined	
Metals													
Arsenic	(a,b)	3.71E+01	5.26E+02	NR	NR	3.71E+01	5.26E+02	NR	NR	3.71E+01	5.26E+02	NR	NR
Barium	(b)	1.34E+03	NR	NR	NR	1.34E+03	NR	NR	NR	1.34E+03	NR	NR	NR
Beryllium		1.13E+02	1.72E+00	NR	NR	1.13E+02	1.72E+00	NR	NR	1.13E+02	1.72E+00	NR	NR
Boron		3.00E+02	5.20E+06	NR	NR	3.00E+02	5.20E+06	NR	NR	3.00E+02	5.20E+06	NR	NR
Cadmium	(a)	2.30E+01	4.88E+02	2.21E+01	NR	2.30E+01	4.88E+02	2.21E+01	NR	2.30E+01	4.88E+02	2.21E+01	NR
Chromium (III) - trivalent	(c)	1.84E+04	9.07E+02	NR	NR	1.84E+04	9.07E+02	NR	NR	1.84E+04	9.07E+02	NR	NR
Chromium (VI) - hexavalent	(a,d)	5.85E+01	2.06E+01	NR	NR	5.85E+01	2.06E+01	NR	NR	5.85E+01	2.06E+01	NR	NR
Copper		2.72E+03	1.41E+04	2.47E+03	NR	2.72E+03	1.41E+04	2.47E+03	NR	2.72E+03	1.41E+04	2.47E+03	NR
Lead	(a)	2.01E+02	NR	NR	NR	2.01E+02	NR	NR	NR	2.01E+02	NR	NR	NR
Elemental Mercury (Hg^0)	(d)	NR	2.35E-01	NR	4.31E+00	NR	5.60E-01	NR	1.07E+01	NR	1.22E+00	NR	2.58E+01
Inorganic Mercury (Hg^{2+})		3.95E+01	3.63E+03	3.91E+01	NR	3.95E+01	3.63E+03	3.91E+01	NR	3.95E+01	3.63E+03	3.91E+01	NR
Methyl Mercury (Hg^{4+})		1.26E+01	1.87E+01	7.52E+00	7.33E+01	1.26E+01	3.62E+01	9.34E+00	1.42E+02	1.26E+01	7.68E+01	1.08E+01	3.04E+02
Nickel	(d)	1.27E+02	1.81E+02	NR	NR	1.27E+02	1.81E+02	NR	NR	1.27E+02	1.81E+02	NR	NR
Selenium	(b)	2.58E+02	NR	NR	NR	2.58E+02	NR	NR	NR	2.58E+02	NR	NR	NR
Vanadium		4.13E+02	1.46E+03	NR	NR	4.13E+02	1.46E+03	NR	NR	4.13E+02	1.46E+03	NR	NR
Zinc	(b)	3.86E+03	3.63E+07	NR	NR	3.86E+03	3.63E+07	NR	NR	3.86E+03	3.63E+07	NR	NR
Cyanide (free)		1.37E+00	1.37E+04	1.37E+00	NR	1.37E+00	1.37E+04	1.37E+00	NR	1.37E+00	1.37E+04	1.37E+00	NR
Volatile Organic Compounds													
Benzene	(a)	2.62E-01	9.01E-01	2.03E-01	1.22E+03	5.39E-01	1.68E+00	4.08E-01	2.26E+03	1.16E+00	3.48E+00	8.72E-01	4.71E+03
Toluene		1.53E+02	9.08E+02	1.31E+02	8.69E+02	3.49E+02	2.00E+03	2.97E+02	1.92E+03	7.95E+02	4.55E+03	6.77E+02	4.36E+03
Ethylbenzene		1.10E+02	8.34E+01	4.74E+01	5.18E+02	2.61E+02	1.96E+02	1.12E+02	1.22E+03	6.00E+02	4.58E+02	2.60E+02	2.84E+03
Xylene - m		2.10E+02	8.25E+01	5.92E+01	6.25E+02	5.01E+02	1.95E+02	1.40E+02	1.47E+03	1.15E+03	4.56E+02	3.27E+02	3.46E+03
Xylene - o		1.92E+02	8.87E+01	6.07E+01	4.78E+02	4.56E+02	2.08E+02	1.43E+02	1.12E+03	1.05E+03	4.86E+02	3.32E+02	2.62E+03
Xylene - p		1.98E+02	7.93E+01	5.66E+01	5.76E+02	4.70E+02	1.86E+02	1.33E+02	1.35E+03	1.08E+03	4.36E+02	3.10E+02	3.17E+03
Total xylene		1.92E+02	7.93E+01	5.66E+01	6.25E+02	4.56E+02	1.86E+02	1.33E+02	1.47E+03	1.05E+03	4.36E+02	3.10E+02	3.46E+03
