

**GEO-ENVIRONMENTAL REPORT
WELLERS CLOSE
FELPHAM
BOGNOR REGIS
WEST SUSSEX
PO22 8FW****REPORT PREPARED FOR:****WORTHING HOMES
DAVISON HOUSE
NORTH STREET
WORTHING
BN11 1ER****Date of Issue: February 2018**

Document verification schedule			
Client	Worthing Homes		Document type
Job title	Wellers Close, Felpham, Bognor Regis		Uncontrolled version
Document title	Geo-Environmental Report		
Document ref	20790R1		
Issue No	A	Date Of Issue	February 2018
Comments	Issued to client		
	Prepared by	Checked by	Approved by
Name	Michael Emery	David Hastings	Simon Ware
Position	Consultant	Senior Consultant	Managing Director
Date	February 2018	February 2018	February 2018

TABLE OF CONTENTS

	Page
1.0 EXECUTIVE SUMMARY	1
2.0 INTRODUCTION	2
2.1 RELEVANT GUIDANCE	2
2.2 PROPOSED DEVELOPMENT	3
2.3 AIMS AND OBJECTIVES	3
2.3.1 Aims	3
2.3.2 Objectives	3
2.4 WORK AND PROGRAMME	3
3.0 SUMMARY OF PREVIOUS REPORTS	5
4.0 PHASE 1 DESK STUDY AND SITE WALKOVER	6
4.1 SOURCES OF INFORMATION	6
4.2 SITE LOCATION	6
4.3 SITE DESCRIPTION AND WALKOVER OBSERVATIONS	6
4.4 GEOLOGY, HYDROGEOLOGY AND HYDROLOGY	6
4.5 GEOLOGICAL HAZARD	7
4.6 LAND USES ADJACENT TO SITE	7
4.6.1 Industrial Land Use	7
4.6.2 Potentially Infilled Land	7
4.6.3 Electrical Substations and Tanks	7
4.6.4 Part A(2) and Part B Activities and Enforcements	7
4.6.5 Records of Category 3 or 4 Radioactive Substances Authorisations	7
4.6.6 Fuel Station Entries	8
4.6.7 Historical/Current Landfill/Waste Sites	8
4.6.8 Local Authority Landfill Sites	8
4.6.9 BGS Recorded Mineral Sites	8
4.6.10 Pollution Incidents	8
4.6.11 Historical Industrial Land Use	8
4.6.12 Historical Tanks	8
4.6.13 Licensed Discharge Consents	9
4.7 HISTORICAL LAND USE ON SITE AND IN SURROUNDING AREA	9
4.8 SENSITIVE LAND USE	9
4.9 POTENTIAL AREAS OF CONCERN	10

5.0	PRELIMINARY RISK ASSESSMENT	11
5.1	IDENTIFICATION OF CRITICAL RECEPTORS	11
5.2	IDENTIFICATION OF POTENTIAL CONTAMINANT SOURCES	11
5.3	POTENTIAL MIGRATION PATHWAYS	11
5.3.1	Human Health Pathways	11
5.3.2	Potentially Active Pollutant Linkages	13
6.0	INVESTIGATION WORKS	14
6.1	FIELD METHODS USED	14
6.2	RATIONALE ADOPTED FOR EXPLORATORY LOCATIONS	14
6.3	CONSTRAINTS ON INTRUSIVE LOCATIONS	14
6.4	FIELD RESULTS	15
6.4.1	Geology	15
6.4.2	Standard Penetration Test (SPT) Results	15
6.4.3	Dynamic Probing Results	16
6.4.4	Groundwater Encountered During the Intrusive Investigation	16
6.4.5	Contamination Observations	16
6.4.6	Groundwater Monitoring Results	16
6.4.7	Ground Gas Monitoring Results	17
6.4.8	Permeability Results	17
7.0	GROUND GAS ASSESSMENT	18
7.1	PUBLISHED GUIDANCE	18
7.2	COMPARISON WITH SITE DATA	18
7.3	ADDITIONAL ACTIONS	19
8.0	CONTAMINATION ASSESSMENT	20
8.1	SOIL ANALYTICAL TEST RESULTS	20
8.2	WASTE CLASSIFICATION	21
8.3	CONCLUSION ON CONTAMINATION	22
9.0	GEOTECHNICAL ASSESSMENT	23
9.1	GEOTECHNICAL FIELD TESTING	23
9.2	GEOTECHNICAL LABORATORY TESTING	23
9.3	CONCRETE DESIGN PARAMETERS	24
9.4	EXCAVATIONS, GROUNDWATER CONTROL AND SERVICES	24
9.5	CBR FOR ROAD/PAVING DESIGN	24
9.6	PRELIMINARY FLOOR DESIGN	25
9.7	SOAKAGE POTENTIAL	25
9.8	PRELIMINARY FOUNDATION DESIGN	25

10.0 RECOMMENDATIONS

27

TABLES

Table 1 – Programme of Works	4
Table 2 – Natural Hazard Findings	7
Table 3 – Summary of Pollution Incidents	8
Table 4 – Summary of Historical Land Use	9
Table 5 – Identification of Potential Sources of Contamination within 250m	11
Table 6 – Identification of Potentially Active Human Health Exposure Pathways	12
Table 7 – Identification of Potentially Active Controlled Water Pathways	12
Table 8 – Identification of Potentially Active Controlled Ground Gas Pathways	12
Table 9 – Qualitative Risk Classification Scheme	13
Table 10 – Summary of Potential Source-Pathway-Target Assessment	13
Table 11 – Rationale for Exploratory Hole Locations	14
Table 12 – Summary of Geology Proved Onsite	15
Table 13 – Summary of SPT N Value Results	15
Table 14 – Summary of Dynamic Probe Results	16
Table 15 – Groundwater Field Monitoring Results	17
Table 16 – Ground Gas Field Monitoring Results	17
Table 17 – Permeability Field Results	17
Table 18 – Summary of CIRIA 2007 Guidance	18
Table 19 – Summary of Gas Screening Values	18
Table 20 – Comparison of Soil Laboratory Results with Adopted Residential GACs (mg/kg)	20
Table 21 – Waste Acceptance Criteria Results	21
Table 22 – Summary of Revised Source-Pathway-Receptor Assessment	22
Table 23 – Typical N-values from Dynamic Probe Testing	23
Table 24 – Summary of Geotechnical Properties	23
Table 25 – Summary of BRE Concrete in Aggressive Ground Parameters	24
Table 26 – Summary of CBR Values in the Upper 1m	24
Table 27 - Summary of Laboratory CBR Values (%) within upper 1m	25

FIGURES

Figure 1 – Site Location Plan

Figure 2 – Proposed Development Plan

Figure 3 – Intrusive Location Plan

Figure 4 – Identification of Soft Material in Shallow Soils

APPENDIX A

Limitations and Exceptions

APPENDIX B

Site Photos

APPENDIX C

Environmental Database Information

APPENDIX D

Borehole Logs

Dynamic Probe Logs

APPENDIX E

Permeability Sheets

Ground Gas Sheets

APPENDIX F

Laboratory Analysis

WAC Testing Results

Waste Checker Sheet

APPENDIX G

Geotechnical Lab Results

CBR Variation Graphs

SPT Variation Graphs

1.0 EXECUTIVE SUMMARY

Site Address	Wellers Close, Felpham, Bognor Regis, West Sussex, PO22 8FW
Site Location	The site is located in Felpham, West Sussex within an area of predominantly residential land use.
Site Description	The existing site currently consists of open, vegetated land. Access is gained via Stanhorn Grove on the northern boundary of site. The site measures approximately 0.3ha with maximum dimensions of ~65m east to west by ~75m north to south. Topography on site is relatively flat. The site is surrounded by mature trees of various species.
Surrounding Area	A summary of the site surroundings are as follows: - Northern Boundary – Residential properties - Eastern Boundary – Residential properties - Southern Boundary – Open land and residential properties - Western Boundary – Bognor Regis Golf Club
Proposed Development	It is understood that the proposed development is to consist of the construction of 21no. 1, 2 and 3 bedroom dwellings with associated hard standing parking, access and landscaping.
Geology, Hydrogeology and Hydrology	- Bedrock geology: Spetisbury Chalk Member designated a Principal Aquifer. Superficial deposits: River Terrace Deposits (Undifferentiated) designated a Secondary (A) Aquifer - The site does not lie within any Environment Agency Source Protection Zones - The site does not lie within any Environment Agency Flood Zones - Drainage ditch lies to the west of the site that drains into the Lidsey Rife situated ~500m to the west.
Intrusive Field Results	- Topsoil: 0.00m – 0.05m bgl - Silty Sandy Clay: 0.05m – 3.35m bgl - Chalk: 3.35m – 5.00m bgl
Field Observations	- No grossly contaminative material, visual or olfactory evidence of contamination was encountered during the intrusive works. - No evidence of invasive species was observed on site. - All PID readings were below 1ppm (v).
Groundwater and permeability	- Groundwater was encountered from ~1.9m bgl during the intrusive investigation - Permeability testing in BH3 returned values of 3.73×10^{-4} m/sec (good permeability)
Ground gas Observations	- Methane Gas Screening Value is characterised as Very Low (Max CH₄ = 0.0001%) - Carbon dioxide Gas Screening Value is characterised as Very Low (Max CO₂ = 0.0024%) - Very low risk from ground gas requiring no enhancement to membrane design
Contamination Appraisal	Laboratory soil testing identified no exceedances of GACs.
Waste Classification	Natural material on site is likely to be classified as inert for offsite disposal
Geotechnical Findings	Soft material between 0.60m and 3.90m bgl observed in BH1, BH2 and BH5 in the western portion of the site.
Comments on Excavations, Foundations and Drainage	- Dewatering is likely to be required during excavations greater than 1.90m bgl. - Soakages to ground are likely to be possible within the permeable chalk strata, subject to additional BRE Soakage Testing. Eastern Portion: Shallow strip foundation may be feasible for the two storey building adopting an allowable bearing capacity of 125kN/m² at ~1.2m. Western Portion: shallow foundations are not appropriate for consideration and a piled or raft solution should be allowed for within the design of the two storey buildings.
Recommendations	- BRE 365 soakage testing maybe required prior to the completion of the drainage design - Additional investigation undertaken prior to deciding on the type of foundation to be adopted

2.0 INTRODUCTION

WDE Consulting Limited (WDE) was appointed by Worthing Homes (the Client) to conduct a Geo-Environmental Report at Wellers Close, Felpham, Bognor Regis (Figure 1). This report has been carried out to determine the ground conditions prior to the redevelopment of the site for residential land use and to comply with the conditions of planning issued by the local authority.

The works described in this report are subject to the WDE Service Constraints presented in Appendix A. This report was finalised in February 2018 and should be read in the light of any subsequent changes in legislation, statutory requirements, statutory guidance, non-statutory guidance, relevant research and industry practices. This report is currently assigned only to the Client for their sole reliance.

2.1 RELEVANT GUIDANCE

WDE Consulting has duly taken account of the recommendation contained within relevant guidance documents and legislation during the preparation of this report.

British Standards has issued guidance for the Investigation of Potentially Contaminated Sites¹ and for undertaking Site Investigations² have duly been considered in the undertaking of this assessment. The methodology adopted for this report follows the Model Procedures for the Management of Land Contamination CLR-11 produced by DEFRA and the Agency³. The CLR-11 process provides a reasoned and structured mechanism to identify potential risk issues and, where necessary, provide a way forward to develop a robust risk management strategy to address potentially unacceptable risks in an appropriate manner. An update to the potential human health exposure pathways is provided in the Environment Agency Soil Science Report SR3⁴. In 2008 the Environment Agency and the National House-Building Council (NHBC), Chartered Institute of Environmental Health (CIEH) released a joint publication for the Safe Development of Housing on Land Affected by Contamination⁵.

The National Planning Policy Framework⁶ requires the following:

- The site is made suitable for its intended use, taking account of all ground conditions arising from natural and former activities, pollution arising from previous uses and proposals for mitigation including land remediation.
- After remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990.
- Adequate site investigation information, prepared by a competent person, is presented.

¹ British Standards 2011. Investigation of Potentially Contaminated Sites-Codes of Practice. BS10175:2011

² British Standards. 2015. Code of Practice for Site Investigations. BS5930

³ Environment Agency. 2004. Model Procedures for the Management of Land Contamination. Contaminated Land Report 11

⁴ Environment Agency, August 2008, Updated technical background to the CLEA model, Science Report - SC050021/SR3

⁵ Environment Agency. 2008. Guidance for the Safe Development of Housing on Land Affected by Contamination. R&D 66

⁶ Department of Communities and Local Government. March 2012

2.2 PROPOSED DEVELOPMENT

It is understood that the proposed development is to consist of the construction of 21no. 1, 2 and 3 bedroom two storey dwellings with associated hard standing parking, access and landscaping (Figure 2).

2.3 AIMS AND OBJECTIVES

2.3.1 Aims

The aims of this report are as follows:

1. To identify whether there is any contamination onsite which is likely to cause significant harm to human health, the environment or other sensitive receptors.
2. To identify the geotechnical properties of the ground to determine outline design parameters for foundations and drainage.

2.3.2 Objectives

In order to achieve the aims set out in Section 2.3.1 WDE proposes the following objectives:

1. Complete a Phase 1 desk based study of the site to ascertain information on the site geology, hydrology and surrounding land uses.
2. Complete a walkover survey to identify any areas of potential contamination.
3. Investigate the nature of material that is present onsite through field investigations.
4. Investigate the nature and extent of any contamination onsite through field investigations.
5. Investigate the geotechnical properties of the ground onsite through field investigations.
6. Compare onsite soil and water concentrations with generic UK based assessment criteria.
7. Investigate the soakage capacity of the underlying geology.

2.4 WORK AND PROGRAMME

WDE Consulting's scope of work includes the following:

- Site walkover
- Intrusive site investigation
- Groundwater and ground gas monitoring
- Borehole soakage testing
- Laboratory analyses (contamination & geotechnical)
- Geo-Environmental Report

The programme of work that was undertaken comprises the following elements presented in Table 1.

Table 1 – Programme of Works

Item	Description	Start Date	Completion Date
1	Site walkover	25/01/2018	25/01/2018
2	Intrusive investigation	25/01/2018	25/01/2018
3	Monitoring visit	26/01/2018	26/01/2018
4	Analytical laboratory analysis	30/01/2018	13/02/2018
5	Geo-Environmental Report	29/01/2018	16/02/2018

3.0 SUMMARY OF PREVIOUS REPORTS

A previous investigation was completed by GEA in 2007⁷, a summary of which is provided below.

Site History: Previous archaeological appraisal report establishes that the site has not been previously developed. Historical maps indicate that the site has remained unchanged as agricultural land since at least 1879 to the present day. Land to the south and west has become progressively more developed over time.

Ground Conditions: Over the accessible areas of the main residential development, 91 trial pits were excavated to depths between 2.70m and 3.50m bgl. The encountered geology has been summarised below;

- Topsoil
- Soft to firm brown silty sandy clay with occasional flint cobbles
- Chalk

Groundwater was encountered between depths of 1.50m and 3.00m bgl.

Contamination testing does not indicate the presence of elevated concentrations of a wide range of potential soil contaminants.

No desiccation observed during the investigation.

Recommendations:

- Moderately sized strip of pad foundations at a minimum depth of 1.00m bgl with an allowable bearing pressure of 75kN/m².
- Alternatively, consideration of ground improvement techniques such as vibro-replacement.
- Soils of low to medium plasticity indicate that increased foundation depths may be required in the vicinity of trees in accordance with NHBC guidelines.

⁷ GEA 2007. Desk Study and Ground Investigation Report. J07097 Issue No 1

4.0 PHASE 1 DESK STUDY AND SITE WALKOVER

4.1 SOURCES OF INFORMATION

The sources of information that were used during the desk study included the following items:

- Site walkover (Photos presented in Appendix B)
- Envirocheck Report (Appendix C)

4.2 SITE LOCATION

The site is located in Felpham, West Sussex at post code PO22 8FW and National Grid Reference 495333, 101051 (Figure 1). The site can be found in an area of predominantly residential land use. A summary of the site surroundings are as follows:

- Northern Boundary – Residential properties
- Eastern Boundary – Residential properties
- Southern Boundary – Open land and residential properties
- Western Boundary – Bognor Regis Golf Club

4.3 SITE DESCRIPTION AND WALKOVER OBSERVATIONS

The existing site currently consists of open, vegetated land (Photo 1). The site is accessed via Stanhorn Grove on the eastern boundary of site (Photo 2). The site measures approximately 0.3ha with maximum dimensions of ~65m east to west by ~75m north to south. Topography on site is relatively flat. The site is surrounded by mature trees of various species (Photo 3).

There were no signs of gross contamination, surface staining, odours or invasive species observed onsite.

4.4 GEOLOGY, HYDROGEOLOGY AND HYDROLOGY

Published geological information indicates that the site lies upon bedrock of the Spetisbury Chalk Member (Chalk) which has been designated a Principal Aquifer. Superficial deposits onsite are recorded as River Terrace Deposits (Undifferentiated) (Sand, Silt and Clay) which has been designated as a Secondary (A) Aquifer. The site does not lie within an Environment Agency Source Protection Zone.

The nearest identified surface water feature is an unnamed drainage ditches located on the site boundaries which presumably drain into the Lindsey Rife situated ~500m to the west. The site does not lie within any Environment Agency flood zones.

4.5 GEOLOGICAL HAZARD

The Envirocheck report has identified a number of potential natural hazards on site, summarised below in Table 2.

Table 2 – Natural Hazard Findings

Natural Hazard	Risk Rating
Shrink Swell	Low
Landslides	Very Low
Soluble Rocks	Very Low
Compressible Ground	No Hazard
Collapsible Rocks	Low
Running Sand	Low

The property lies in a lower probability radon area (less than 1% of homes are estimated to be at or above the action level). As a result, no radon protective measures are likely to be necessary in the construction of new dwellings.

4.6 LAND USES ADJACENT TO SITE

4.6.1 Industrial Land Use

There are no active potentially contaminative industrial sites within 250m of the study site. The nearest active potentially contaminative industrial site is O'Connells Cleaning, a commercial cleaning service 591m south west of the site boundary.

4.6.2 Potentially Infilled Land

There are no recorded areas of potentially infilled land within 250m of the study site.

4.6.3 Electrical Substations and Tanks

There are no recorded electrical substations or tanks within 250m of the study site.

4.6.4 Part A(2) and Part B Activities and Enforcements

There are no recorded Part A(2) and Part B activities and enforcements within 250m of the study site.

4.6.5 Records of Category 3 or 4 Radioactive Substances Authorisations

There are no recorded category 3 or 4 radioactive substance authorisations within 250m of the study site.

4.6.6 Fuel Station Entries

There are no recorded fuel station entries within 500m of the study site. The nearest fuel station entry is an Esso petrol station located 911m south east of the site boundary.

4.6.7 Historical/Current Landfill/Waste Sites

There are no historical landfill/waste sites within 500m of the study site. The nearest historical landfill/waste site was LEC Refrigeration Limited, last recorded as active in 1981 and located 770m west of the site boundary.

4.6.8 Local Authority Landfill Sites

There are no recorded local authority landfill sites within 500m of the study site. The nearest local authority landfill site is LEC Refrigeration Ltd, authorised to dispose of excavated natural materials and foundry sand and located 910m west of the site boundary.

4.6.9 BGS Recorded Mineral Sites

There are no BGS recorded mineral sites within 250m of the study site. The nearest BGS recorded mineral site is Flansham Brickworks, located 355m north east of the site boundary.

4.6.10 Pollution Incidents

There are no recorded pollution incidents within 500m of the study site. Details of the nearest recorded pollution incident is summarised in Table 3.

Table 3 – Summary of Pollution Incidents

Date	Severity	Pollutant	Reference	Distance/Direction
17/04/96	Category 3 – Minor Incident	Oils – Diesel (Including Agricultural)	1612	912m W

4.6.11 Historical Industrial Land Use

There are no recorded historical potentially contaminative industrial land uses within 250m of the study site. The nearest historical potentially contaminative industrial land use was Jacx, a commercial cleaning service located 470m south east of the site boundary.

4.6.12 Historical Tanks

There are no recorded historical tanks within 250m of the study site.

4.6.13 Licensed Discharge Consents

There are 2 recorded licensed discharge consents within 500m of the study site, details of which are summarised below;

- Southern Water Services Ltd, Sewage Discharges – Pumping Station – 235m NE
- Southern Water Services Ltd, Discharge of Other Mater – Surface Water – 458m W

4.7 HISTORICAL LAND USE ON SITE AND IN SURROUNDING AREA

The historical ordnance survey maps indicate the following historical land uses on site and in the surrounding area, and are summarised in **Table 4**.

Table 4 – Summary of Historical Land Use

Date	On Site	Off Site
1876-1877	The site consists of open field.	The site is surrounded by open fields on all boundaries. Clap Barn is located approximately 200m to the south of the site.
1879-1880	No significant change.	No significant change.
1898-1899	No significant change.	No significant change.
1912-1914	No significant change.	No significant change.
1932-1934	No significant change.	North Road constructed on the eastern boundary of the site. Clap Barn has been redeveloped to become the Golf Club House. Bognor Regis Golf Course is constructed on the western boundary of the site. Area labelled Brick Field located approximately 200m to the north east.
1938-1951	No significant change.	No significant change.
1960-1961	No significant change.	No significant change.
1967-1969	No significant change.	Drains labelled along the western, northern and eastern boundaries of the site.
1980	No significant change.	No significant change.
1990-1993	No significant change.	No significant change.
1994	No significant change.	No significant change.
2000	No significant change.	No significant change.
2018	No significant change.	Residential infilling on the northern, eastern and southern boundaries of the study site.

4.8 SENSITIVE LAND USE

The site lies within a surface water Nitrate Vulnerable Zone.

4.9 POTENTIAL AREAS OF CONCERN

No potential areas of concern have been identified on site.

5.0 PRELIMINARY RISK ASSESSMENT

5.1 IDENTIFICATION OF CRITICAL RECEPTORS

Based on the proposed land use, the potentially sensitive receptors are considered to be:

- Residential Human Health: Current occupants offsite
- Residential Human Health: Future occupants onsite
- Groundwater: Principal Aquifer
- Surface Water: Unnamed feature on site boundary
- Onsite workers*

*The risks to onsite workers can be minimised by following appropriate health and safety guidance on site (i.e. wearing protective clothing and washing).

5.2 IDENTIFICATION OF POTENTIAL CONTAMINANT SOURCES

The list of potential sources of contamination on site and in the surrounding area are summarised in Table 5.

Table 5 – Identification of Potential Sources of Contamination within 250m

Type of Land Use	Potential Source	Potential
Onsite source	Potential imported made ground	Hydrocarbons (TPH, BTEX, PAH), Heavy Metals, Inorganics, Asbestos
Offsite source	Made ground, industrial land uses (current and historical)	Hydrocarbons (TPH, BTEX, PAH), Heavy Metals, Inorganics

5.3 POTENTIAL MIGRATION PATHWAYS

5.3.1 Human Health Pathways

The potential human health exposure pathways, based on the Agency Soil Science Report SR3⁸, for a commercial receptor are indicated in Table 6.

⁸ Environment Agency, August 2008, Updated technical background to the CLEA model, Science Report - SC050021/SR3

Table 6 – Identification of Potentially Active Human Health Exposure Pathways

Potential Pathway	Active/Inactive	Notes
Vegetable/home produce consumption	Active	Qualitative Risk Assessment required
Ingestion of soil and dusts	Active	Qualitative Risk Assessment required
Dermal contact with soils and dusts	Active	Qualitative Risk Assessment required
Inhalation of dusts	Active	Qualitative Risk Assessment required
Inhalation of organic vapours (generated by shallow soils) in external areas or inside buildings	Active	Qualitative Risk Assessment required
Inhalation of organic vapours generated by dissolved phase groundwater migrating offsite to neighbouring residential properties	Active	Qualitative Risk Assessment required
Inhalation of organic vapours generated by dissolved phase groundwater migrating from offsite sources onto site	Active	Qualitative Risk Assessment required
Contaminants from site entering groundwater and migrating into public water abstraction borehole for human consumption	Inactive	No water abstractions within 250m - No further assessment required

Controlled Waters Pathways

The potentially active controlled waters migration pathways are indicated in Table 7.

Table 7 – Identification of Potentially Active Controlled Water Pathways

Potential Pathway	Active/ Inactive	Notes
Impacted soils leaching to groundwater in Principal Aquifer	Active	Qualitative Risk Assessment required
Impacted soils leaching to groundwater and migration to surface water body	Active	Qualitative Risk Assessment required

Ground Gas Pathway

The potentially active migration pathways for ground gas are indicated in Table 8.

Table 8 – Identification of Potentially Active Controlled Ground Gas Pathways

Potential Pathway	Active/ Inactive	Notes
Ground gas generated from current/historical landfills within 250m radius	Inactive	No recorded landfills within 250m – No further assessment required
Ground gas generated from current/historical buried land within 250m radius	Inactive	No recorded infilled land within 250m – No further assessment required

5.3.2 Potentially Active Pollutant Linkages

To assess the potential for risk, the Source → Pathway → Receptor relationships have been evaluated to determine whether there are potentially active pollutant linkages between sources and receptors. It is only when there is an active pollutant linkage, can there be a potential risk to a receptor from a source via a particular pathway. Each active pathway has been assigned a qualitative assessment as to the level of risk as explained in Table 9 as per R&D 66⁵.

A summary of the relevant pollutant linkages based on a source-pathway-receptors analysis is provided in Table 10.

Table 9 – Qualitative Risk Classification Scheme

		CONSEQUENCE			
		Severe	Medium	Mild	Minor
PROBABILITY (likelihood)	High likelihood	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

Table 10 – Summary of Potential Source-Pathway-Target Assessment

Sources	Potential Pathway	Potential Receptor	Risk Classification
Onsite Sources	Outdoor inhalation and Indoor inhalation, Dermal Contact, Ingestion, Home Produce	Human Health (Onsite Residential)	Moderate/Low risk
Onsite Sources	Vapour inhalation from dissolved phase groundwater migrating from site to neighbouring properties	Human Health (Offsite Residential)	Low risk
Onsite Sources	Impacted soil leaching to groundwater in Principal Aquifer	Controlled Waters (Groundwater)	Moderate/Low risk
Onsite Sources	Impacted soil leaching to groundwater and migration to surface water	Controlled Waters (Surface Water)	Moderate/Low risk
Onsite Sources	Migration via groundwater from offsite source onto subject site	Human Health (Residential Onsite)	Moderate/Low Risk
Offsite Sources	Vapour inhalation from dissolved phase migration from offsite sources	Human Health (Onsite Residential)	Moderate/Low risk

6.0 INVESTIGATION WORKS

6.1 FIELD METHODS USED

The intrusive locations are presented on Figure 3 and comprised the following items;

- Five exploratory locations (BH1 to BH5) were drilled using mechanically driven window sampling techniques (Photo 4) to a maximum depth of 5.00m bgl.
- Five dynamic probe tests (DP1 to DP5) were undertaken to a maximum depth of 5.00m bgl to determine the ground engineering parameters.
- Three 50mm diameter monitoring wells (BH1 to BH3) were installed to a maximum depth of 5.00m bgl (Photo 5).

All of the fieldwork was completed under the supervision of a WDE site engineer. Soil samples were transported in a cooler box to a UKAS accredited laboratory under chain of custody conditions. Logs for each of the intrusive locations are presented in Appendix D. Organic Vapour Concentrations (OVCs) were measured during the fieldwork on recovered soil samples using a Photo-ionisation Detector (PID).

Three monitoring wells (BH1 to BH3) were installed for subsequent groundwater and ground gas monitoring using 50mm diameter well material, gas valve and lockable cover. Each monitoring well was subsequently monitored for levels of oxygen, carbon dioxide and methane.

6.2 RATIONALE ADOPTED FOR EXPLORATORY LOCATIONS

The rationale adopted for the selection of the exploratory locations is presented in Table 11.

Table 11 – Rationale for Exploratory Hole Locations

Sample Location	Rationale	Scope	Use
BH1, BH2, BH3	Site coverage	Monitoring well installation to 5.00m	Contamination, geotechnical, groundwater and ground gas
BH4, BH5	Site coverage	Borehole to 5.00m bgl	Contamination, geotechnical, groundwater and ground gas
DP1 – DP5	Geotechnical	Dynamic probe testing to a maximum depth of 5.00m	Geotechnical

6.3 CONSTRAINTS ON INTRUSIVE LOCATIONS

The site was heavily vegetated at the time of the investigation; all intrusive locations were undertaken in less vegetated areas.

6.4 FIELD RESULTS

6.4.1 Geology

A summary of the geology encountered during the intrusive investigations is presented in Table 12 and the full logs for the boreholes can be found in Appendix D.

Table 12 – Summary of Geology Proved Onsite

Description	Min – Max Depth (m bgl)	Average Depth (m bgl)
Topsoil	0.00 – 0.10	0.00 – 0.05
Silty Sandy Clay	0.05 – 3.70	0.05 – 3.35
Chalk (Dc)	2.60 – 5.00	3.35 – 5.00

Topsoil: Topsoil was observed in all intrusive locations on site and consists of dark brown, sandy clay with occasional rootlets. Topsoil was proved to depths of 0.10m bgl.

Silty Sandy Clay: Soft to firm light brown silty sandy clay with occasional greyish white mottling was encountered in all intrusive locations between depths of 0.05m and 3.70m bgl. Chalk gravels were observed within all intrusive locations becoming increasing gravelly with depth.

Chalk: White chalk (Grade Dc) was encountered in the base of each borehole, proven between depths of 2.60m and 5.00m bgl.

6.4.2 Standard Penetration Test (SPT) Results

SPT testing was carried out in five locations (BH1 to BH5) to a maximum depth of 5.00m bgl. Copies of the SPT values are presented within the borehole logs in Appendix D and a summary of the calculated N-values are provided in Table 13.

Table 13 – Summary of SPT N Value Results

Depth (m)	BH1	BH2	BH3	BH4	BH5
1.00 – 1.45	8	6	5	10	3
2.00 – 2.45	5	1	4	9	7
3.00 – 3.45	0	0	14	18	25
4.00 – 4.45	8	12	50	53	42
5.00 – 5.45	25	13	49	58	46

6.4.3 Dynamic Probing Results

Dynamic Probe testing was carried out in five locations (DP1 to DP5) to a maximum depth of 5.00m bgl. Copies of the Dynamic Probe logs are presented within the borehole logs in Appendix D and a summary of the calculated N values are provided in Table 14.

Table 14 – Summary of Dynamic Probe Results

Depth (m)	DP1	DP2	DP3	DP4	DP5
0.0-0.3	10	9	4	2	7
0.3-0.6	5	4	5	2	2
0.6-0.9	6	2	2	4	2
0.9-1.2	6	3	4	4	2
1.2-1.5	5	1	4	5	1
1.5-1.8	5	1	6	4	4
1.8-2.1	6	1	6	5	2
2.1-2.4	5	2	6	7	7
2.4-2.7	2	7	5	7	10
2.7-3.0	1	9	5	9	12
3.0-3.3	4	8	11	12	11
3.3-3.6	1	7	14	24	10
3.6-3.9	1	11	18	26	11
3.9-4.2	7	12	32	32	11
4.2-4.5	20	9	32	31	14
4.5-4.8	23	15	41	36	12

6.4.4 Groundwater Encountered During the Intrusive Investigation

Groundwater was encountered at depths of ~1.90m bgl in all locations during the intrusive investigation.

6.4.5 Contamination Observations

No grossly contaminated material, strong odours or hydrocarbon sheens were encountered during the intrusive works, with all PID readings below 1ppm (v).

6.4.6 Groundwater Monitoring Results

A summary of the field monitoring data obtained on 26th January 2018 are displayed in Table 15. The locations of each well are indicated on Figure 3.

Table 15 – Groundwater Field Monitoring Results

Location	Depth to Product (m bgl)	Depth to Water (m bgl)	Depth to Base (m bgl)	Observation
BH1	-	1.901	4.769	No odour/sheen
BH2	-	1.987	4.941	No odour/sheen
BH3	-	1.907	4.612	No odour/sheen

6.4.7 Ground Gas Monitoring Results

A summary of the ground gas monitoring results obtained on 26th January 2018 are displayed in Table 16 and presented in full in Appendix E.

Table 16 – Ground Gas Field Monitoring Results

Location	O ₂ (%)	CO ₂ (%)	CH ₄ (%)	Atm (mbar)	Flow (ml/hr)
BH1	18.7	2.4	0.1	1018	+0.1
BH2	19.8	2.3	0.1	1018	+0.0
BH3	19.5	1.3	0.1	1018	+0.1

6.4.8 Permeability Results

A summary of the field permeability results obtained on 26th January 2018 are displayed in Table 17 and are presented in full in Appendix E.

Table 17 – Permeability Field Results

Location	Test Type	Water Added (Litres)	Drainage (m/sec)	Comments
BH3	Borehole Soakage	~20	>10 ⁻⁴	Good Permeability

7.0 GROUND GAS ASSESSMENT

7.1 PUBLISHED GUIDANCE

A ground gas assessment has been undertaken to assess risks associated with carbon dioxide and methane to new buildings and their users. The following relevant guidance has been used to assess the risks posed by ground gas:

- Assessing risks posed by hazardous ground gases to buildings, CIRIA C665, 2007
- Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present, NHBC, 2007
- The Building Regulations 2000, Approved Document C, Site Preparation and resistance to contaminants and moisture. 2004 Edition
- British Standard. BS8576.2013. Guidance on Investigations for Ground Gas

The 2007 CIRIA guidance calculates a gas screening value to identify the protective measures required, as shown in Table 18.

Table 18 – Summary of CIRIA 2007 Guidance

Characterisation Situation	Risk Classification	Gas Screening Value	Typical Factors	Protective Measure
1	Very Low	<0.07	Methane <1% or carbon dioxide <5%; otherwise increase to Situation 2	No special precautions (see recommendation)
2	Low	<0.7	Air Flow rate <70l/hr; otherwise increase to Situation 3	Block and beam with 2,000g, Cast insitu with 1,200g. All joints and penetrations sealed
3	Moderate	<3.5	-	As above but with gas resistant membranes and passively ventilated or positive pressured sub-floor void
4	Moderate to High	<15	QRA recommended	As above but with oversite capping, in-ground venting layer and in ground wells or barriers
5 – 6	High to Very High	<70		Not suitable unless gas regime is reduced first and QRA completed

7.2 COMPARISON WITH SITE DATA

Taking a conservative viewpoint, the highest readings from the monitoring wells have been selected for the determination of the relevant gas screening values. If the readings were <0.01 a value of 0.01 is used in line with CIRIA, 2007 guidelines. A summary of gas screening calculations and the associated characterisation of the site are identified below in Table 19.

Table 19 – Summary of Gas Screening Values

Gas	Screening Value	Characterisation Situation	Comment
Methane	$((0.1/100) \times 0.1) = 0.0001$	1 (Very Low)	-
Carbon Dioxide	$((2.4/100) \times 0.1) = 0.0024$	1 (Very Low)	-

7.3 ADDITIONAL ACTIONS

No source materials for the generation of ground gas have been identified during the ground investigation. A maximum characterisation value of 1 (Very Low) has been returned from the monitoring visit. It is therefore considered that no further ground gas monitoring visits are required.

8.0 CONTAMINATION ASSESSMENT

8.1 SOIL ANALYTICAL TEST RESULTS

The Generic Assessment Criteria (GACs) that have been adopted include published Land Quality Management (LQM) Suitable for Use Levels (S4UL) guideline values. As there is no current UK GAC for lead, the Category 4 Screening Level (C4SL) will be adopted. In the absence of any UK published value, the detection limits have been adopted. The residential with home-grown produce GACs have been adopted based on the proposed land use. The results from the laboratory analyses of the soil samples are presented in full in Appendix F.

Table 20 is a comparison with the adopted GACs compared against the minimum and maximum site concentrations.

Table 20 – Comparison of Soil Laboratory Results with Adopted Residential GACs (mg/kg)

Contaminant of Concern	No. of Samples	GAC	Source	Min	Max	No. Samples > GAC	Samples Exceeded
Asbestos	5	DL	WDE	Not detected	Not detected	0	
Total Phenols	5	280	LQM	BDL	BDL	0	
Naphthalene	5	2.3	LQM	BDL	BDL	0	
Acenaphthylene	5	170	LQM	BDL	BDL	0	
Acenaphthene	5	210	LQM	BDL	BDL	0	
Fluorene	5	170	LQM	BDL	BDL	0	
Phenanthrene	5	95	LQM	BDL	BDL	0	
Anthracene	5	2400	LQM	BDL	BDL	0	
Fluoranthene	5	280	LQM	BDL	BDL	0	
Pyrene	5	620	LQM	BDL	BDL	0	
Benzo(a)anthracene	5	7.2	LQM	BDL	BDL	0	
Chrysene	5	15	LQM	BDL	BDL	0	
Benzo(b)fluoranthene	5	2.6	LQM	BDL	BDL	0	
Benzo(k)fluoranthene	5	77	LQM	BDL	BDL	0	
Benzo(a)pyrene	5	2.2	LQM	BDL	BDL	0	
Indeno(1,2,3-cd)pyrene	5	27	LQM	BDL	BDL	0	
Dibenz(a,h)anthracene	5	0.24	LQM	BDL	BDL	0	
Benzo(ghi)perylene	5	320	LQM	BDL	BDL	0	
Arsenic	5	37	LQM	3.2	11	0	
Boron	5	290	LQM	BDL	0.5	0	
Cadmium	5	11	LQM	BDL	0.3	0	
Chromium	5	910	LQM	11	35	0	
Copper	5	2400	LQM	7.0	20	0	
Lead	5	210	C4SL	4.0	12	0	
Mercury	5	40	LQM	BDL	BDL	0	
Nickel	5	180	LQM	7.5	31	0	
Selenium	5	250	LQM	BDL	1.2	0	
Zinc	5	3700	LQM	17	53	0	
Benzene	5	0.087	LQM	BDL	BDL	0	
Toluene	5	130	LQM	BDL	BDL	0	
Ethylbenzene	5	47	LQM	BDL	BDL	0	
Xylenes (sum)	5	56	LQM	BDL	BDL	0	

MTBE	5	DL	WDE	BDL	BDL	0
TPH - Aliphatic >C5 - C6	5	42	LQM	BDL	BDL	0
TPH - Aliphatic >C6 - C8	5	100	LQM	BDL	BDL	0
TPH - Aliphatic >C8 - C10	5	27	LQM	BDL	BDL	0
TPH - Aliphatic >C10 - C12	5	130	LQM	BDL	BDL	0
TPH - Aliphatic >C12 - C16	5	1100	LQM	BDL	BDL	0
TPH - Aliphatic >C16 - C21	5	65000	LQM	BDL	BDL	0
TPH - Aliphatic >C21 - C35	5	65000	LQM	BDL	BDL	0
TPH - Aromatic >C5 - C7	5	70	LQM	BDL	BDL	0
TPH - Aromatic >C7 - C8	5	130	LQM	BDL	BDL	0
TPH - Aromatic >C8 - C10	5	34	LQM	BDL	BDL	0
TPH - Aromatic >C10 - C12	5	74	LQM	BDL	BDL	0
TPH - Aromatic >C12 - C16	5	140	LQM	BDL	BDL	0
TPH - Aromatic >C16 - C21	5	260	LQM	BDL	BDL	0
TPH - Aromatic >C21 - C35	5	1100	LQM	BDL	BDL	0

8.2 WASTE CLASSIFICATION

A summary of the waste classification for the materials from the intrusive investigation and the previous investigation is provided on Appendix F, which includes a Waste Checker and WAC tests on the encountered materials.

Table 21 – Waste Acceptance Criteria Results

Contaminant of Concern	Landfill Waste Acceptance Criteria Limits			BH3.1
	Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous landfill	Hazardous Waste Landfill	0.30m (bgl)
TOC (%)	3%	5%	6%	0.5
Loss on Ignition (%)	-	-	10%	2.4
BTEX (µg/kg)	6000	-	-	<10
Sum of PCBs (mg/kg)	1	-	-	<0.007
Mineral Oil (mg/kg)	500	-	-	<10
Total PAH (WAC-17) (mg/kg)	100	-	-	<0.9
pH (units)	-	>6	-	7.3
Acid Neutralisation Capacity (mol/kg)	-	-	-	1.2
Arsenic	0.5	2	25	<0.0110
Barium	20	100	300	0.0147
Cadmium	0.04	1	5	<0.0008
Chromium	0.5	10	70	0.0055
Copper	2	50	100	0.024
Mercury	0.01	0.2	2	<0.0050
Molybdenum	0.5	10	30	<0.0040
Nickel	0.4	10	40	0.0097
Lead	0.5	10	50	<0.010
Antimony	0.06	0.7	5	<0.017
Selenium	0.1	0.5	7	<0.040
Zinc	4	50	200	0.036

Chloride	800	4000	25000	9.1
Fluoride	10	150	500	2.4
Sulphate	1000	20000	50000	17
TDS	4000	60000	100000	96
Phenol Index (Monhydric Phenols)	1	-	-	<0.10
DOC	500	800	1000	39.3

8.3 CONCLUSION ON CONTAMINATION

The laboratory results from the soil samples retrieved during the intrusive investigation have identified no exceedances of the GACs.

Results from the Waste Checker indicate that the clay materials on site are below the hazardous waste thresholds and the WAC results presented in Table 21 indicates that the clay materials are likely to fall within the inert criteria for offsite disposal.

A revised *source-pathway-receptor* assessment is presented in Table 22.

Table 22 – Summary of Revised Source-Pathway-Receptor Assessment

Sources	Potential Pathway	Potential Receptor	Risk Classification
Onsite Sources	Outdoor inhalation and indoor inhalation, dermal contact, ingestion, home produce	Human Health (Onsite Residential)	Low risk
Onsite Sources	Vapour inhalation from dissolved phase groundwater migrating from site to neighbouring properties	Human Health (Offsite Residential)	Low risk
Onsite Sources	Impacted soil leaching to groundwater in Principal Aquifer	Controlled Waters (Groundwater)	Low risk
Onsite Sources	Impacted soil leaching to groundwater and migration to surface water	Controlled Waters (Surface Water)	Low risk
Onsite Sources	Migration via groundwater from offsite source onto subject site	Human Health (Residential Onsite)	Low risk
Offsite Sources	Vapour inhalation from dissolved phase migration from offsite sources	Human Health (Onsite Residential)	Low risk

9.0 GEOTECHNICAL ASSESSMENT

9.1 GEOTECHNICAL FIELD TESTING

An appraisal of the Dynamic Probing results are summarised below in Table 23. The full results and graphs plotting the N-values are presented in Appendix G.