Methyl tertiary-Butyl ether (MTBE)		1.54E+02	1.04E+02	6.22E+01	2.04E+04	2.97E+02	1.69E+02	1.08E+02	3.31E+04	6.03E+02	3.21E+02	2.10E+02	6.27E+04
1,1,1,2 Tetrachloroethane		5.39E+00	1.54E+00	1.20E+00	2.60E+03	1.27E+01	3.56E+00	2.78E+00	6.02E+03	2.92E+01	8.29E+00	6.46E+00	1.40E+04
1,1,2,2-Tetrachloroethane		2.81E+00	3.92E+00	1.64E+00	2.67E+03	6.10E+00	8.04E+00	3.47E+00	5.46E+03	1.36E+01	1.76E+01	7.67E+00	1.20E+04
1,1,1-Trichloroethane		3.33E+02	9.01E+00	8.77E+00	1.43E+03	7.26E+02	1.84E+01	1.80E+01	2.92E+03	1.62E+03	4.04E+01	3.94E+01	6.39E+03
1,1,2 Trichloroethane		1.95E+00	1.25E+00	7.62E-01	4.03E+03	4.21E+00	2.55E+00	1.59E+00	8.21E+03	9.35E+00	5.59E+00	3.50E+00	1.80E+04
1,1-Dichloroethene		1.93E+01	3.29E-01	3.23E-01	2.23E+03	3.85E+01	5.82E-01	5.74E-01	3.94E+03	8.15E+01	1.17E+00	1.16E+00	7.94E+03
1,2-Dichloroethane		3.17E-02	9.20E-03	7.13E-03	3.41E+03	5.73E-02	1.33E-02	1.08E-02	4.91E+03	1.09E-01	2.28E-02	1.88E-02	8.43E+03
1,2,4-Trimethylbenzene		NR	1.76E+00	NR	4.74E+02	NR	4.26E+00	NR	1.16E+03	NR	9.72E+00	NR	2.76E+03
1,3,5-Trimethylbenzene	(e)	NR	NR	NR	2.30E+02	NR	NR	NR	5.52E+02	NR	NR	NR	1.30E+03
1,2-Dichloropropane		4.28E+00	3.40E-02	3.37E-02	1.19E+03	8.44E+00	6.00E-02	5.96E-02	2.11E+03	1.77E+01	1.21E-01	1.20E-01	4.24E+03
Carbon Tetrachloride (tetrachloromethane)		3.10E+00	2.58E-02	2.57E-02	1.52E+03	7.11E+00	5.65E-02	5.62E-02	3.32E+03	1.62E+01	1.28E-01	1.27E-01	7.54E+03
Chloroethane		NR	1.17E+01	NR	2.61E+03	NR	1.59E+01	NR	3.54E+03	NR	2.57E+01	NR	5.71E+03
Chloromethane		NR	1.17E-02	NR	1.91E+03	NR	1.38E-02	NR	2.24E+03	NR	1.85E-02	NR	2.99E+03
Cis 1,2 Dichloroethene		1.56E-01	NR	NR	3.94E+03	2.66E-01	NR	NR	6.61E+03	5.18E-01	NR	NR	1.29E+04
Dichloromethane		7.04E-01	3.05E+00	6.24E-01	7.27E+03	1.27E+00	4.06E+00	1.08E+00	9.68E+03	2.33E+00	6.42E+00	1.92E+00	1.53E+04
Tetrachloroethene (PCE)		1.33E+01	3.19E-01	3.11E-01	4.24E+02	3.11E+01	7.15E-01	6.99E-01	9.51E+02	7.12E+01	1.64E+00	1.60E+00	2.18E+03
Trans 1,2 Dichloroethene		6.45E+00	2.76E-01	NR	3.42E+03	1.29E+01	4.99E-01	NR	6.17E+03	2.74E+01	1.02E+00		1.26E+04
Trichloroethene (TCE)		9.30E-03	3.61E-02	NR	1.54E+03	1.95E-02	7.57E-02	NR	3.22E+03	4.34E-02	1.68E-01	NR	7.14E+03
Vinyl Chloride (chloroethene)		1.13E-02	1.47E-02	6.38E-03	1.36E+03	2.09E-02	1.90E-02	9.97E-03	1.76E+03	3.88E-02	2.91E-02	1.66E-02	2.69E+03
Semi-Volatile Organic Compounds													
2-Chloronaphthalene		2.76E+02	5.39E+00	5.29E+00	1.14E+02	6.59E+02	1.33E+01	1.30E+01	2.80E+02	1.45E+03	3.17E+01	3.10E+01	6.69E+02