Table 23 – Field Geotechnical Results

Description	Average Depth (m)	N Value	Qualitative Estimate	Cu kPa
Silty Sandy Clay	0.05 – 3.35	1 - 12	Soft to Firm	5.1 – 61.7
Chalk	3.35 – 5.00	1 - 41	-	-

The clay materials within the upper 1m are soft to firm with N values of 2-10. Areas of soft material have been observed in the following locations across the site which are also presented on Figure 4:

- DP1 (2.7 – 3.9m bgl) – N value of 1 to 4
- DP2 (0.9 – 2.4m bgl) – N value of 1 to 2
- DP5 (0.6 – 2.1m bgl) – N value of 1 to 4

These softer locations are toward the western portion of site.

9.2 GEOTECHNICAL LABORATORY TESTING

Moisture content, Particle Size Distribution, Atterberg Limits, CBR and Triaxial laboratory testing were carried out on representative soil samples collected during the intrusive investigation. A copy of the test results are presented in Appendix G and are summarised in Table 24.

Table 24 – Summary of Geotechnical Properties

Description	Av Depth To From (m)	Moisture Content (%)	Plasticity Index (%)	Point Load Strength Index (kPa)	Predicted Uniaxial Compressive Strength (MPa)	Shear Strength (kPa)	PSDs			
							Gravel	Sand	Silt	Clay
Silty Sandy Clay	0.05 – 3.35	15-25	12-16	-	-	34-70	0.0-1.6	4.2-17.9	65.3-51.4	30.5-29.1
Chalk	3.35 – 5.00	-	-	0.12	2.64	-	-	-	-	-

Results from the laboratory testing indicate that the clay returned low plasticity values suggesting there is a low volume change potential of the clay (shrink/swell).

Shear strength values of between 34-70kPa in the clay indicates that it is soft in the western portion of the site (BH1 and BH2), becoming firm within the eastern portion (BH3)

The point load testing on the white chalk indicates that rock strength is very weak.

9.3 CONCRETE DESIGN PARAMETERS

A summary of the sulphate, pH and corresponding BRE concrete in aggressive ground parameters⁹ for concrete design are presented in Table 25.

Table 25 – Summary of BRE Concrete in Aggressive Ground Parameters

Location	Concrete Parameters
pH (pH Units)	7.2 to 8.4
Water Soluble Sulphate as (2:1 Leachate Equivalent) (mg/l)	11 to 29
ACEC Classification	AC-1
Design Sulphate Class	DS-1

Concentrations have been analysed in line with BRE Special Digest 1: 2005¹⁰

9.4 EXCAVATIONS, GROUNDWATER CONTROL AND SERVICES

Groundwater was encountered at ~1.90m bgl in all intrusive locations on site and therefore excavations in the top 1.90m should remain dry. Excavation walls are likely to remain stable.

9.5 CBR FOR ROAD/PAVING DESIGN

CBR values obtained from the dynamic probing with the upper 1m of the site can be calculated using the following equation:

$$\log \text{CBR} = 2.628 - 1.273 \log (\text{DCP})^{11}$$

Table 26 shows a summary of the CBR values and their proposed locations. Further details are presented in Appendix G.

Table 26 – Summary of CBR Values in the Upper 1m

Location	Proposed Location	CBR %
DP1	Roadway	1.21 – 7.05
DP2	Building Footprint	0.00 – 7.05
DP3	Car Parking	0.00 – 2.92
DP4	Roadway	0.00 – 2.92
DP5	Roadway	0.00 – 4.89

⁹ BRE 2005. Concrete in Aggressive Ground. Special Digest 1.

¹⁰ Building Research Establishment (BRE) Special Digest 1: 2005 Third Edition, Concrete in aggressive Ground"

Laboratory CBR testing of the clay material was undertaken, results of which are summarised below in Table 27. A copy of the laboratory test results is available in Appendix G.

Table 27 - Summary of Laboratory CBR Values (%) within upper 1m

Sample Ref	Proposed Location	CBR Value (%)	Comments
BH5.1	Proposed Roadway	1.1 – 1.4	-

9.6 PRELIMINARY FLOOR DESIGN

The ground gas risk for the site has been characterised as a Very Low Risk. There is no requirement for the enhancement of the membrane above the standard specification for either cast in-situ or block and beam floors.

9.7 SOAKAGE POTENTIAL

Borehole soakage testing has been performed on the encountered geology within the upper 5.0m of the soil profile and indicates good permeability in BH3 (3.73×10^{-4} m/sec). Therefore, discharge to ground is likely to be possible across with site within the natural chalk material. Additional BRE 365 Soakage testing may be required prior to finalising the drainage design.

The CIRIA publication¹¹ provides guidance as to the required distance of buildings from soakages to ground in chalk as follows:

- 20m distance of soakaways from buildings where dissolution features are known to be prevalent
- 10m distance of soakaways from buildings where chalk is low density or unknown
- 5m distance of soakaways from buildings where chalk is of medium to high density

As this site is within a very low risk area of dissolution features (from desk study information) and the density of the chalk is medium, then the required distance of soakaways from the buildings is likely to 5m.

9.8 PRELIMINARY FOUNDATION DESIGN

Soft clay materials have been identified over the western half of the site within the upper 2m of the soil profile in BH1, BH2, BH5, DP1, DP2, and DP5 whereas firmer clay is encountered within the eastern portion of the site in BH3, BH4, DP3 and DP4.

¹¹ CIRIA. 2002. Engineering in Chalk. C574.

Shallow strip foundations can be adopted where the firm clay has been identified in the eastern half of the site and will need to extend to at least 1.2m depth, ensuring that no soft clay is encountered, which will provide an allowable bearing capacity of 125kPa.

Where soft materials are encountered in the western portion of the site, it is considered that shallow foundations are not appropriate for consideration and a piled or raft solution should be allowed for within the design of the two storey buildings.

It may also be more cost effective to consider piled foundations over the whole site and it is recommended that a structural engineer/piling contractor is consulted. Additional investigations are likely to be required in the event that a mixed type of foundation is to be considered further, comprising dynamic probes. An additional cable percussive borehole may be required for pile design that extend to 20m depth (at least 1.5 times the anticipated pile depth).

10.0 RECOMMENDATIONS

WDE recommends that the following actions are undertaken as part of the redevelopment programme:

- BRE 365 soakage testing may be required prior to the completion of the drainage design
- Additional investigation are undertaken prior to deciding on the type of foundation to be adopted

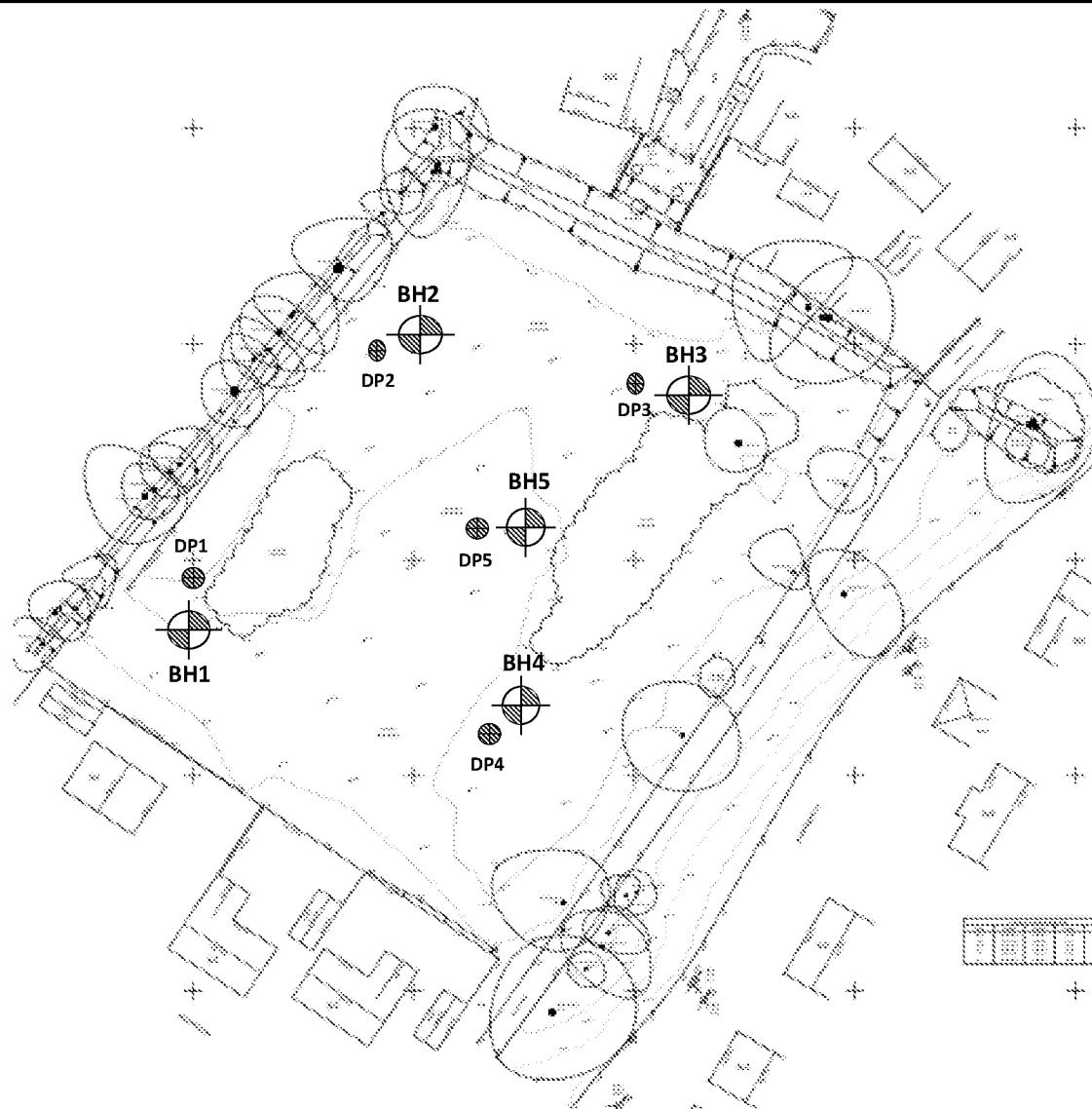
FIGURES



© Crown Copyright. All Rights Reserved. License Number 100022432.



Plan provided by Client



Monitoring Well

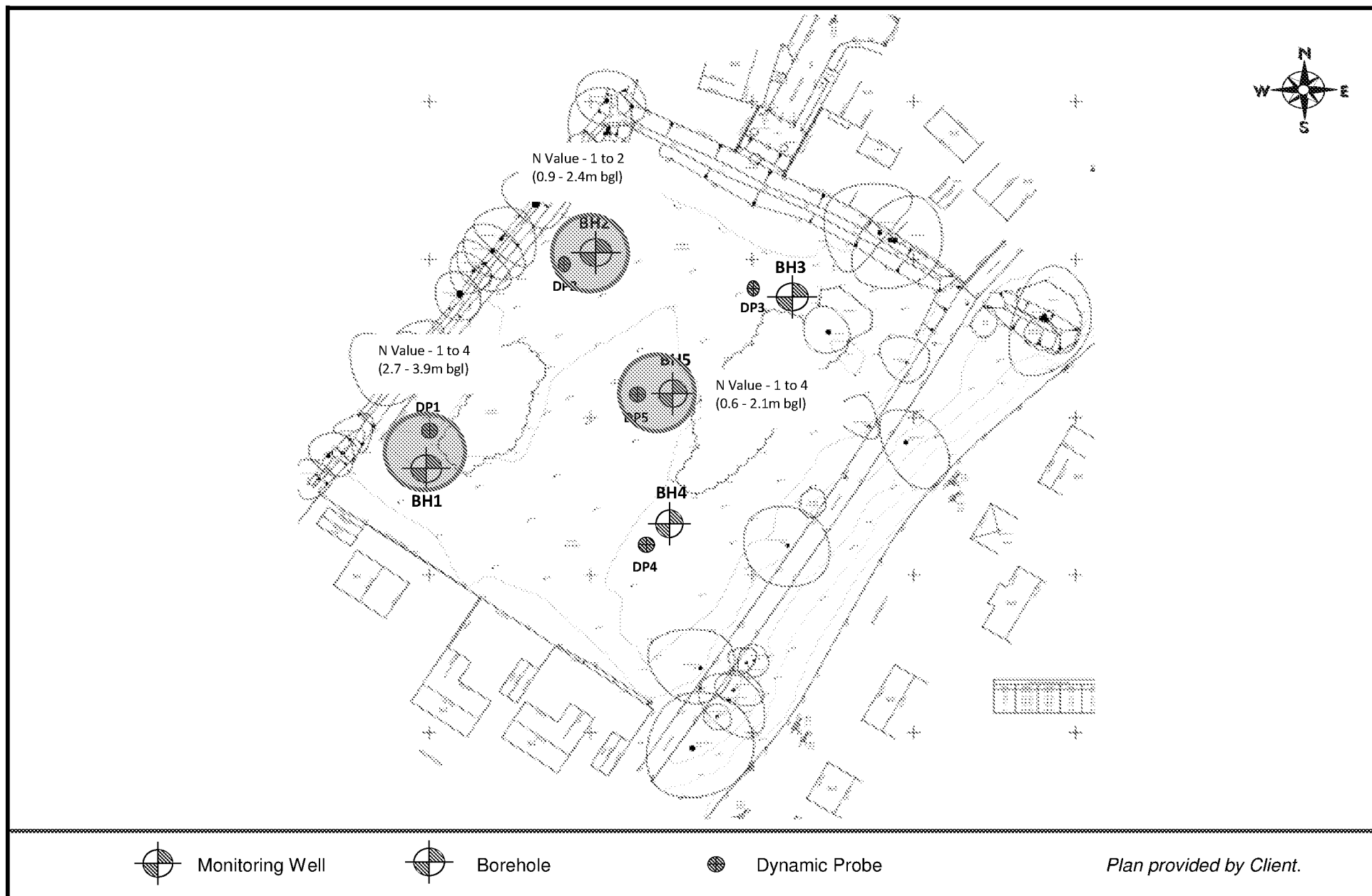


Borehole



Dynamic Probe

Plan provided by Client.



APPENDIX A

Limitations and Exceptions of Assessment

LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

Worthing Homes (the client) has requested that a Geo-Environmental Report be performed for Wellers Close, Felpham
Bognor Regis
West Sussex

PO22 8FW to provide information to permit formulation of an opinion as to the potential for risks to human health & controlled waters posed by identified substances of concern.

The Geo-Environmental Report was conducted and this report has been prepared for the sole use and reliance of the Client. This report shall not be relied upon or transferred to any other parties without the express written authorisation of WDE Consulting Ltd. If an unauthorised third party comes into possession of this report, they rely on it at their peril and the authors owe them no duty of care and skill.

The findings and opinions conveyed via this Geo-Environmental Report are based on information obtained from a variety of sources as detailed within this report, and which WDE Consulting Ltd believes are reliable. Nevertheless, WDE Consulting Ltd cannot and does not guarantee the authenticity or reliability of the information it has relied upon.

The report represents the findings and opinions of experienced geo-environmental consultants. WDE Consulting Ltd does not provide legal advice and the advice of lawyers may also be required.

The Client is advised that the conditions stated within reports supplied to WDE Consulting Ltd are subject to change. Certain indicators of the presence of hazardous substances may have been latent at the time of the most recent site reconnaissance and may subsequently have become observable.

It is possible that WDE Consulting's research, while fully appropriate for a Geo-Environmental Report, failed to indicate the existence of important information sources. Assuming such sources actually exist, their information could not have been considered in the formulation of WDE Consulting's findings and opinions.

Certain indicators or evidence of hazardous substances may have been outside the very limited portion of the subsurface investigated or monitored, latent at the time of this work or only partially intercepted by the works and thus their full significance could not have been appreciated. Groundwater levels are particularly susceptible to variations due to seasonal or other effects. Any comments on groundwater conditions are based on observations and analyses made by third parties at the time the site work was carried out. Accordingly, it is possible that WDE Consulting's work, whilst fully appropriate for a Geo-Environmental Report failed to indicate the presence or significance of hazardous substances. Assuming such materials present a hazard, their presence could not have been considered in the formulation of WDE Consulting's findings and opinions. The subsurface geological profiles and other plots are generalised by necessity and have been based on the information found at the locations of the exploratory holes and depths sampled and tested.

Any interpretation of the results of the Geo-Environmental Report have been based on the proposed site usage and the findings are not valid should the proposed land use and/or the regulatory regime/guidance change. Where interpretation is based on public domain guidance/protocols/models/software/code, WDE Consulting Ltd is not liable for errors in the guidance/protocols/models/software/code.

WDE Consulting Ltd believes that providing information about limitations is essential to help the client identify and thereby manage their risks. These risks can be mitigated, but they cannot be eliminated, through additional research. WDE Consulting Ltd will on request, advise the client of the additional research opportunities available, their impact on risk, and their cost.

In preparing this report, it has been assumed that all past and present occupants have provided all relevant and other information, especially relating to known or potential hazards. This report is not required to identify insufficiencies or mistakes in the information provided by the user/owner or from any other source, but has sought to compensate for these where obvious in the light of other information.

The work is also subject to WDE Consulting's standard terms and conditions.

APPENDIX B

Site Photos

Photograph 1: Overview of the site from the south eastern corner



Photograph 2: Access to site from Stanhorn Grove



Photograph 3: Mature trees surrounding the site



Photograph 4: Window Sampling Rig at BH5

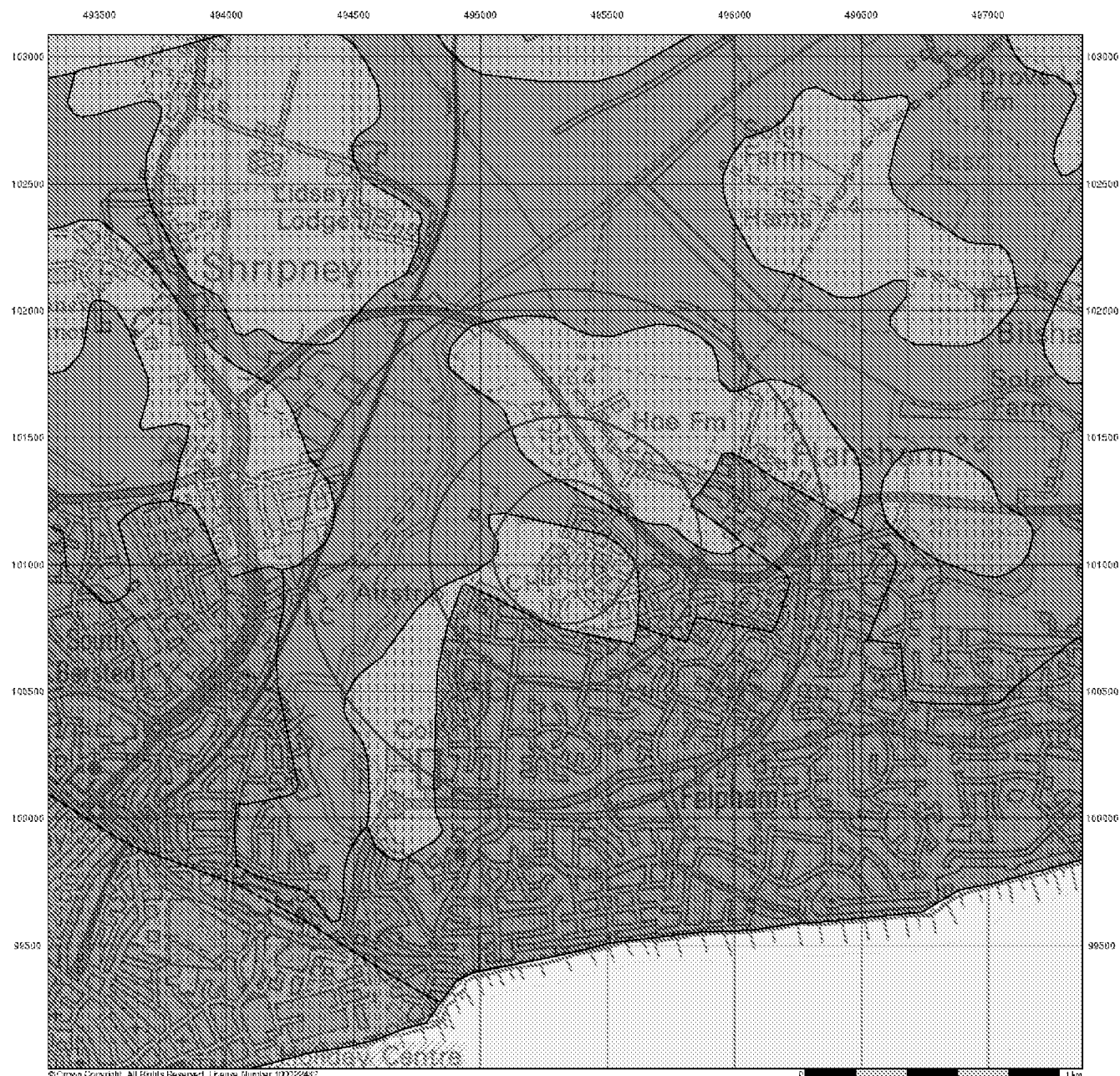


Photograph 5: Monitoring Well Installation at BH1



APPENDIX C

Environmental Database Information



Groundwater Vulnerability

General

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

Agency and Hydrological

Geological Classes

Major Aquifer (Highly Permeable)

Minor Aquifer (Variably Permeable)

Non Aquifer (Negligibly Permeable)

Water or Sea

Drift Deposit

Soil Classes

High (H) 1, 2, 3, U

Intermediate (I) 1, 2

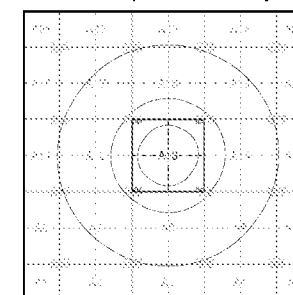
Low

High (H) 1, 2, 3, U

Intermediate (I) 1, 2

Low

Site Sensitivity Context Map - Slice A

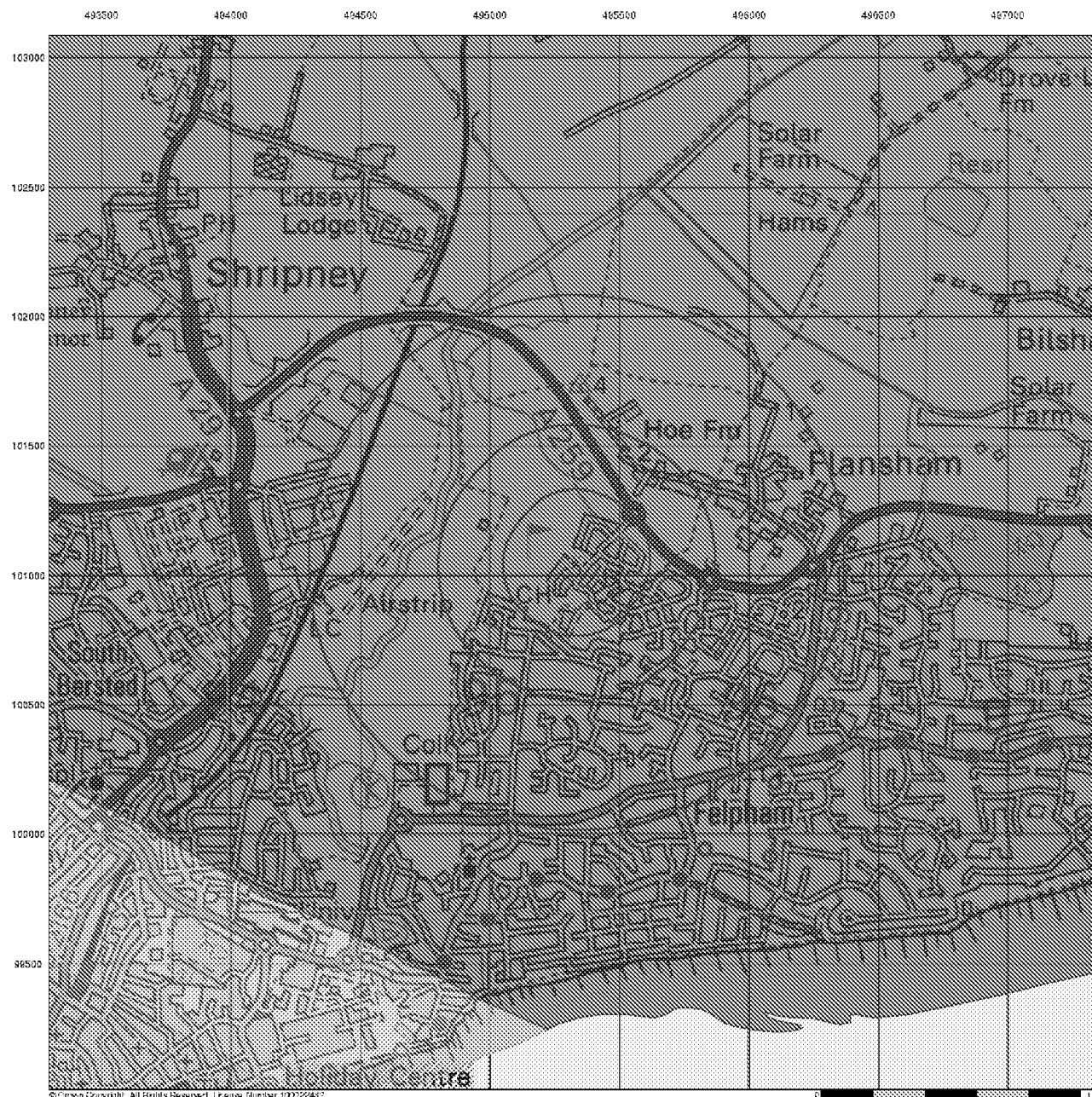


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

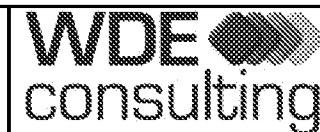
Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



© Crown Copyright. All Rights Reserved. License Number 100122452

0 1 km



Bedrock Aquifer Designation

General

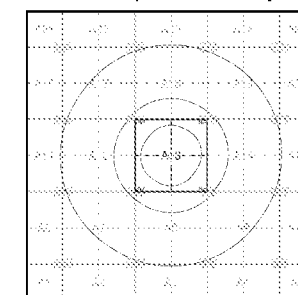
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

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



Order Details

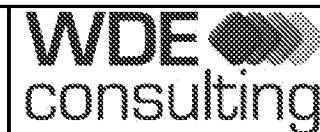
Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

Landmark
 INFORMATION GROUP

Tel: 01444 544 0052
 Fax: 01444 544 5551
 Web: www.environment.co.uk



Superficial Aquifer Designation

General

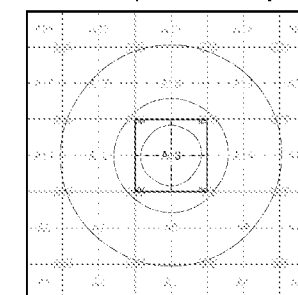
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

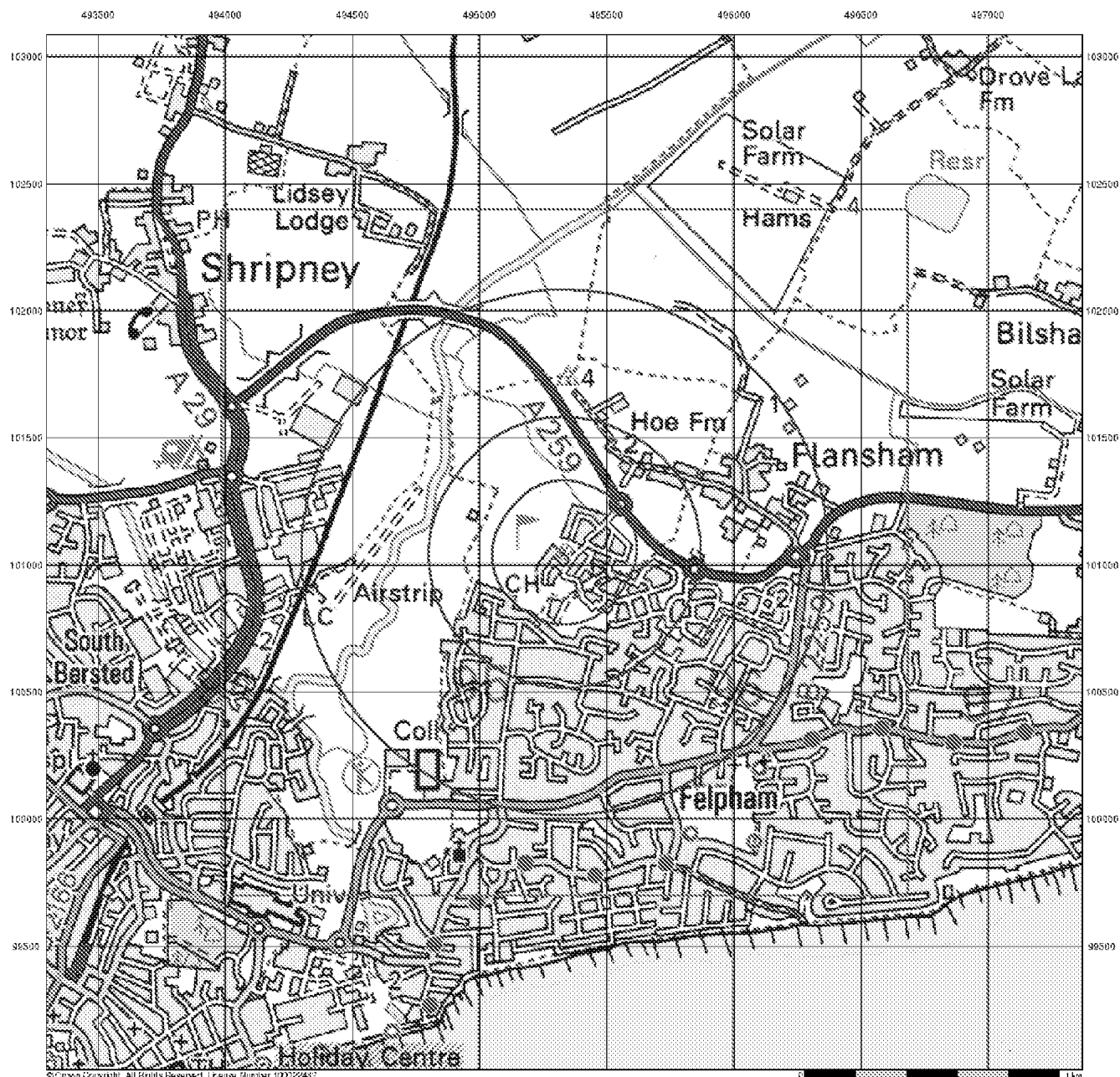
Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



Tel: 01444 544 0052
 Fax: 01444 544 5551
 Web: www.environment.co.uk



© Crown Copyright. All Rights Reserved. License Number 100120452

WDE
consulting

Source Protection Zones

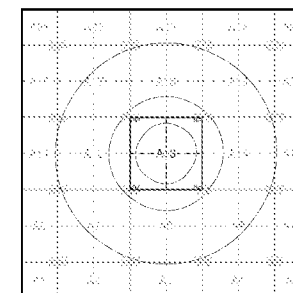
General

- 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)
- Source Protection Zone Borehole

Site Sensitivity Context Map - Slice A



Order Details

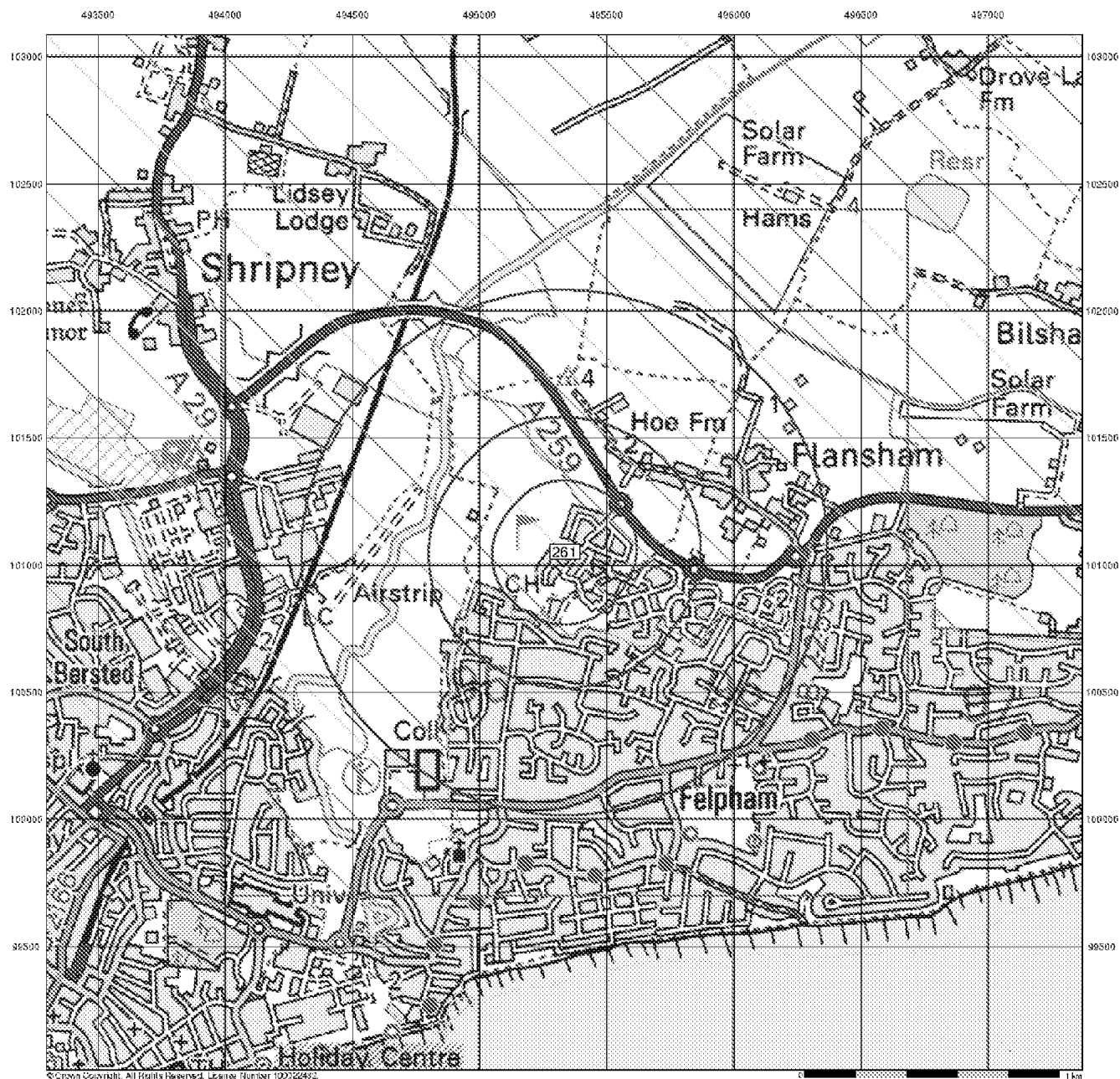
Order Number: 153944407_1_1
Customer Ref: 18-039
National Grid Reference: 495330, 101050
Slice: A
Site Area (Ha): 0.24
Search Buffer (m): 1000

Site Details

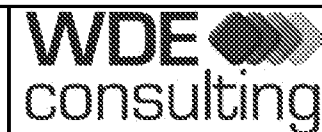
Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

Landmark
INFORMATION GROUP

Tel: 0844 544 3952
Fax: 0844 544 5551
Web: www.environment.co.uk



© Crown Copyright. All Rights Reserved. License Number 100120452



Sensitive Land Uses

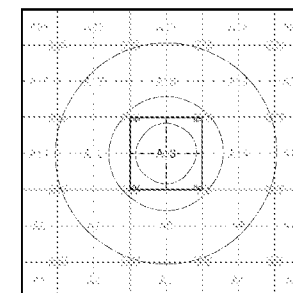
General

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

Sensitive Land Uses

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

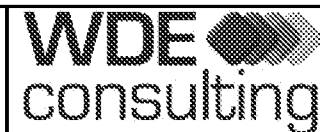
Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



Tel: 01344 544 0050
 Fax: 01344 544 5551
 Web: www.environmental.co.uk



© Crown Copyright. All Rights Reserved. License Number 10012042.



BGS Flood GFS Data

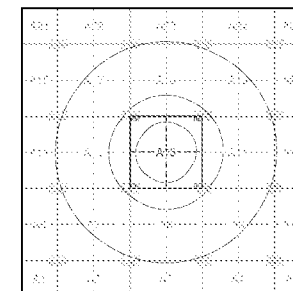
General

- 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: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



Tel: 01444 544 0052
 Fax: 01444 544 5551
 Web: www.environment.co.uk

Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

153944407_1_1

Customer Reference:

18-039

National Grid Reference:

495330, 101050

Slice:

A

Site Area (Ha):

0.24

Search Buffer (m):

1000

Site Details:

Wellers Close

Felpham

BOGNOR REGIS

PO22 8FS

Client Details:

Mr S Ware

WDE Consulting Ltd

62A Western Road

Tring

Hertfordshire

HP23 4BB

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	34
Hazardous Substances	-
Geological	35
Industrial Land Use	36
Sensitive Land Use	41
Data Currency	42
Data Suppliers	46
Useful Contacts	47

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 the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

Copyright Notice

© Landmark Information Group Limited 2018. The Copyright on the information and data and its format as contained in this Envirocheck® Report ("Report") is the property of Landmark Information Group Limited ("Landmark") and several other Data Providers, including (but not limited to) Ordnance Survey, British Geological Survey, the Environment Agency/Natural Resources Wales and Natural England, and must not be reproduced in whole or in part by photocopying or any other method. The Report is supplied under Landmark's Terms and Conditions accepted by the Customer.

A copy of Landmark's Terms and Conditions can be found with the Index Map for this report. Additional copies of the Report may be obtained from Landmark, subject to Landmark's charges in force from time to time. The Copyright, design rights and any other intellectual rights shall remain the exclusive property of Landmark and /or other Data providers, whose Copyright material has been included in this Report.

Natural England Copyright Notice

Site of Special Scientific Interest, National Nature Reserve, Ramsar, Special Protection Area, Special Conservation Area, Marine Nature Reserve data (derived from Ordnance Survey 1:10000 raster) is provided by, and used with the permission of, Natural England who retain the copyright and Intellectual Property Rights for the data.

Ove Arup Copyright Notice

The Data provided in this report was obtained on Licence from Ove Arup & Partners Limited (for further information, contact mining.review@arup.com). No reproduction or further use of such Data is to be made without the prior written consent of Ove Arup & Partners Limited. The information and data supplied in the product are derived from publicly available records and other third party sources and neither Ove Arup & Partners nor Landmark warrant the accuracy or completeness of such information or data.

Peter Brett Associates Copyright Notice

The cavity data presented has been extracted from the PBA enhanced version of the original DEFRA national cavity databases. PBA/DEFRA retain the copyright & intellectual property rights in the data. Whilst all reasonable efforts are made to check that the information contained in the cavity databases is accurate we do not warrant that the data is complete or error free. The information is based upon our own researches and those collated from a number of external sources and is continually being augmented and updated by PBA. In no event shall PBA/DEFRA or Landmark be liable for any loss or damage including, without limitation, indirect or consequential loss or damage arising from the use of this data.

Radon Potential dataset Copyright Notice

Information supplied from a joint dataset compiled by The British Geological Survey and Public Health England.

Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		1	1	7
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	pg 4				1
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 4		Yes		
Pollution Incidents to Controlled Waters	pg 4				1
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality	pg 4				1
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 4				3 (*11)
Water Industry Act Referrals					
Groundwater Vulnerability	pg 7	Yes	n/a	n/a	n/a
Drift Deposits			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 8	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 8	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 8		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 9		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 9		43	52	123

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 34				1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 34	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 34				1
Registered Landfill Sites	pg 34				1
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					
Geological					
BGS 1:625,000 Solid Geology	pg 35	Yes	n/a	n/a	n/a
BGS Recorded Mineral Sites	pg 35			1	
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				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 35	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 35	Yes		n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 35	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 35	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 35	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

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Industrial Land Use					
Contemporary Trade Directory Entries	pg 36			3	43
Fuel Station Entries	pg 40				1
Gas Pipelines					
Underground Electrical Cables					
Sensitive Land Use					
Ancient Woodland					
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	pg 41	1			
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: Limited Potential for Groundwater Flooding to Occur	A13SE (S)	0	1	495334 101050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (SW)	0	1	495334 101051
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	146	1	495200 101150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (W)	150	1	495150 101051
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	167	1	495334 101250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (NW)	256	1	495100 101200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (W)	257	1	495050 101100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (W)	299	1	495000 101051
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (W)	302	1	495000 101000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (W)	319	1	495000 101150
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (NW)	323	1	495150 101350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	330	1	495600 101300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (SW)	331	1	495000 100900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	353	1	495100 101350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (W)	409	1	494900 100950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (W)	471	1	494850 100900
1	Discharge Consents Operator: Southern Water Services Ltd (S) Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Sewage Pumping Station, Flansham, Bognor Regis, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: S01007 Permit Version: 1 Effective Date: 31st March 1965 Issued Date: 31st March 1965 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Freshwater River Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	235	2	495560 101200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	Discharge Consents Operator: Southern Water Services Ltd (S) Property Type: Undefined Or Other Location: Downview Road, Felpham, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01147 Permit Version: 1 Effective Date: 29th March 1962 Issued Date: 29th March 1962 Revocation Date: 16th September 1997 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Controlled Sea Environment: Receiving Water: Controlled Sea Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m	A12SE (W)	458	2	494850 100950
3	Discharge Consents Operator: Mr I Darby And Miss F Wells Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: Hoe Farm Cottage, Flansham, Bognor Hoe Farm Cottage, Hoe Lane, Flansham, Bognor Regis, West Sussex, Po22 8ns Authority: Environment Agency, Southern Region Catchment Area: Aldingbourne/Barnham Rife Reference: P11166 Permit Version: 1 Effective Date: 12th March 2003 Issued Date: 12th March 2003 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Onto Land/Into Watercourse Environment: Receiving Water: Unnamed Trib Of Lidsey Rife 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	A18SE (N)	511	2	495450 101580
4	Discharge Consents Operator: D.F. Langmead, Esq. Property Type: Undefined Or Other Location: Hoe Barn , Hoe Lane , Flansham , BOGNOR REGIS, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: N03442 Permit Version: 1 Effective Date: 14th October 1982 Issued Date: 14th October 1982 Revocation Date: 31st March 1997 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Into Land Environment: Receiving Water: Into Land Status: Lapsed (under Environment Act 1995, Schedule 23) Positional Accuracy: Located by supplier to within 100m	A18SE (N)	544	2	495530 101590
5	Discharge Consents Operator: West Sussex County Council Property Type: Undefined Or Other Location: New Barn Lane, Felpham, Bognor Regis West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: N02080 Permit Version: 1 Effective Date: 1st December 1975 Issued Date: 1st December 1975 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Freshwater River Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m	A9NW (SE)	612	2	495790 100610

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	Discharge Consents Operator: Lec Refridgeration Plc Property Type: MAKING OF ELECTRICAL EQUIP/BATTERIES/DOMESTIC APP Location: Lec Refrigeration Ltd., Shripney Road, Bognor Regis, West Sussex, Po22 9nq Authority: Environment Agency, Southern Region Catchment Area: Old-Stream 80 Reference: S00037 Permit Version: 1 Effective Date: 17th April 1964 Issued Date: 17th April 1964 Revocation Date: 10th July 2006 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Lidsey Rife Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	823	2	494550 100700
7	Discharge Consents Operator: Donald Langmead Partnership Property Type: Mixed Farming Location: Flansham Farm, Flansham House Hoe Lane, Flansham, Bognor Regis West Sussex, Po22 8nt Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: App/So/135su Permit Version: 1 Effective Date: 1st April 1999 Issued Date: 1st April 1999 Revocation Date: 4th July 2005 Discharge Type: Trade Discharge - Process Water Discharge: Into Land Environment: Receiving Water: Into Land Status: Revoked Groundwater Regulations Authorisation Positional Accuracy: Located by supplier to within 10m	A14NE (E)	845	2	496160 101360
8	Discharge Consents Operator: Hochtief (Uk) Construction Ltd Property Type: CONSTRUCTION OF BUILDINGS Location: Bognor Northern Relief Road Viaduct, Shripney, Bognor Regis, West Sussex, Po22 9nw Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: Eprab3595vl Permit Version: 1 Effective Date: 28th May 2014 Issued Date: 28th May 2014 Revocation Date: 22nd August 2016 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Lidsey Rife Status: Surrendered under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	888	2	494949 101884
9	Discharge Consents Operator: Hochtief (Uk) Construction Ltd Property Type: CONSTRUCTION OF BUILDINGS Location: Bognor Northern Relief Road Viaduct, Shripney, Bognor Regis, West Sussex, Po22 9nw Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: Eprab3595vl Permit Version: 1 Effective Date: 28th May 2014 Issued Date: 28th May 2014 Revocation Date: 22nd August 2016 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Lidsey Rife Status: Surrendered under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	974	2	494873 101942

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	Local Authority Pollution Prevention and Controls Name: Mrh Bognor Regis (With Spar Shop) Location: 97 Felpham Way, Felpham, BOGNOR REGIS, West Sussex, PO22 8QB Authority: Arun District Council, Environmental Health Department Permit Reference: 2073 Dated: 26th January 1999 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station Status: Permitted Positional Accuracy: Automatically positioned to the address	A9SW (SE)	911	3	495789 100228
	Nearest Surface Water Feature	A13NE (NE)	9	-	495350 101084
11	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Surface Water Outfall Location: Upstream Of, A259 Road Bridge, FELPHAM Authority: Environment Agency, Southern Region Pollutant: Oils - Diesel (Including Agricultural) Note: Oil From Culvert To Rife Incident Date: 17th April 1996 Incident Reference: 1621 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Water Company Surface Water Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SW (W)	912	2	494390 100970
	River Quality Name: Lidsey Rife GQA Grade: River Quality E Reach: Aldingbourne/Barnham Rifes - Westergate Estimated Distance (km): 6.1 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A12NE (W)	516	2	494826 101244
12	Water Abstractions Operator: The Donald Langmead Partnership Licence Number: 10/41/542002 Permit Version: 100 Location: At Flansham Farm, Flansham Authority: Environment Agency, Southern Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used Only On Lands And Buildings In The Occupation Of The Licence Holder At Flansham Farm Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 7th December 1992 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A19SE (NE)	810	2	496080 101450
13	Water Abstractions Operator: Hochtief Uk Construction Ltd Licence Number: So/041/0024/009 Permit Version: 1 Location: Lidsey Rife At Bnrr Viaduct Project Office Authority: Environment Agency, Southern Region Abstraction: Construction: Dust Suppression Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 12th June 2015 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	974	2	494873 101942

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	Water Abstractions Operator: Hochtief Uk Construction Ltd Licence Number: So/041/0024/008 Permit Version: 1 Location: Lidsey Rife At Bnrr Viaduct Project Office Authority: Environment Agency, Southern Region Abstraction: Construction: Dust Suppression Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 12th June 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	974	2	494873 101942
	Water Abstractions Operator: James D Baird (Home Farm) Ltd Licence Number: 10/41/411016 Permit Version: 101 Location: Ryebank Rife - New Reach Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied 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	A19NE (NE)	1200	2	496190 101940
	Water Abstractions Operator: Langmead Farms Ltd Licence Number: 27/209/R01 Permit Version: 1 Location: Ryebank Rife, Point A - Bilsham Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 1st April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A20NW (NE)	1267	2	496359 101855
	Water Abstractions Operator: Langmead Farms Ltd Licence Number: 27/209 Permit Version: 1 Location: Ryebank Rife, Point A - Bilsham Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 16th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A20NW (NE)	1277	2	496390 101830

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: The Donald Langmead Partnership Licence Number: 10/41/541002 Permit Version: 100 Location: Point 2 At Shripney Farm & Flansham Farm Authority: Environment Agency, Southern Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings In The Occupation Of The Licence Holder At Shripney And Flansham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 21st March 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A20NW (NE)	1278	2	496440 101760
	Water Abstractions Operator: Langmead Farms Ltd Licence Number: So/041/0024/005 Permit Version: 1 Location: Ryebank Rife - Stakers Farm, Yapton Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 1st April 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A24SW (N)	1304	2	495837 102285
	Water Abstractions Operator: The Donald Langmead Partnership Licence Number: 10/41/541002 Permit Version: 100 Location: Point 3 At Shripney Farm & Flansham Farm Authority: Environment Agency, Southern Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings In The Occupation Of The Licence Holder At Shripney And Flansham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 21st March 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A20SW (E)	1371	2	496680 101460
	Water Abstractions Operator: The Donald Langmead Partnership Licence Number: 541001 Permit Version: Not Supplied Location: Whitehouse Farm, BERSTED Authority: Environment Agency, Southern Region Abstraction: Spray Irrigation Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 545 Yearly Rate (m3): 9090 Details: Aldingbourne Rife 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	(W)	1676	2	493630 101190

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/542102 Permit Version: 101 Location: Between Points C&D At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Plan Accompanying This Licence Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1700	2	494950 102740
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/542102 Permit Version: 100 Location: Between Points C&D At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Plan Accompanying This Licence Authorised Start: 01 March Authorised End: 31 August Permit Start Date: 20th May 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1700	2	494950 102740
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/542102/R01 Permit Version: 1 Location: Between Points C&D At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 1st April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1713	2	494931 102749
	Water Abstractions Operator: Butlins Skyline Ltd Licence Number: 27/201 Permit Version: 1 Location: Aldingbourne Rife At Butlins Holiday Village, Point 'A' Authority: Environment Agency, Southern Region Abstraction: Business Parks: Make-Up or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 23rd December 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A2SW (SW)	1784	2	494560 99410
	Groundwater Vulnerability Soil Classification: Soils of Intermediate Leaching Potential (I1) - Soils which can possibly transmit a wide range of pollutants Map Sheet: Sheet 45 West Sussex and Surrey Scale: 1:100,000	A13NE (SW)	0	2	495334 101051
	Drift Deposits None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A13NE (SW)	0	1	495334 101051
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13NE (SW)	0	1	495334 101051
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (N)	82	2	495334 101165
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SW (W)	144	2	495166 100985
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A13NE (N)	145	2	495372 101222
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (W)	171	2	495138 101105
	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	A13SW (W)	172	2	495129 101019
	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	A13NW (NW)	172	2	495246 101233
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (NW)	173	2	495246 101234
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (NW)	180	2	495238 101237
	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	A13NW (NW)	182	2	495238 101239
	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	A13NW (W)	187	2	495131 101120
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	189	2	495444 101238
	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	A13NW (NW)	191	2	495230 101244
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	193	2	495463 101234
	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	A13NE (NE)	195	2	495454 101241
	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	A13NE (NE)	198	2	495474 101233

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (NW)	227	2	495176 101249
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (N)	114	2	495326 101197
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
14	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 229.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	10	4	495309 101070
15	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 58.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	10	4	495351 101085
16	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (N)	10	4	495323 101089
17	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 132.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (N)	14	4	495328 101097
18	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 76.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SE (SE)	69	4	495407 101002
19	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 36.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SE (SE)	84	4	495392 100958
20	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 72.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SE (S)	99	4	495373 100926

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (N)	145	4	495363 101224
22	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 52.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SW (S)	146	4	495277 100883
23	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: West Streams Primacy: 1	A13SW (S)	146	4	495273 100885
24	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SW (S)	146	4	495275 100884
25	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (N)	149	4	495365 101229
26	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 127.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 2	A13NE (N)	155	4	495379 101231
27	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SW (S)	155	4	495326 100862
28	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 148.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (N)	155	4	495366 101234
29	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 44.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SW (S)	165	4	495327 100853

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 48.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SW (SW)	173	4	495208 100894
31	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 21.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 2	A13NE (NE)	185	4	495490 101205
32	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 306.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	189	4	495430 101246
33	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 164.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	192	4	495160 101174
34	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 96.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	192	4	495161 101176
35	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 68.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SW (W)	194	4	495109 101001
36	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 52.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 2	A13NE (NE)	195	4	495510 101199
37	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 27.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	195	4	495546 101143
38	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 27.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	203	4	495500 101220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
39	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SW (S)	205	4	495305 100814
40	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 26.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	209	4	495221 101260
41	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 15.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	209	4	495221 101260
42	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 22.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	212	4	495516 101217
43	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 38.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SW (S)	212	4	495302 100807
44	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 88.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	217	4	495568 101149
45	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	219	4	495563 101164
46	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 12.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	223	4	495562 101175
47	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 20.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	228	4	495533 101222

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
48	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	229	4	495561 101188
49	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: West Streams Primacy: 1	A13NE (NE)	232	4	495561 101194
50	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: West Streams Primacy: 1	A13NE (NE)	233	4	495550 101211
51	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	233	4	495204 101278
52	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 77.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	235	4	495561 101200
53	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (W)	236	4	495063 101050
54	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 142.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	246	4	495188 101283
55	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 106.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (W)	247	4	495053 101054
56	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SW (W)	250	4	495068 100947

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
57	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 49.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SW (W)	259	4	495057 100949
58	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 18.5 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SW (W)	283	4	495022 100984
59	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 229.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	295	4	495635 101189
60	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 172.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SW (W)	295	4	495008 100996
61	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 19.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SE (SE)	319	4	495487 100738
62	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 73.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SE (SE)	333	4	495505 100731
63	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 91.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12NE (W)	336	4	494994 101181
64	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: West Streams Primacy: 1	A13NW (W)	337	4	494996 101186
65	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 140.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (W)	337	4	494997 101189

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
66	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 44.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SW (N)	346	4	495288 101426
67	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 118.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SW (N)	346	4	495288 101426
68	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 211.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	348	4	495121 101360
69	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12NE (W)	349	4	494954 101091
70	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 143.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12NE (W)	356	4	494947 101094
71	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	368	4	495049 101319
72	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	371	4	495052 101326
73	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	372	4	495053 101330
74	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	374	4	495052 101330

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
75	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 149.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SW (N)	376	4	495251 101451
76	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 38.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	378	4	495047 101332
77	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (SE)	395	4	495572 100702
78	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	414	4	495011 101344
79	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	418	4	495006 101346
80	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 19.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	418	4	495006 101346
81	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 48.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (SE)	422	4	495598 100688
82	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 78.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	424	4	495007 101356
83	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 75.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (E)	432	4	495788 100969

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
84	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 220.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SE (W)	432	4	494873 100972
85	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 39.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (E)	432	4	495788 100969
86	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 53.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SE (N)	434	4	495364 101516
87	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 87.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (E)	436	4	495777 100918
88	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (E)	436	4	495778 100922
89	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12NE (NW)	437	4	494988 101352
90	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 98.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (SE)	439	4	495702 100779
91	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 31.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (SE)	442	4	495749 100845
92	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 79.8 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (SE)	442	4	495692 100757

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
93	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 98.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12NE (NW)	443	4	494981 101354
94	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (E)	450	4	495816 101039
95	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: West Streams Primacy: 1	A14NW (E)	450	4	495817 101084
96	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 157.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14NW (E)	450	4	495817 101084
97	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (E)	452	4	495818 101039
98	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 107.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (E)	453	4	495819 101037
99	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.4 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (SE)	459	4	495645 100680
100	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 99.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SW (NW)	460	4	495066 101459
101	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (SE)	465	4	495654 100680

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
102	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.1 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (SE)	469	4	495660 100681
103	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 325.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A19SW (NE)	470	4	495705 101393
104	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (SE)	472	4	495666 100682
105	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 51.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SE (N)	474	4	495403 101552
106	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 37.5 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SW (N)	483	4	495139 101526
107	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 52.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SW (N)	497	4	495166 101552
108	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 37.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12NE (W)	497	4	494813 101145
109	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 455.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SW (N)	520	4	495205 101587
110	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 433.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lidsey Rife Catchment Name: West Streams Primacy: 1	A12NE (W)	525	4	494796 101189

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
111	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 44.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NW (S)	530	4	495183 100509
112	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 185.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lidsey Rife Catchment Name: West Streams Primacy: 1	A12NE (W)	532	4	494781 101163
113	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12NE (NW)	537	4	494888 101386
114	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12NE (NW)	537	4	494888 101386
115	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 10.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (S)	538	4	495393 100483
116	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (S)	549	4	495396 100472
117	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 118.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (E)	552	4	495914 100989
118	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 130.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (E)	553	4	495914 100990
119	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 23.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (S)	559	4	495394 100461

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
120	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 82.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SE (W)	566	4	494754 100889
121	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 70.8 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SE (W)	599	4	494747 100809
122	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SE (W)	601	4	494698 101029
123	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 105.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18SE (NE)	606	4	495608 101623
124	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 37.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SE (W)	606	4	494694 101033
125	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 318.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SW (N)	627	4	495242 101704
126	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 56.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A9NW (SE)	627	4	495868 100687
127	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 246.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A9NW (SE)	627	4	495873 100696
128	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A9NW (SE)	627	4	495871 100692

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
129	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 825.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12NE (NW)	630	4	494749 101347
130	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 78.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SE (N)	639	4	495366 101722
131	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 104.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lidsey Rife Catchment Name: West Streams Primacy: 1	A12SE (W)	640	4	494659 101047
132	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 123.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SW (NE)	650	4	495713 101617
133	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 204.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lidsey Rife Catchment Name: West Streams Primacy: 1	A12SE (W)	662	4	494670 100837
134	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 15.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SE (E)	663	4	496015 100930
135	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 46.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SE (E)	663	4	496015 100930
136	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 32.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SE (E)	664	4	496009 100895
137	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 54.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SE (SW)	667	4	494691 100767

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
138	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 249.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SE (E)	677	4	496029 100922
139	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 127.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SE (E)	685	4	496044 100963
140	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 62.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17SE (NW)	686	4	494857 101579
141	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 88.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17SE (NW)	686	4	494857 101579
142	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 116.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SW (W)	688	4	494617 100956
143	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 263.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18NE (N)	692	4	495540 101743
144	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 18.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SW (W)	696	4	494655 100778
145	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 92.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lidsey Rife Catchment Name: West Streams Primacy: 1	A12SW (W)	699	4	494646 100794
146	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 198.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NE (N)	701	4	495424 101778

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
147	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 46.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SE (E)	707	4	496066 100963
148	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 95.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14NE (E)	729	4	496096 101079
149	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 180.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SW (W)	735	4	494567 100981
150	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 192.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17SE (NW)	739	4	494797 101593
151	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 156.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17SE (NW)	742	4	494873 101666
152	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17SE (NW)	742	4	494873 101666
153	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 234.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17SE (NW)	744	4	494869 101665
154	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 38.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14NE (E)	751	4	496100 101228
155	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 51.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SW (NE)	761	4	495778 101706

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
156	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 69.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	766	4	496043 101427
157	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 33.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A7NE (SW)	767	4	494884 100396
158	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 218.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14NE (E)	780	4	496134 101208
159	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 94.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A14NE (E)	780	4	496134 101208
160	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 57.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lidsey Rife Catchment Name: West Streams Primacy: 1	A12SW (W)	790	4	494565 100749
161	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: West Streams Primacy: 1	A12SW (W)	790	4	494565 100749
162	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SW (NE)	793	4	495831 101709
163	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 313.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SW (NE)	793	4	495831 101709
164	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SW (NE)	796	4	495827 101715

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
165	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A7SE (SW)	796	4	494882 100362
166	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 23.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A7SE (SW)	804	4	494881 100353
167	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 49.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	806	4	496065 101468
168	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: West Streams Primacy: 1	A12SW (W)	810	4	494534 100776
169	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 167.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	818	4	496066 101490
170	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A7NW (SW)	819	4	494557 100696
171	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 242.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lidsey Rife Catchment Name: West Streams Primacy: 1	A7NW (SW)	819	4	494557 100696
172	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 171.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A7NW (SW)	822	4	494553 100696
173	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 217.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19NW (NE)	824	4	495837 101742

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
174	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 28.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A7SE (SW)	825	4	494880 100329
175	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 58.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14NE (E)	831	4	496193 101163
176	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A14NE (E)	833	4	496167 101302
177	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 125.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	842	4	496120 101443
178	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 126.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	843	4	496080 101516
179	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: West Streams Primacy: 1	A17NE (NW)	854	4	494910 101826
180	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 89.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17NE (NW)	854	4	494910 101826
181	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 124.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17NE (NW)	855	4	494912 101828
182	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 104.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SW (W)	867	4	494456 100838

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
183	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 160.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 2	A18NE (N)	872	4	495576 101920
184	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 193.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18NE (N)	877	4	495603 101917
185	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 307.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17SW (NW)	881	4	494498 101404
186	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 424.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18NE (N)	882	4	495587 101927
187	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: West Streams Primacy: 1	A17NE (NW)	884	4	494836 101815
188	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17NE (NW)	884	4	494836 101815
189	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 147.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17NE (NW)	886	4	494833 101815
190	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NW (N)	888	4	495003 101908
191	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SE (E)	895	4	496253 100939

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
192	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17NE (N)	898	4	494993 101915
193	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 260.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SE (E)	898	4	496242 100863
194	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NE (N)	898	4	495435 101975
195	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SE (E)	902	4	496259 100937
196	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 213.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17NE (N)	902	4	494990 101918
197	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	902	4	496027 101682
198	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 335.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	902	4	496026 101682
199	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SE (E)	908	4	496272 100994
200	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: West Streams Primacy: 1	A18NE (N)	908	4	495439 101985

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
201	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 51.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SE (E)	910	4	496274 100986
202	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 78.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	911	4	496043 101677
203	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 54.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17NE (NW)	913	4	494825 101842
204	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SE (E)	915	4	496273 100937
205	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 115.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	916	4	496181 101487
206	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 117.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SW (W)	921	4	494412 100793
207	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 27.3 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SW (W)	921	4	494412 100793
208	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 25.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17SW (NW)	926	4	494626 101682
209	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17SW (NW)	926	4	494626 101682

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
210	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 32.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SW (W)	935	4	494375 100903
211	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 81.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SW (W)	938	4	494390 100809
212	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NE (N)	939	4	495448 102015
213	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	942	4	496116 101637
214	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 120.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8SE (S)	946	4	495453 100079
215	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 279.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17SW (NW)	950	4	494603 101693
216	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17NE (NW)	950	4	494832 101891
217	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 198.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17NE (NW)	950	4	494832 101891
218	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 286.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	950	4	496056 101720

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
219	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NE (N)	953	4	495448 102029
220	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 116.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17NE (NW)	954	4	494829 101894
221	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 278.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NE (N)	957	4	495450 102033
222	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17NE (NW)	962	4	494661 101773
223	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17NE (NW)	964	4	494660 101774
224	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A14NE (E)	966	4	496333 101078
225	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 94.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A14NE (E)	974	4	496341 101079
226	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 72.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A14NE (E)	974	4	496341 101079
227	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17NW (NW)	977	4	494648 101781

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
228	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 525.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 2	A7NW (SW)	980	4	494455 100544
229	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 201.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lidsey Rife Catchment Name: West Streams Primacy: 1	A7NW (SW)	980	4	494455 100544
230	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 221.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19NE (NE)	984	4	496062 101764
231	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 23.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NW (N)	987	4	495144 102053

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
232	Historical Landfill Sites Licence Holder: LEC Refrigeration Limited Location: Bognor Regis, Sussex Name: LEC Refrigeration Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD20373 First Input Date: 31st December 1970 Last Input Date: 20th June 1981 Specified Waste: Deposited Waste included Inert and Industrial Waste, and Liquid Sludge Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 3800/8229 BGS Ref: Not Supplied Other Ref: WD27/027, WD13/15	A12SW (W)	770	2	494530 101012
	Local Authority Landfill Coverage Name: Arun District Council - Has no landfill data to supply		0	5	495334 101051
	Local Authority Landfill Coverage Name: West Sussex County Council - Has supplied landfill data		0	6	495334 101051
233	Local Authority Recorded Landfill Sites Location: Lec, Land Southeast Of Railway Crossing, Shripney Road, Bognor Regis Reference: BR/646/82 Authority: West Sussex County Council, Environment & Development Last Reported Status: Unknown Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate	A12SW (W)	920	6	494413 100792
234	Registered Landfill Sites Licence Holder: Lec Refrigeration Ltd Licence Reference: 5/AX/82 Site Location: Land To East Of Airstrip At Lec Refrig'N, Shripney Road, Bognor Regis, West Sussex Licence Easting: 494400 Licence Northing: 100900 Operator Location: As Site Address Authority: Environment Agency - Southern Region, Sussex Area Site Category: Landfill Max Input Rate: Undefined Waste Source: Only waste produced on site Restrictions: Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 22nd March 1982 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Excavated Natural Materials \$ Foundry Sand	A12SW (W)	910	2	494400 100900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: White Chalk Subgroup	A13NE (SW)	0	1	495334 101051
235	BGS Recorded Mineral Sites Site Name: Flansham Brickworks Location: Flansham, Bognor Regis, West Sussex Source: British Geological Survey, National Geoscience Information Service Reference: 18270 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Quaternary Geology: River Terrace Deposits (Brickearth) Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	355	1	495650 101280
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (SW)	0	1	495334 101051
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	153	1	495369 101232
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (SW)	0	1	495334 101051
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (SW)	0	1	495334 101051
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (SW)	0	1	495334 101051
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (SW)	0	1	495334 101051
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	153	1	495369 101232
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (SW)	0	1	495334 101051
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	153	1	495369 101232
	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	A13NE (SW)	0	1	495334 101051
	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	A13NE (SW)	0	1	495334 101051

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
236	Contemporary Trade Directory Entries Name: Jacx Location: 47, Westmorland Drive, Bognor Regis, West Sussex, PO22 8NA Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SW (SE)	470	-	495714 100742
237	Contemporary Trade Directory Entries Name: Gas Appliance Services Ltd Location: Downview Rd, Felpham, Bognor Regis, West Sussex, PO22 8JA Classification: Gas Appliances - Sales & Service Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A8NW (S)	484	-	495148 100570
238	Contemporary Trade Directory Entries Name: Hygienic Cladding Systems Location: 2, Outerwyke Road, Bognor Regis, West Sussex, PO22 8HX Classification: Cladding Suppliers & Installers Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NW (S)	493	-	495203 100543
239	Contemporary Trade Directory Entries Name: O'Connells Cleaning Location: Bognor Regis, West Sussex, Po22 8en Classification: Commercial Cleaning Services Status: Active Positional Accuracy: Manually positioned within the geographical locality	A8NW (SW)	591	-	495045 100502
240	Contemporary Trade Directory Entries Name: Conway'S Cleaning Service Location: 21, Wroxham Way, Bognor Regis, West Sussex, PO22 8EW Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NE (SW)	641	-	494922 100523
241	Contemporary Trade Directory Entries Name: Baronmead Location: Unit 1, Flansham Business Centre, Hoe Lane, Flansham, Bognor Regis, West Sussex, PO22 8NJ Classification: Disability Equipment - Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	660	-	495998 101263
242	Contemporary Trade Directory Entries Name: Ever Clean Location: 92, Outerwyke Road, Bognor Regis, West Sussex, PO22 8LT Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NW (SE)	679	-	495681 100434
243	Contemporary Trade Directory Entries Name: Hoodzup Ltd Location: Flat 4, Herons Court, Wroxham Way, Bognor Regis, West Sussex, PO22 8HA Classification: Clothing & Fabrics - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NE (SW)	692	-	494951 100440
243	Contemporary Trade Directory Entries Name: Jlr Cleaning Location: Flat 4, Herons Court, Wroxham Way, Bognor Regis, West Sussex, PO22 8HA Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NE (SW)	692	-	494951 100440
243	Contemporary Trade Directory Entries Name: Coolair Ltd Location: 5, Somerton Green, Bognor Regis, West Sussex, PO22 8EZ Classification: Air Conditioning & Refrigeration Contractors Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (SW)	726	-	494911 100427
244	Contemporary Trade Directory Entries Name: Kardos Cleaning Location: 25, Binsted Avenue, Bognor Regis, PO22 8HY Classification: Commercial Cleaning Services Status: Active Positional Accuracy: Automatically positioned to the address	A8SE (S)	719	-	495435 100305

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
245	Contemporary Trade Directory Entries Name: Beeco Electrical Location: 28, New Barn Lane, Felpham, Bognor Regis, West Sussex, PO22 8LN Classification: Domestic Appliances - Servicing, Repairs & Parts Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NW (SE)	721	-	495911 100585
245	Contemporary Trade Directory Entries Name: Beeco Electrical Location: 28, New Barn Lane, Felpham, Bognor Regis, West Sussex, PO22 8LN Classification: Cookers - Sales & Service Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NW (SE)	721	-	495911 100585
246	Contemporary Trade Directory Entries Name: Emergency Plumbing Services Location: 39, Roundle Avenue, Bognor Regis, West Sussex, PO22 8LL Classification: Boilers - Servicing, Replacements & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (E)	743	-	496044 100760
247	Contemporary Trade Directory Entries Name: Glynde Industrial Location: 8, Glynde Crescent, Bognor Regis, West Sussex, PO22 8HT Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (S)	747	-	495206 100281
248	Contemporary Trade Directory Entries Name: H & H Services Location: 1, Ferndown Gardens, Bognor Regis, West Sussex, PO22 8JL Classification: Boilers - Servicing, Replacements & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (S)	792	-	495307 100226
249	Contemporary Trade Directory Entries Name: Olympac Waste Systems Location: Lennox House Works, 10, Beeding Close, Bognor Regis, West Sussex, PO22 9TS Classification: Waste Processing Machinery Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (W)	895	-	494477 101394
249	Contemporary Trade Directory Entries Name: G G Compactors Location: Lennox House Works, 10, Beeding Close, Bognor Regis, PO22 9TS Classification: Machinery - Industrial & Commercial Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (W)	903	-	494467 101390
249	Contemporary Trade Directory Entries Name: Jewson Location: 11, Beeding Close, Bognor Regis, PO22 9TS Classification: Builders' Merchants Status: Active Positional Accuracy: Automatically positioned to the address	A12NW (W)	909	-	494442 101342
249	Contemporary Trade Directory Entries Name: Sun-X Ltd Location: Unit G1 Beeding Close, Bognor Regis, West Sussex, PO22 9TS Classification: Window Film Manufacturers and Dealers Status: Active Positional Accuracy: Manually positioned within the geographical locality	A12NW (W)	909	-	494442 101342
249	Contemporary Trade Directory Entries Name: Build Center Location: 11, Beeding Close, Bognor Regis, West Sussex, PO22 9TS Classification: Builders' Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	909	-	494442 101342
249	Contemporary Trade Directory Entries Name: Eurotek Commercials Location: 6-7, Beeding Close, Bognor Regis, West Sussex, PO22 9TS Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (W)	938	-	494429 101389

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
249	Contemporary Trade Directory Entries Name: Polestar Cooling Ltd Location: 6-7, Beeding Close, Bognor Regis, West Sussex, PO22 9TS Classification: Refrigeration Equipment Manufacturers & Distributors Status: Active Positional Accuracy: Automatically positioned to the address	A17SW (W)	938	-	494429 101389
249	Contemporary Trade Directory Entries Name: Dee Bee Finishers Location: 5, Beeding Close, Bognor Regis, West Sussex, PO22 9TS Classification: Spraying - Paint & Coatings Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	958	-	494406 101387
249	Contemporary Trade Directory Entries Name: Euro Aluminium Ltd Location: 4, Beeding Close, Bognor Regis, PO22 9TS Classification: Door Manufacturers - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	963	-	494395 101373
249	Contemporary Trade Directory Entries Name: Queensfield Precision Engineers Ltd Location: 4, Beeding Close, Bognor Regis, West Sussex, PO22 9TS Classification: Tool Design, Manufacturers & Makers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	963	-	494395 101373
249	Contemporary Trade Directory Entries Name: Euro Aluminium Ltd Location: 4, Beeding Close, Bognor Regis, PO22 9TS Classification: Door Manufacturers - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	964	-	494395 101373
250	Contemporary Trade Directory Entries Name: Esso Location: 97-99, Felpham Way, Bognor Regis, PO22 8QB Classification: Petrol Filling Stations Status: Active Positional Accuracy: Automatically positioned to the address	A9SW (SE)	905	-	495789 100235
250	Contemporary Trade Directory Entries Name: E & A Tooling Ltd Location: 97, Felpham Way, Bognor Regis, West Sussex, PO22 8QB Classification: Engineers - General Status: Active Positional Accuracy: Automatically positioned to the address	A9SW (SE)	911	-	495789 100228
250	Contemporary Trade Directory Entries Name: M R H Service Station Location: 97, Felpham Way, Bognor Regis, West Sussex, PO22 8QB Classification: Petrol Filling Stations Status: Active Positional Accuracy: Automatically positioned to the address	A9SW (SE)	911	-	495789 100228
250	Contemporary Trade Directory Entries Name: Q8 Petroleum (Gb) Ltd Location: 97, Felpham Way, Bognor Regis, West Sussex, PO22 8QB Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (SE)	911	-	495789 100228
250	Contemporary Trade Directory Entries Name: Towncross Engineering Location: 97, Felpham Way, Bognor Regis, West Sussex, PO22 8QB Classification: Precision Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A9SW (SE)	911	-	495789 100228
250	Contemporary Trade Directory Entries Name: Q8 Petroleum (Gb) Ltd Location: 97, Felpham Way, Bognor Regis, West Sussex, PO22 8QB Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (SE)	911	-	495789 100228
251	Contemporary Trade Directory Entries Name: Praxis Farm Ltd Location: Little Rookery, Hoe Lane, Bognor Regis, West Sussex, PO22 8NN Classification: Furniture Manufacturers - Home & Office Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (E)	907	-	496268 101165

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
252	Contemporary Trade Directory Entries Name: Enticott Gas & Heating Specialists Location: 4, South Road, Bognor Regis, West Sussex, PO22 8EF Classification: Boilers - Servicing, Replacements & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (S)	909	-	494997 100173
253	Contemporary Trade Directory Entries Name: Lucy Jayne Ltd Location: The Yellow Barn, Rookery Farm, Flansham Lane, Bognor Regis, PO22 6EP Classification: Caravans - Servicing & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (E)	912	-	496247 101308
254	Contemporary Trade Directory Entries Name: Pilot Communications (Europe) Ltd Location: Unit G1, Southern Cross Trading Est, 14 Beeding Cl, Bognor Regis, West Sussex, PO22 9TS Classification: Telecommunications Equipment & Systems Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12NW (W)	921	-	494412 101286
255	Contemporary Trade Directory Entries Name: The Adept Cleaning Co Ltd Location: 6, Roundle Road, Bognor Regis, West Sussex, PO22 8NL Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NE (SE)	966	-	496148 100498
255	Contemporary Trade Directory Entries Name: Adept Cleaning Location: 6, Roundle Road, Bognor Regis, West Sussex, PO22 8NL Classification: Cleaning Services - Commercial Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NE (SE)	966	-	496148 100498
255	Contemporary Trade Directory Entries Name: Broadmark Cleaning Ltd Location: 6, Roundle Road, Bognor Regis, West Sussex, PO22 8NL Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Manually positioned to the address or location	A9NE (SE)	966	-	496148 100498
256	Contemporary Trade Directory Entries Name: Transvac At Home Location: The Flat, 82, Flansham Lane, Bognor Regis, West Sussex, PO22 6AH Classification: Hardware Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (E)	969	-	496287 100762
257	Contemporary Trade Directory Entries Name: Paul Mathew Transport Ltd Location: Q House, Southern Cross Trading Estate, Steyning Way, Bognor Regis, West Sussex, PO22 9SB Classification: Road Haulage Services Status: Active Positional Accuracy: Automatically positioned to the address	A12NW (W)	975	-	494339 101208
257	Contemporary Trade Directory Entries Name: J C C Lighting Location: Innovation Centre, Beeding Close, Bognor Regis, West Sussex, PO22 9TS Classification: Lighting Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	986	-	494337 101257
257	Contemporary Trade Directory Entries Name: Jcc Lighting Products Location: Innovation Centre, Beeding Close, Bognor Regis, West Sussex, PO22 9TS Classification: Lighting Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	986	-	494337 101257
258	Contemporary Trade Directory Entries Name: Advance Sales Services Uk Ltd Location: 1, Felpham Gardens, Bognor Regis, PO22 8QS Classification: Freight Forwarders Status: Active Positional Accuracy: Automatically positioned to the address	A9SW (SE)	994	-	495846 100165

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
259	Contemporary Trade Directory Entries Name: Chichester Haulage Services Ltd Location: New Era House, 8, Oldlands Way, Bognor Regis, PO22 9NQ Classification: Road Haulage Services Status: Active Positional Accuracy: Automatically positioned to the address	A11NE (W)	996	-	494304 101056
260	Fuel Station Entries Name: Mrh Bognor Regis Spar Location: 97, Felpham Way, Bognor Regis, West Sussex, PO22 8QB Brand: Esso Premises Type: Petrol Station Status: Open Positional Accuracy: Automatically positioned to the address	A9SW (SE)	911	-	495789 100228

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
261	Nitrate Vulnerable Zones Name: Aldingbourne Rife Nvz Description: Surface Water Source: Environment Agency, Head Office	A13NE (SW)	0	8	495334 101051

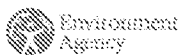
Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Arun District Council - Environmental Health Department Chichester District Council - Environmental Health Department	July 2013 July 2013	Annual Rolling Update Annual Rolling Update
Discharge Consents Environment Agency - Southern Region	October 2017	Quarterly
Enforcement and Prohibition Notices Environment Agency - Southern Region	March 2013	As notified
Integrated Pollution Controls Environment Agency - Southern Region	October 2008	Not Applicable
Integrated Pollution Prevention And Control Environment Agency - South East Region - Solent & South Downs Area Environment Agency - Southern Region	October 2017 October 2017	Quarterly Quarterly
Local Authority Integrated Pollution Prevention And Control Arun District Council - Environmental Health Department Chichester District Council - Environmental Health Department	December 2014 October 2014	Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Controls Arun District Council - Environmental Health Department Chichester District Council - Environmental Health Department	December 2014 October 2014	Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements Arun District Council - Environmental Health Department Chichester District Council - Environmental Health Department	December 2014 October 2014	Annual Rolling Update Annual Rolling Update
Nearest Surface Water Feature Ordnance Survey	September 2017	
Pollution Incidents to Controlled Waters Environment Agency - Southern Region	December 1999	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - Southern Region	March 2013	As notified
Prosecutions Relating to Controlled Waters Environment Agency - Southern Region	March 2013	As notified
Registered Radioactive Substances Environment Agency - Southern Region	January 2015	
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register Environment Agency - South East Region - Solent & South Downs Area Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	October 2017 October 2017 October 2017	Quarterly Quarterly Quarterly
Water Abstractions Environment Agency - Southern Region	October 2017	Quarterly
Water Industry Act Referrals Environment Agency - Southern Region	October 2017	Quarterly
Groundwater Vulnerability Environment Agency - Head Office	April 2015	Not Applicable
Drift Deposits Environment Agency - Head Office	January 1999	Not Applicable
Bedrock Aquifer Designations British Geological Survey - National Geoscience Information Service	August 2015	As notified

Agency & Hydrological	Version	Update Cycle
Superficial Aquifer Designations British Geological Survey - National Geoscience Information Service	August 2015	As notified
Source Protection Zones Environment Agency - Head Office	October 2017	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	November 2017	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	November 2017	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	November 2017	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	November 2017	Quarterly
Flood Defences Environment Agency - Head Office	November 2017	Quarterly
OS Water Network Lines Ordnance Survey	October 2017	Quarterly
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	As notified
Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Environment Agency - Head Office	October 2017	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - Southern Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - South East Region - Solent & South Downs Area Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	October 2017 October 2017 October 2017	Quarterly Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - South East Region - Solent & South Downs Area Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	October 2017 October 2017 October 2017	Quarterly Quarterly Quarterly
Local Authority Landfill Coverage Arun District Council - Technical Support Unit Chichester District Council - Environmental Health Department West Sussex County Council - Environment & Development	May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Arun District Council - Technical Support Unit Chichester District Council - Environmental Health Department West Sussex County Council - Environment & Development	May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable
Registered Landfill Sites Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	March 2003 March 2003	Not Applicable Not Applicable
Registered Waste Transfer Sites Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	March 2003 March 2003	Not Applicable Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	March 2003 March 2003	Not Applicable Not Applicable

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	September 2017	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Variable
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements Arun District Council - Technical Support Unit Chichester District Council - Planning Department West Sussex County Council - Environment & Development	February 2016 February 2016 October 2006	Annual Rolling Update Annual Rolling Update Annual Rolling Update
Planning Hazardous Substance Consents Arun District Council - Technical Support Unit Chichester District Council - Planning Department West Sussex County Council - Environment & Development	February 2016 February 2016 October 2006	Annual Rolling Update Annual Rolling Update 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 Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2017	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	As notified
Mining Instability Ove Arup & Partners	October 2000	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	June 2015	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	As notified
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	As notified
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	As notified

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	November 2017	Quarterly
Fuel Station Entries Catalist Ltd - Experian	November 2017	Quarterly
Gas Pipelines National Grid	July 2014	Quarterly
Underground Electrical Cables National Grid	December 2015	Bi-Annually
Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural England	October 2017	Bi-Annually
Areas of Outstanding Natural Beauty Natural England	August 2017	Bi-Annually
Environmentally Sensitive Areas Natural England	January 2017	
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Natural England	August 2017	Bi-Annually
Marine Nature Reserves Natural England	August 2017	Bi-Annually
National Nature Reserves Natural England	August 2017	Bi-Annually
National Parks Natural England	August 2017	Bi-Annually
Nitrate Vulnerable Zones Environment Agency - Head Office Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	December 2017 October 2015	Bi-Annually
Ramsar Sites Natural England	August 2017	Bi-Annually
Sites of Special Scientific Interest Natural England	August 2017	Bi-Annually
Special Areas of Conservation Natural England	August 2017	Bi-Annually
Special Protection Areas Natural England	August 2017	Bi-Annually

A selection of organisations who provide data within this report

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

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	
2	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	
3	Arun District Council - Environmental Health Department Civic Centre, Maltravers Road, Littlehampton, Sussex, BN17 5LF	
4	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	
5	Arun District Council - Technical Support Unit Civic Centre, Maltravers Road, Littlehampton, Sussex, BN17 5LF	
6	West Sussex County Council - Environment & Development County Hall, Tower hall, Chichester, West Sussex, PO19 1RH	
7	Natural England County Hall, Spetchley Road, Worcester, WR5 2NP	
8	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	

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

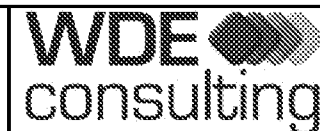
Geology 1:50,000 Maps Legends

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	RTDU	River Terrace Deposits (Undifferentiated)	Sand, Silt and Clay	Quaternary - Quaternary
	RMD	Raised Marine Deposits	Clay, Silt, Sand and Gravel	Quaternary - Quaternary
	RBD1	Raised Beach Deposits, 1	Sand and Gravel	Quaternary - Quaternary
	BTFU	Beach and Tidal Flat Deposits (Undifferentiated)	Clay, Silt, Sand and Gravel	Quaternary - Quaternary
	STOB	Storm Beach Deposits	Gravel	Quaternary - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	LC	London Clay Formation	Clay, Silt and Sand	Eocene - Eocene
	LMBE	Lambeth Group	Clay, Silt and Sand	Paleocene - Paleocene
	PCK	Portsdown Chalk Formation	Chalk	Campanian - Campanian
	SPCH	Spetisbury Chalk Member	Chalk	Campanian - Campanian
	TACH	Tarrant Chalk Member	Chalk	Campanian - Campanian
	LPCK	Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (Undifferentiated)	Chalk	Campanian - Turonian



Geology 1:50,000 Maps

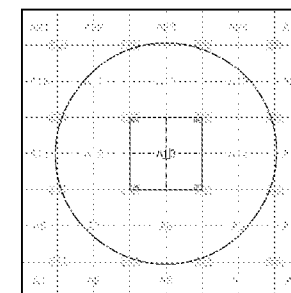
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published 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:	332
Map Name:	Chichester and I
Map Date:	1996
Bedrock Geology:	Available
Superficial Geology:	Available
Artificial Geology:	Available
Faults:	Not Supplied
Landslip:	Available
Rock Segments:	Not Supplied

Geology 1:50,000 Maps - Slice A



Order Details:

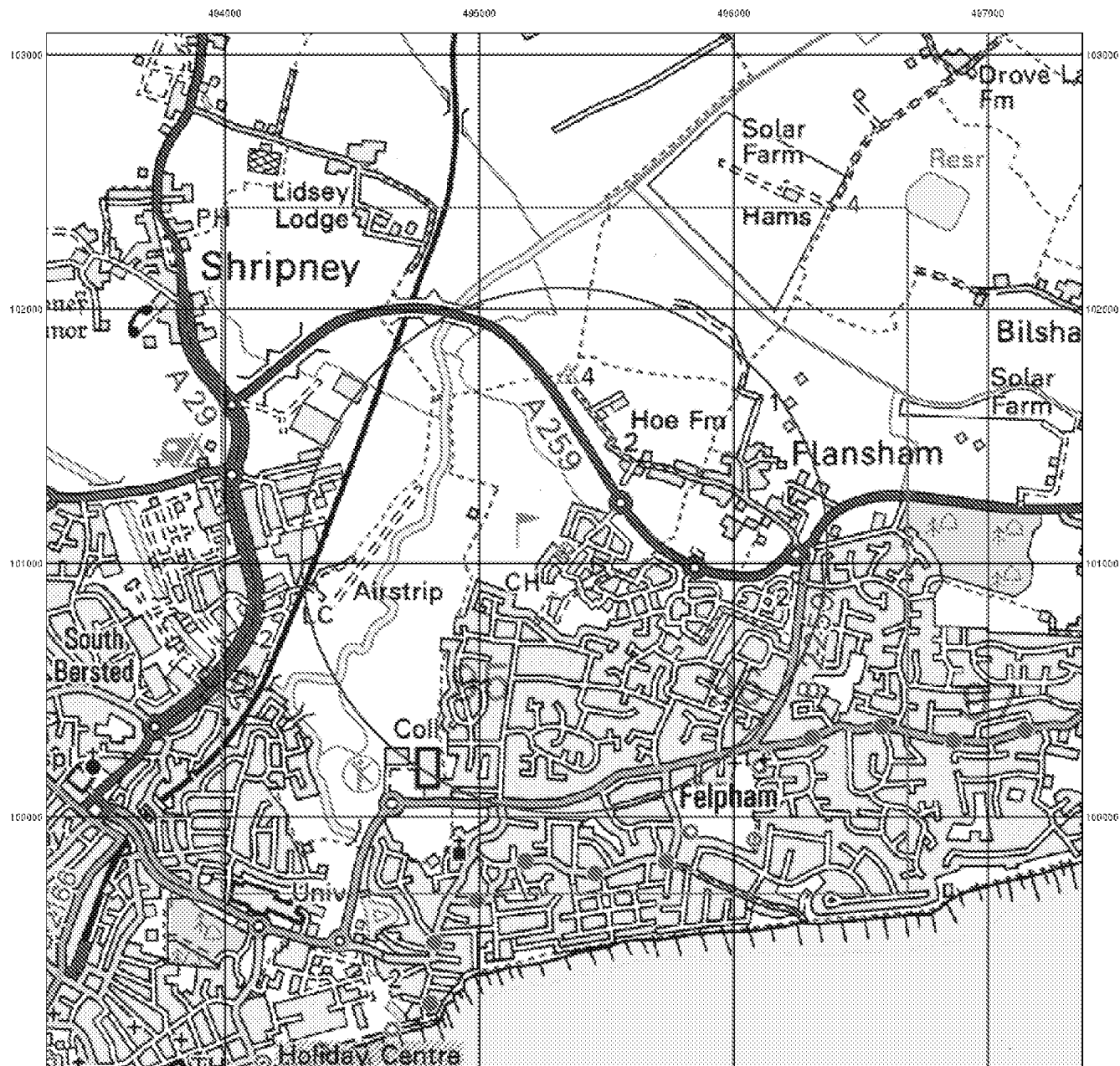
Order Number:	153944407_1_1
Customer Reference:	18-039
National Grid Reference:	495330, 101050
Slice:	A
Site Area (Ha):	0.24
Search Buffer (m):	1000

Site Details:

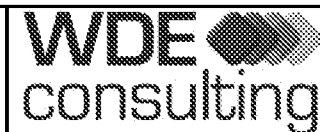
Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

Landmark
INFORMATION GROUP

Tel: 0844 544 5552
Fax: 0844 544 5551
Web: www.environment.co.uk



© Crown Copyright. All Rights Reserved. License Number 100022432.