GENERIC ASSESSMENT CRITERIA FOR HUMAN HEALTH - RESIDENTIAL WITH HOME-GROWN PRODUCE

Table 4

Human Health Generic Assessment Criteria by Pathway for Residential With Home-Grown Produce Scenario

Compound	Notes	SAC Appropriate to Pathway SOM 1% (mg/kg)			Soil Saturation Limit (mg/kg)	SAC Appropriate to Pathway SOM 2.5% (mg/kg)			Soil Saturation Limit (mg/kg)	SAC Appropriate to Pathway SOM 6% (mg/kg)			Soil Saturation Limit (mg/kg)
		Oral	Inhalation	Combined		Oral	Inhalation	Combined		Oral	Inhalation	Combined	
Acenaphthene		2.27E+02	4.86E+04	2.26E+02	5.70E+01	5.41E+02	1.18E+05	5.38E+02	1.41E+02	1.18E+03	2.68E+05	1.17E+03	3.36E+02
Acenaphthylene		1.85E+02	4.59E+04	1.84E+02	8.61E+01	4.42E+02	1.11E+05	4.40E+02	2.12E+02	9.78E+02	2.53E+05	9.74E+02	5.06E+02
Anthracene		2.43E+03	1.53E+05	2.39E+03	1.17E+00	5.53E+03	3.77E+05	5.45E+03	2.91E+00	1.10E+04	8.76E+05	1.09E+04	6.96E+00
Benzo(a)anthracene		1.01E+01	2.47E+01	7.18E+00	1.71E+00	1.42E+01	4.37E+01	1.07E+01	4.28E+00	1.69E+01	6.26E+01	1.33E+01	1.03E+01
Benzo(a)pyrene	(a)	4.96E+00	3.51E+01	NR	9.11E-01	4.96E+00	3.77E+01	NR	2.28E+00	4.96E+00	3.89E+01	NR	5.46E+00
Benzo(b)fluoranthene		2.96E+00	1.93E+01	2.56E+00	1.22E+00	3.89E+00	2.13E+01	3.29E+00	3.04E+00	4.43E+00	2.22E+01	3.69E+00	7.29E+00
Benzo(g,h,i)perylene		3.77E+02	1.87E+03	3.14E+02	1.54E-02	4.09E+02	1.94E+03	3.38E+02	3.85E-02	4.23E+02	1.97E+03	3.48E+02	9.23E-02
Benzo(k)fluoranthene		8.92E+01	5.41E+02	7.66E+01	6.87E-01	1.10E+02	5.76E+02	9.22E+01	1.72E+00	1.21E+02	5.91E+02	1.00E+02	4.12E+00
Chrysene		1.66E+01	1.19E+02	1.46E+01	4.40E-01	2.54E+01	1.49E+02	2.17E+01	1.10E+00	3.19E+01	1.66E+02	2.67E+01	2.64E+00
Dibenzo(a,h)anthracene		2.90E-01	1.45E+00	2.41E-01	3.93E-03	3.43E-01	1.64E+00	2.84E-01	9.82E-03	3.69E-01	1.74E+00	3.04E-01	2.36E-02
Fluoranthene		2.87E+02	3.83E+04	2.85E+02	1.89E+01	5.63E+02	8.87E+04	5.60E+02	4.73E+01	9.00E+02	1.83E+05	8.96E+02	1.13E+02
Fluorene		1.77E+02	6.20E+03	1.72E+02	3.09E+01	4.19E+02	1.53E+04	4.07E+02	7.65E+01	8.98E+02	3.62E+04	8.77E+02	1.83E+02
Hexachloroethane		2.68E-01	NR	NR	8.17E+00	6.57E-01	NR	NR	2.01E+01	1.55E+00	NR	NR	4.81E+01
Indeno(1,2,3-cd)pyrene		3.09E+01	2.12E+02	2.70E+01	6.13E-02	4.22E+01	2.38E+02	3.59E+01	1.53E-01	4.92E+01	2.50E+02	4.11E+01	3.68E-01
Naphthalene		2.78E+01	2.33E+01	1.27E+01	7.64E+01	6.66E+01	5.58E+01	3.04E+01	1.83E+02	1.53E+02	1.31E+02	7.06E+01	4.32E+02
Phenanthrene		9.85E+01	7.17E+03	9.72E+01	3.60E+01	2.24E+02	1.76E+04	2.22E+02	8.96E+01	4.48E+02	4.07E+04	4.43E+02	2.14E+02
Pyrene		6.25E+02	8.79E+04	6.20E+02	2.20E+00	1.25E+03	2.04E+05	1.24E+03	5.49E+00	2.05E+03	4.23E+05	2.04E+03	1.32E+01
Phenol		1.60E+02	4.58E+02	1.20E+02	2.42E+04	2.96E+02	6.95E+02	2.09E+02	3.81E+04	5.86E+02	1.19E+03	3.93E+02	7.03E+04
Total Petroleum Hydrocarbons													
Aliphatic hydrocarbons EC_5-EC_6		4.99E+03	4.24E+01	4.23E+01	3.04E+02	1.13E+04	7.79E+01	7.78E+01	5.58E+02	2.50E+04	1.61E+02	1.60E+02	1.15E+03
Aliphatic hydrocarbons >EC_6-EC_8		1.49E+04	1.04E+02	1.03E+02	1.44E+02	3.43E+04	2.31E+02	2.31E+02	3.22E+02	7.11E+04	5.29E+02	5.28E+02	7.36E+02
Aliphatic hydrocarbons >EC_8-EC_{10}		1.61E+03	2.68E+01	2.67E+01	7.77E+01	2.91E+03	6.55E+01	6.51E+01	1.90E+02	4.26E+03	1.56E+02	1.54E+02	4.51E+02
Aliphatic hydrocarbons >EC_{10}-EC_{12}		4.57E+03	1.33E+02	1.32E+02	4.75E+01	5.51E+03	3.31E+02	3.26E+02	1.18E+02	5.98E+03	7.93E+02	7.65E+02	2.83E+02
Aliphatic hydrocarbons >EC_{12}-EC_{16}		6.27E+03	1.11E+03	1.06E+03	2.37E+01	6.34E+03	2.78E+03	2.41E+03	5.91E+01	6.36E+03	6.67E+03	4.34E+03	1.42E+02
Aliphatic hydrocarbons >EC_{16}-EC_{35}	(b)	6.46E+04	NR	NR	8.48E+00	9.17E+04	NR	NR	2.12E+01	1.10E+05	NR	NR	5.09E+01
Aliphatic hydrocarbons >EC_{35}-EC_{44}	(b)	6.46E+04	NR	NR	8.48E+00	9.17E+04	NR	NR	2.12E+01	1.10E+05	NR	NR	5.09E+01
Aromatic hydrocarbons >EC8-EC_{10}		5.76E+01	4.74E+01	3.45E+01	6.13E+02	1.38E+02	1.16E+02	8.38E+01	1.50E+03	3.07E+02	2.77E+02	1.94E+02	3.58E+02
Aromatic hydrocarbons >EC_{10}-EC_{12}		8.29E+01	2.58E+02	7.52E+01	3.64E+02	1.96E+02	6.39E+02	1.79E+02	8.99E+02	4.25E+02	1.52E+03	3.91E+02	2.15E+03
Aromatic hydrocarbons >EC_{12}-EC_{16}		1.47E+02	2.85E+03	1.45E+02	1.69E+02	3.36E+02	7.07E+03	3.32E+02	4.19E+02	6.81E+02	1.68E+04	6.74E+02	1.00E+03
Aromatic hydrocarbons >EC_{16}-EC_{21}	(b)	2.63E+02	NR	NR	5.37E+01	5.45E+02	NR	NR	1.34E+02	9.34E+02	NR	NR	3.21E+02
Aromatic hydrocarbons >EC_{21}-EC_{35}	(b)	1.09E+03	NR	NR	4.83E+00	1.47E+03	NR	NR	1.21E+01	1.70E+03	NR	NR	2.90E+01
Aromatic hydrocarbons >EC_{35}-EC_{44}	(b)	1.09E+03	NR	NR	4.83E+00	1.47E+03	NR	NR	1.21E+01	1.70E+03	NR	NR	2.90E+01

Notes:

EC - equivalent carbon. SAC - soil assessment criteria.