Artificial Ground and Landslip

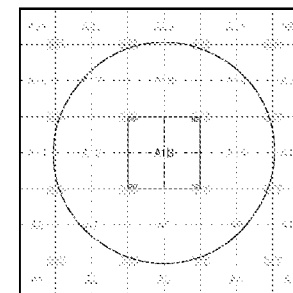
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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

Artificial ground includes:

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

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

Artificial Ground and Landslip Map - Slice A



Order Details:

Order Number: 153944407_1_1
 Customer Reference: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details:

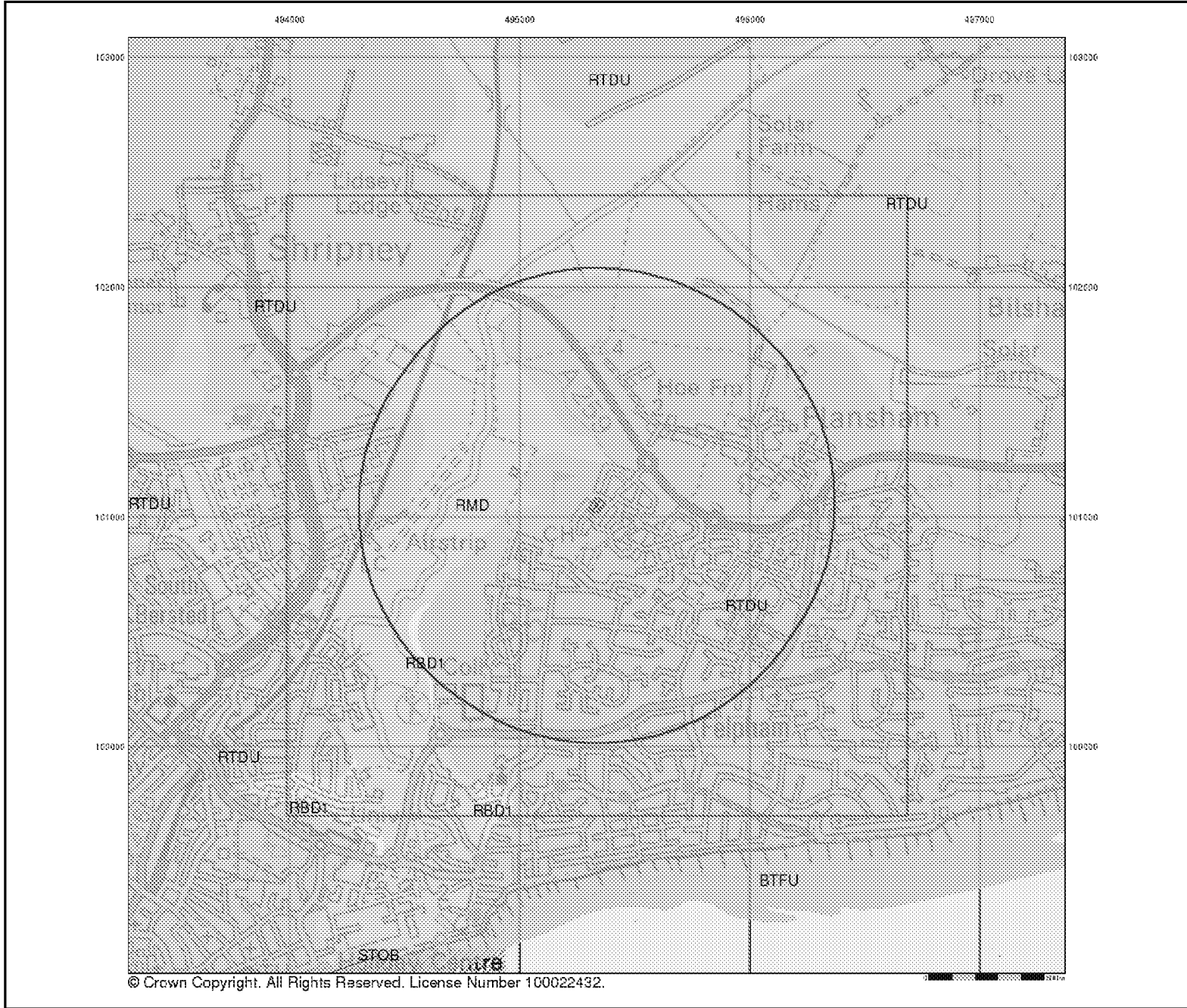
Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

Landmark
 INFORMATION GROUP

Tel: 01344 544 5552
 Fax: 01344 544 5551
 Web: www.environmental.co.uk

v15.0 23-Jan-2018

Page 2 of 5



© Crown Copyright. All Rights Reserved. License Number 100022432.



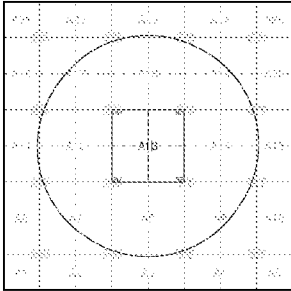
Superficial Geology

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

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

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

Superficial Geology Map - Slice A



Order Details:

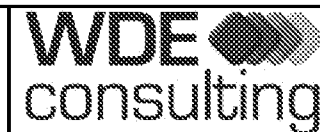
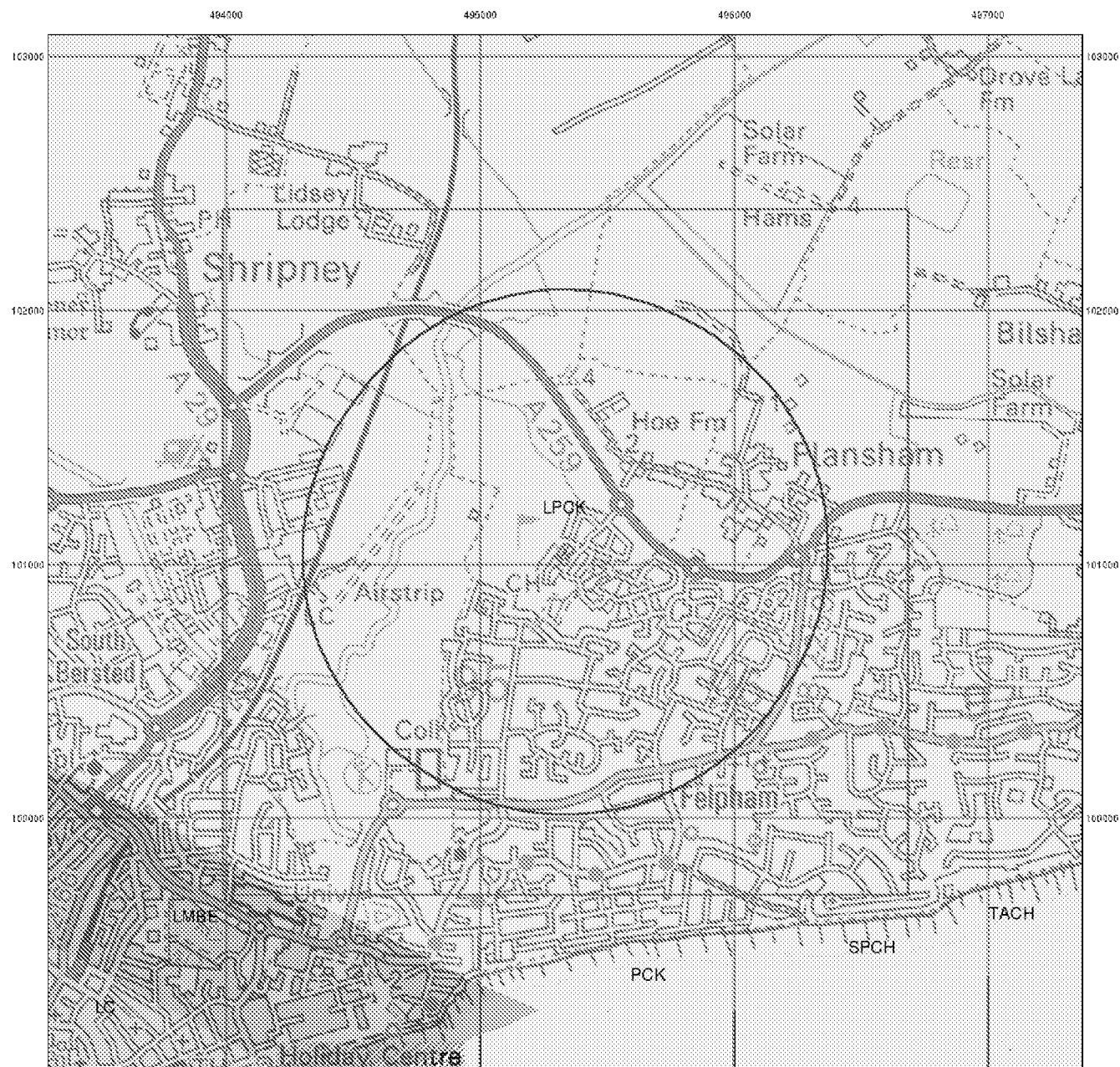
Order Number: 153944407_1_1
Customer Reference: 18-039
National Grid Reference: 495330, 101050
Slice: A
Site Area (Ha): 0.24
Search Buffer (m): 1000

Site Details:

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



Tel: 01344 544 0052
Fax: 01344 544 5551
Web: www.environmental.co.uk



Bedrock and Faults

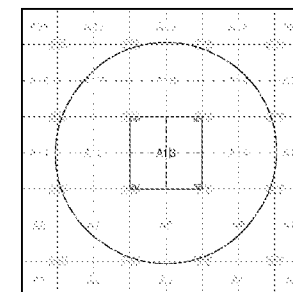
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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

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

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

Bedrock and Faults Map - Slice A



Order Details:

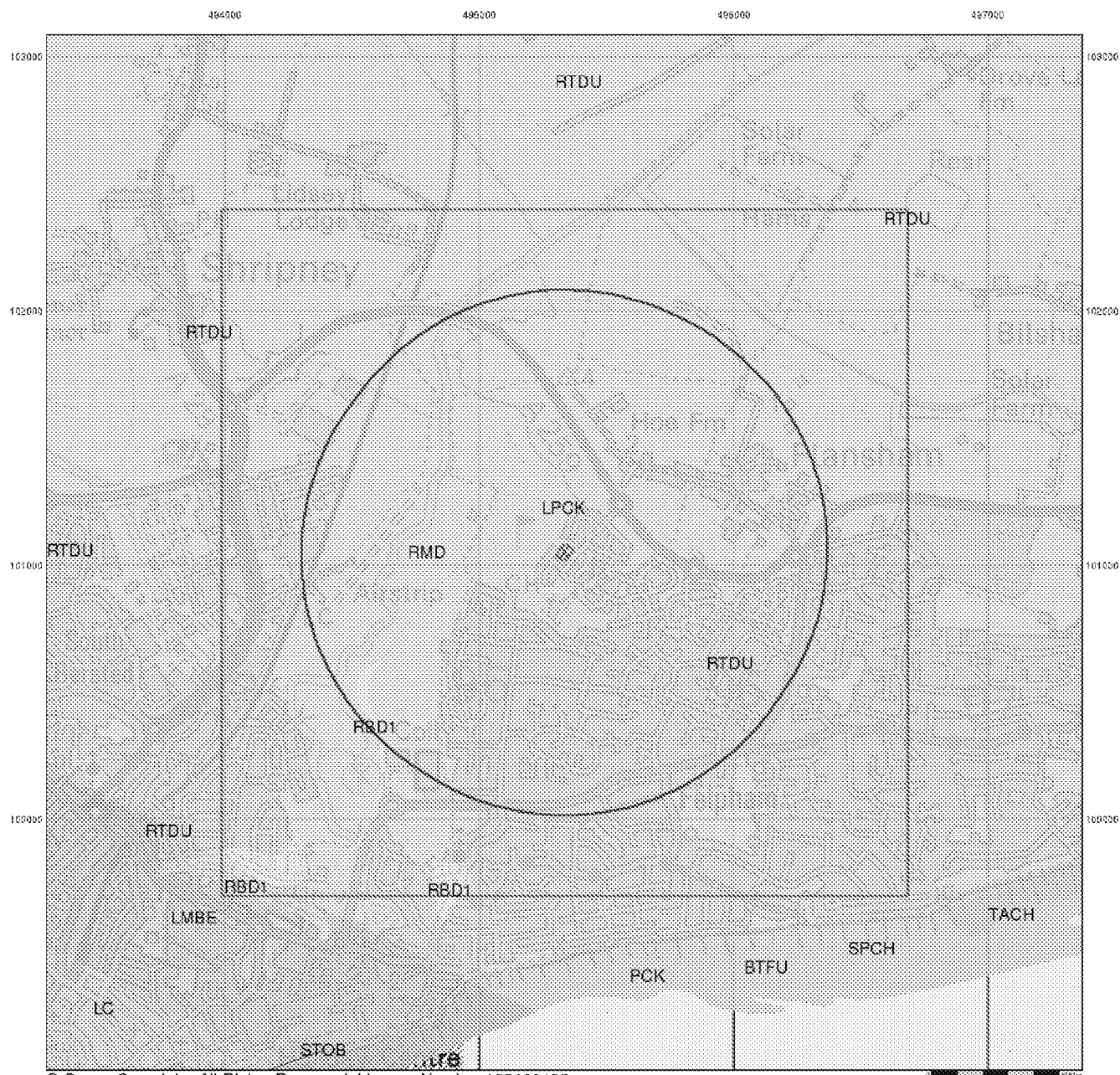
Order Number:	153944407_1_1
Customer Reference:	18-039
National Grid Reference:	495330, 101050
Slice:	A
Site Area (Ha):	0.24
Search Buffer (m):	1000

Site Details:

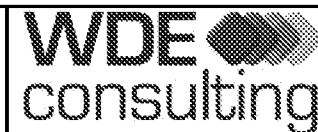
Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



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



© Crown Copyright. All Rights Reserved. License Number 100022432.



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.

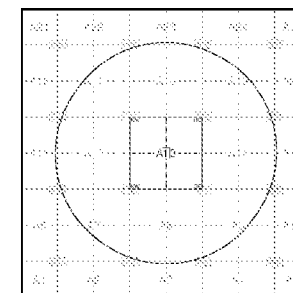
Additional Information

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: 153944407_1_1
Customer Reference: 18-039
National Grid Reference: 495330, 101050
Slice: A
Site Area (Ha): 0.24
Search Buffer (m): 1000

Site Details:

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



Tel: 0544 544 0052
Fax: 0544 544 5551
Web: www.environment.co.uk

v15.0 23-Jan-2018

Page 5 of 5

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

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

Ordnance Survey Plan 1:10,000

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

1:10,000 Raster Mapping

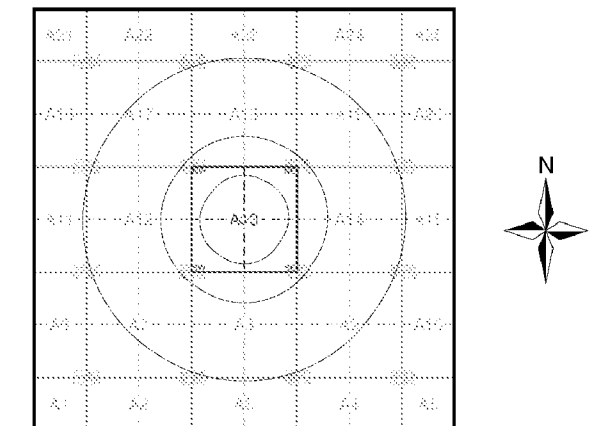
	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil,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

WDE consulting

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Sussex	1:10,560	1879 - 1880	2
Sussex	1:10,560	1899	3
Sussex	1:10,560	1913 - 1914	4
Sussex	1:10,560	1913	5
Sussex	1:10,560	1913	6
Sussex	1:10,560	1932 - 1934	7
Sussex	1:10,560	1938 - 1951	8
Sussex	1:10,560	1951	9
Ordnance Survey Plan	1:10,000	1961 - 1962	10
Ordnance Survey Plan	1:10,000	1967 - 1969	11
Ordnance Survey Plan	1:10,000	1975 - 1979	12
Ordnance Survey Plan	1:10,000	1980	13
Ordnance Survey Plan	1:10,000	1990 - 1993	14
10K Raster Mapping	1:10,000	2000	15
Street View	Variable		16

Historical Map - Slice A



Order Details

Order Number: 153944407_1_1
Customer Ref: 18-039
National Grid Reference: 495330, 101050
Slice: A
Site Area (Ha): 0.24
Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

Landmark
INFORMATION GROUP

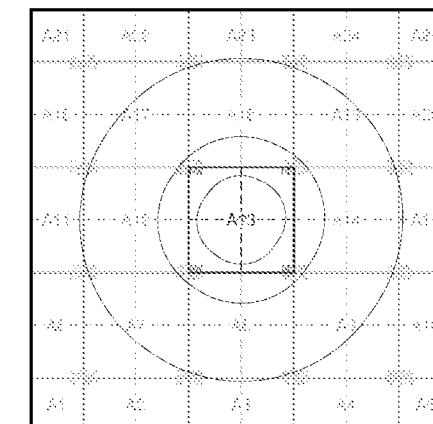
Tel: 0844 844 9852
Fax: 0844 844 9951
Web: www.envisirocheck.co.uk

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)

06200	1880	1:10,560
07400	1879	1:10,560

Historical Map - Slice A

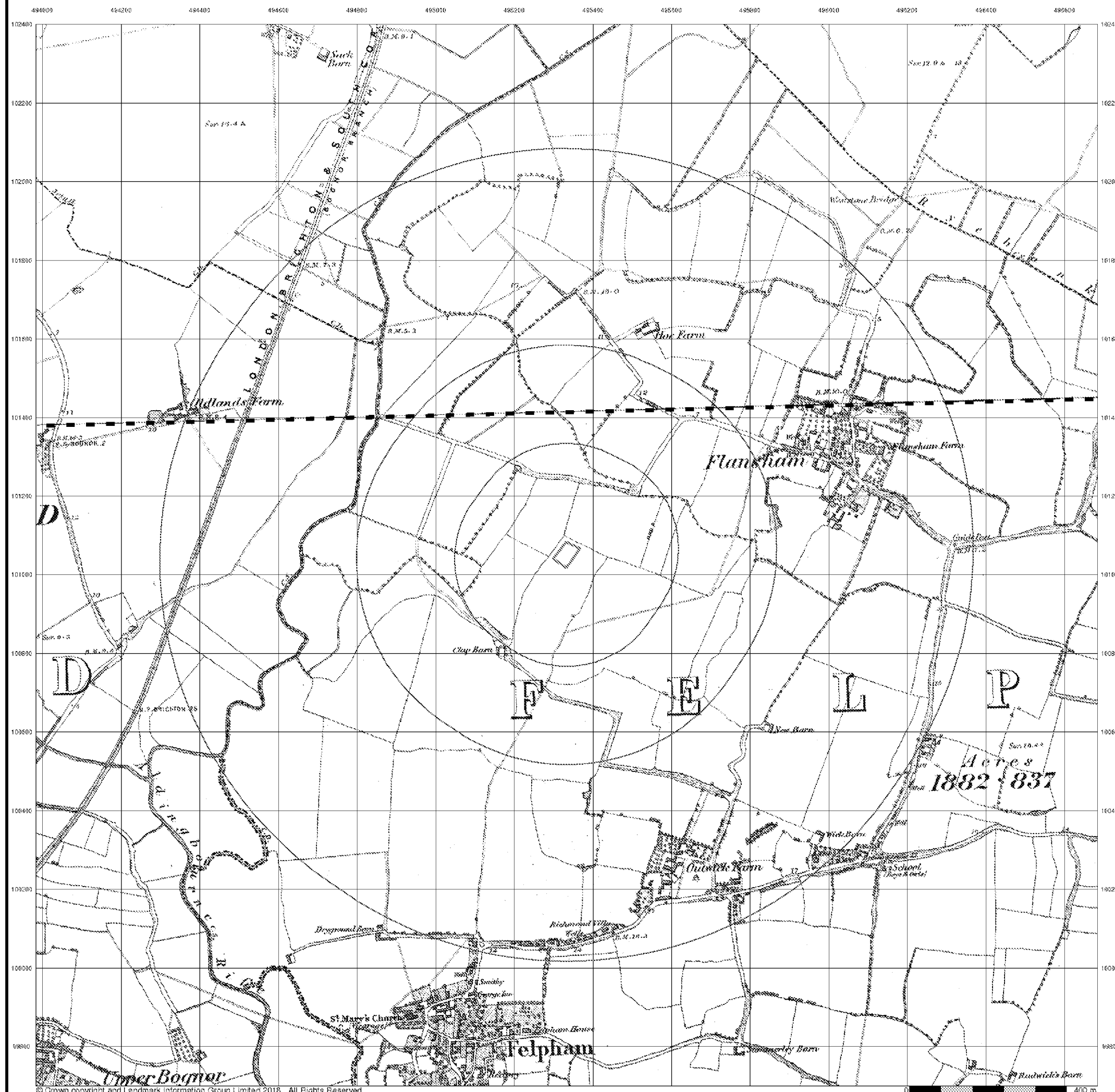


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

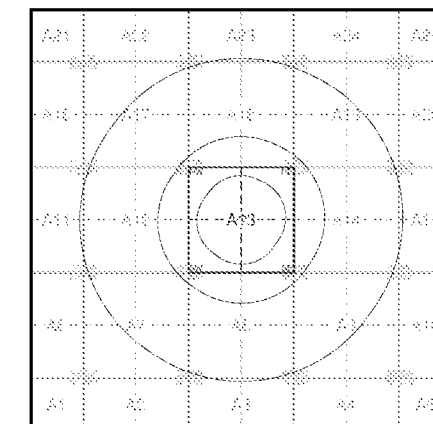


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

062SW 1899 1:10,560	062SE 1899 1:10,560
074NW 1899 1:10,560	074NE 1899 1:10,560

Historical Map - Slice A

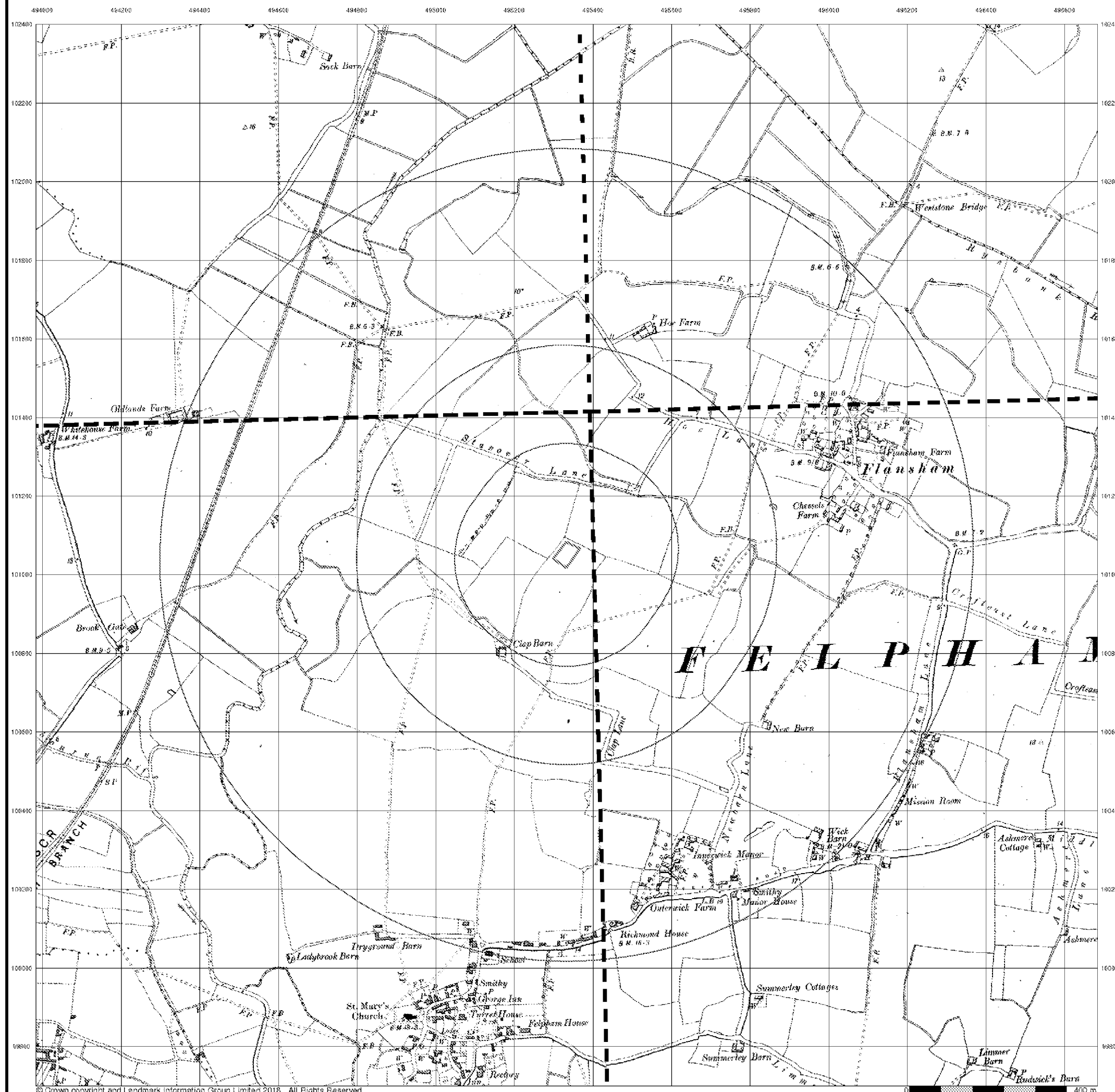


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

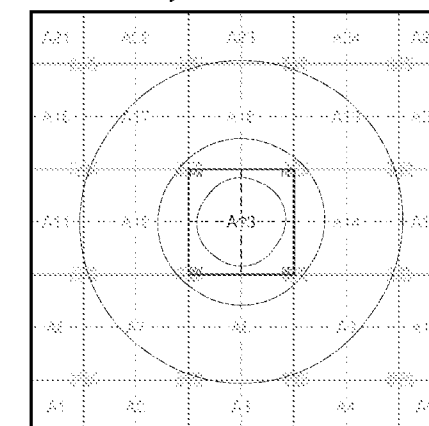


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

062SW 1914 1:10,560	062SE 1913 1:10,560
074NW 1914 1:10,560	074NE 1913 1:10,560

Historical Map - Slice A

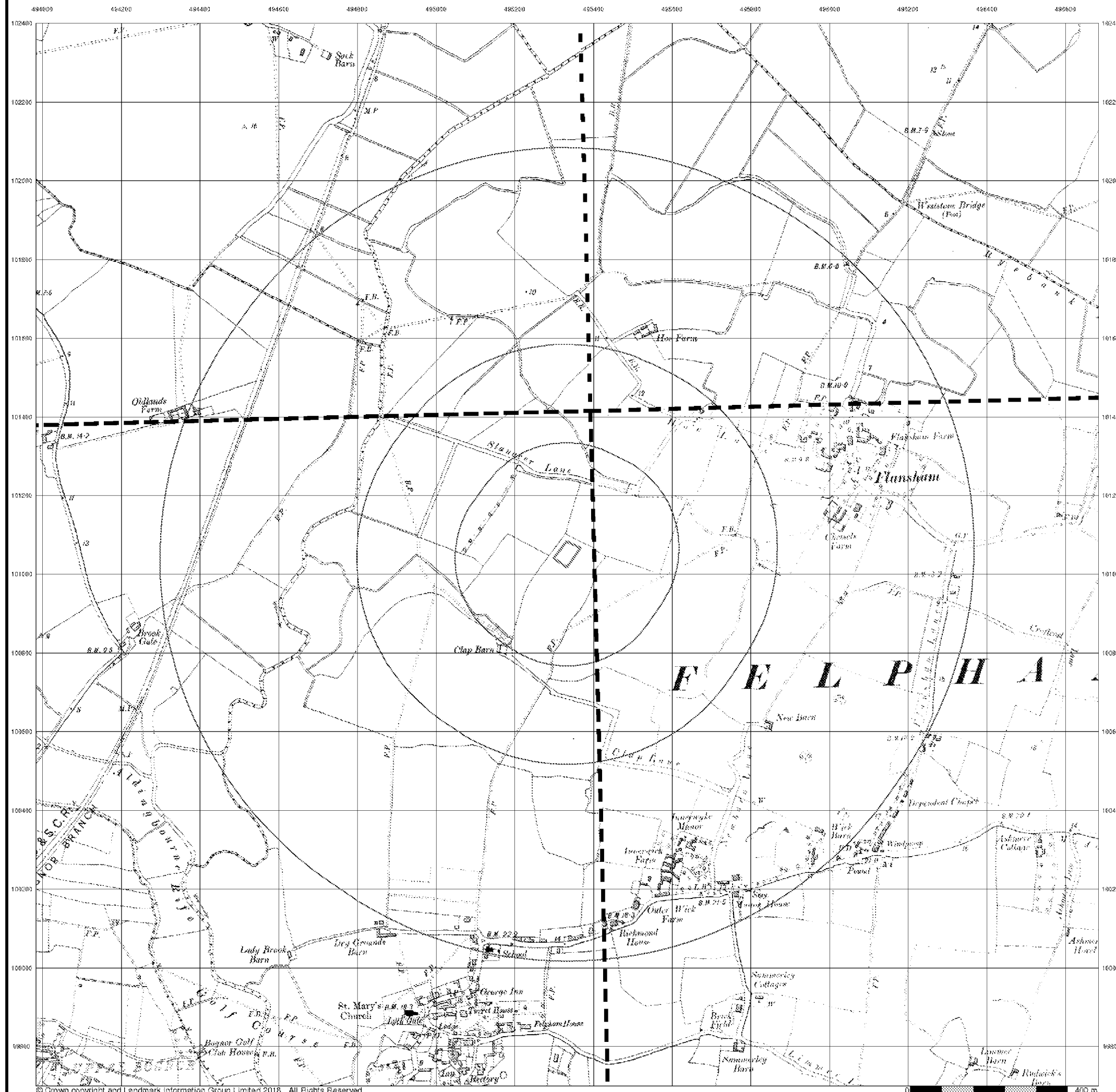


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

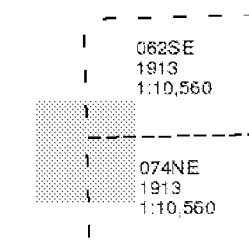
Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

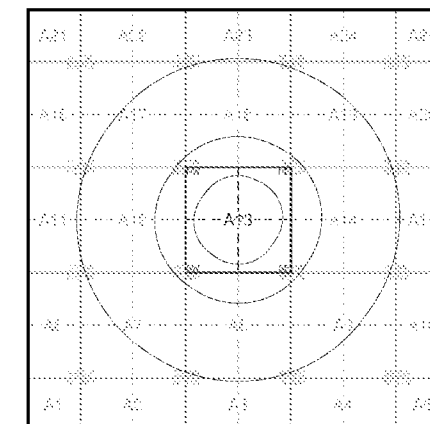


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

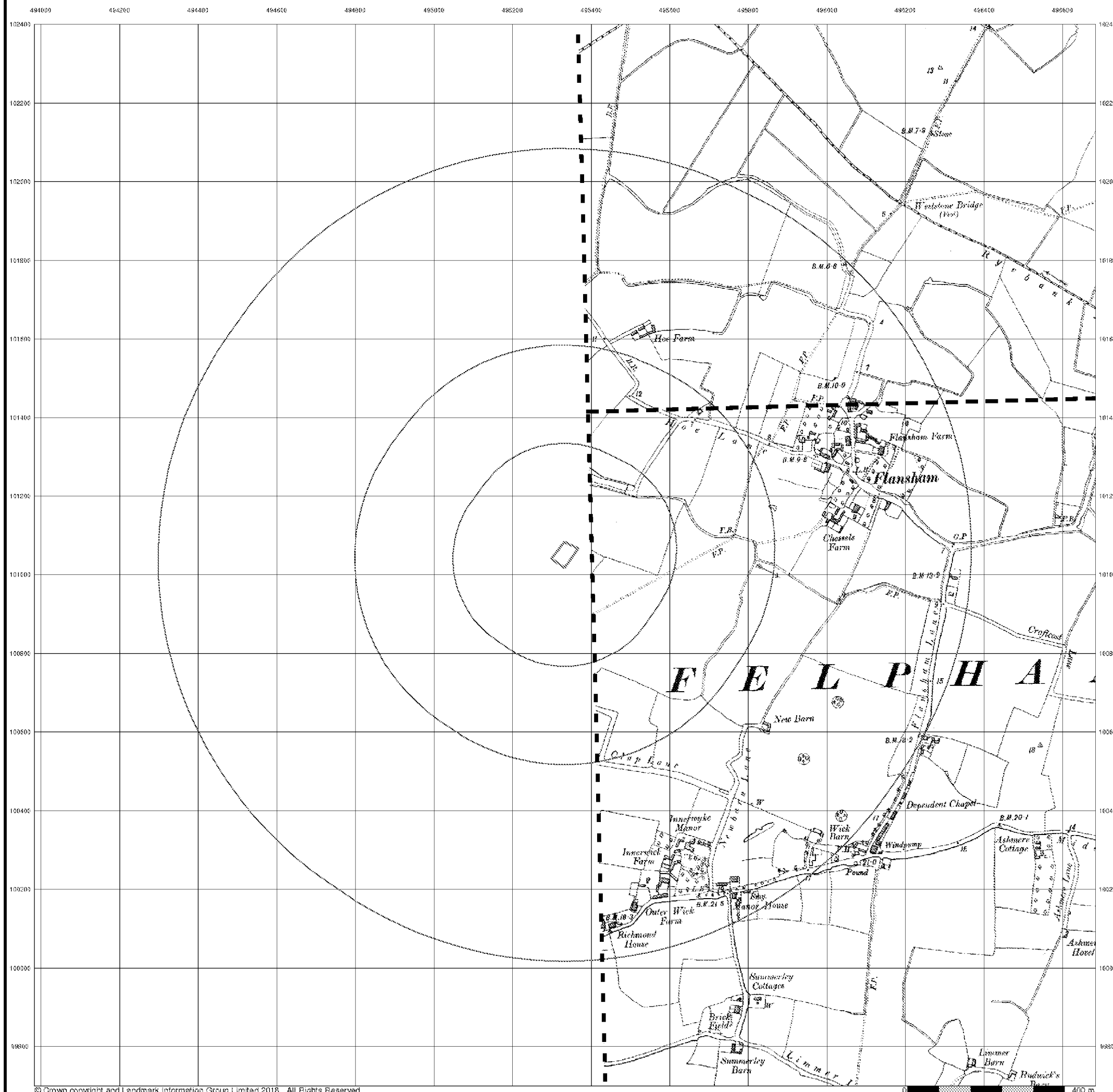


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

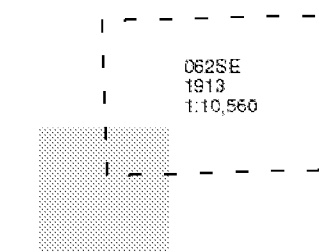
Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

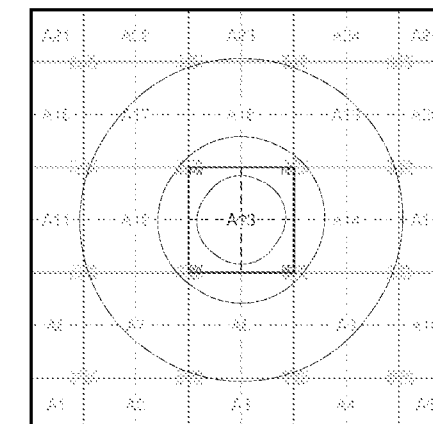


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

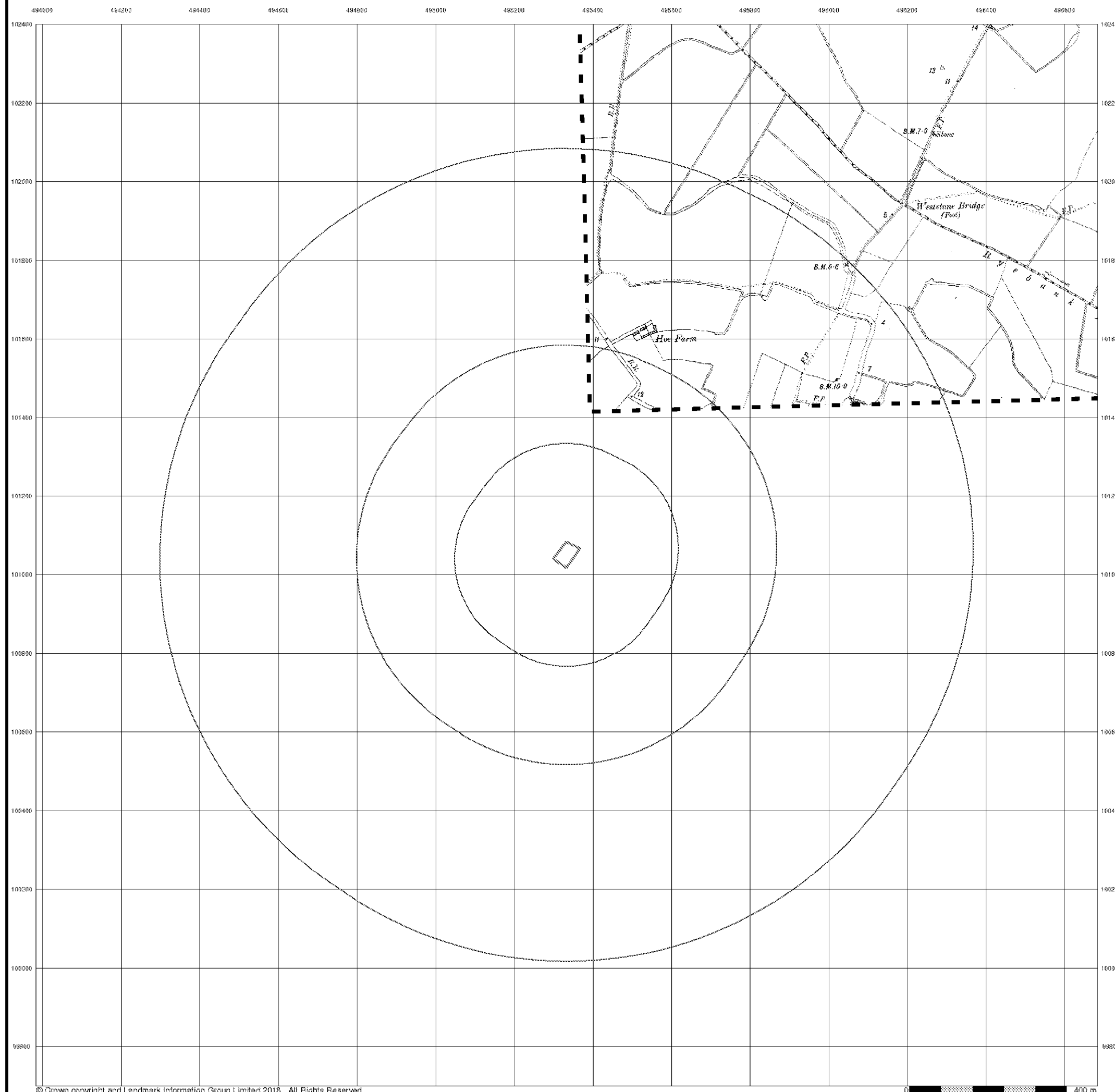


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

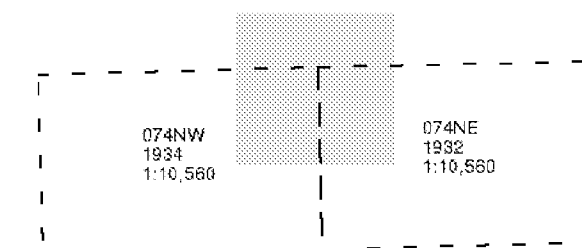
Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

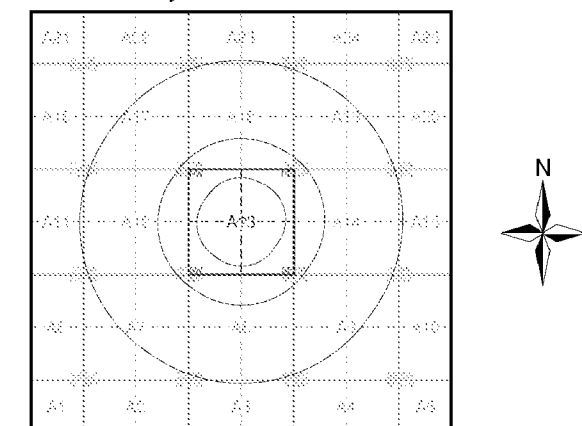


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some 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: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

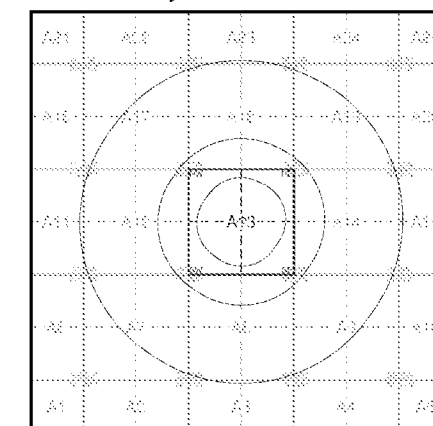


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

062SW 1938 1:10,560	062SE 1951 1:10,580
074NW 1950 1:10,560	074NE 1940 1:10,560

Historical Map - Slice A



Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

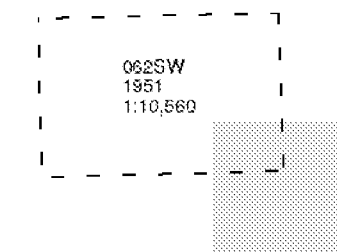
Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

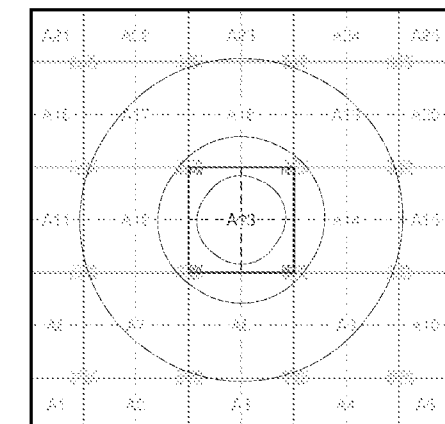


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

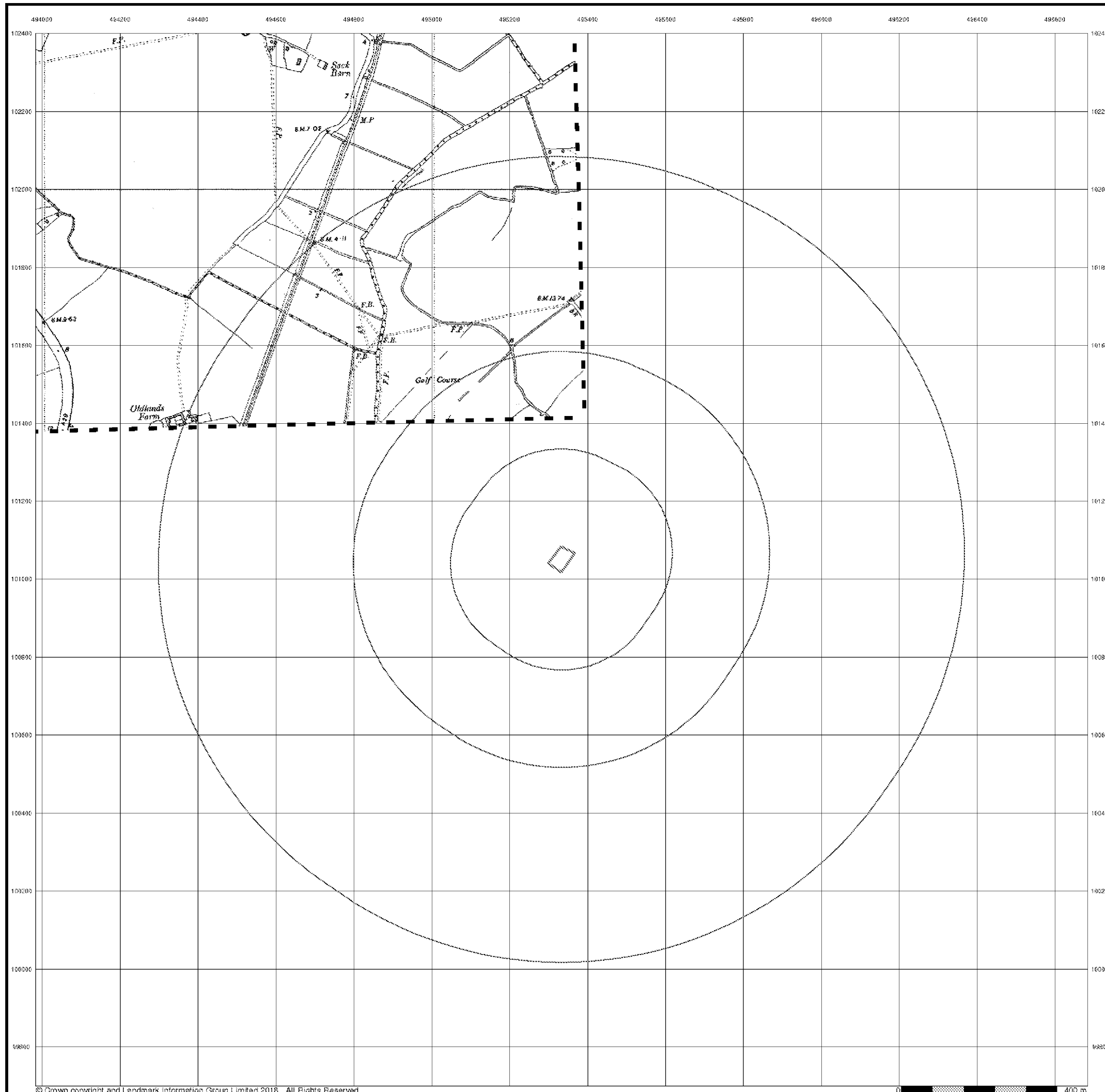


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

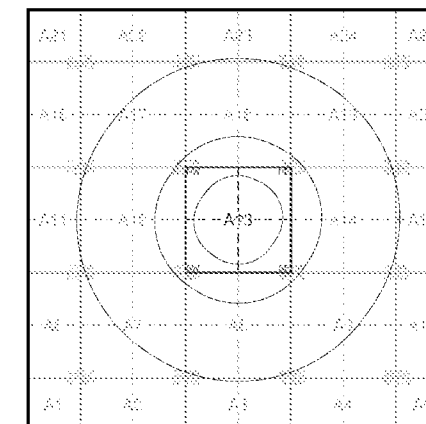


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

SU90SW	SU90SE
1961	1962
1:10,560	1:10,560
SZ99NW	SZ99NE
1961	1962
1:10,560	1:10,560

Historical Map - Slice A

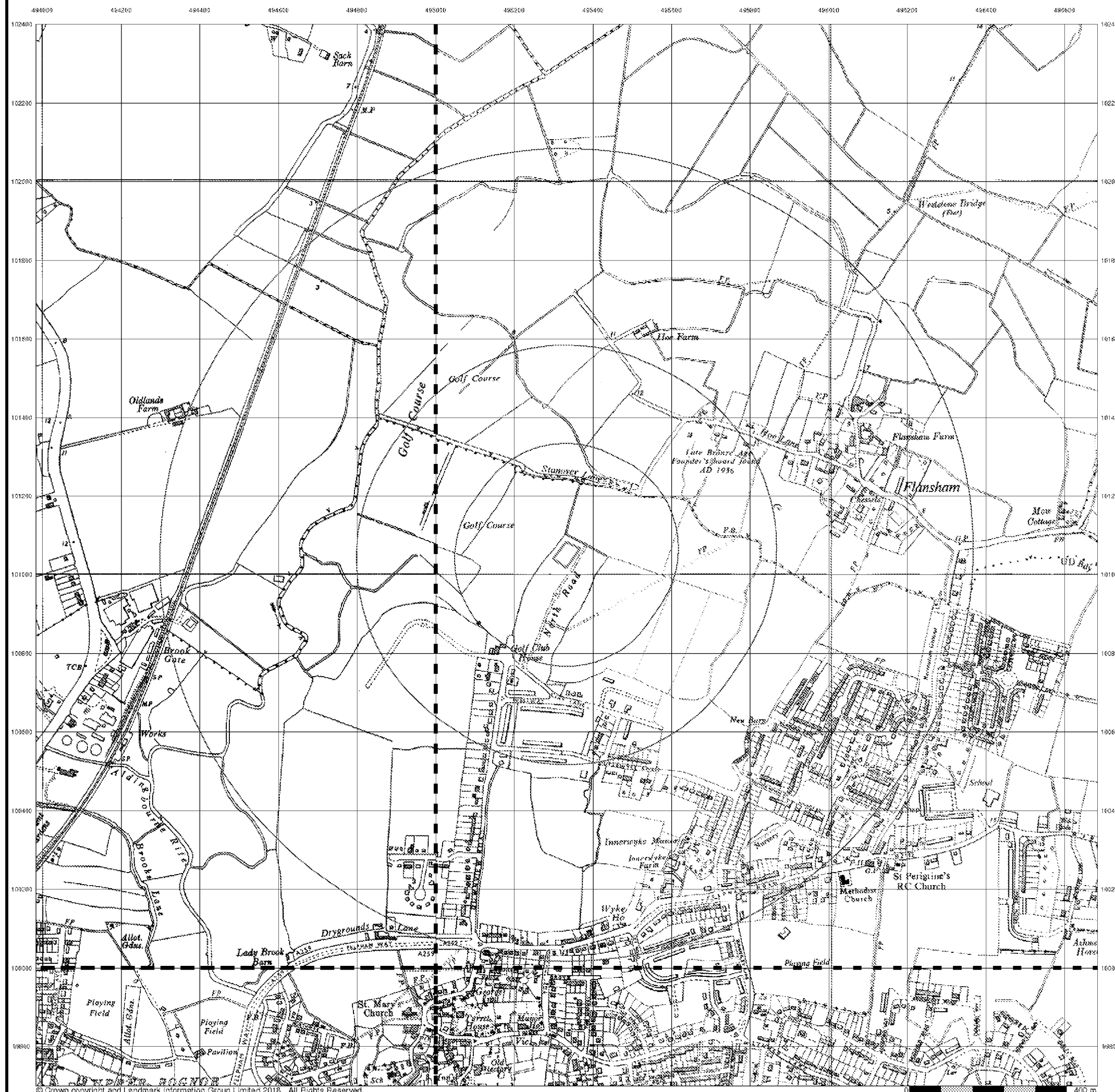


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

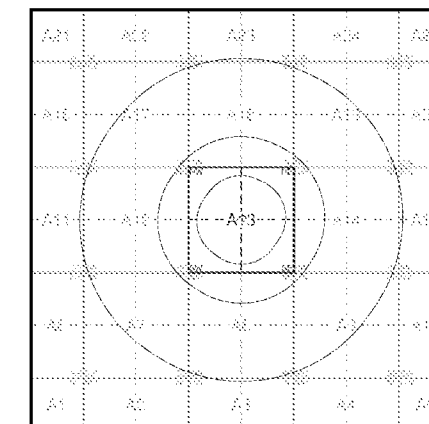


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

SU90SE	1967	1:10,560
SZ99NW	1969	1:10,560
SZ99NE	1967	1:10,560

Historical Map - Slice A



Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

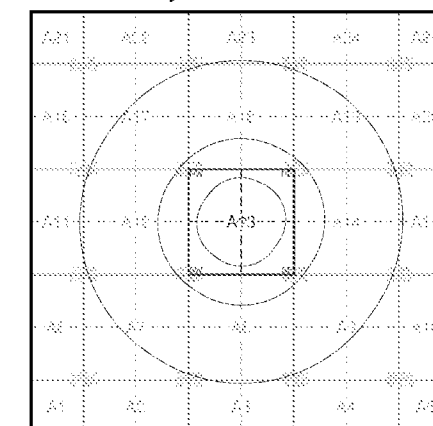


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

SU90SW	1979	1:10,000
SZ99NW	1975	1:10,000

Historical Map - Slice A

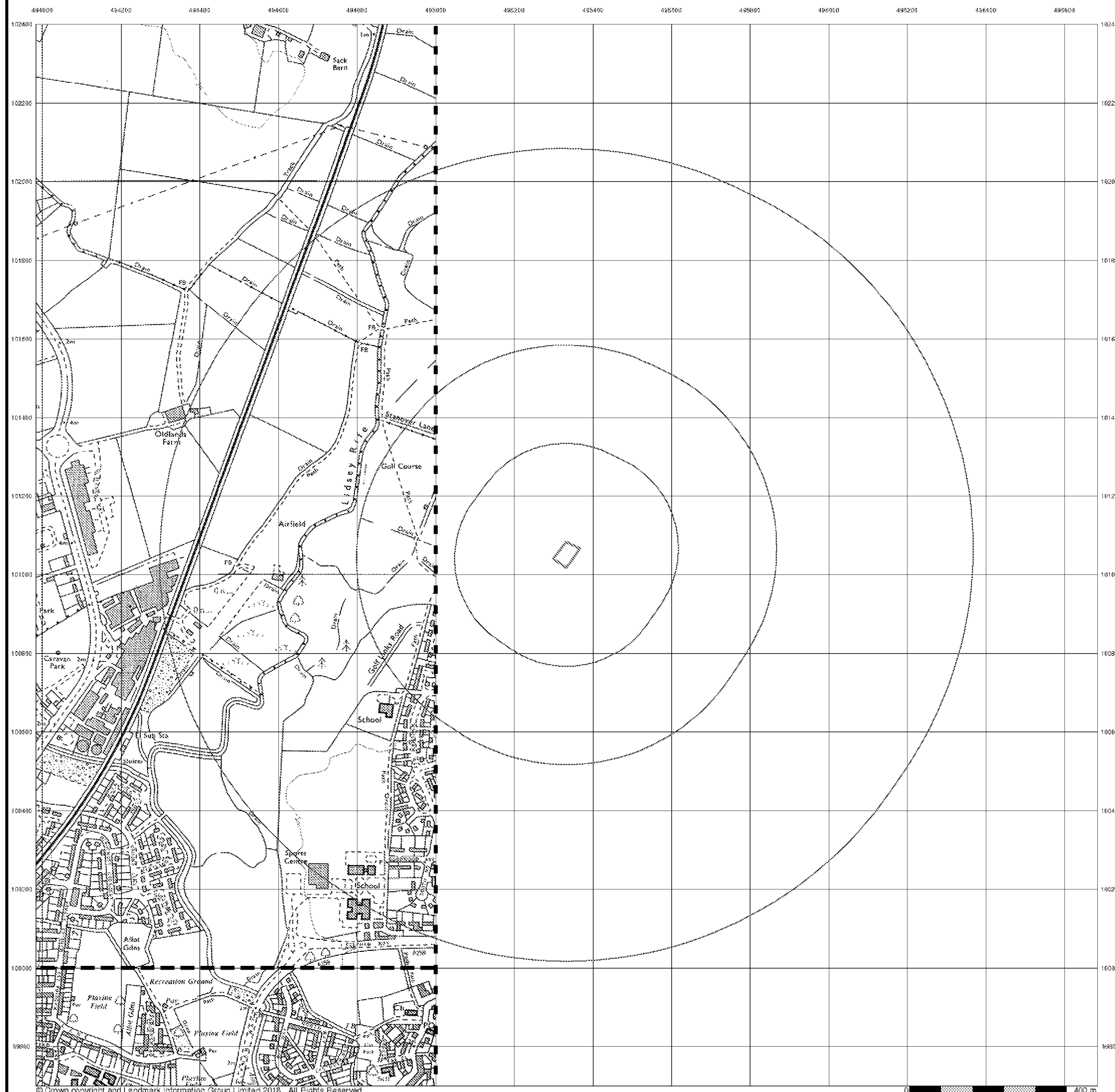


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

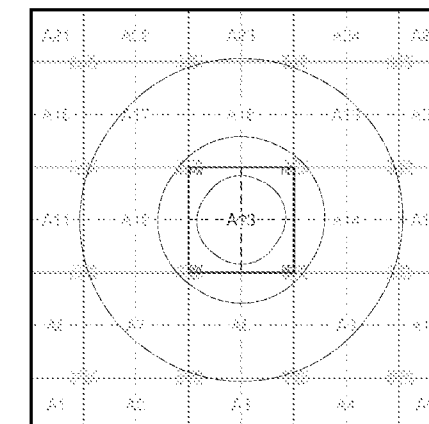


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

SU90SE
1980
1:10,000
SZ99NE
1980
1:10,000

Historical Map - Slice A

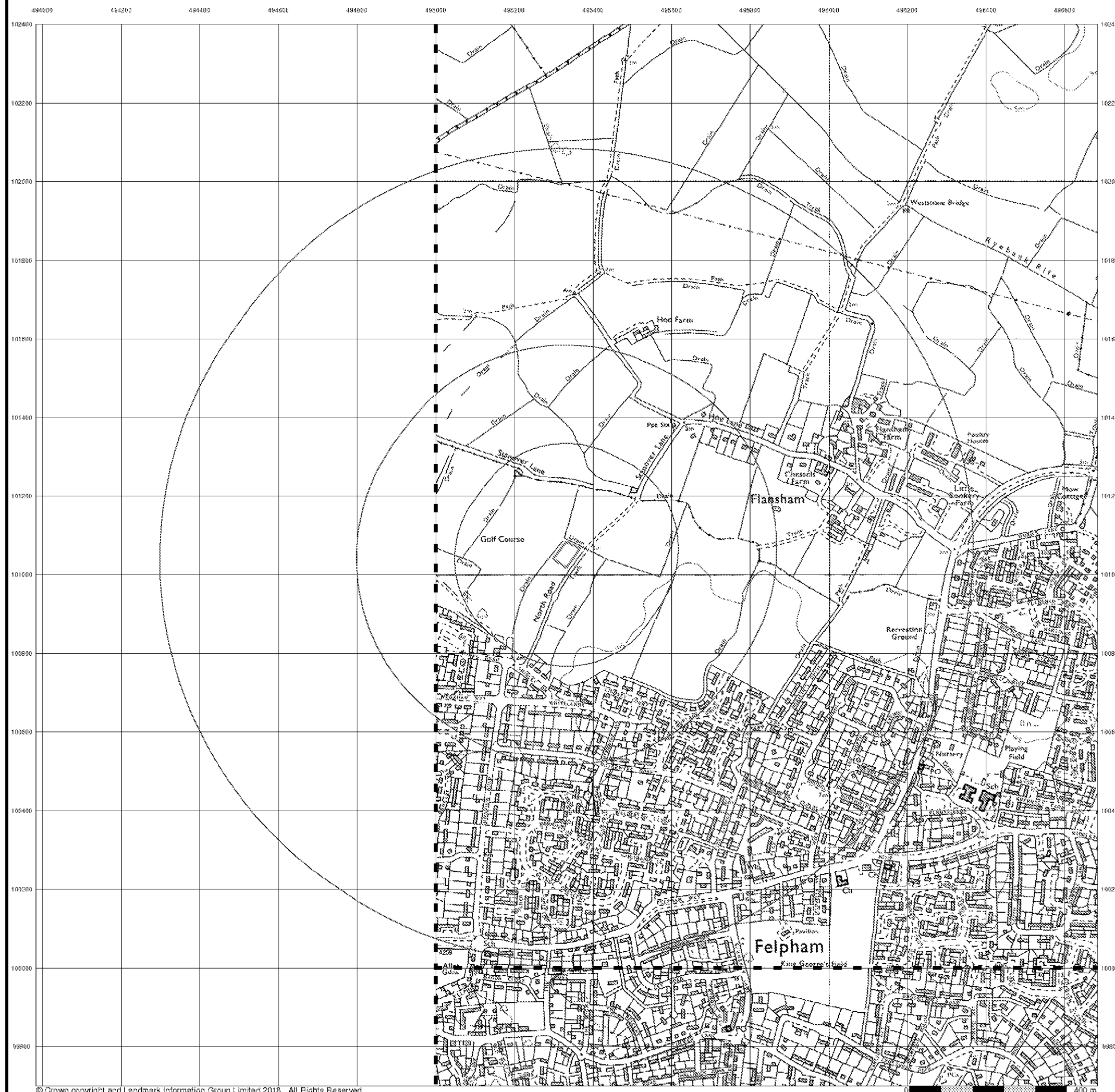


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

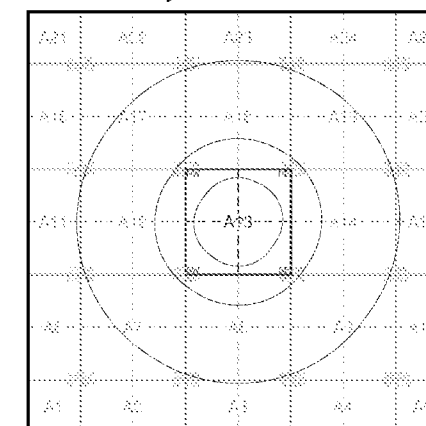


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

SU90SW	SU90SE
1993	1992
1:10,000	1:10,000
SZ99NW	SZ99NE
1990	1992
1:10,000	1:10,000

Historical Map - Slice A

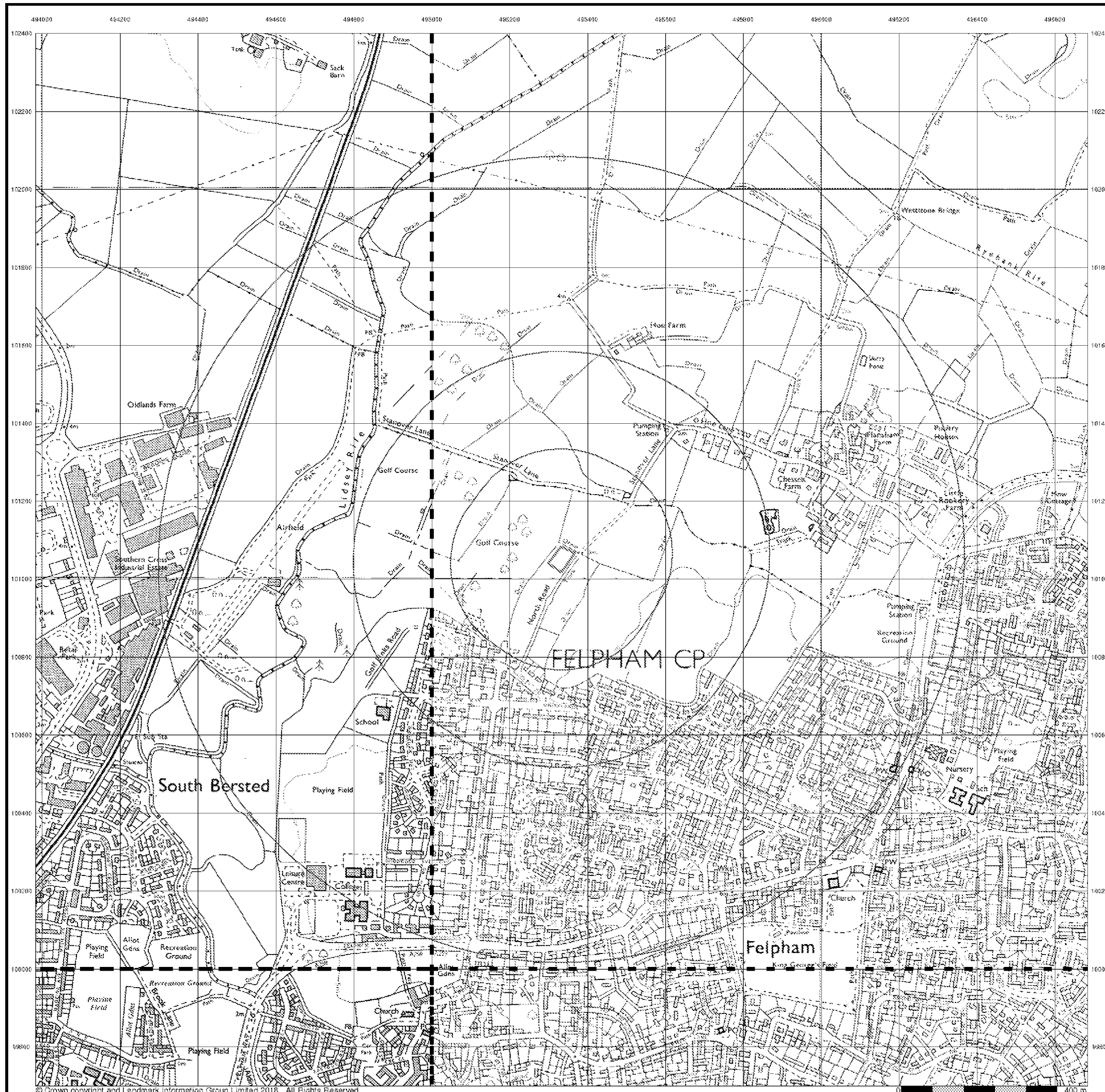


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

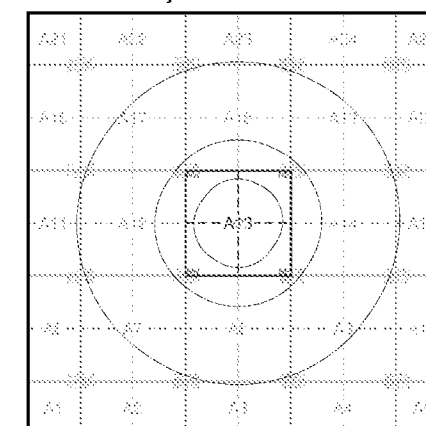


The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks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

SU95SW 2000 1:10,000	SU95SE 2000 1:10,000
SZ99NW 2000 1:10,000	SZ99NE 2000 1:10,000

Historical Map - Slice A



Order Details

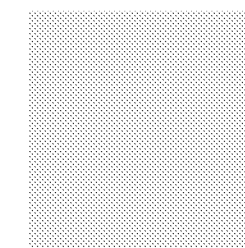
Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

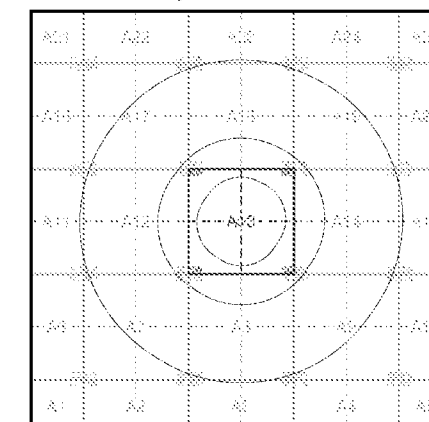
Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



Map Name(s) and Date(s)



Street View Map - Slice A

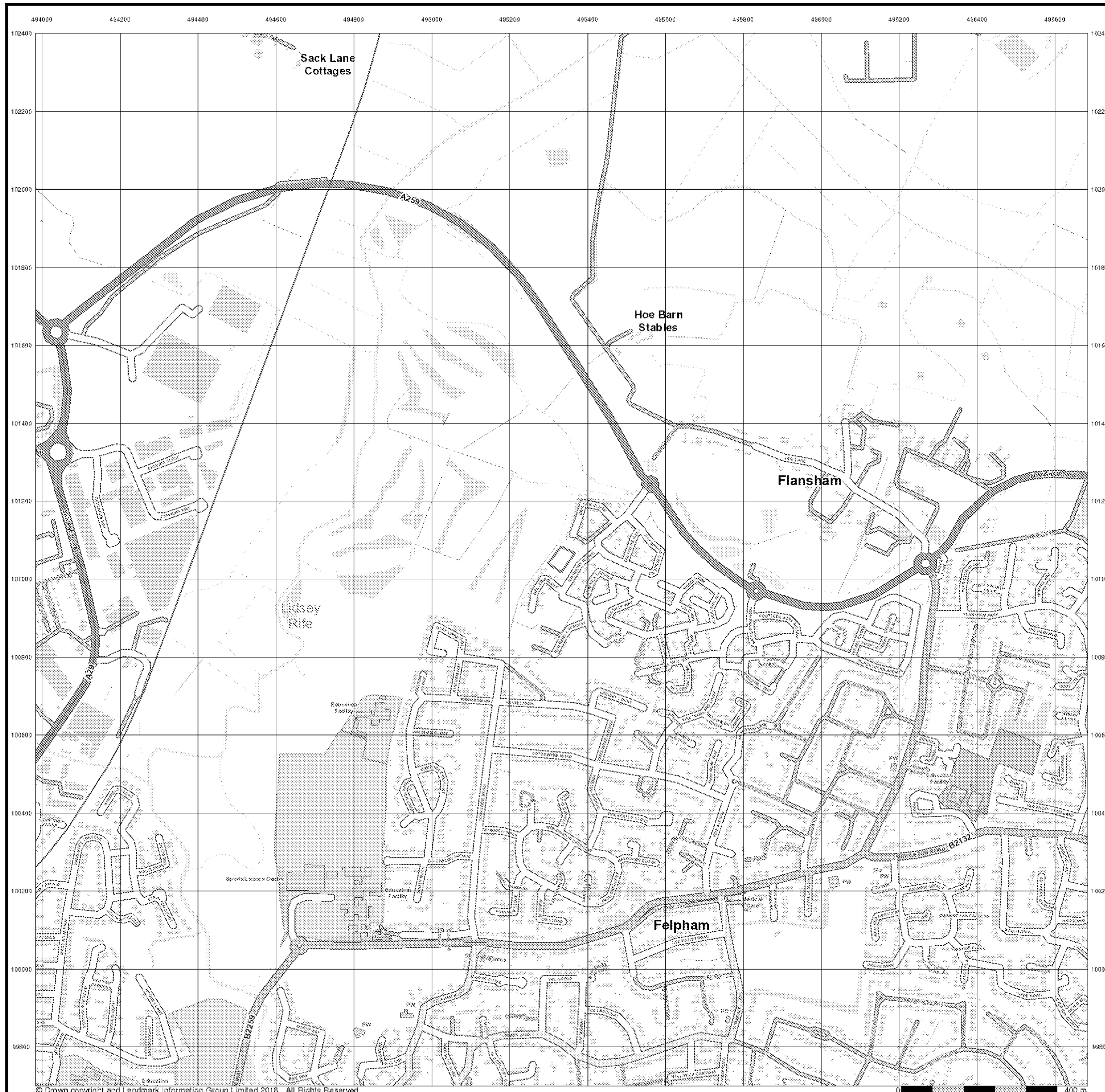


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



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 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
- 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

Geological

- BGS Recorded Mineral Site

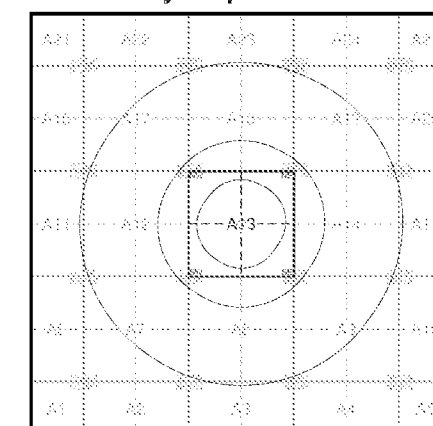
Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry

Hazardous Substances

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

Site Sensitivity Map - Slice A



Order Details

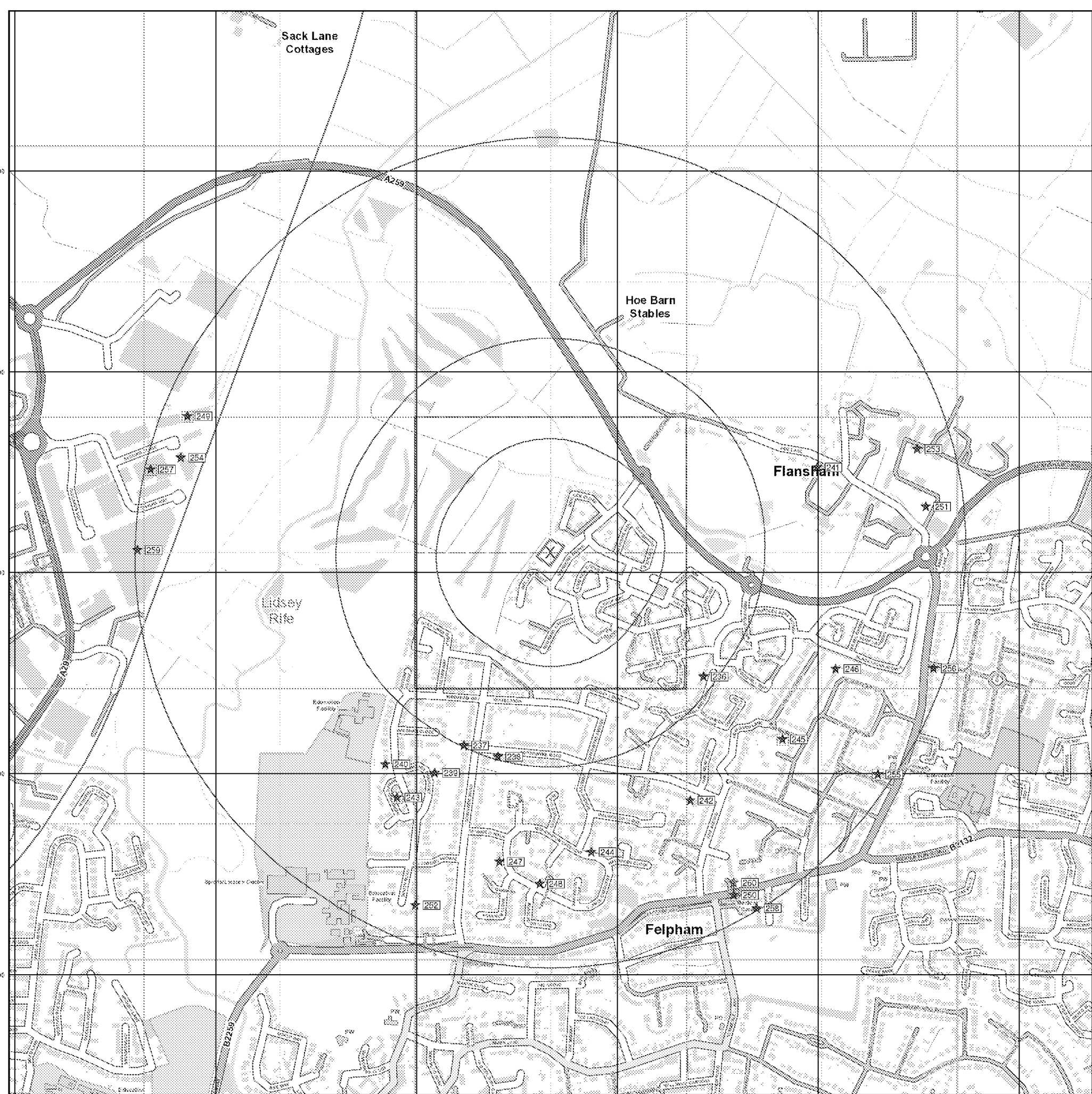
Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



494000 494500 495000 495500 496000 496500



© Crown Copyright. All Rights Reserved. License Number 100022432

WDE consulting

Industrial Land Use Map

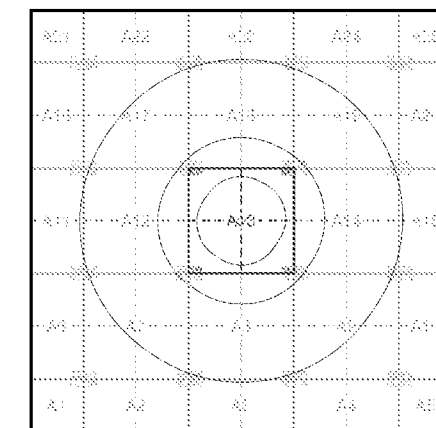
General

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

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Underground Electrical Cables

Industrial Land Use Map - Slice A



Order Details

Order Number: 153944407_1_1
Customer Ref: 18-039
National Grid Reference: 495330, 101050
Slice: A
Site Area (Ha): 0.24
Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

Landmark
INFORMATION GROUP

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

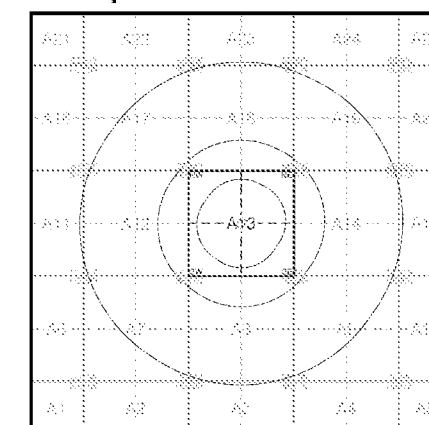
General

-  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 A



Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



General

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

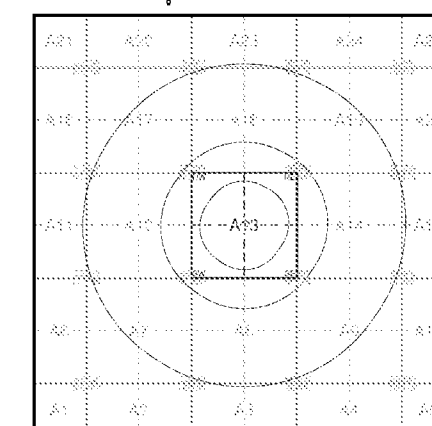
Agency and Hydrological (Boreholes)

- 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

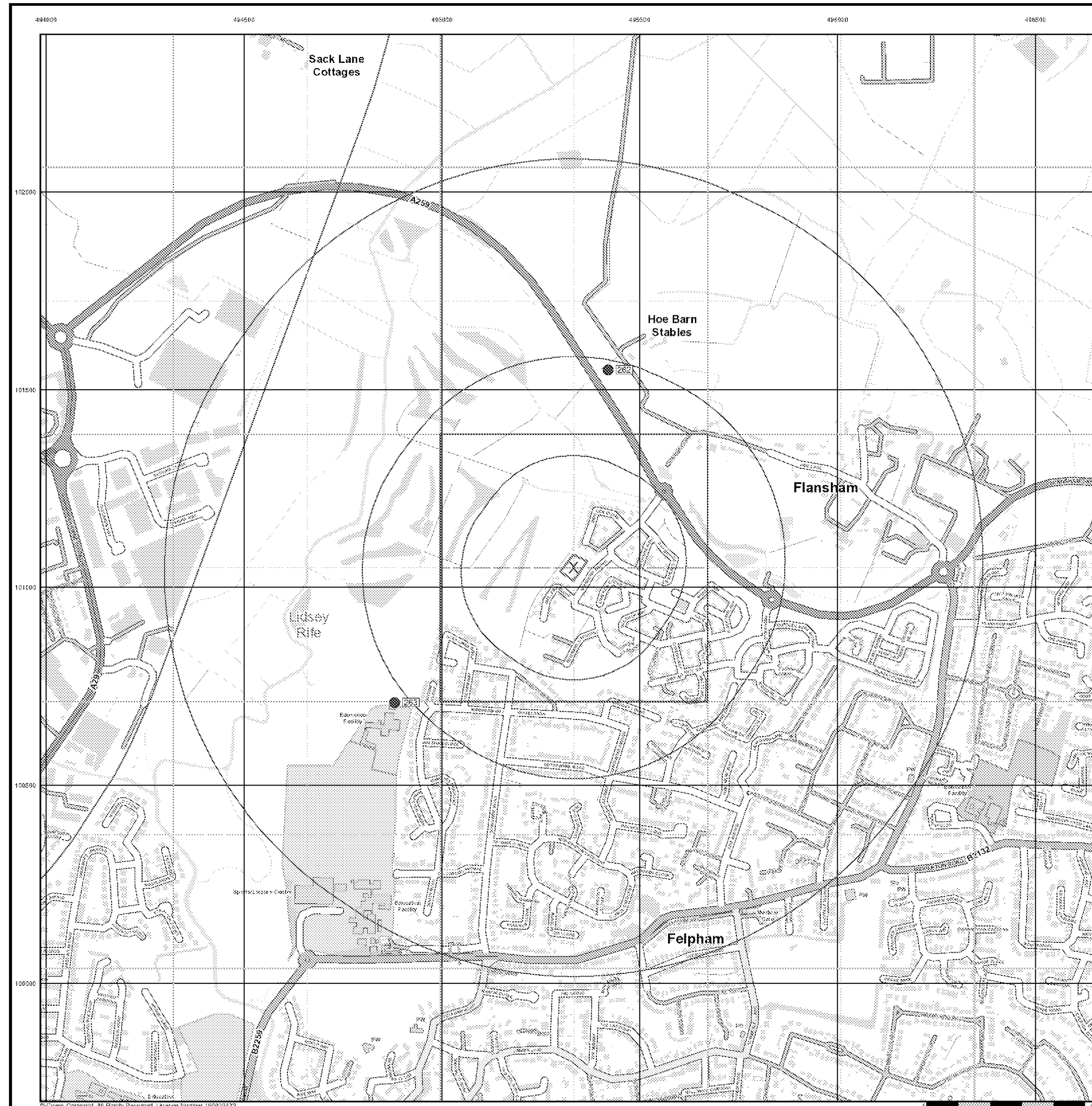


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 1000

Site Details

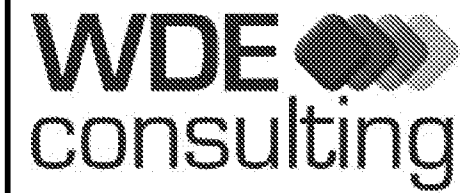
Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



494000 494500 495000 495500 496000 496500



© Crown Copyright. All Rights Reserved. License Number 100022432



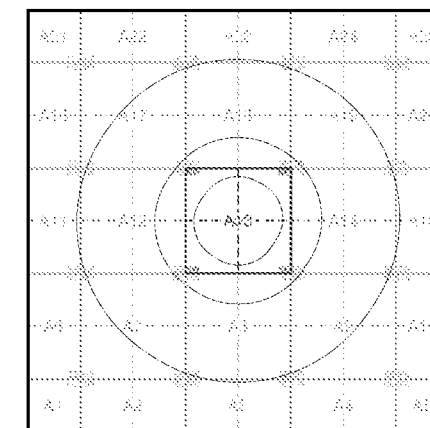
General

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

OS Water Network Data

- | | |
|--------------|-------------------------|
| Canal | Drain |
| Reservoir | Other |
| Foreshore | Lake |
| Marsh | Transfer |
| Tidal River | Lock Or Flight Of Locks |
| Inland River | Sea |