The CLEA model output is colour coded depending upon whether the soil saturation limit has been exceeded.

Calculated SAC exceeds soil saturation limit and may significantly affect the interpretation of any exceedances as the contribution of the indoor and outdoor vapour pathway to total exposure is >10%.

Calculated SAC exceeds soil saturation limit but the exceedance will not affect the SAC significantly as the contribution of the indoor and outdoor vapour pathway to total exposure is <10%.

Calculated SAC does not exceed the soil saturation limit.

The SAC for organic compounds are dependant upon soil organic matter (SOM) (%) content. To obtain SOM from total organic carbon (TOC) (%) divide by 0.58. 1% SOM is 0.58% TOC. DL Rowell Soil Science: Methods and Applications, Longmans, 1994.

SAC for TPH fractions, PAHs napthalene, acenaphthene and acenaphthylene, BTEX and trimethylbenzene compounds were produced using an attenuation factor for the indoor air inhalation pathway of 10 to reduce conservatism associated with the vapour inhalation pathway (Section 10.1.1, SR3)

(a) SAC for arsenic, benzene, benzo(a)pyrene, cadmium, chromium VI and lead are derived using the C4SL toxicology data.

(b) SAC for boron and selenium should not include the inhalation pathway as no expert group HCV has been derived; aliphatic and aromatic hydrocarbons >EC16 should not include inhalation pathway due to their non-volatile nature and inhalation exposure being minimal (oral, dermal and inhalation exposure is compared to the oral HCV); arsenic should only be based on oral contribution (rather than combined) owing to the relative small contribution from inhalation in accordance with the SGV report. The Oral SAC should be adopted for zinc and benzo(a)pyrene.

(c) SAC for CrIII should be based on the lower of the oral and inhalation SAC (see LQM/CIEH 2015 Section 6.8)

(d) SAC for elemental mercury, chromium VI and nickel should be based on the inhalation pathway only.

(e) SAC for 1,3,5-trimethylbenzene is not recorded owing to the lack of toxicological data, SAC for 1,2,4 trimethylbenzene may be used.

Table 5
Human Health Generic Assessment Criteria for Residential with home-grown produce

Compound	SAC for Soil SOM 1% (mg/kg)	SAC for Soil SOM 2.5% (mg/kg)	SAC for Soil SOM 6% (mg/kg)
Metals			
Arsenic	37	37	37
Barium	1,300	1,300	1,300
Beryllium	1.7	1.7	1.7
Boron	300	300	300
Cadmium	22	22	22
Chromium (III) - trivalent	910	910	910
Chromium (VI) - hexavalent	21	21	21
Copper	2,500	2,500	2,500
Lead	200	200	200
Elemental Mercury (Hg^0)	0.2	0.6	1.2
Inorganic Mercury (Hg^{2+})	39	39	39
Methyl Mercury (Hg^{4+})	10	10	10
Nickel	130	130	130
Selenium	258	258	258
Vanadium	410	410	410
Zinc	3,900	3,900	3,900
Cyanide (free)	1.4	1.4	1.4
Volatile Organic Compounds			
Benzene	0.20	0.41	0.87
Toluene	130	300	680
Ethylbenzene	50	110	260
Xylene - m	59	140	327
Xylene - o	61	143	332
Xylene - p	57	133	310
Total xylene	57	133	310
Methyl tertiary-Butyl ether (MTBE)	60	110	210
1,1,1,2 Tetrachloroethane	1.20	2.78	6.46
1,1,2,2-Tetrachloroethane	1.6	3.5	7.7
1,1,1-Trichloroethane	9	18	39
1,1,2 Trichloroethane	0.8	1.6	3.5
1,1-Dichloroethene	0.32	0.57	1.16
1,2-Dichloroethane	0.007	0.011	0.019
1,2,4-Trimethylbenzene	1.8	4.3	9.7
1,3,5-Trimethylbenzene	NR	NR	NR
1,2-Dichloropropane	0.034	0.060	0.120
Carbon Tetrachloride (tetrachloromethane)	0.026	0.056	0.127
Chloroethane	11.7	15.9	25.7
Chloromethane	0.012	0.014	0.019
Cis 1,2 Dichloroethene	0.16	0.27	0.52
Dichloromethane	0.62	1.08	1.92
Tetrachloroethene (PCE)	0.31	0.70	1.60
Trans 1,2 Dichloroethene	0.28	0.50	1.02
Trichloroethene (TCE)	0.009	0.020	0.043
Vinyl Chloride (chloroethene)	0.006	0.010	0.017
Semi-Volatile Organic Compounds			
2-Chloronaphthalene	5	13	31
Acenaphthene	230	540	1,170
Acenaphthylene	180	440	970
Anthracene	2,400	5,500	10,900
Benzo(a)anthracene	7	11	13
Benzo(a)pyrene	5	5	5
Benzo(b)fluoranthene	2.6	3.3	3.7
Benzo(g,h,i)perylene	310	340	350
Benzo(k)fluoranthene	77	92	100
Chrysene	15	22	27
Dibenzo(a,h)anthracene	0.24	0.28	0.30
Fluoranthene	290	560	900
Fluorene	170	410	880
Hexachloroethane	0.27	0.66	1.55
Indeno(1,2,3-cd)pyrene	13	30	71
Naphthalene	13	30	71
Phenanthrene	100	220	440
Pyrene	620	1,240	2,040
Phenol	120	210	390
Total Petroleum Hydrocarbons			
Aliphatic hydrocarbons EC_5-EC_6	42	78	160
Aliphatic hydrocarbons >EC_6-EC_8	100	230	530
Aliphatic hydrocarbons >EC_8-EC_{10}	27	65	154
Aliphatic hydrocarbons >EC_{10}-EC_{12}	130 (48)	330 (118)	760 (283)
Aliphatic hydrocarbons >EC_{12}-EC_{16}	1,100 (24)	2,400 (59)	4,300 (142)
Aliphatic hydrocarbons >EC_{16}-EC_{35}	65,000 (8)	92,000 (21)	110,000
Aliphatic hydrocarbons >EC_{35}-EC_{44}	65,000 (8)	92,000 (21)	110,000
Aromatic hydrocarbons >EC_8-EC_{10}	30	80	190
Aromatic hydrocarbons >EC_{10}-EC_{12}	80	180	390
Aromatic hydrocarbons >EC_{12}-EC_{16}	140	330	670
Aromatic hydrocarbons >EC_{16}-EC_{21}	260	540	930
Aromatic hydrocarbons >EC_{21}-EC_{35}	1,100	1,500	1,700
Aromatic hydrocarbons >EC_{35}-EC_{44}	1,100	1,500	1,700
Minerals			
Asbestos	Stage 1 test – No asbestos detected with ID; Stage 2 test - <0.001% dry weight (exceedance of either equates to an exceedance of the GAC)[1]		