OS Water Network Map - Slice A



Order Details

Order Number: 153944407_1_1
Customer Ref: 18-039
National Grid Reference: 495330, 101050
Slice: A
Site Area (Ha): 0.24
Search Buffer (m): 1000

Site Details

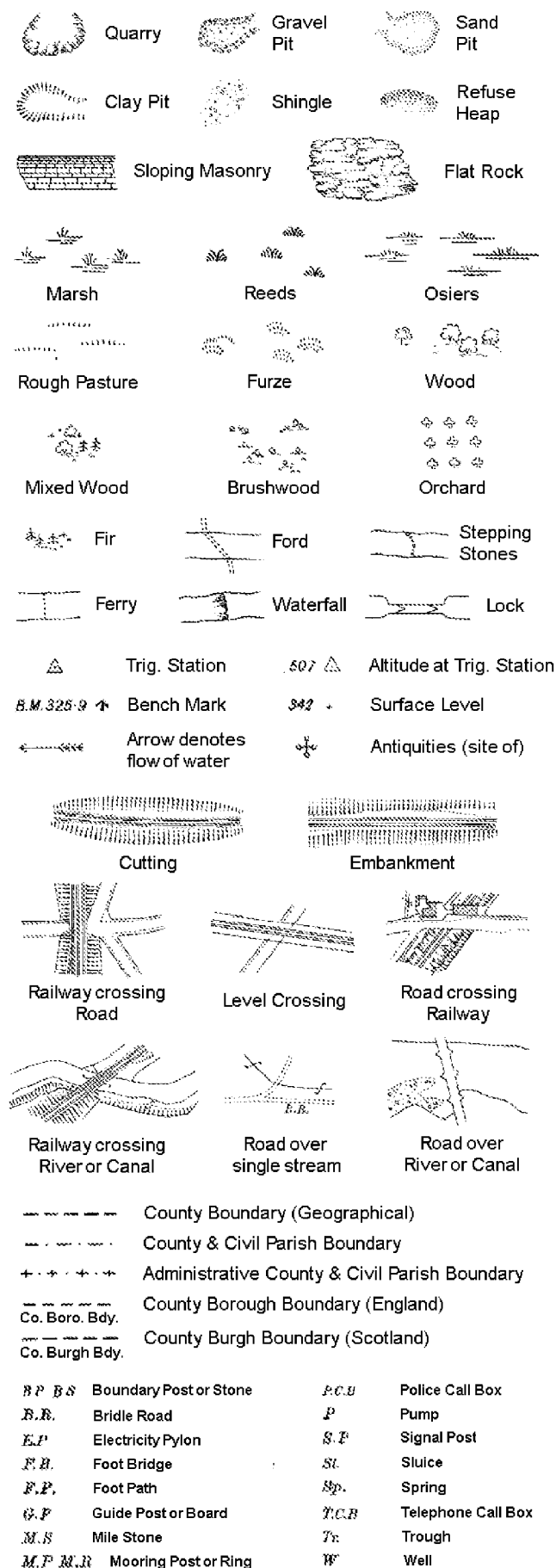
Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

Landmark
INFORMATION GROUP

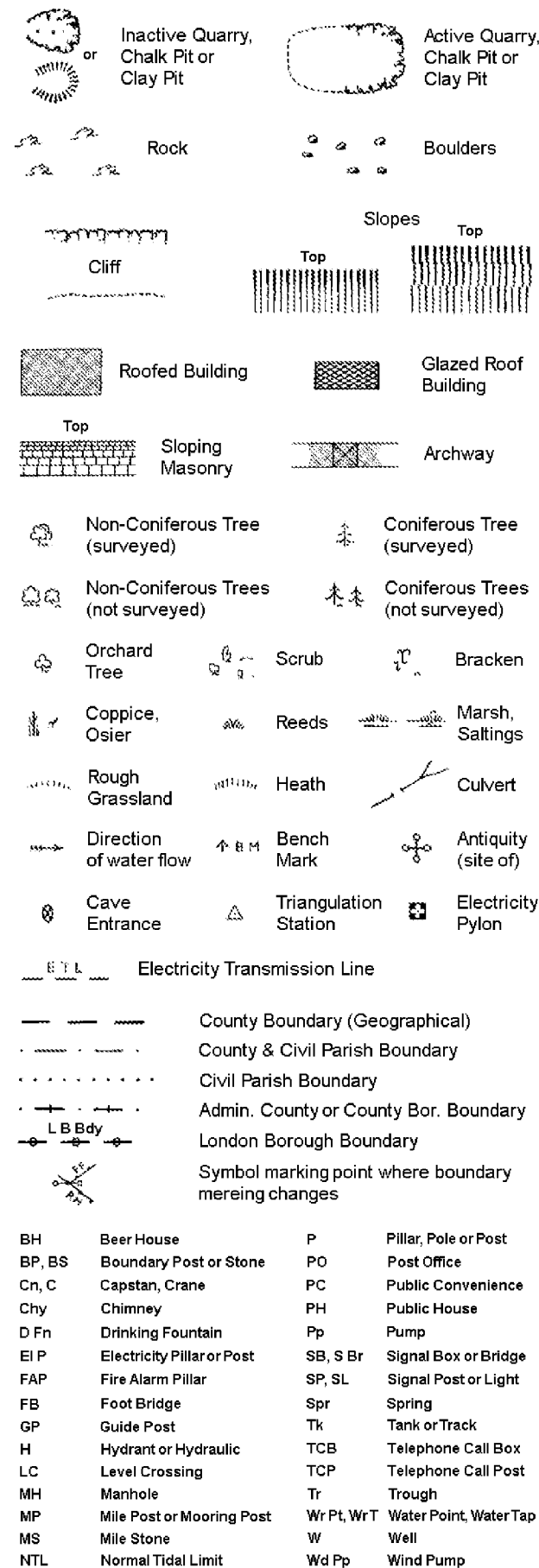
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Historical Mapping Legends

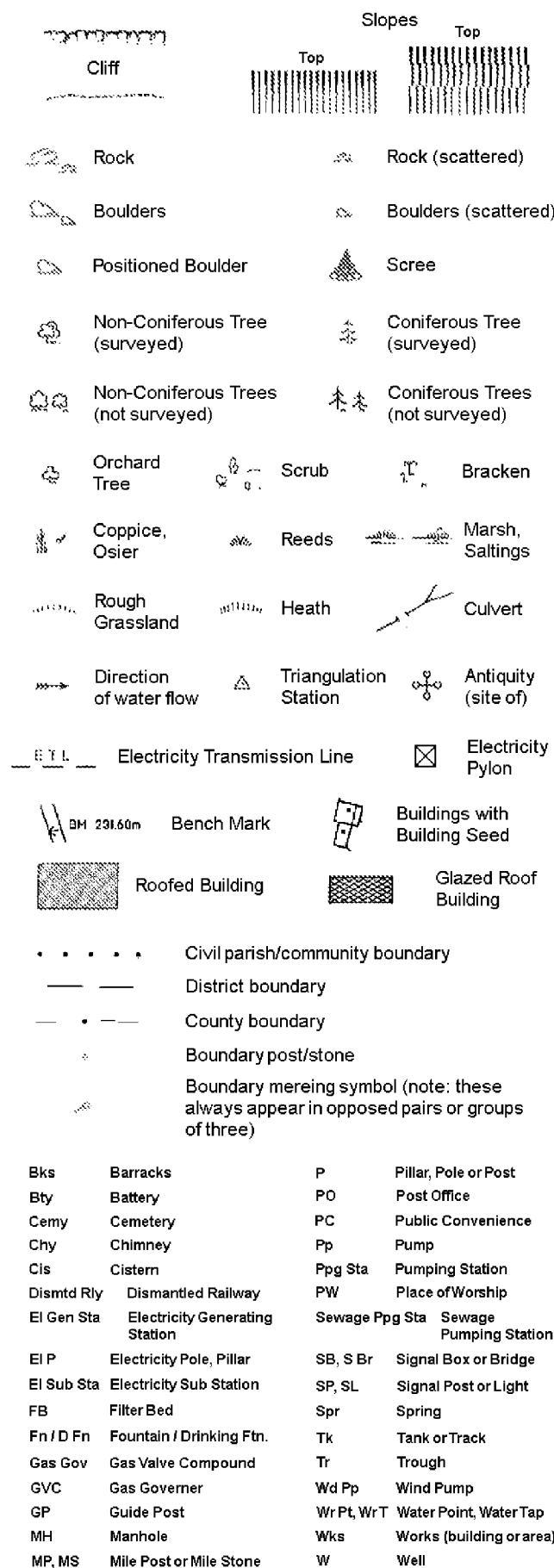
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



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



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

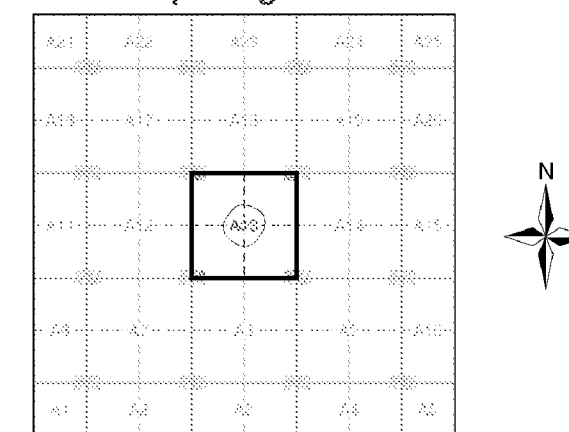


WDE consulting

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Sussex	1:2,500	1876 - 1877	2
Sussex	1:2,500	1898	3
Sussex	1:2,500	1912	4
Sussex	1:2,500	1932 - 1933	5
Ordnance Survey Plan	1:1,250	1960 - 1961	6
Ordnance Survey Plan	1:2,500	1962 - 1976	7
Ordnance Survey Plan	1:1,250	1969 - 1970	8
Additional SIMs	1:2,500	1980	9
Additional SIMs	1:2,500	1985	10
Additional SIMs	1:1,250	1991	11
Additional SIMs	1:2,500	1991	12
Large-Scale National Grid Data	1:2,500	1994	13
Large-Scale National Grid Data	1:1,250	1994	14
Large-Scale National Grid Data	1:2,500	1996	15

Historical Map - Segment A13



Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 100

Site Details

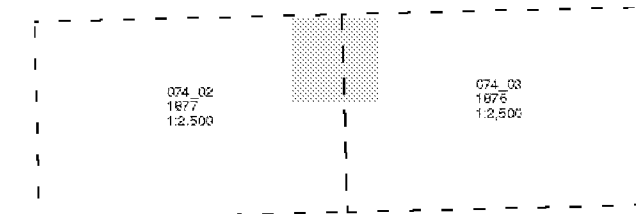
Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

Landmark
 INFORMATION GROUP

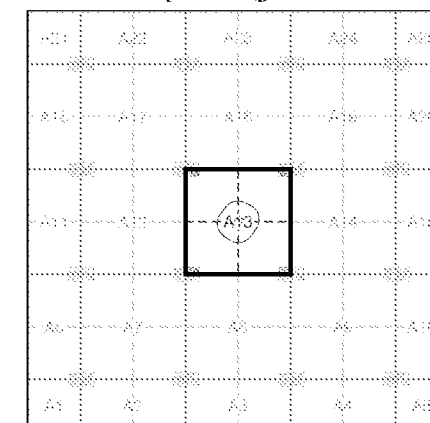
Tel: 0844 844 9852
 Fax: 0844 844 9951
 Web: www.envisirocheck.co.uk

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

Map Name(s) and Date(s)



Historical Map - Segment A13

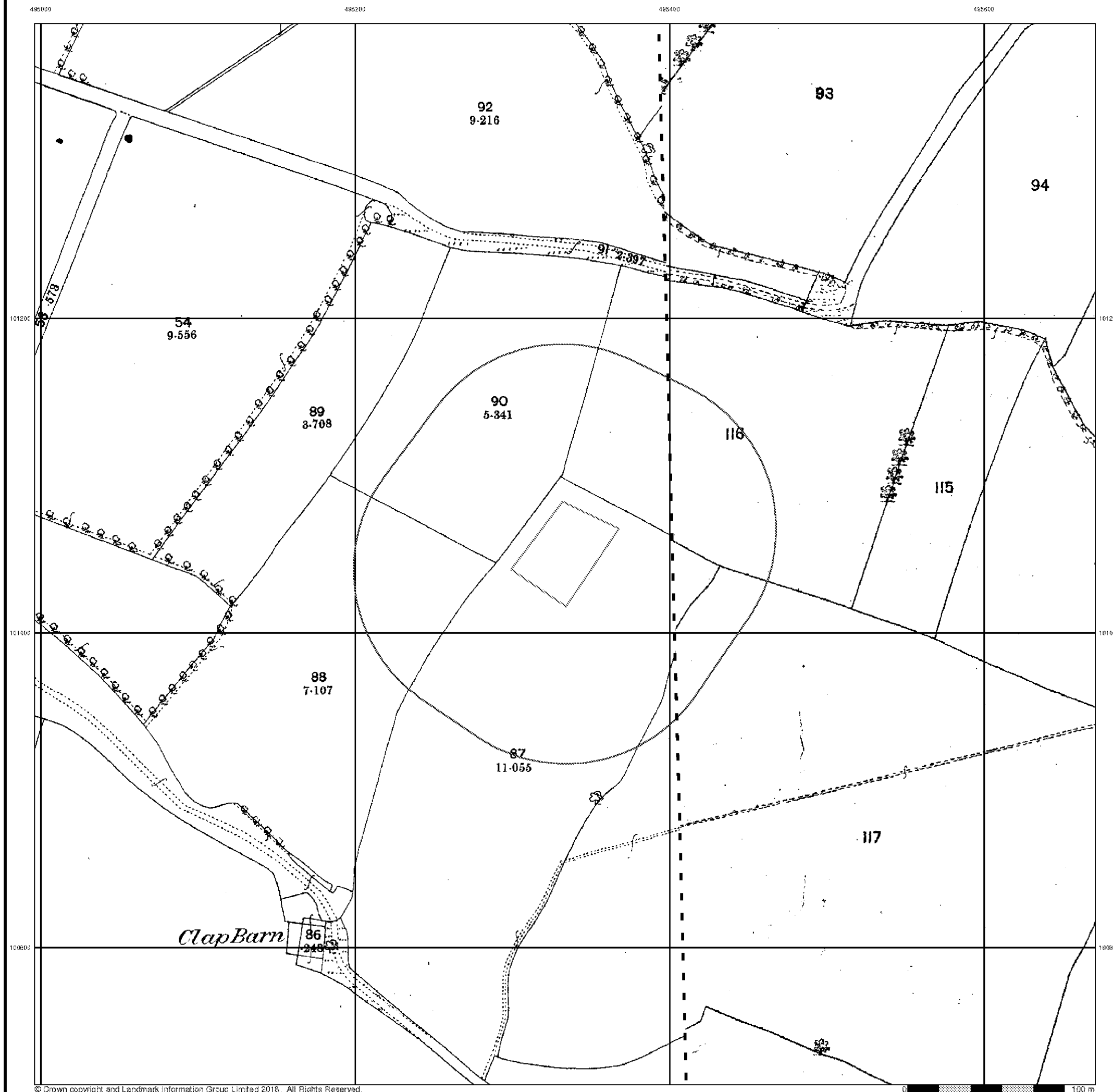


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 100

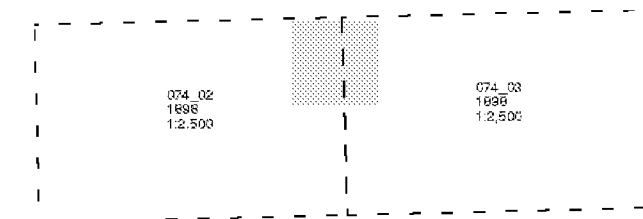
Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

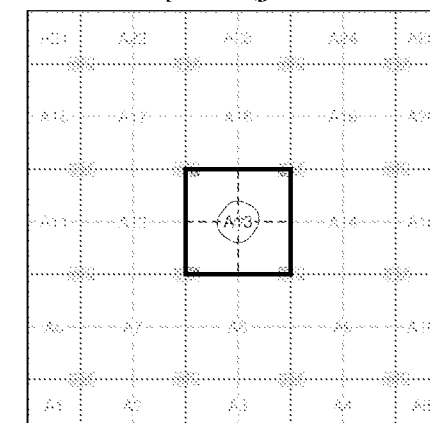


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain.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

Map Name(s) and Date(s)



Historical Map - Segment A13

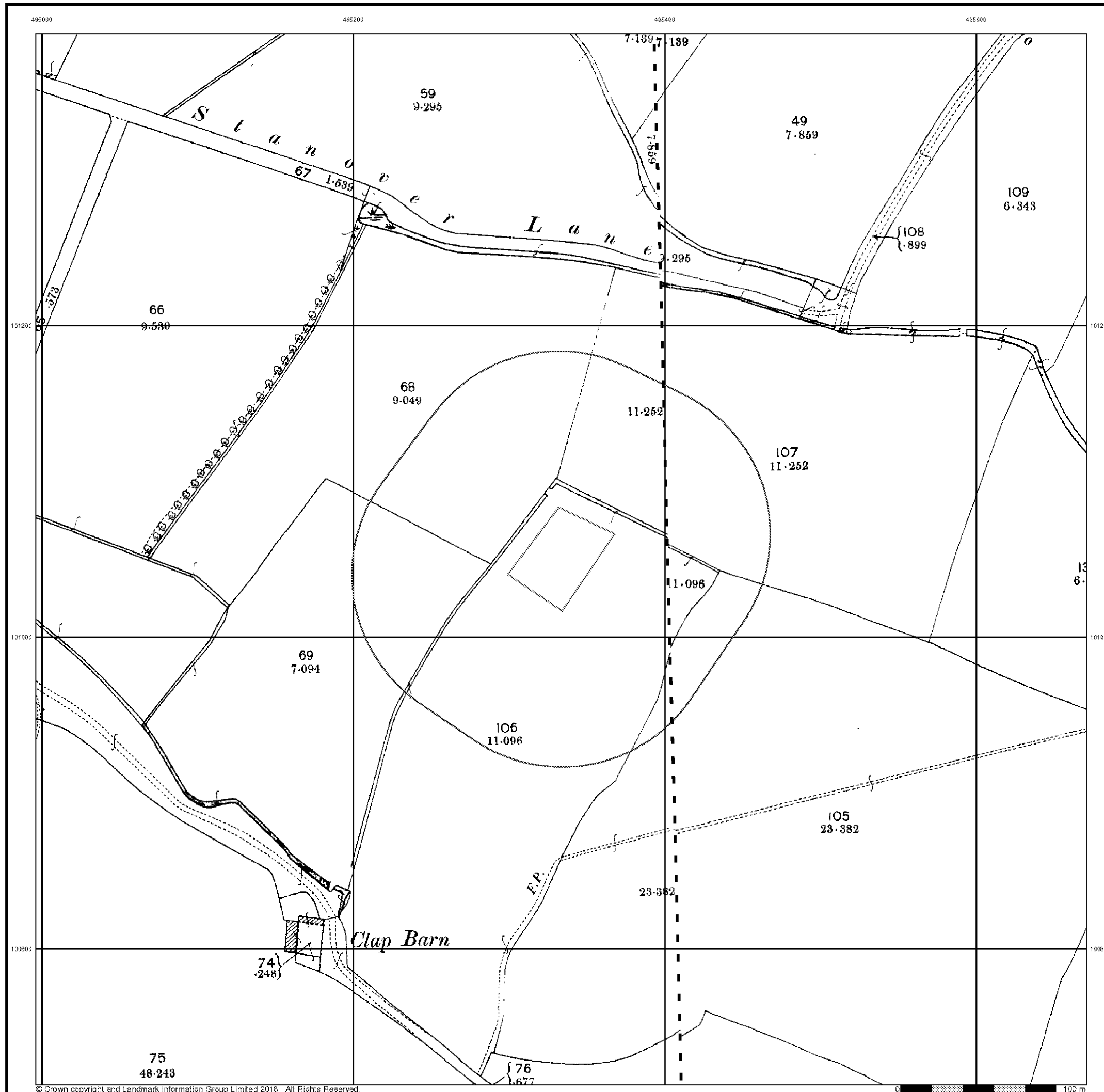


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 100

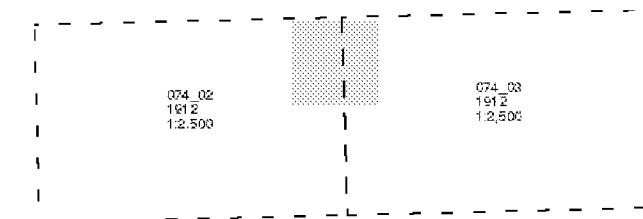
Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

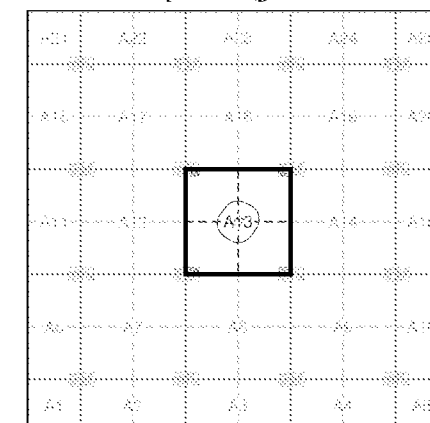


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain.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

Map Name(s) and Date(s)



Historical Map - Segment A13

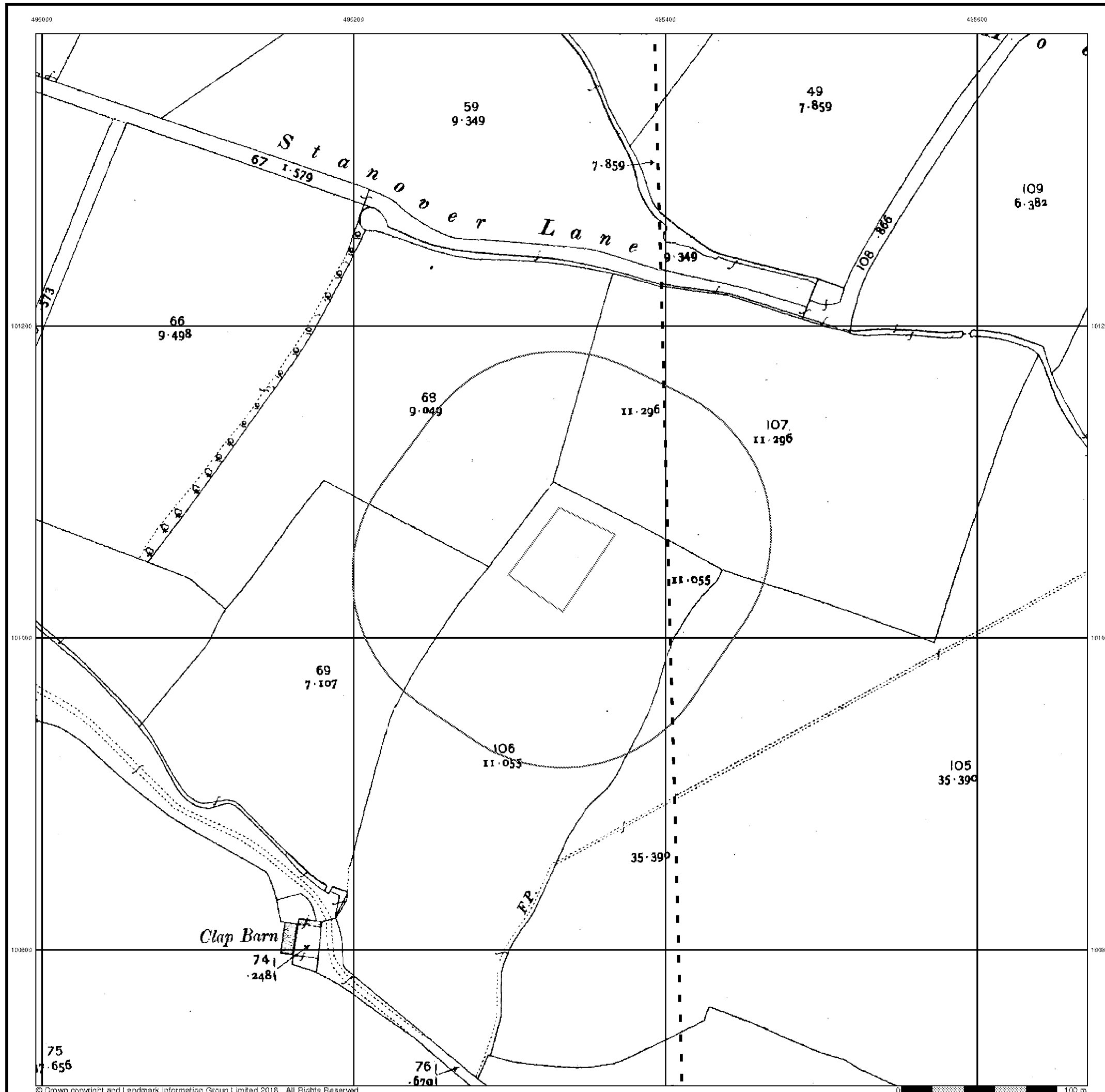


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 100

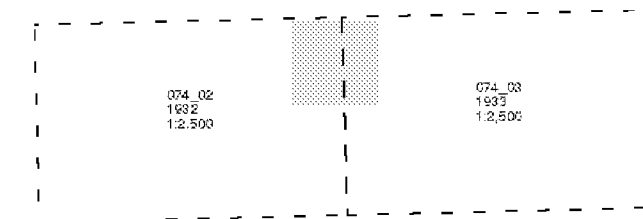
Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

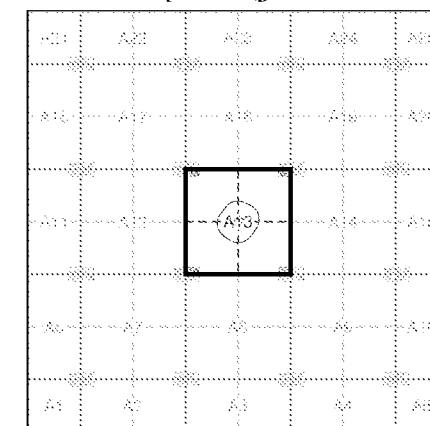


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain.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

Map Name(s) and Date(s)



Historical Map - Segment A13

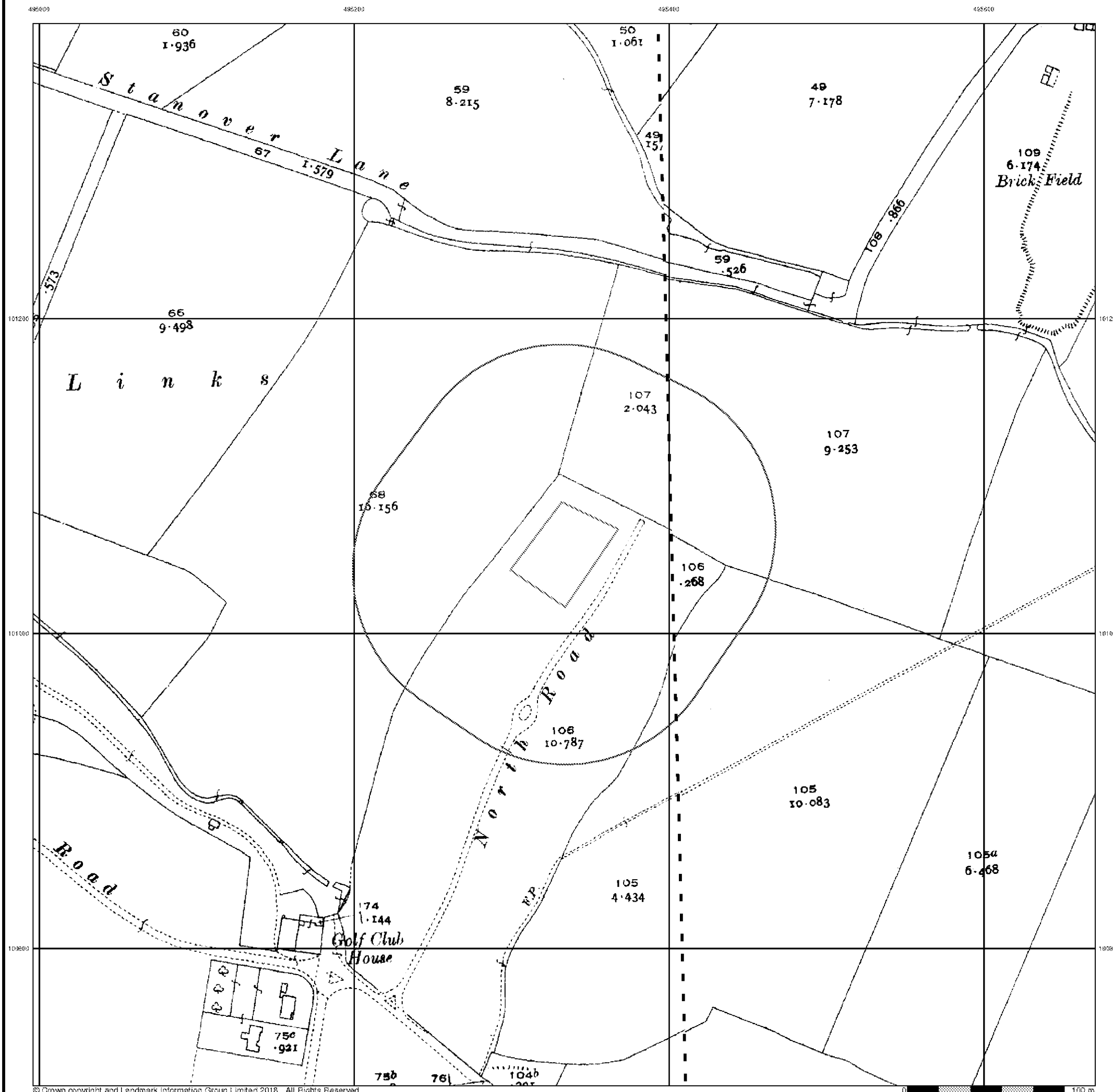


Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 100

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



495000

495200

495400

495600

WDE consulting

Ordnance Survey Plan

Published 1960 - 1961

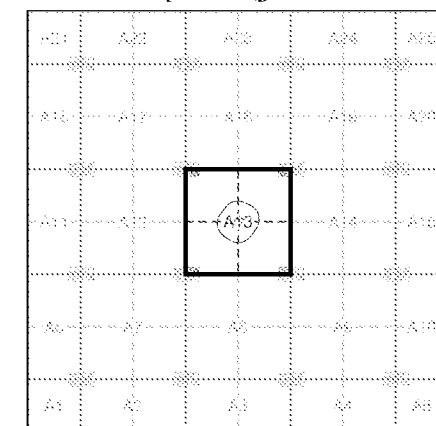
Source map scale - 1:1,250

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)

SU8400NE 1961 1:1,250	SU8500NW 1960 1:1,250	SU8500NE 1960 1:1,250
-----------------------------	-----------------------------	-----------------------------

Historical Map - Segment A13



Order Details

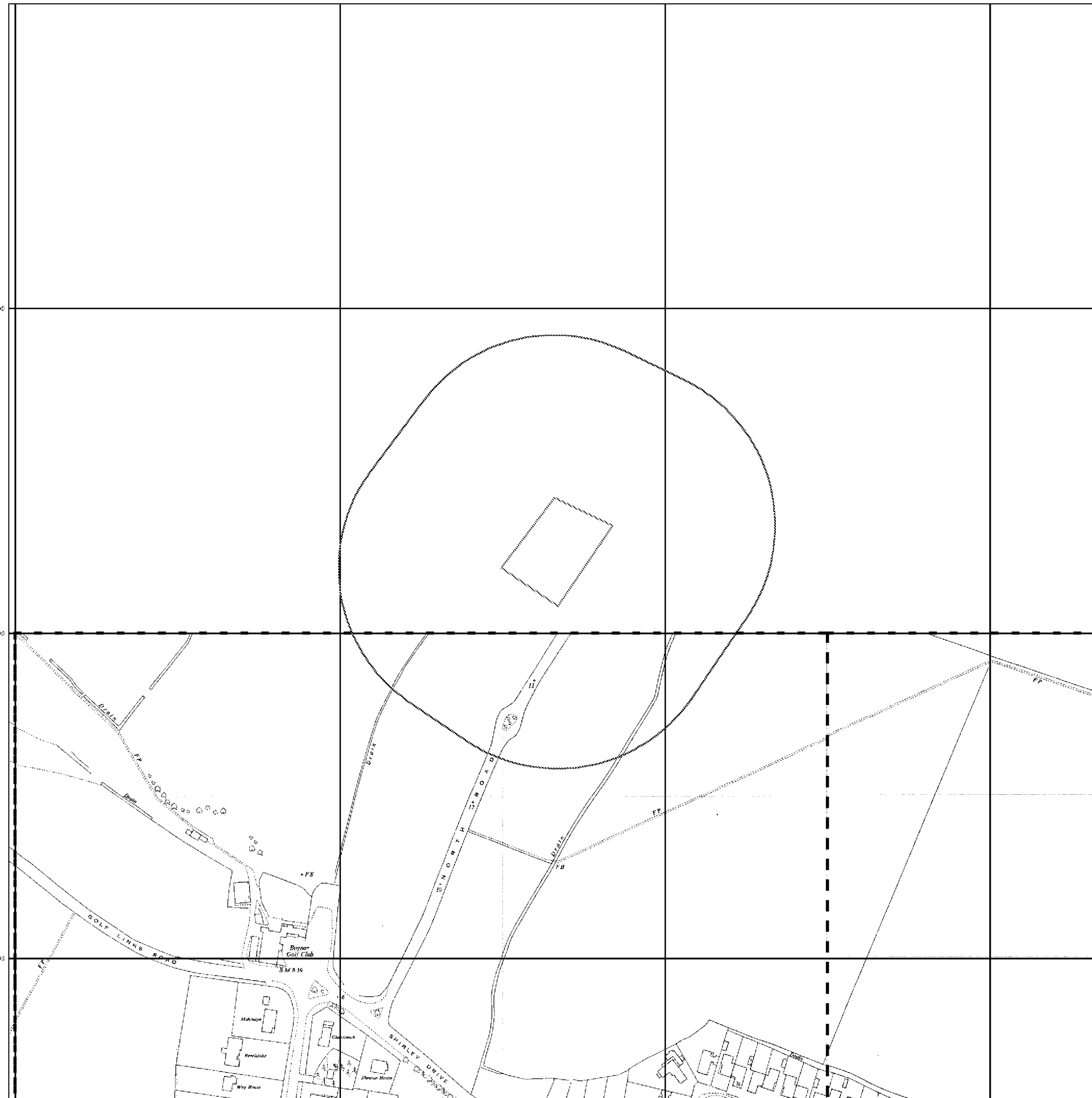
Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 100

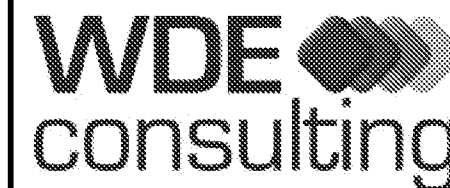
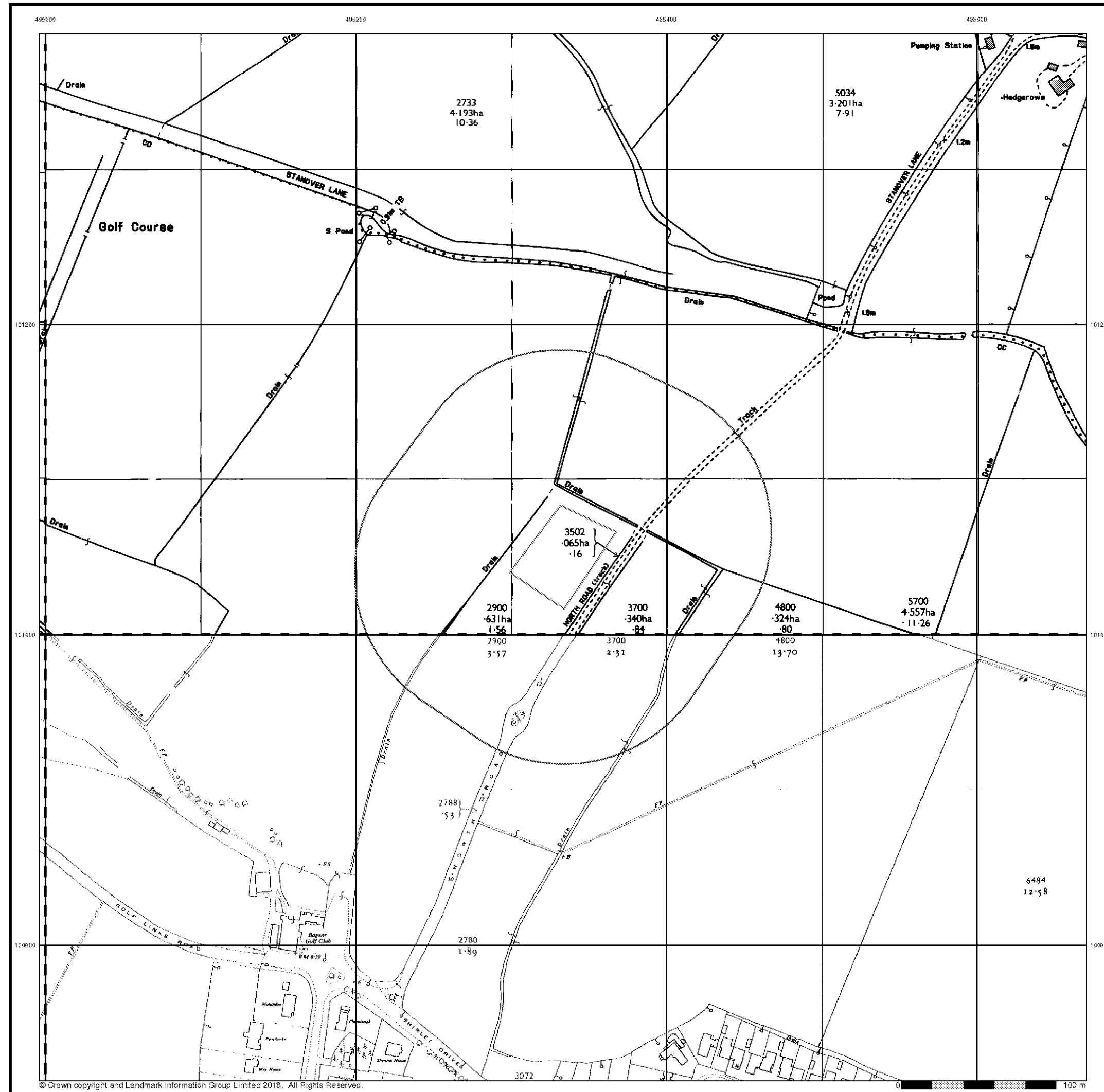
Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

Landmark
 INFORMATION GROUP

Tel: 0844 844 9852
 Fax: 0844 844 9951
 Web: www.environmentcheck.co.uk





Ordnance Survey Plan

Published 1962 - 1976

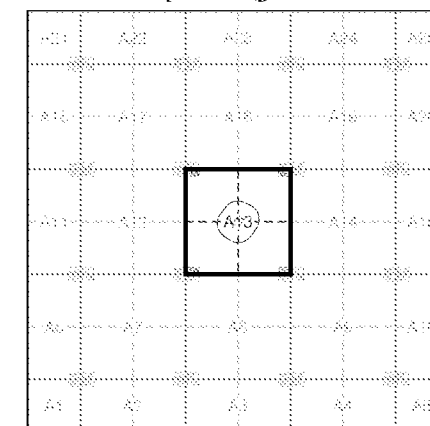
Source map scale - 1:2,500

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)

SUS401 1976 1:2,500	SUS501 1976 1:2,500
SUS400 1962 1:2,500	SUS500 1962 1:2,500

Historical Map - Segment A13



Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 100

Site Details

Wells Close, Felpham, BOGNOR REGIS, PO22 8FS



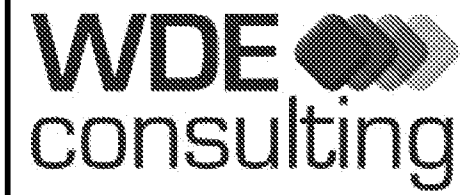
Tel: 0844 844 9852
 Fax: 0844 844 9951
 Web: www.environmentcheck.co.uk

495000

495200

495400

495600



Ordnance Survey Plan

Published 1969 - 1970

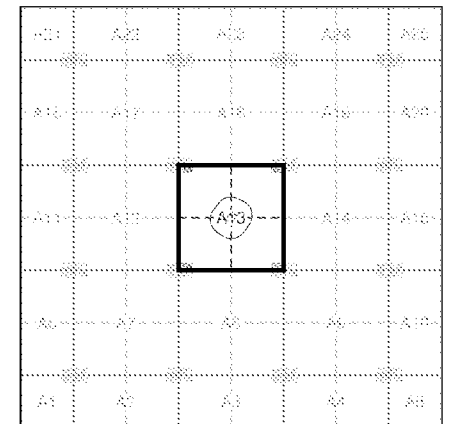
Source map scale - 1:1,250

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)

SU8400NE 1968 1:1,250	SU9500NW 1969 1:1,250	SU9500NE 1970 1:1,250
-----------------------------	-----------------------------	-----------------------------

Historical Map - Segment A13



Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 100

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

Landmark
 INFORMATION GROUP

Tel: 0844 844 9852
 Fax: 0844 844 9951
 Web: www.environmentcheck.co.uk

101200

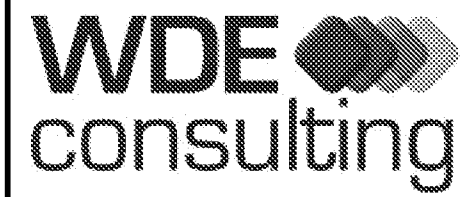
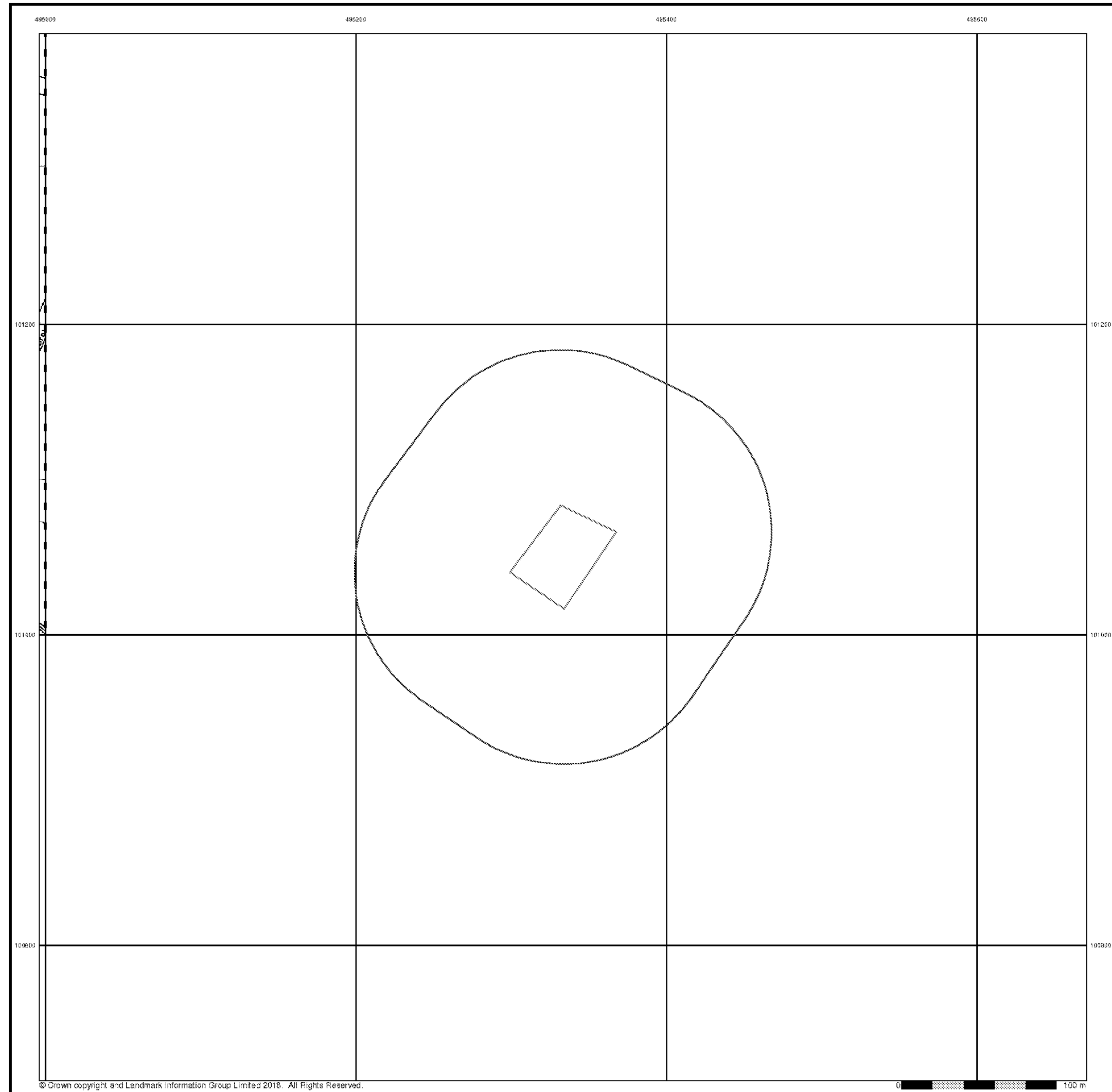
101200

101000

101000

100800

100800



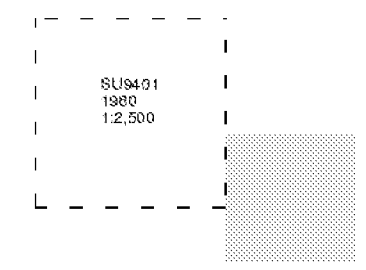
Additional SIMs

Published 1980

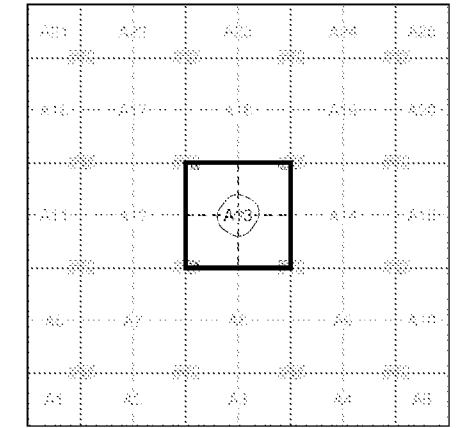
Source map scale - 1:2,500

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 A13



Order Details

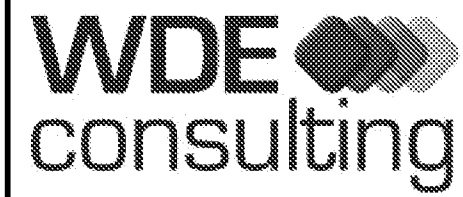
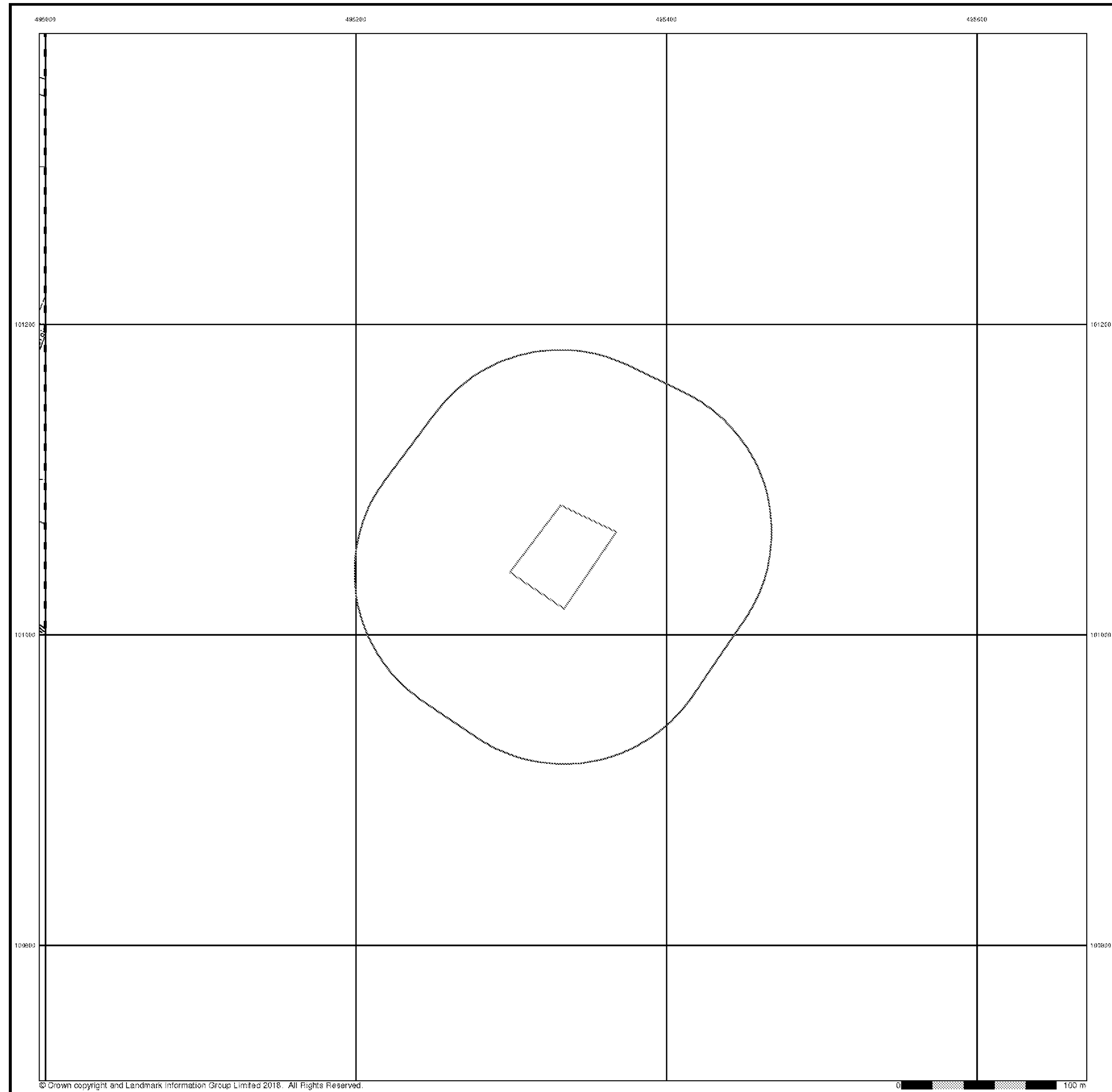
Order Number: 153944407_1_1
Customer Ref: 18-039
National Grid Reference: 495330, 101050
Slice: A
Site Area (Ha): 0.24
Search Buffer (m): 100

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



Tel: 0844 844 9852
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



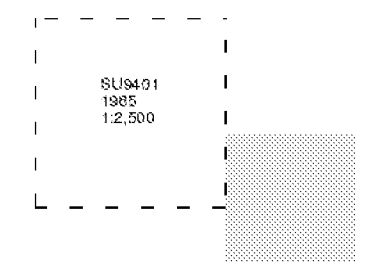
Additional SIMs

Published 1985

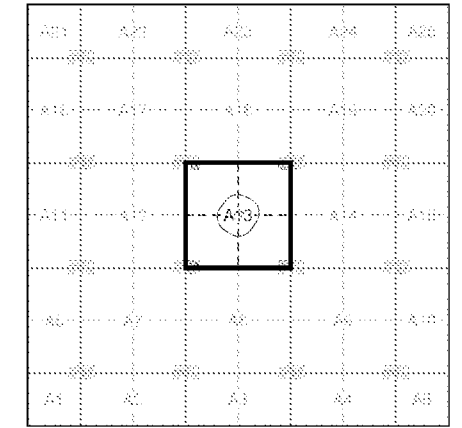
Source map scale - 1:2,500

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 A13



Order Details

Order Number: 153944407_1_1
Customer Ref: 18-039
National Grid Reference: 495330, 101050
Slice: A
Site Area (Ha): 0.24
Search Buffer (m): 100

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



Tel: 0844 844 9852
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

495000

495200

495400

495600

101200

101200

101000

101000

100800

100800

WDE consulting

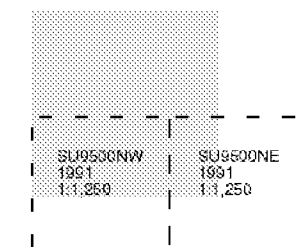
Additional SIMs

Published 1991

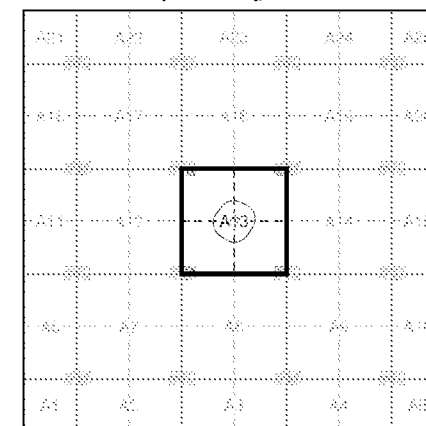
Source map scale - 1:1,250

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 A13



Order Details

Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 100

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

Landmark
 INFORMATION GROUP

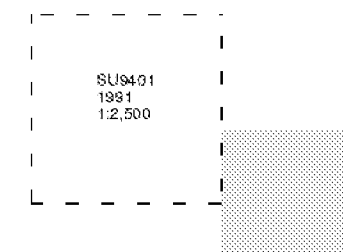
Tel: 0844 844 9852
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

© Crown copyright and Landmark Information Group Limited 2018. All Rights Reserved.

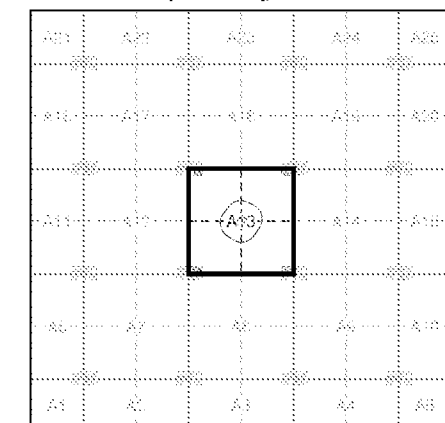
0 100 m

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 A13

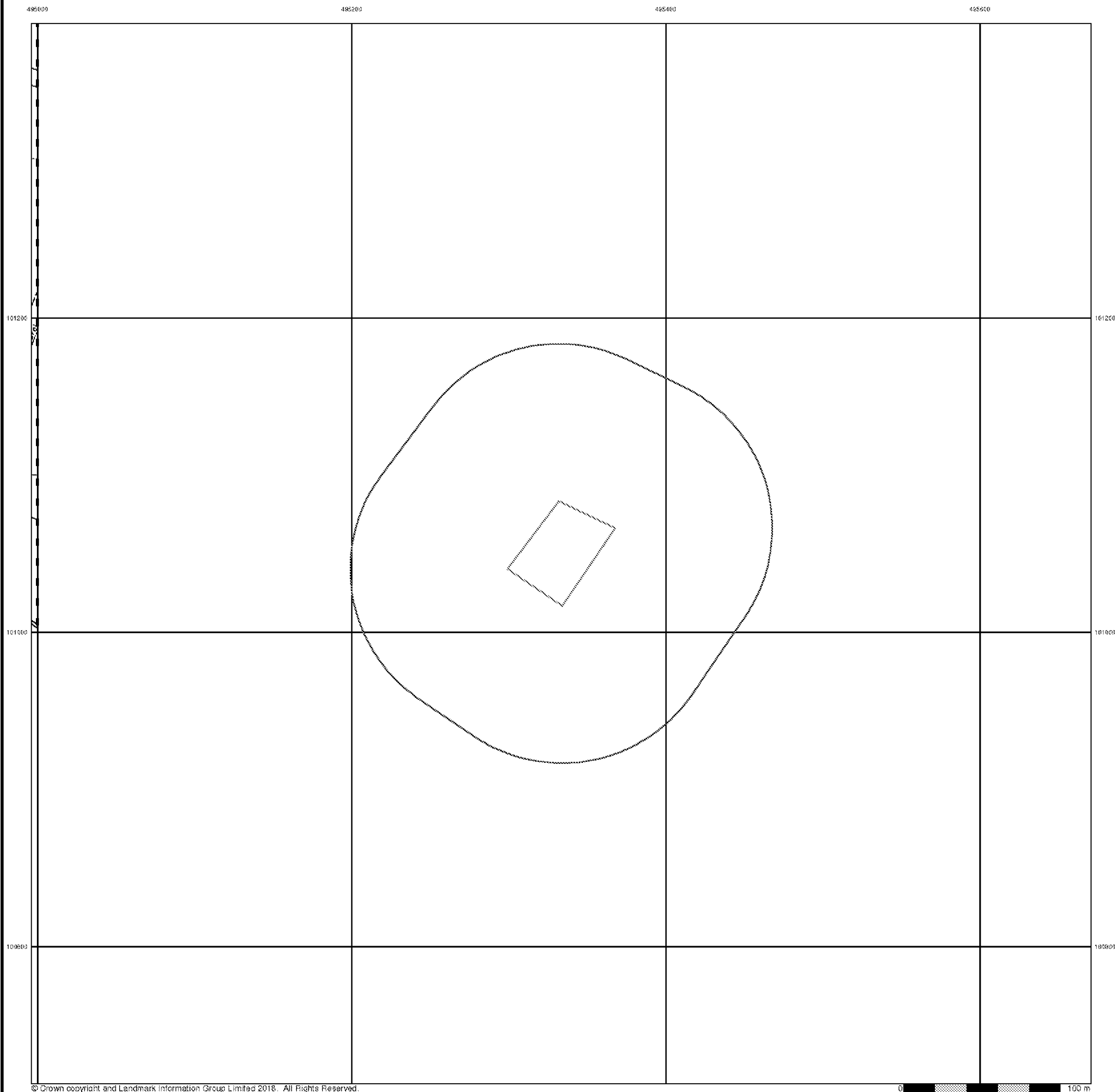


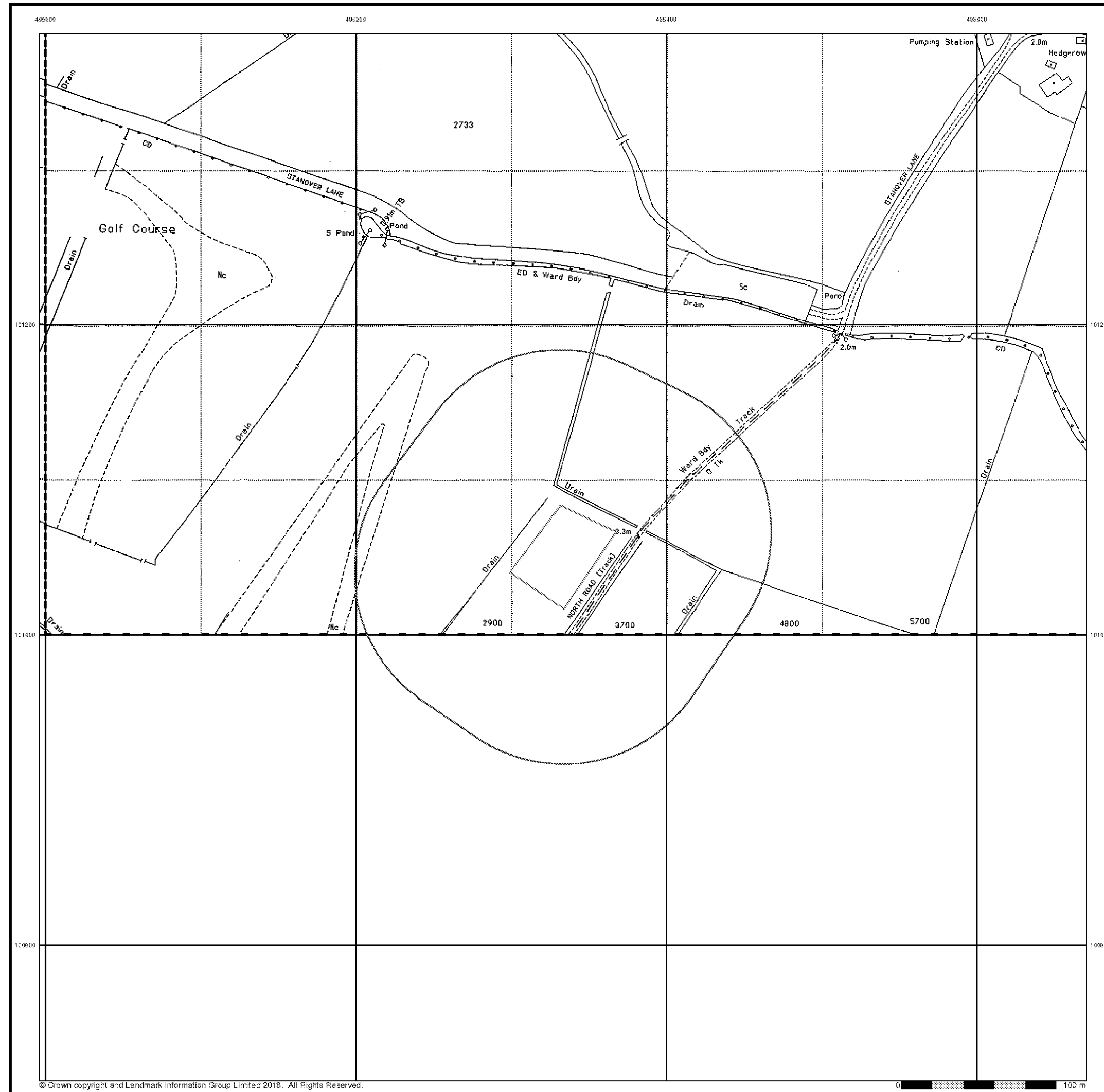
Order Details

Order Number: 153944407_1_1
Customer Ref: 18-039
National Grid Reference: 495330, 101050
Slice: A
Site Area (Ha): 0.24
Search Buffer (m): 100

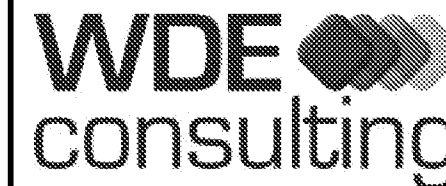
Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS





© Crown copyright and Landmark Information Group Limited 2018. All Rights Reserved.



Large-Scale National Grid Data

Published 1994

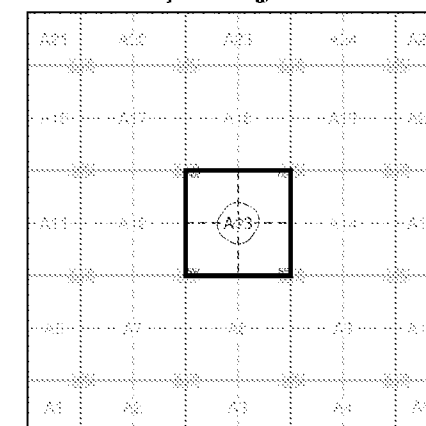
Source map scale - 1:2,500

'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)

SU9401 1994 1:2,500	SU8501 1994 1:2,500
---------------------------	---------------------------

Historical Map - Segment A13



Order Details

Order Number: 153944407_1_1
Customer Ref: 18-039
National Grid Reference: 495330, 101050
Slice: A
Site Area (Ha): 0.24
Search Buffer (m): 100

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



Tel: 0844 844 9852
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

495000

495200

495400

495600

WDE consulting

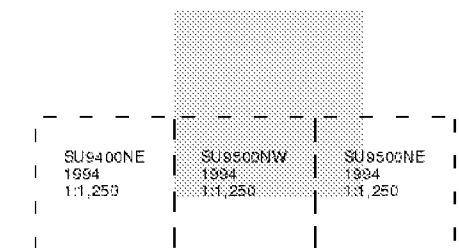
Large-Scale National Grid Data

Published 1994

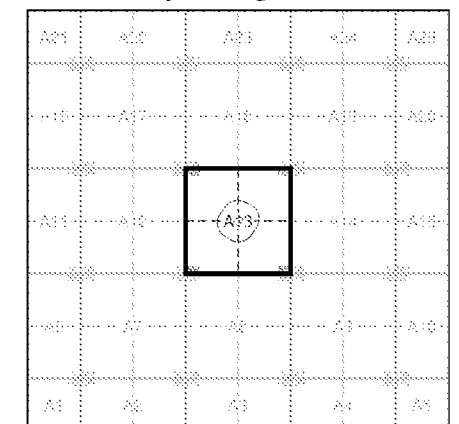
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

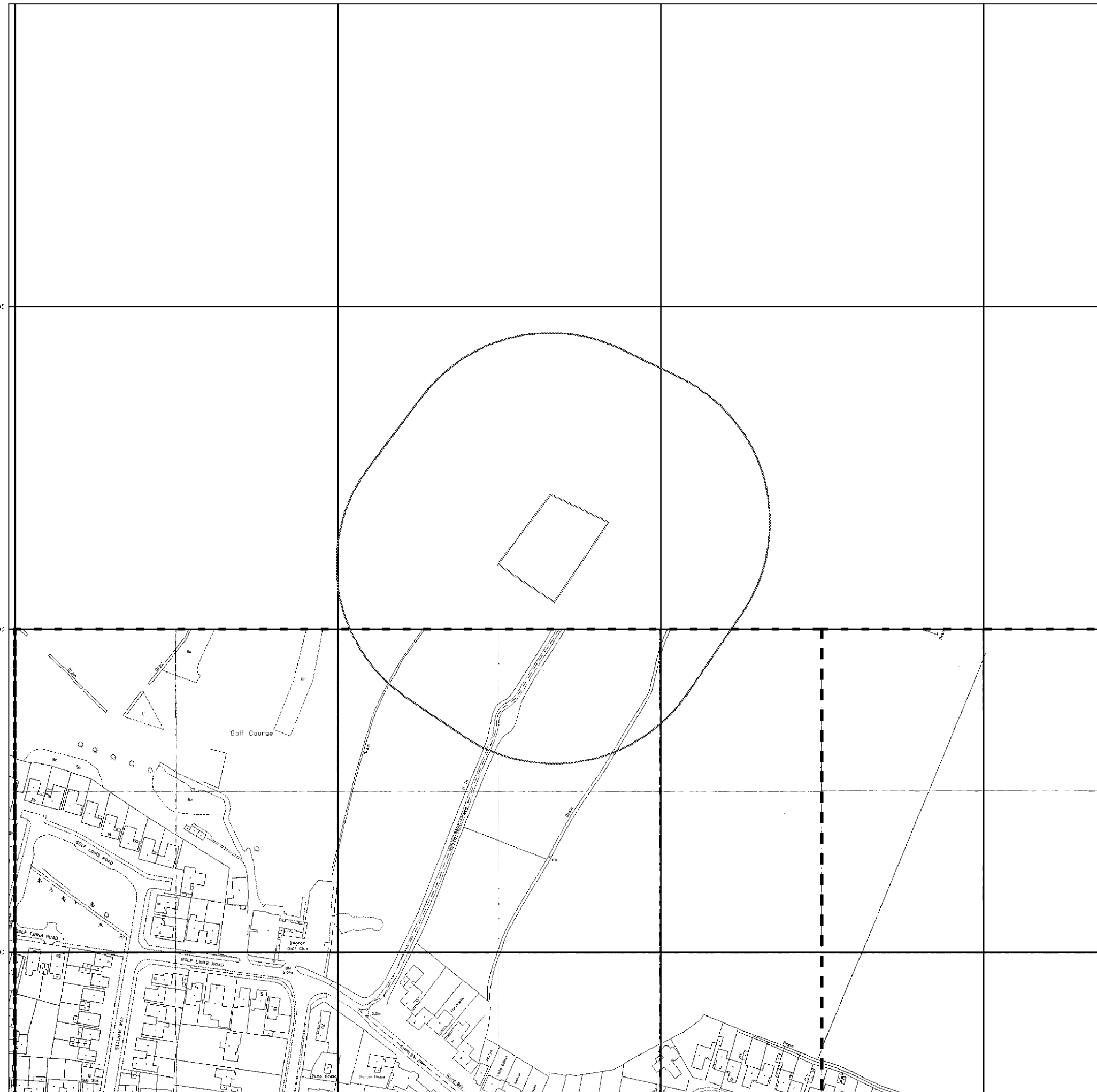
Order Number: 153944407_1_1
 Customer Ref: 18-039
 National Grid Reference: 495330, 101050
 Slice: A
 Site Area (Ha): 0.24
 Search Buffer (m): 100

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

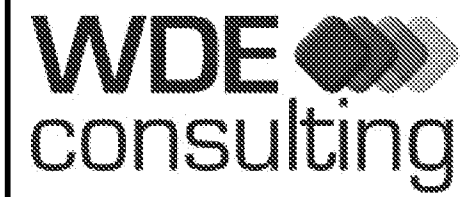
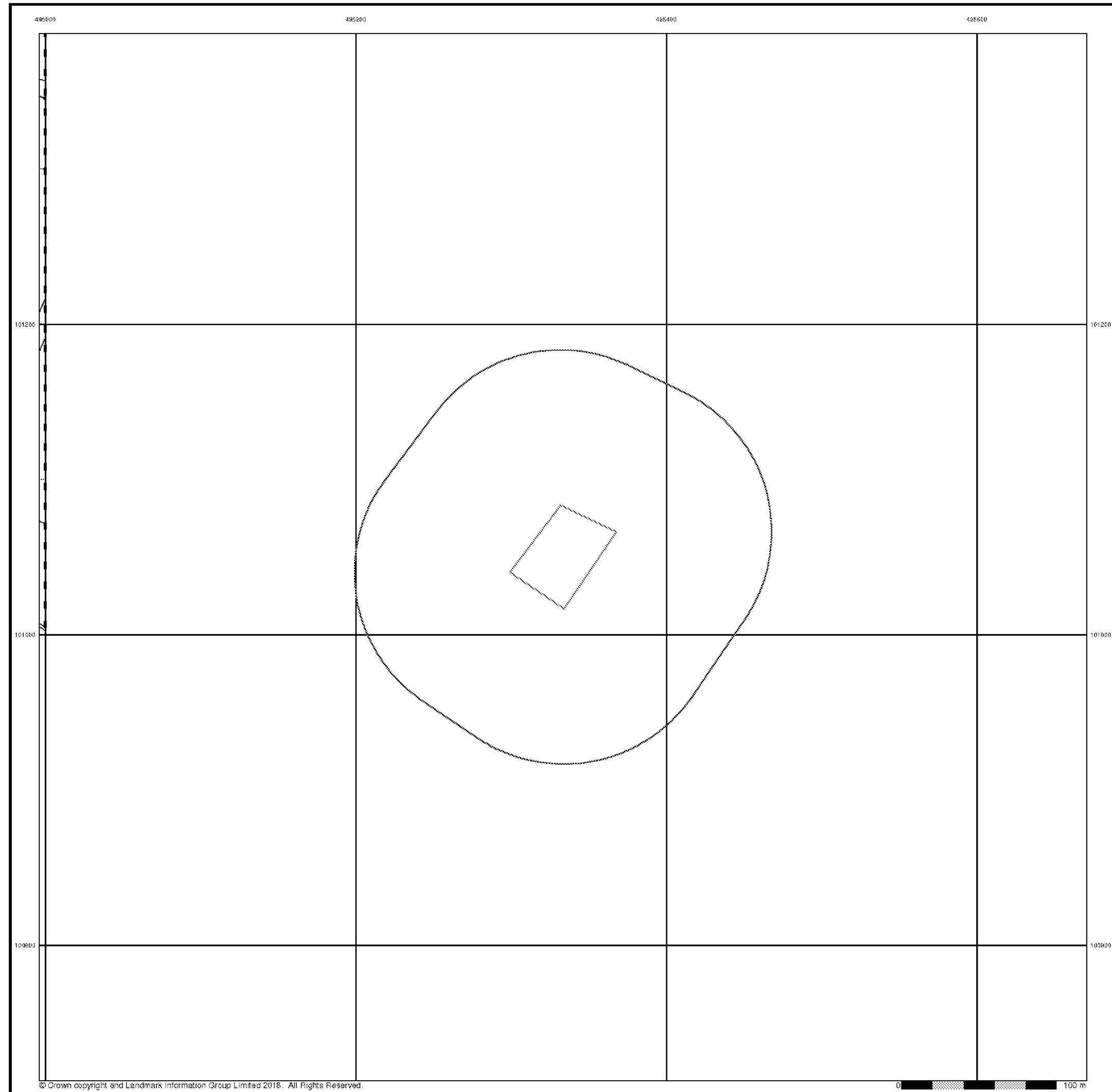
Landmark
 INFORMATION GROUP

Tel: 0844 844 9852
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



© Crown copyright and Landmark Information Group Limited 2018. All Rights Reserved.

0 100 m



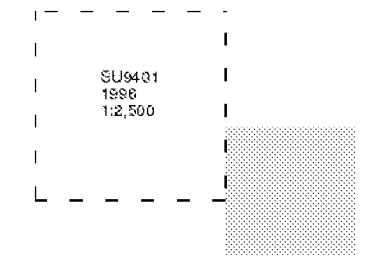
Large-Scale National Grid Data

Published 1996

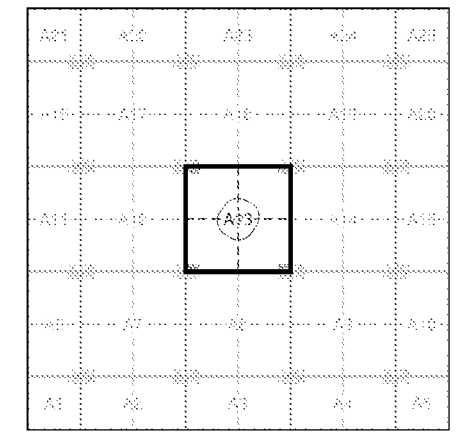
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

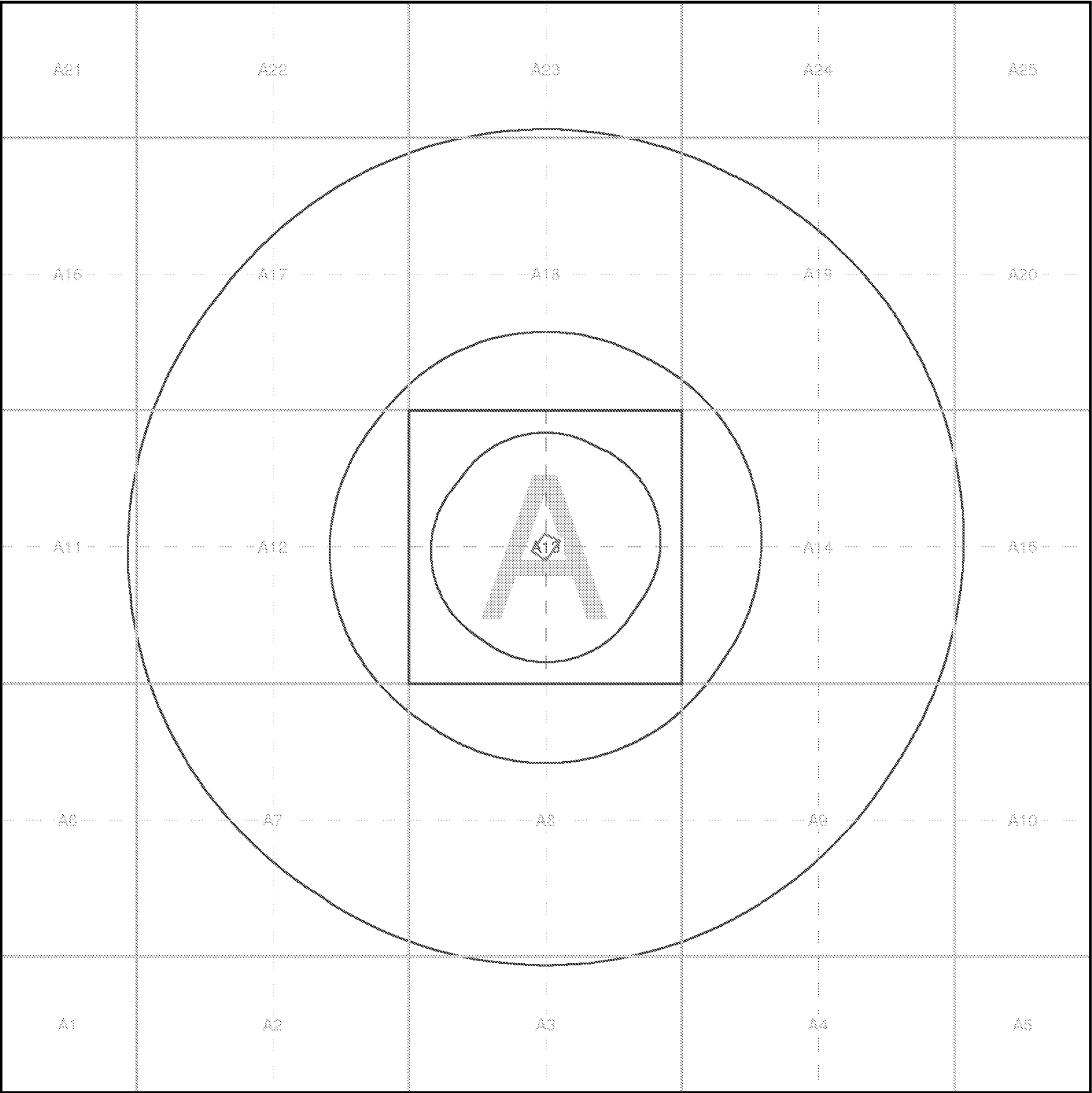
Order Number: 153944407_1_1
Customer Ref: 18-039
National Grid Reference: 495330, 101050
Slice: A
Site Area (Ha): 0.24
Search Buffer (m): 100

Site Details

Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS



Tel: 0844 844 9852
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Index Map

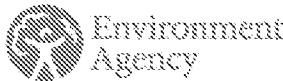
For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

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
Mr S Ware, WDE Consulting Ltd, 62A Western Road,
Tring, Hertfordshire, HP23 4BB

Order Details
Order Number: 153944407_1_1
Customer Ref: 18-039
National Grid Reference: 495330, 101050
Site Area (Ha): 0.24
Search Buffer (m): 1000

Site Details
Wellers Close, Felpham, BOGNOR REGIS, PO22 8FS

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

APPENDIX D

Borehole Logs

Dynamic Probe Logs

Excavation Method Drive-in Window Sampler	Dimensions	Ground Level (mOD)	Client Worthing Homes	Job Number 20790
	Location	Dates 25/01/2018	Engineer Michael Emery	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.30-0.40	T1		PID=0.00ppm		0.05	TOPSOIL: Dark brown sandy clay with occasional rootlets.			
0.90-1.00 1.00-1.45 1.00-1.90	J1 SPT N=8 D1		PID=0.00ppm 1/2,2,2,2			Soft to firm light brown silty sandy CLAY with occasional greyish white mottling.			
1.90-2.00 2.00-2.45	J2 SPT N=2		Water strike(1) at 1.90m. PID=0.00ppm /,1,1		(3.45)	...chalk gravels observed from 1.70m bgl becoming increasingly gravelly to 3.50m bgl.		Σ1	
3.00-3.45	SPT N=0		PID=0.00ppm /		3.50	White CHALK: Grade Dc.			
4.00-4.45	SPT N=8		PID=0.00ppm 1,2/1,2,3,2		(1.50)				
5.00-5.45	SPT N=25		PID=0.00ppm 8,7/6,6,7,6		5.00	Complete at 5.00m			

Remarks Groundwater encountered at 1.90m bgl.	Scale (approx)	Logged By
	1:50	ME
	Figure No. 20790.BH1	

				62a Western Road Tring, Hertfordshire HP23 4BB		Site Wellers Close, Felpham		Number BH2	
Excavation Method Drive-in Window Sampler		Dimensions		Ground Level (mOD)		Client Worthing Homes		Job Number 20790	
		Location		Dates 25/01/2018		Engineer Michael Emery		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.00-1.00	C1				0.10	TOPSOIL: Dark brown sandy clay with occasional rootlets. Soft to firm light brown silty sandy CLAY with occasional greyish white mottling.	                                       		
0.90-1.00 1.00-1.45	J1 SPT N=6		PID=0.00ppm 1/1,2,2,1						
1.70-1.80 2.00-2.45 2.00-3.00	J2 SPT N=1 C2		PID=0.00ppm Water strike(1) at 1.90m. /,1		(3.60)				
3.00-3.45	SPT N=0		PID=0.00ppm /			...chalk gravels observed from 3.00m bgl becoming increasingly gravelly to 3.70m bgl.			
4.00-4.45	SPT N=12		PID=0.00ppm 1/2,2,3,5		3.70 (1.30)	White CHALK: Grade Dc.			
5.00-5.45	SPT N=13		PID=0.00ppm 2,4/3,3,3,4		5.00	Complete at 5.00m			
Remarks Groundwater encountered at 1.90m bgl.							Scale (approx) 1:50	Logged By ME	Figure No. 20790.BH2

Excavation Method

Drive-in Window Sampler

Dimensions

Ground Level (mOD)

Client

Worthing Homes

Job
Number
20790

Location

Dates

25/01/2018

Engineer

Michael Emery

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.30-0.40	T1		PID=0.00ppm		0.05	TOPSOIL: Dark brown sandy clay with occasional rootlets.			
0.60-0.70	J1		PID=0.00ppm			Soft to firm light brown silty sandy CLAY with occasional greyish white mottling.			
1.00-2.00 1.00-1.45	C1 SPT N=5		PID=0.00ppm /1,2,2			...chalk gravels observed from 1.40m bgl becoming increasingly gravelly to 3.60m bgl.			
2.00-2.45 2.10-2.20	SPT N=4 J2		Water strike(1) at 1.90m. 1,1/1,1,1,1 PID=0.00ppm		(3.55)			Σ1	
3.00-4.00 3.00-3.45	C2 SPT N=14		PID=0.00ppm 1/2,3,4,5						
4.00-4.45	SPT N=50		PID=0.00ppm 9,11/13,15,12,10		3.60 (1.40)	White CHALK: Grade Dc.			
5.00-5.45	SPT N=49		10,11/12,14,12,11		5.00	Complete at 5.00m			

Remarks

Groundwater encountered at 1.90m bgl.

Scale (approx)

1:50

Logged By

ME

Figure No.