Notes:

'-' Generic assessment criteria not calculated owing to low volatility of substance and therefore no pathway, or an absence of toxicological data.

NR - SAC for 1,3,5-trimethylbenzene is not recorded owing to the lack of toxicological data, SAC for 1,2,4 trimethylbenzene may be used

EC - equivalent carbon. SAC - soil assessment criteria.

[1] LOD for weight of asbestos per unit weight of soil calculated on a dry weight basis using PLM, handpicking and gravimetry.

The SAC for organic compounds are dependent on Soil Organic Matter (SOM) (%) content. To obtain SOM from total organic carbon (TOC) (%) divide by 0.58. 1% SOM is 0.58% TOC. DL Rowell Soil Science: Methods and Applications, Longmans, 1994.

SAC for TPH fractions, PAHs napthalene, acenaphthene and acenaphthylene, BTEX and trimethylbenzene compounds were produced using an attenuation factor for the indoor air inhalation pathway of 10 to reduce conservatism associated with the vapour inhalation pathway, section 10.1.1, SR3.

(VALUE IN BRACKETS)

RSK has adopted an approach for petroleum hydrocarbons in accordance with LQM/CIEH whereby the concentration modelled for each petroleum hydrocarbon fraction has been tabulated as the SAC with the corresponding solubility or vapour saturation limits given in brackets.

APPENDIX L
GENERIC ASSESSMENT CRITERIA FOR PHYTOTOXIC EFFECTS

Several compounds can inhibit plant growth; hence it is important to have generic assessment criteria (GAC) to promote healthy plant growth. In the absence of other published GAC, the GAC have been obtained from legislation (UK and European) and guidance related to the use of sewage sludge on agricultural fields.

The Council of European Communities Sewage Sludge Directive (86/278/EEC) dated 1986, has been transposed into UK law by Statutory Instrument No. 1263, The Sludge (use in Agriculture) Regulations 1989 (Public Health England, Wales and Scotland), as ammended in 1990 and The Sludge (use in Agriculture) Regulations (Northern Ireland) SR No, 245, 1990. In addition the Department of Environment (DoE) produced a Code of Practice (CoP) (Updated 2nd Edition) in 2006 which provided guidance on the application of sewage sludge on agricultural land (however the status of this document is unclear as it is on the archive section of the Defra website).

The directive seeks to encourage the use of sewage sludge in agriculture and to regulate its use in such a way as to "***prevent harmful effects on soil, vegetation, animals and man".*** To this end, it prohibits the use of untreated sludge on agricultural land unless it is injected or incorporated into the soil. Treated sludge is defined as having undergone "biological, chemical or heat treatment, long-term storage or any other appropriate process so as significantly to reduce its fermentability and the health hazards resulting from its use". To provide protection against potential health risks from residual pathogens, sludge must not be applied to soil in which fruit and vegetable crops are growing, or less than ten months before fruit and vegetable crops are to be harvested. Grazing animals must not be allowed access to grassland or forage land less than three weeks after the application of sludge.

The specified limits of concentrations of selected elements in soil are presented in Table 4 of the updated 2nd Edition of the DoE Code of Practice and are designed to protect plant growth. It is noted that these values are more stringent than the values set in current UK regulations. However since they were ammended following recommendations from the Independent Scientific Committee in 1993. (MAFF/DOE 1993). The GAC are presented in Table 1.

Table 1: Generic assessment criteria

Determinant	Generic assessment criteria (mg/kg)			
	pH 5.0 < 5.5	pH 5.5 < 6.0	pH 6.0 < 7.0	pH >7.0
Zinc	200	200	200	300
Copper	80	100	135	200
Nickel	50	60	75	110
Lead	300	300	300	300
Cadmium	3	3	3	3
Mercury	1	1	1	1
Note: Only compounds with assessment criteria documented within the Directive 86/278/EEC have been included, although criteria for 5 additional compounds have been presented within the 2006 CoP.				

APPENDIX M
GENERIC ASSESSMENT CRITERIA POTABLE WATER SUPPLY PIPES

A range of pipe materials is available and careful selection, design and installation is required to ensure that water supply pipes are satisfactorily installed and meet the requirements of the Water Supply (Water Fittings) Regulations 1999 in England and Wales, the Byelaws 2000 in Scotland and the Northern Ireland Water Regulations. The regulations include a requirement to use only suitable materials when laying water pipes and laying water pipes without protection is not permitted at contaminated sites. The water supply company has a statutory duty to enforce the regulations.

Contaminants in the ground can pose a risk to human health by permeating potable water supply pipes. To fulfil their statutory obligation, UK water supply companies require robust evidence from developers to demonstrate either that the ground in which new plastic supply pipes will be laid is free from specific contaminants, or that the proposed remedial strategy will mitigate any existing risk. If these requirements cannot be demonstrated to the satisfaction of the relevant water company, it becomes necessary to specify an alternative pipe material on the whole development or in specific zones.

In 2010, UK Water Industry Research (UKWIR) published *Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites* (Report Ref. No. 10/WM/03/21). This report reviewed previously published industry guidelines and threshold concentrations adopted by individual water supply companies.

The focus of the UKWIR research project was to develop clear and concise procedures, which provide consistency in the pipe selection decision process. It was intended to provide guidance that can be used to ensure compliance with current regulations and to prevent water supply pipe failing prematurely due to the presence of contamination.

The report concluded that in most circumstances only organic contaminants pose a potential risk to plastic pipe materials and Table 3.1 of the report provides threshold concentrations for polyethylene (PE) and polyvinyl chloride (PVC) pipes for the organic contaminants of concern. The report also makes recommendations for the procedures to be adopted in the design of site investigations and sampling strategies, and the assessment of data, to ensure that the ground through which water supply pipes will be laid is adequately characterised.

Risks to water supply pipes have therefore been assessed against the threshold concentrations for PE and PVC pipe specified in Table 3.1 of Report 10/WM/03/21, which have been adopted as the GAC for this linkage and are reproduced in Table A3 below.

Since water supply pipes are typically laid at a minimum depth of 0.75 m below finished ground levels, sample results from depths between 0.5 m and 1.5 m below finished level are generally considered suitable for assessing risks to water supply. Samples outside these depths can be used, providing the stratum is the same as that in which water supply pipes are likely to be located. The report specifies that sampling should characterise the ground conditions to a minimum of 0.5 m below the proposed depth of the pipe.

It should be noted that the assessment provided in this report is a guide and the method of assessment and recommendations should be checked with the relevant water supply company.

Table Q1: Generic assessment criteria for water supply pipes

		Pipe material	
		GAC (mg/kg)	
	Parameter group	**PE**	**PVC**
1	Extended VOC suite by purge and trap or head space and GC-MS with TIC (Not including compounds within group 1a)	0.5	0.125
1a	• BTEX + MTBE	0.1	0.03
2	SVOCs TIC by purge and trap or head space and GC-MS with TIC (aliphatic and aromatic C_5–C_{10}) (Not including compounds within group 2e and 2f)	2	1.4
2e	• Phenols	2	0.4
2f	• Cresols and chlorinated phenols	2	0.04
3	Mineral oil C_{11}–C_{20}	10	Suitable
4	Mineral oil C_{21}–C_{40}	500	Suitable
5	Corrosive (conductivity, redox and pH)	Suitable	Suitable
Specific suite identified as relevant following site investigation			
2a	Ethers	0.5	1
2b	Nitrobenzene	0.5	0.4
2c	Ketones	0.5	0.02
2d	Aldehydes	0.5	0.02
6	Amines	Not suitable	Suitable
Notes: where indicated as 'suitable', the material is considered resistant to permeation or degradation and no threshold concentration has been specified by UKWIR.			

APPENDIX N
WM3 ASSESSMENT

Please enter available data in the rows associated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
If any calculation cells below state "0.00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

53268 Church Lane, Ashington

		TP1	TP2	TP3	TP4	TP6	TP8	TP10	TP11	TP13
Ref. 1		0.0 - 0.30	0.0 - 0.30	0.0 - 0.20	0.0 - 0.30	0.0 - 0.26	0.0 - 0.20	0.0 - 0.10	0.0 - 0.10	0.0 - 0.10
Ref. 2		17-Apr-82	577923	577924	577925	577926	577927	577928	577929	577930
Date										
% Moisture	%									
pH (soil)				6.60		6.90			7.20	
pH (leachate)			7.70	6.60	6.3	6.90	6.3	5.9	7.2	6.4
Arsenic	mg/kg		9	6	9	8	7	12	8	8
Cadmium	mg/kg		0.4	0.2	0.2	0.2	7	12	8	8
Copper	mg/kg		46	11	15	10	10	15	10	11
CrVI or Chromium	mg/kg		18	9	18	12	21	22	17	22
Lead	mg/kg		360	46	30	19	24	34	17	22
Mercury	mg/kg		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Nickel	mg/kg		12	6	8	5	6	9	6	7
Selenium	mg/kg		3	3	3	3	3	3	3	3
Zinc	mg/kg		178	31	43	34	31	39	32	33
Barium	mg/kg									
Beryllium	mg/kg									
Vanadium	mg/kg									
Cobalt	mg/kg									
Manganese	mg/kg									
Molybdenum	mg/kg									
Antimony	mg/kg									
Aluminium	mg/kg									
Bismuth	mg/kg									
CrIII	mg/kg									
Iron	mg/kg									
Strontium	mg/kg									
Tellurium	mg/kg									
Thallium	mg/kg									
Titanium	mg/kg									
Tungsten	mg/kg									
Ammoniacal N	mg/kg									
ws Boron	mg/kg									
PAH (Input Total PAH **OR** individual PAH results)										
Acenaphthene	mg/kg		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Acenaphthylene	mg/kg		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Anthracene	mg/kg		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Benzo(a)anthracene	mg/kg		0.34	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Benzo(a)pyrene	mg/kg		0.43	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Benzo(b)fluoranthene	mg/kg		0.59	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Benzo(ghi)perylene	mg/kg		0.34	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Benzo(k)fluoranthene	mg/kg		0.20	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Chrysene	mg/kg		0.34	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Dibenzo(ah)anthracene	mg/kg		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Fluoranthene	mg/kg		0.68	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Fluorene	mg/kg		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Indeno(123cd)pyrene	mg/kg		0.33	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Naphthalene	mg/kg		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Phenanthrene	mg/kg		0.23	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Pyrene	mg/kg		0.62	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Coronene	mg/kg									
Total PAHs (16 or 17)	mg/kg									
TPH										
Petrol	mg/kg									
Diesel	mg/kg									
Lube Oil	mg/kg									
Crude Oil	mg/kg									
White Spirit / Kerosene	mg/kg									
Creosote	mg/kg									
Unknown TPH with ID	mg/kg									
Unknown TPHCWG	mg/kg	145		6.0		6.0	6.0		6.0	6.0
Total Sulphide	mg/kg									
Complex Cyanide	mg/kg									
Free (or Total) Cyanide	mg/kg									
Thiocyanate	mg/kg									
Elemental/Free Sulphur	mg/kg									
Phenols Input Total Phenols HPLC **OR** individual Phenol results.										
Phenol	mg/kg									
Cresols	mg/kg									
Xylenols	mg/kg									
Resourcinol	mg/kg									
Phenols Total by HPLC	mg/kg									
BTEX Input Total BTEX **OR** individual BTEX results.										
Benzene	mg/kg									
Toluene	mg/kg									
Ethylbenzene	mg/kg									
Xylenes	mg/kg									
Total BTEX	mg/kg									
PCBs (POPs)										
PCBs Total (eg EC7/WHO12)	mg/kg									
PBBs (POPs)										
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg									

Please enter available data in the rows associated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
If any calculation cells below state "0.00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

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Ref. 1	TP1	TP2	TP3	TP4	TP6	TP8	TP10	TP11	TP13
Ref. 2	0.0 - 0.30	0.0 - 0.30	0.0 - 0.20	0.0 - 0.30	0.0 - 0.26	0.0 - 0.20	0.0 - 0.10	0.0 - 0.10	0.0 - 0.10
Date	17-Apr-82	577923	577924	577925	577926	577927	577928	577929	577930
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.									
2,3,7,8-TeCDD	mg/kg								
1,2,3,7,8-PeCDD	mg/kg								
1,2,3,4,7,8-HxCDD	mg/kg								
1,2,3,6,7,8-HxCDD	mg/kg								
1,2,3,7,8,9-HxCDD	mg/kg								
1,2,3,4,6,7,8-HpCDD	mg/kg								
OCDD	mg/kg								
2,3,7,8-TeCDF	mg/kg								
1,2,3,7,8-PeCDF	mg/kg								
2,3,4,7,8-PeCDF	mg/kg								
1,2,3,4,7,8-HxCDF	mg/kg								
1,2,3,6,7,8-HxCDF	mg/kg								
2,3,4,6,7,8-HxCDF	mg/kg								
1,2,3,7,8,9-HxCDF	mg/kg								
1,2,3,4,6,7,8-HpCDF	mg/kg								
1,2,3,4,7,8,9-HpCDF	mg/kg								
OCDF	mg/kg								
Total Dioxins and Furans	mg/kg								
Some Pesticides (POPs unless otherwise stated)									
Aldrin	mg/kg			0.020000		0.020000			0.020000	
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)*	mg/kg			0.020000		0.020000			0.020000	
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg			0.020000		0.020000			0.020000	
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg			0.020000		0.020000			0.020000	
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg			0.020000		0.020000			0.020000	
Dieldrin	mg/kg			0.020000		0.020000			0.020000	
Endrin	mg/kg			0.020000		0.020000			0.020000	
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg			0.020000		0.020000			0.020000	
Heptachlor	mg/kg			0.020000		0.020000			0.020000	
Hexachlorobenzene	mg/kg			0.020000		0.020000			0.020000	
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg			0.020000		0.020000			0.020000	
p,p'-DDT ***OR*** *Total DDT*	mg/kg			0.020000		0.020000			0.020000	
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg			0.020000		0.020000			0.020000	
Chlordecone (kepone)	mg/kg								
Pentachlorobenzene	mg/kg								
Mirex	mg/kg								
Toxaphene (camphechlor)	mg/kg								
Tin									
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg								
Organotin									
Dibutyltin; DiBT	mg/kg								
Tributyltin; TriBT	mg/kg								
Triphenyltin; TriPT	mg/kg								
Tetrabutyltin; TeBT	mg/kg								
Tin excluding Organotin									
Tin excl Organotin	mg/kg								

envirolab

Haswaste, developed by Dr. Iain Haslock.

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If any calculation cells below state "0.00000", testing has NOT been undertaken that contributes to that Hazardous Property.

53268 Church Lane, Ashington

Ref. 1	TP1	TP2	TP3	TP4	TP6	TP8	TP10	TP11	TP13
Ref. 2	0.0 - 0.30	0.0 - 0.30	0.0 - 0.20	0.0 - 0.30	0.0 - 0.26	0.0 - 0.20	0.0 - 0.10	0.0 - 0.10	0.0 - 0.10
Date	17-Apr-82	577923	577924	577925	577926	577927	577928	577929	577930
Asbestos in Soil	Thresholds								
Asbestos detected in Soil (enter Y or N)	Y	N	N	N	N	N	N	N	N	N

If Asbestos in Soil above is "**Y**", the soil is Hazardous Waste HP5 and HP7

Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below	%							
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*	≥0.1%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

If Asbestos in Soil above is "**Y**", but Asbestos % above is "<0.1%", the soil is Non Hazardous Waste. You can only use Asbestos % results where loose fibres or micro pieces are only present. You cannot use Asbestos % results when visual identifiable pieces are present.

Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y	N	N	N	N	N	N	N	N	N

If visual identifiable pieces of asbestos are present, <u>you cannot use Asbestos % results</u> and the whole soil sample is Hazardous Waste HP5 and HP7 Construction material containing Asbestos 17 06 05.
Therefore, if Asbestos in Soil above is "**Y**", the Asbestos % above is "<0.1%", but the Asbestos Identifiable Pieces visible with the naked eye is "Y", the soil is Hazardous Waste.

Identifiable Pieces are Cement, Fragments, Board, Rope etc. ie anything ACM that is not Loose Fibres.

All visual asbestos pieces need to be removed leaving only fibres (or micro pieces) with an Asbestos % Composition in Soil result of <0.1% for the soil to become non-hazardous waste.

Hazardous Property	Thresholds	Cut Off Value	**If cells below turn yellow and the text turns red, the samples should be classified as Hazardous Waste.**								
Corrosive HP8	≥5%	<1%	0.00000	0.00464	0.00252	0.00464	0.00336	0.00496	0.00581	0.00432	0.00528
Irritant HP4	≥10%	<1%	0.00000	0.00639	0.00204	0.00288	0.00219	0.00205	0.00328	0.00219	0.00230
Irritant HP4	≥20%	<1%	0.00000	0.00774	0.00251	0.00336	0.00219	0.00239	0.00356	0.00239	0.00271
Specifc Target Organ Toxicity HP5	≥1%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Specifc Target Organ Toxicity HP5	≥20%		0.00000	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001
Specifc Target Organ Toxicity HP5	≥1%		0.00000	0.00346	0.00173	0.00346	0.00230	0.00403	0.00422	0.00326	0.00422
Specifc Target Organ Toxicity HP5	≥10%		0.00000	0.03600	0.00060	0.00042	0.00190	0.00060	0.00042	0.00060	0.00060
Aspiration Toxicity HP5	≥10%		0.01450	0.00000	0.00060	0.00000	0.00060	0.00060	0.00000	0.00060	0.00060
Acute Toxicity HP6	≥0.1%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.25%	<0.1%	0.00000	0.00129	0.00090	0.00129	0.00116	0.00102	0.00168	0.00116	0.00116
Acute Toxicity HP6	≥5%	<0.1%	0.00000	0.00388	0.00217	0.00388	0.00275	0.00446	0.00465	0.00371	0.00465
Acute Toxicity HP6	≥25%	<1%	0.00000	0.04377	0.00712	0.00637	0.00411	0.00548	0.00815	0.00489	0.00570
Acute Toxicity HP6	≥0.25%	<0.1%	0.00000	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010
Acute Toxicity HP6	≥2.5%	<0.1%	0.00000	0.00346	0.00173	0.00346	0.00231	0.00403	0.00422	0.00327	0.00422
Acute Toxicity HP6	≥15%	<0.1%	0.00000	0.00000	0.00001	0.00000	0.00001	0.00000	0.00000	0.00001	0.00000
Acute Toxicity HP6	≥55%	<1%	0.00000	0.00004	0.00003	0.00002	0.00003	0.00070	0.00120	0.00081	0.00080
Acute Toxicity HP6	≥0.1%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.5%	<0.1%	0.00000	0.00360	0.00185	0.00358	0.00242	0.00483	0.00552	0.00416	0.00512
Acute Toxicity HP6	≥3.5%	<0.1%	0.00000	0.00042	0.00042	0.00042	0.00042	0.00042	0.00042	0.00042	0.00042
Acute Toxicity HP6	≥22.5%	<1%	0.00000	0.04362	0.00706	0.00631	0.00404	0.00474	0.00691	0.00404	0.00486
Carcinogenic HP7	≥0.1%		0.00000	0.03600	0.00173	0.00346	0.00230	0.00403	0.00422	0.00326	0.00422
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.00000	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥11.5		0.00	7.70	6.60	0.00	6.90	0.00	0.00	7.20	0.00
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		0.00	7.70	6.60	0.00	6.90	0.00	0.00	7.20	0.00
Toxic for Reproduction HP10	≥0.3%		0.00000	0.03600	0.00121	0.00162	0.00190	0.00121	0.00182	0.00121	0.00141
Toxic for Reproduction HP10	≥3%		0.00000	0.00346	0.00173	0.00346	0.00230	0.00403	0.00422	0.00326	0.00422
Mutagenic HP11	≥0.1%		0.00000	0.00346	0.00173	0.00346	0.00230	0.00403	0.00422	0.00326	0.00422
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%		0.00000	0.00242	0.00121	0.00162	0.00101	0.00121	0.00182	0.00121	0.00141
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%		0.00000	0.00346	0.00173	0.00346	0.00230	0.00403	0.00422	0.00326	0.00422

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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If any calculation cells below state "0.00000", testing has NOT been undertaken that contributes to that Hazardous Property.

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53268 Church Lane, Ashington

Ref. 1			TP1	TP2	TP3	TP4	TP6	TP8	TP10	TP11	TP13
Ref. 2			0.0 - 0.30	0.0 - 0.30	0.0 - 0.20	0.0 - 0.30	0.0 - 0.26	0.0 - 0.20	0.0 - 0.10	0.0 - 0.10	0.0 - 0.10
Date			17-Apr-82	577923	577924	577925	577926	577927	577928	577929	577930
Ecotoxic HP14 amended v6	≥25%	<0.1%	0.00000	0.07151	0.01416	0.01701	0.01236	0.01494	0.01946	0.01386	0.01573
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.01450	0.07151	0.01476	0.01701	0.01296	0.01554	0.01946	0.01446	0.01633
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.14500	7.15060	1.42230	1.70130	1.24230	1.49960	1.94590	1.39150	1.57850
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000200	0.00000000	0.00000200	0.00000000	0.00000000	0.00000200	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000
Persistent Organic Pollutant (Individual Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000