20790.BH3

			62a Western Road Tring, Hertfordshire HP23 4BB		Site Wellers Close, Felpham		Number BH4		
Excavation Method Drive-in Window Sampler		Dimensions		Ground Level (mOD)		Client Worthing Homes		Job Number 20790	
		Location		Dates 25/01/2018		Engineer Michael Emery		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50-0.60	J1		PID=0.00ppm		0.05	TOPSOIL: Dark brown sandy clay with occasional rootlets.			
1.00-1.45	SPT N=10		1/2,2,3,3			Soft to firm light brown silty sandy CLAY with occasional greyish white mottling.			
1.50-1.60	J2		PID=0.00ppm			...chalk gravels observed from 1.30m bgl becoming increasingly gravelly to 3.30m bgl.			
2.00-3.00 2.00-2.45	C1 SPT N=9		Water strike(1) at 1.90m. PID=0.00ppm 2,2/2,2,2,3		(3.25)			▽1	
3.00-4.00 3.00-3.45	C2 SPT N=18		PID=0.00ppm 2,4/5,6,5,2		3.30	White CHALK: Grade Dc.			
4.00-4.45	SPT N=53		PID=0.00ppm 7,9/8,9,12,24		(1.70)				
5.00-5.45	SPT N=58		10,11/15,12,14,17		5.00	Complete at 5.00m			
Remarks Groundwater encountered at 1.90m bgl.							Scale (approx) 1:50	Logged By ME	
							Figure No. 20790.BH4		

Excavation Method Drive-in Window Sampler	Dimensions	Ground Level (mOD)	Client Worthing Homes	Job Number 20790
	Location	Dates 25/01/2018	Engineer Michael Emery	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.00	C1				0.05	TOPSOIL: Dark brown sandy clay with occasional rootlets.		
1.00-1.45 1.10-1.20	SPT N=3 J1		1/1,,1,1 PID=0.00ppm		(2.55)	Soft to firm light brown silty sandy CLAY with occasional greyish white mottling.		
1.90-2.00 2.00-2.45	J2 SPT N=7		Water strike(1) at 1.90m. PID=0.00ppm 1,2/1,2,2,2			...chalk gravels observed from 1.20m bgl becoming increasingly gravelly to 2.60m bgl.		
3.00-3.45	SPT N=25		PID=0.00ppm 3,5/6,4,7,8		2.60	White CHALK: Grade Dc.		
4.00-4.45	SPT N=42		PID=0.00ppm 5,6/7,9,12,14		(2.40)			
5.00-5.45	SPT N=46		PID=0.00ppm 8,9/12,10,15,9		5.00	Complete at 5.00m		

▽1

Remarks Groundwater encountered at 1.90m bgl.	Scale (approx)	Logged By
	1:50	ME
	Figure No. 20790.BH5	

Method Dynamic Probe	Cone Dimensions	Ground Level (mOD)	Client Worthing Homes	Job Number 20790
	Location	Dates 25/01/2018	Engineer Michael Emery	Sheet 1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	3			0.00	
0.10-0.20	4				
0.20-0.30	3				
0.30-0.40	2				
0.40-0.50	1			0.50	
0.50-0.60	2				
0.60-0.70	2				
0.70-0.80	2				
0.80-0.90	2				
0.90-1.00	2			1.00	
1.00-1.10	2				
1.10-1.20	2				
1.20-1.30	2				
1.30-1.40	1				
1.40-1.50	2			1.50	
1.50-1.60	1				
1.60-1.70	2				
1.70-1.80	2				
1.80-1.90	1				
1.90-2.00	2			2.00	
2.00-2.10	3				
2.10-2.20	2				
2.20-2.30	2				
2.30-2.40	1				
2.40-2.50	1			2.50	
2.50-2.60	1				
2.60-2.70	0				
2.70-2.80	1				
2.80-2.90	0				
2.90-3.00	1			3.00	
3.00-3.10	1				
3.10-3.20	1				
3.20-3.30	2				
3.30-3.40	1				
3.40-3.50	0			3.50	
3.50-3.60	0				
3.60-3.70	0				
3.70-3.80	1				
3.80-3.90	0				
3.90-4.00	0			4.00	
4.00-4.10	2				
4.10-4.20	5				
4.20-4.30	6				
4.30-4.40	7				
4.40-4.50	7			4.50	
4.50-4.60	7				
4.60-4.70	7				
4.70-4.80	9				
4.80-4.90	11				
4.90-5.00	11			5.00	

Remarks

Scale (approx)	Logged By
1:25	ME
Figure No. 20790.DP1	

Method Dynamic Probe	Cone Dimensions	Ground Level (mOD)	Client Worthing Homes	Job Number 20790
	Location	Dates 25/01/2018	Engineer Michael Emery	Sheet 1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	4			0.00	
0.10-0.20	2				
0.20-0.30	3				
0.30-0.40	1				
0.40-0.50	0				
0.50-0.60	1			0.50	
0.60-0.70	0				
0.70-0.80	1				
0.80-0.90	1				
0.90-1.00	1				
1.00-1.10	1			1.00	
1.10-1.20	1				
1.20-1.30	0				
1.30-1.40	1				
1.40-1.50	0				
1.50-1.60	0			1.50	
1.60-1.70	0				
1.70-1.80	1				
1.80-1.90	0				
1.90-2.00	1				
2.00-2.10	0			2.00	
2.10-2.20	1				
2.20-2.30	0				
2.30-2.40	1				
2.40-2.50	2				
2.50-2.60	1			2.50	
2.60-2.70	3				
2.70-2.80	2				
2.80-2.90	3				
2.90-3.00	3				
3.00-3.10	3			3.00	
3.10-3.20	3				
3.20-3.30	3				
3.30-3.40	2				
3.40-3.50	0				
3.50-3.60	2			3.50	
3.60-3.70	2				
3.70-3.80	3				
3.80-3.90	3				
3.90-4.00	5				
4.00-4.10	4			4.00	
4.10-4.20	5				
4.20-4.30	2				
4.30-4.40	3				
4.40-4.50	3				
4.50-4.60	5			4.50	
4.60-4.70	5				
4.70-4.80	5				
4.80-4.90	7				
4.90-5.00	3			5.00	

Remarks

Scale (approx)	Logged By
1:25	ME
Figure No.	
20790.DP2	

Method Dynamic Probe	Cone Dimensions	Ground Level (mOD)	Client Worthing Homes	Job Number 20790
	Location	Dates 25/01/2018	Engineer Michael Emery	Sheet 1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	2			0.00	
0.10-0.20	1				
0.20-0.30	1				
0.30-0.40	2				
0.40-0.50	2				
0.50-0.60	1			0.50	
0.60-0.70	1				
0.70-0.80	0				
0.80-0.90	1				
0.90-1.00	1				
1.00-1.10	1			1.00	
1.10-1.20	2				
1.20-1.30	0				
1.30-1.40	2				
1.40-1.50	2				
1.50-1.60	1			1.50	
1.60-1.70	2				
1.70-1.80	3				
1.80-1.90	2				
1.90-2.00	2				
2.00-2.10	2			2.00	
2.10-2.20	2				
2.20-2.30	2				
2.30-2.40	2				
2.40-2.50	1				
2.50-2.60	2			2.50	
2.60-2.70	2				
2.70-2.80	2				
2.80-2.90	2				
2.90-3.00	1				
3.00-3.10	4			3.00	
3.10-3.20	4				
3.20-3.30	3				
3.30-3.40	4				
3.40-3.50	5				
3.50-3.60	5			3.50	
3.60-3.70	5				
3.70-3.80	6				
3.80-3.90	7				
3.90-4.00	10				
4.00-4.10	10			4.00	
4.10-4.20	12				
4.20-4.30	9				
4.30-4.40	11				
4.40-4.50	12				
4.50-4.60	12			4.50	
4.60-4.70	15				
4.70-4.80	14				
4.80-4.90	16				
4.90-5.00	15			5.00	

Remarks

Scale (approx)	Logged By
1:25	ME
Figure No.	
20790.DP3	

Method Dynamic Probe	Cone Dimensions	Ground Level (mOD)	Client Worthing Homes	Job Number 20790
	Location	Dates 25/01/2018	Engineer Michael Emery	Sheet 1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment														
					0	2	4	6	8	10	12	14	16	18	20				
0.00-0.10	1			0.00															
0.10-0.20	1																		
0.20-0.30	0																		
0.30-0.40	1																		
0.40-0.50	0																		
0.50-0.60	1			0.50															
0.60-0.70	1																		
0.70-0.80	2																		
0.80-0.90	1																		
0.90-1.00	1																		
1.00-1.10	2			1.00															
1.10-1.20	1																		
1.20-1.30	1																		
1.30-1.40	2																		
1.40-1.50	2																		
1.50-1.60	1			1.50															
1.60-1.70	1																		
1.70-1.80	2																		
1.80-1.90	2																		
1.90-2.00	1																		
2.00-2.10	2			2.00															
2.10-2.20	3																		
2.20-2.30	2																		
2.30-2.40	2																		
2.40-2.50	2																		
2.50-2.60	2			2.50															
2.60-2.70	3																		
2.70-2.80	3																		
2.80-2.90	3																		
2.90-3.00	3																		
3.00-3.10	4			3.00															
3.10-3.20	4																		
3.20-3.30	4																		
3.30-3.40	6																		
3.40-3.50	8																		
3.50-3.60	10			3.50															
3.60-3.70	9																		
3.70-3.80	10																		
3.80-3.90	7																		
3.90-4.00	10																		
4.00-4.10	12			4.00															
4.10-4.20	10																		
4.20-4.30	10																		
4.30-4.40	10																		
4.40-4.50	11																		
4.50-4.60	12			4.50															
4.60-4.70	10																		
4.70-4.80	14																		
4.80-4.90	12																		
4.90-5.00	12			5.00															

Remarks

Scale (approx)	Logged By
1:25	ME
Figure No.	
20790.DP4	

Method Dynamic Probe	Cone Dimensions	Ground Level (mOD)	Client Worthing Homes	Job Number 20790
	Location	Dates 25/01/2018	Engineer Michael Emery	Sheet 1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment										
0.00-0.10	2			0.00											
0.10-0.20	3														
0.20-0.30	2														
0.30-0.40	1														
0.40-0.50	0														
0.50-0.60	1			0.50											
0.60-0.70	0														
0.70-0.80	1														
0.80-0.90	1														
0.90-1.00	1														
1.00-1.10	1			1.00											
1.10-1.20	0														
1.20-1.30	1														
1.30-1.40	0														
1.40-1.50	0														
1.50-1.60	1			1.50											
1.60-1.70	1														
1.70-1.80	2														
1.80-1.90	1														
1.90-2.00	0														
2.00-2.10	0			2.00											
2.10-2.20	2														
2.20-2.30	2														
2.30-2.40	2														
2.40-2.50	3														
2.50-2.60	4			2.50											
2.60-2.70	3														
2.70-2.80	3														
2.80-2.90	4														
2.90-3.00	3														
3.00-3.10	5			3.00											
3.10-3.20	4														
3.20-3.30	3														
3.30-3.40	4														
3.40-3.50	4														
3.50-3.60	3			3.50											
3.60-3.70	3														
3.70-3.80	4														
3.80-3.90	4														
3.90-4.00	3														
4.00-4.10	3			4.00											
4.10-4.20	3														
4.20-4.30	5														
4.30-4.40	5														
4.40-4.50	4														
4.50-4.60	4			4.50											
4.60-4.70	4														
4.70-4.80	4														
4.80-4.90	3														
4.90-5.00	1			5.00											

Remarks

Scale (approx)	Logged By
1:25	ME
Figure No.	
20790.DP5	

APPENDIX E

Permeability Sheets

Ground Gas Sheets

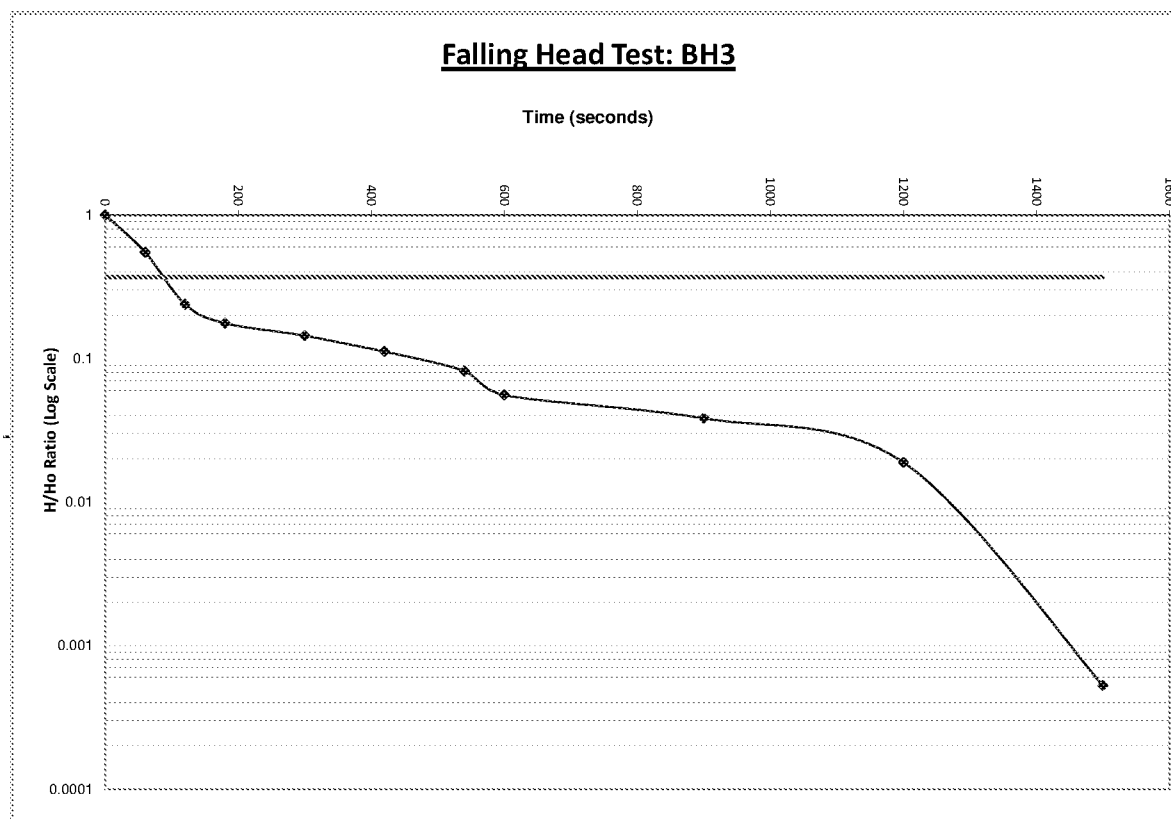
Date of Test	26/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
BH Location	BH3

Depth to Water H (TOC)	1.907
Diameter of well (m)	0.05

Area (A)	0.00616225	m ²
F	0.1375	
Head (H^*)	1.907	m
Time (t)	120	sec
Permeability k	0.00037347	m/sec

Comments:
3.73 x 10 ⁻⁴ = Good permeability

Time (Secs)	DTW	H	H/Ho Ratio
0	0.000	1.90700	1
60	0.861	1.04600	0.548505506
120	1.452	0.45500	0.238594651
180	1.571	0.33600	0.176192973
300	1.632	0.27500	0.144205558
420	1.694	0.21300	0.11169376
540	1.751	0.15600	0.08180388
600	1.801	0.10600	0.055584688
900	1.834	0.07300	0.038280021
1200	1.871	0.03600	0.018877819
1500	1.906	0.00100	0.000524384



					Gas Monitoring			
Site Wellers Close, Felpham Client Worthing Homes					Job Number 20790			
					Sheet Number 1			
Date 26 th January 2018 Air Temperature 4 °C 4 °C Barometric Pressure 1018 mB 1018 mB Visit No 1								
Borehole No	BH1				BH2			
Condition of Standpipe	Good- Large Gas feed pipe				Good- Large Gas feed pipe			
Time	0 mins	5 mins	10 mins	15 mins	0 mins	5 mins	10 mins	15 mins
Combustible gas (CH4) % LEL	1	1	1	n/a	1	1	1	n/a
Combustible gas (CH4) % vol	0.1	0.1	0.1	n/a	0.1	0.1	0.1	n/a
Combustible Gas (CH4) Peak	0.1	0.1	0.1	n/a	0.1	0.1	0.1	n/a
Carbon Dioxide % vol	0.3	2.3	2.4	n/a	2.3	1.6	1.4	n/a
Oxygen % vol	20.6	20.1	18.7	n/a	20.1	20.2	19.8	n/a
Flow Rate (max) l/hr	+0.1			n/a	+0.0			n/a
Relative Downhole Pressure (mb)	+0.07			n/a	+0.06			n/a
Downhole Temperature (°C)				n/a				n/a
CO (ppm)	0	0	1	n/a	0	0	7	n/a
H2S (ppm)	0	0	0	n/a	0	0	0	n/a
Remarks	DTW:1.901 DTB:4.769				DTW:1.987 DTB:4.941			

					Gas Monitoring			
Site Wellers Close, Felpham Client Worthing Homes					Job Number 20790			
					Sheet Number 2			
Date 26 th January 2018 Air Temperature 4 °C °C Barometric Pressure 1018 mB mB Visit No 1								
Borehole No	BH3							
Condition of Standpipe	Good- Large Gas feed pipe							
Time	0 mins	5 mins	10 mins	15 mins	0 mins	5 mins	10 mins	15 mins
Combustible gas (CH4) % LEL	1	1	1	n/a				n/a
Combustible gas (CH4) % vol	0.1	0.1	0.1	n/a				n/a
Combustible Gas (CH4) Peak	0.1	0.1	0.1	n/a				n/a
Carbon Dioxide % vol	1.3	1.2	1.2	n/a				n/a
Oxygen % vol	19.9	19.6	19.5	n/a				n/a
Flow Rate (max) l/hr	+0.1			n/a				n/a
Relative Downhole Pressure (mb)	+0.06			n/a				n/a
Downhole Temperature (°C)				n/a				n/a
CO (ppm)	4	2	1	n/a				n/a
H2S (ppm)	0	0	0	n/a				n/a
Remarks	DTW:1.907 DTB:4.612							

APPENDIX F

Laboratory Analysis
WAC Testing Results
Waste Checker Sheet



Michael Emery
WDE Consulting Ltd
62a Western Road
Tring
Hertfordshire
HP23 4BB



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

Analytical Report Number : 18-74429

Project / Site name:	Wellers Close, Felpham	Samples received on:	30/01/2018
Your job number:	20790	Samples instructed on:	30/01/2018
Your order number:	18-048	Analysis completed by:	08/02/2018
Report Issue Number:	1	Report issued on:	08/02/2018
Samples Analysed:	5 soil samples		

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

Standard sample disposal times, unless otherwise agreed with the laboratory, are :	soils	- 4 weeks from reporting
	leachates	- 2 weeks from reporting
	waters	- 2 weeks from reporting
	asbestos	- 6 months from reporting

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

Analytical Report Number: 18-74429

Project / Site name: Wellers Close, Felpham

Your Order No: 18-048

Lab Sample Number	898293	898294	898295	898296	898297
Sample Reference	BH1.2	BH2.3	BH3.4	BH4.1	BH5.2
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.90	1.70	2.10	0.50	1.10
Date Sampled	25/01/2018	25/01/2018	25/01/2018	25/01/2018	25/01/2018
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	16	16
Total mass of sample received	kg	0.001	NONE	0.51	0.55

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
------------------	------	-----	-----------	--------------	--------------	--------------	--------------	--------------

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.2	7.9	8.4	7.5	7.7
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO ₄	mg/kg	50	MCERTS	250	220	360	270	260
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.011	0.012	0.014	0.012	0.029
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Organic Carbon (TOC)	%	0.1	MCERTS	0.2	< 0.1	< 0.1	0.5	0.2

Total Phenols

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

Speciated PAHs

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

Total PAH

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

Analytical Report Number: 18-74429

Project / Site name: Wellers Close, Felpham

Your Order No: 18-048

Lab Sample Number	898293	898294	898295	898296	898297
Sample Reference	BH1.2	BH2.3	BH3.4	BH4.1	BH5.2
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.90	1.70	2.10	0.50	1.10
Date Sampled	25/01/2018	25/01/2018	25/01/2018	25/01/2018	25/01/2018
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.9	11	3.2	9.8	6.5
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	0.2	< 0.2	0.5	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.3	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	34	33	11	35	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19	19	7.0	20	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	12	11	4.0	12	9.4
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	31	30	7.5	25	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.2	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	53	48	17	47	43

Monoaromatics

Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH C10 - C40	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10



Analytical Report Number : 18-74429

Project / Site name: Wellers Close, Felpham

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
898293	BH1.2	None Supplied	0.90	Brown clay.
898294	BH2.3	None Supplied	1.70	Brown clay.
898295	BH3.4	None Supplied	2.10	Light brown sandy clay with gravel.
898296	BH4.1	None Supplied	0.50	Brown clay and loam with vegetation.
898297	BH5.2	None Supplied	1.10	Brown clay and sand.

Analytical Report Number : 18-74429

Project / Site name: Wellers Close, Felpham

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests"	L009-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding.	L076-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.



4841



///CERTS



Environmental Science

Michael Emery
WDE Consulting Ltd
62a Western Road
Tring
Hertfordshire
HP23 4BB

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 3PE

Analytical Report Number : 18-74432

Project / Site name:	Wellers Close, Felpham	Samples received on:	30/01/2018
Your job number:	20790	Samples instructed on:	30/01/2018
Your order number:	18-048	Analysis completed by:	13/02/2018
Report Issue Number:	1	Report issued on:	13/02/2018
Samples Analysed:	1 10:1 WAC sample		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

Standard sample disposal times, unless otherwise agreed with the laboratory, are :	soils	- 4 weeks from reporting
	leachates	- 2 weeks from reporting
	waters	- 2 weeks from reporting
	asbestos	- 6 months from reporting

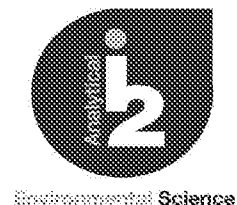
Excel copies of reports are only valid when accompanied by this PDF certificate.

i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Waste Acceptance Criteria Analytical Results							
Report No:	18-74432						
					Client: WDENV		
Location	Wellers Close, Felpham						
Lab Reference (Sample Number)	898306 / 898307				Landfill Waste Acceptance Criteria		
Sampling Date	25/01/2018				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH3.1						
Depth (m)	0.30						
Solid Waste Analysis							
TOC (%)**	0.5				3%	5%	6%
Loss on Ignition (%) **	2.4				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.9				100	--	--
pH (units)**	7.3				--	>6	--
Acid Neutralisation Capacity (mol / kg)	1.2				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
	(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l		mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.0011			< 0.0110	0.5	2	25
Barium *	0.0023			0.0147	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0009			0.0055	0.5	10	70
Copper *	0.0039			0.024	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	< 0.0004			< 0.0040	0.5	10	30
Nickel *	0.0015			0.0097	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0057			0.036	4	50	200
Chloride *	1.4			9.1	800	4000	25000
Fluoride	0.39			2.4	10	150	500
Sulphate *	2.7			17	1000	20000	50000
TDS	15			96	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	6.21			39.3	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.8						
Dry Matter (%)	83						
Moisture (%)	17						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation				** = UKAS accredited (liquid eluate analysis only)			
				** = MCERTS accredited			

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



Analytical Report Number : 18-74432

Project / Site name: Wellers Close, Felpham

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

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

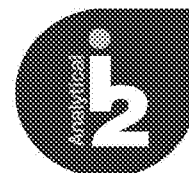
Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
898306	BH3.1	None Supplied	0.30	Brown clay with vegetation.

Analytical Report Number : 18-74432

Project / Site name: Wellers Close, Felpham

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance on Sampling and Testing of Wastes to Meet Landfill Waste Acceptance"	L046-UK	W	NONE
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L047-PL	D	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil"	L039-PL	W	ISO 17025
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS



Environmental Science

Analytical Report Number : 18-74432

Project / Site name: Wellers Close, Felpham

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests"	L009-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Category or Danger	Xi	T+	T	Xn	T	T+	Car. Cat 1 / 2		Carc. Cat 3	C	Repr. Cat 1 / 2		Muta. Cat 1 / 2	N	
Substance	Irritant	Harmful			Toxic		Carcinogenic			Corrosive	Teratogenic		Mutagenic	Ecotoxic	
Risk Phase	R36-38	R26-28, R39	R23-25, R39, R48	R20-22, 48,65,68	R23-25, R39, R48	R26-28, R39	R45	R49	R40	R35	R60 / R61	R62 / R63	R46	R50	R53
Hazard	H4	H5	H5	H5	H6	H6	H7			H8	H10		H11	H14	H14
Napthalene				0.000005					0.000005					0.000005	0.000005
Acenaphthylene	0.000005			0.000005											
Acenaphthene	0.000005														
Fluorene															
Phenanthrene	0.000005			0.000005					0.000005						
Anthracene	0.000005													0.000005	0.000005
Fluoranthene	0.000005			0.000005					0.000005						
Pyrene	0.000005			0.000005											
Benzo(a)anthracene															
Chrysene				0.000005			0.000005						0.000005		
Benzo(b)fluoranthene							0.000005							0.000005	0.000005
Benzo(k)fluoranthene				0.000005			0.000005								
Benzo(a)pyrene							0.000005				0.000005		0.000005	0.000005	0.000005
Indeno(1,2,3-cd)pyrene															
Dibenz(a,h)anthracene							0.000005							0.000005	0.000005
Benzo(ghi)perylene														0.000005	0.000005
Arsenic			0.0011		0.0011									0.0011	0.0011
Boron	0.00005			0.00005											
Cadmium	0.00003	0.00003	0.00003		0.00003	0.00003	0.00003								
Chromium										0.0035			0.0035		
Copper				0.002										0.002	0.002
Lead				0.0012					0.0012		0.0012	0.0012		0.0012	0.0012
Mercury		0.00003				0.00003								0.00003	0.00003
Nickel							0.0031	0.0031	0.0031						
Selenium			0.00012		0.00012										0.00012
Zinc	0.0053			0.0053											
Benzene	0.0001		0.0001	0.0001			0.0001								
Toluene				0.0001								0.0001			
Ethylbenzene				0.0001	0.0001							0.0001			
p & m-xylene	0.0001			0.0001											
o-xylene	0.0001			0.0001											
MTBE (Methyl Tertiary Butyl Ether)	0.0001														
PRO C6-C10				0.0000006			0.0000006							0.0000006	0.0000006
DRO C10-C25				0.0042					0.0042					0.0042	0.0042
Total (or greatest)	0.0058	0.00006	0.0014	0.0133	0.0014	0.00006	0.0031	0.0031	0.0042	0.0035	0.0012	0.0012	0.0035	0.0086	0.0087
Threshold (%)	20.0	0.1	3	25.0	3.0	0.1	0.1	0.1	1.0	1.0	0.5	5.0	0.1	25.00	25.00
Exceeded? (y/n)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Category or Danger	Xi	T+	T	Xn	T	T+	Car. Cat 1 / 2		Carc. Cat 3	C	Repr. Cat 1 / 2		Muta. Cat 1 / 2	N	
Substance	Irritant	Harmful			Toxic		Carcinogenic			Corrosive	Teratogenic		Mutagenic	Ecotoxic	
Risk Phase	R36-38	R26-28, R39	R23-25, R39, R48	R20-22, 48, 65, 68	R23-25, R39, R48	R26-28, R39	R45	R49	R40	R35	R60 / R61	R62 / R63	R46	R50	R53
Hazard	H4	H5	H5	H5	H6	H6	H7			H8	H10		H11	H14	H14
Benzo(a)pyrene							0.000005						0.000005		
BaP Concentration in TPH							1E-10						1E-10		
BaP Exceeded (y/n)							N						N		
TPH (EC5 - EC35)				0.002			0.002				0.002		0.002	0.002	0.002
Threshold (%)				25.0			0.1				5.0		0.1	2.50	2.50
Hazardous Properties				N			N				N		N	N	N

APPENDIX G

Geotechnical Test Results

CBR Variation Graphs

SPT Variation Graphs



TEST CERTIFICATE

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



Determination of Liquid and Plastic Limits

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

Client: WDE Consulting Ltd
Client Address: 62a Western Road
Tring
Hertfordshire
HP23 4BB
Contact: Michael Emery
Site Name: Wellers Close, Felpham
Site Address: Not Given

Client Reference: 20790
Job Number: 18-74515
Date Sampled: 25/01/2018
Date Received: 30/01/2018
Date Tested: 06/02/2018
Sampled By: Not Given

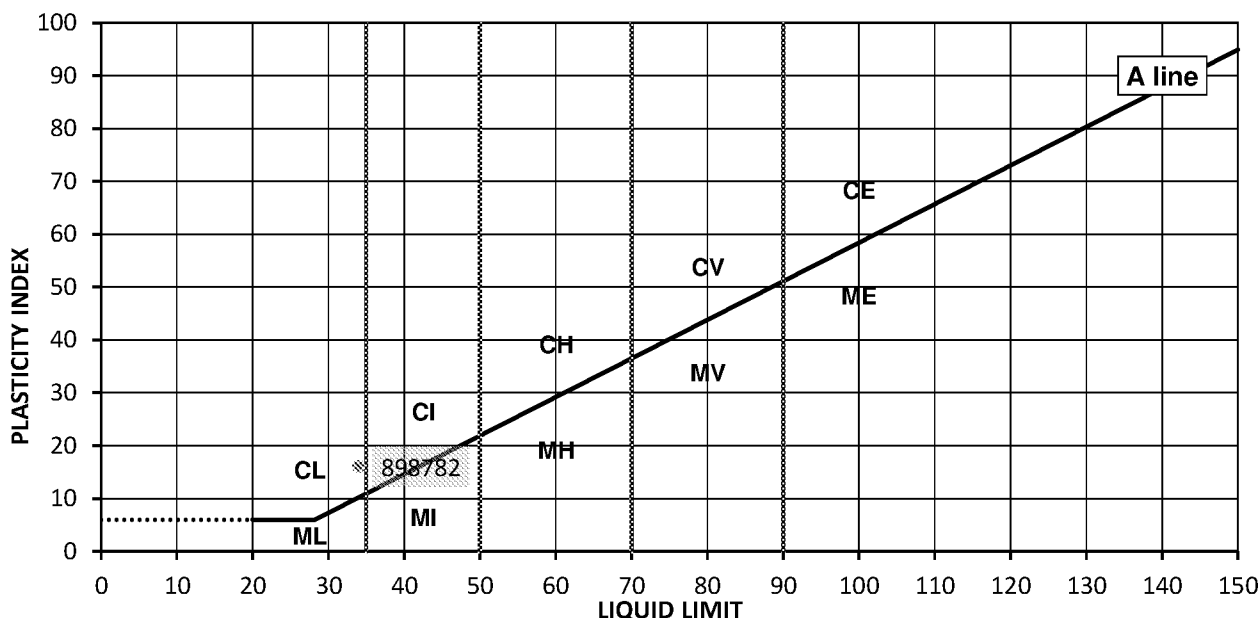
TEST RESULTS

Laboratory Reference: 898782
Sample Reference: Not Given

Description: Brown slightly sandy clayey SILT
Location: BH1.3
Sample Preparation: Tested in natural condition

Sample Type: D
Depth Top [m]: 1.00
Depth Base [m]: 1.90

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
20	34	18	16	100



Legend, based on BS 5930:2015 Code of practice for site investigations

	Plasticity	Liquid Limit
C	Clay	below 35
M	Silt	35 to 50
	L Low	50 to 70
	I Medium	70 to 90
	H High	exceeding 90
	V Very high	
	E Extremely high	
Organic	O	append to classification for organic material (eg CHO)

Remarks

Approved:

Dariusz Piotrowski
PL Laboratory
Manager Geotechnical
Section

Date Reported: 13/02/2018

Signed:

Darren Berrill
Geotechnical General
Manager

for and on behalf of i2 Analytical Ltd

"Opinions and interpretations expressed here in are outside of the scope of the UKAS Accreditation.
This report may not be reproduced other than in full without the prior written approval of the issuing laboratory.
The results included within the report are representative of the samples submitted for analysis.
The analysis was carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland."



TEST CERTIFICATE

Determination of Liquid and Plastic Limits

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



Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

Client: WDE Consulting Ltd
Client Address: 62a Western Road
Tring
Hertfordshire
HP23 4BB
Contact: Michael Emery
Site Name: Wellers Close, Felpham
Site Address: Not Given

Client Reference: 20790
Job Number: 18-74515
Date Sampled: 25/01/2018
Date Received: 30/01/2018
Date Tested: 06/02/2018
Sampled By: Not Given

TEST RESULTS

Laboratory Reference: 898784
Sample Reference: Not Given

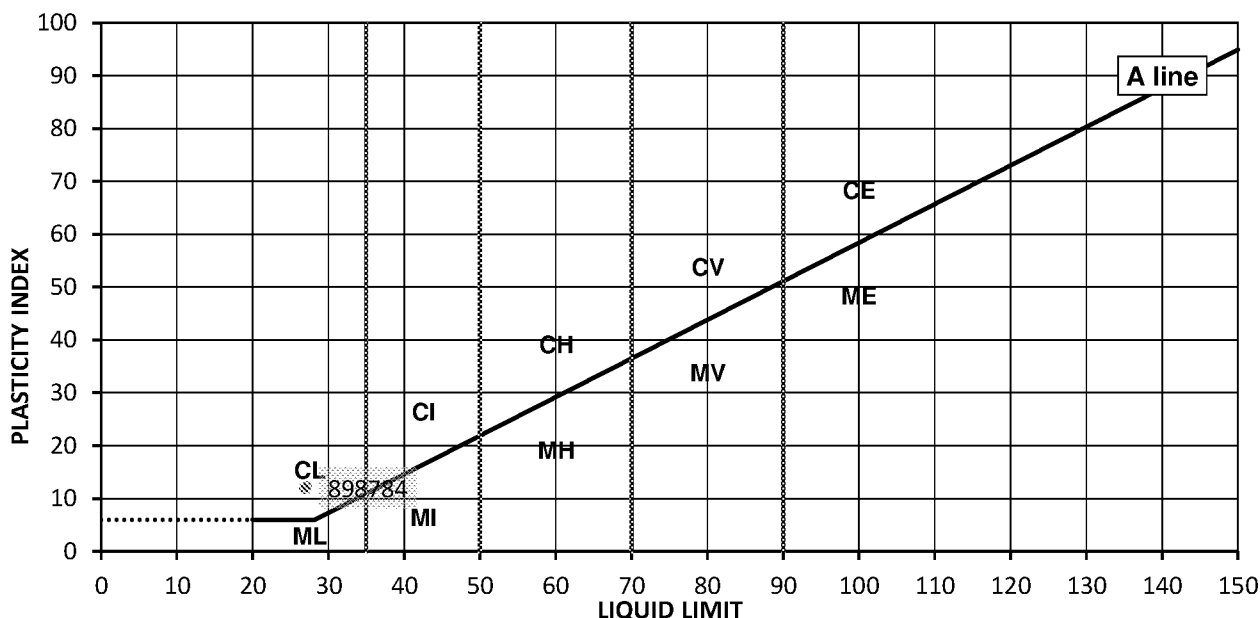
Description: Brown slightly gravelly very sandy CLAY

Location: BH3.3

Sample Preparation: Tested after washing to remove >425um

Sample Type: C
Depth Top [m]: 1.00
Depth Base [m]: 2.00

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
19	27	15	12	89



Legend, based on BS 5930:2015 Code of practice for site investigations

	Plasticity	Liquid Limit
C	Clay	below 35
M	Silt	35 to 50
	L Low	50 to 70
	I Medium	70 to 90
	H High	exceeding 90
	V Very high	
	E Extremely high	
Organic	O	append to classification for organic material (eg CHO)

Remarks

Approved:

Dariusz Piotrowski
PL Laboratory
Manager Geotechnical
Section

Date Reported: 13/02/2018

Signed:

Darren Berrill
Geotechnical General
Manager

for and on behalf of i2 Analytical Ltd

"Opinions and interpretations expressed here in are outside of the scope of the UKAS Accreditation.
This report may not be reproduced other than in full without the prior written approval of the issuing laboratory.
The results included within the report are representative of the samples submitted for analysis.
The analysis was carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland."

TEST CERTIFICATE**Summary of Classification Test Results**

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



Client: WDE Consulting Ltd
 Client Address: 62a Western Road
 Tring
 Hertfordshire
 HP23 4BB
 Contact: Michael Emery
 Site Name: Wellers Close, Felpham
 Site Address: Not Given

Client Reference: 20790
 Job Number: 18-74515
 Date Sampled: 25/01/2018
 Date Received: 30/01/2018
 Date Tested: 06/02/2018
 Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Soil Description	Density		M/C	Atterberg				PD
		Reference	Top depth [m]	Base depth [m]	Type		bulk	dry		% Passing 425um	LL	PL	PI	
							Mg/m3	Mg/m3		%	%	%	%	
898782	BH1.3	Not Given	1.00	1.90	D	Brown slightly sandy clayey SILT			20	100	34	18	16	
898784	BH3.3	Not Given	1.00	2.00	C	Brown slightly gravelly very sandy CLAY			19	89	27	15	12	

Comments:

Approved:

Dariusz Piotrowski
 PL Laboratory Manager
 Geotechnical Section

Date Reported: 13/02/2018

Signed:

Darren Berrill
 Geotechnical General Manager

for and on behalf of i2 Analytical Ltd

"Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation.
 This report may not be reproduced other than in full without the prior written approval of the issuing laboratory.
 The results included within the report are representative of the samples submitted for analysis.
 The analysis was carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland."



TEST CERTIFICATE

Determination of Particle Size Distribution

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



4041

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

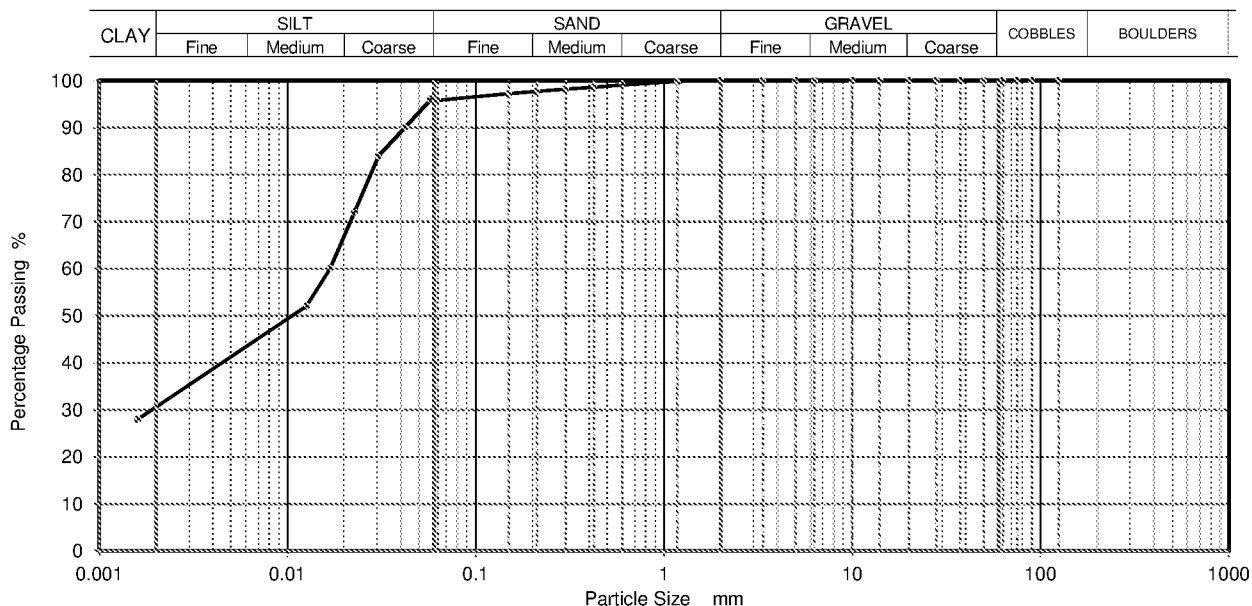
Client: WDE Consulting Ltd
Client Address: 62a Western Road
Tring
Hertfordshire
HP23 4BB
Contact: Michael Emery
Site Name: Wellers Close, Felpham
Site Address: Not Given

Client Reference: 20790
Job Number: 18-74515
Date Sampled: 25/01/2018
Date Received: 30/01/2018
Date Tested: 06/02/2018
Sampled By: Not Given

TEST RESULTS

Laboratory Reference: 898782
Sample description: Brown slightly sandy clayey SILT
Location: BH1.3
Supplier: Not Given

Sample Reference: Not Given
Sample Type: D
Depth Top [m]: 1.00
Depth Base [m]: 1.90



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0578	96
90	100	0.0421	90
75	100	0.0306	84
63	100	0.0227	72
50	100	0.0168	60
37.5	100	0.0126	52
28	100	0.0016	28
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	99	Particle density (assumed) 2.65 Mg/m3	
0.425	99		
0.3	98		
0.212	98		
0.15	97		
0.063	96		

Dry Mass of sample [g]: 851

Sample Proportions		% dry mass
Very coarse		0.00
Gravel		0.00
Sand		4.20
Silt		65.30
Clay		30.50

Grading Analysis		
D100	mm	3.35
D60	mm	0.0169
D30	mm	0.00192
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Signed:

Darren Berrill
Geotechnical General
Manager

Date Reported: 13/02/2018

for and on behalf of i2 Analytical Ltd

"Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation.
This report may not be reproduced other than in full without the prior written approval of the issuing laboratory.
The results included within the report are representative of the samples submitted for analysis.
The analysis was carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland."



TEST CERTIFICATE

Determination of Particle Size Distribution

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



4041

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

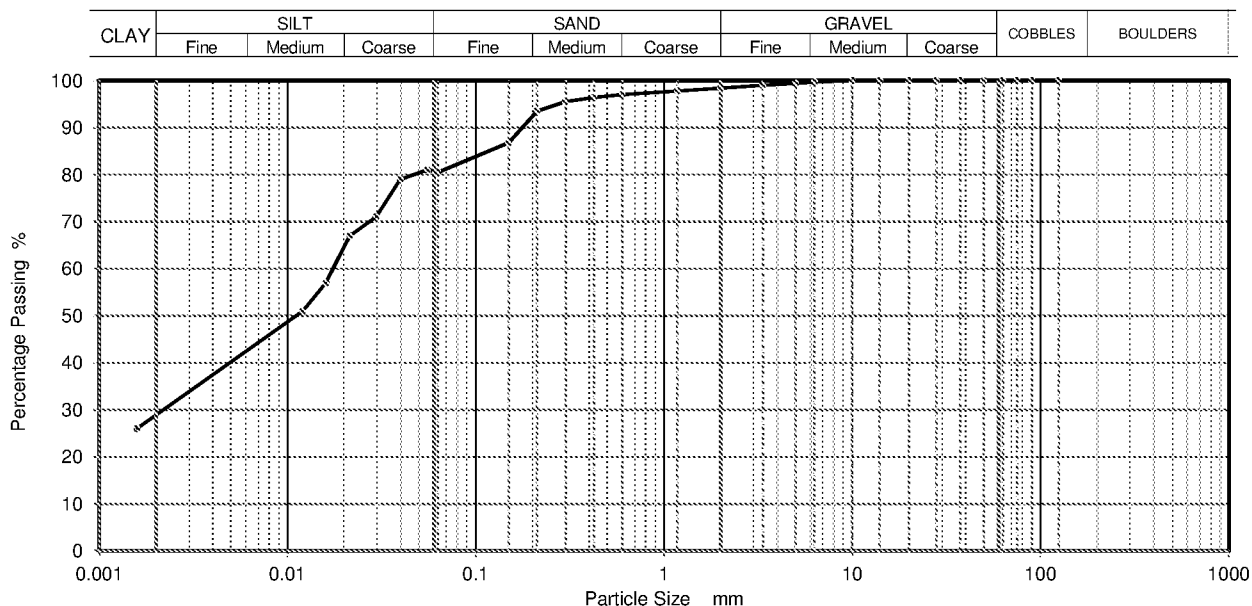
Client: WDE Consulting Ltd
Client Address: 62a Western Road
Tring
Hertfordshire
HP23 4BB
Contact: Michael Emery
Site Name: Wellers Close, Felpham
Site Address: Not Given

Client Reference: 20790
Job Number: 18-74515
Date Sampled: 25/01/2018
Date Received: 30/01/2018
Date Tested: 06/02/2018
Sampled By: Not Given

TEST RESULTS

Laboratory Reference: 898783
Sample description: Brown slightly gravelly sandy very clayey SILT
Location: BH2.4
Supplier: Not Given

Sample Reference: Not Given
Sample Type: C
Depth Top [m]: 2.00
Depth Base [m]: 3.00



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0556	81
90	100	0.0397	79
75	100	0.0296	71
63	100	0.0215	67
50	100	0.0160	57
37.5	100	0.0121	51
28	100	0.0016	26
20	100		
14	100		
10	100		
6.3	100		
5	99		
3.35	99		
2	98		
1.18	98		
0.6	97	Particle density (assumed) 2.65 Mg/m3	
0.425	96		
0.3	96		
0.212	94		
0.15	87		
0.063	81		

Dry Mass of sample [g]: 409

Sample Proportions		% dry mass
Very coarse		0.00
Gravel		1.60
Sand		17.90
Silt		51.40
Clay		29.10

Grading Analysis		
D100	mm	10
D60	mm	0.0175
D30	mm	0.00215
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Signed:

Darren Berrill
Geotechnical General
Manager

Date Reported: 13/02/2018

for and on behalf of i2 Analytical Ltd

"Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation.
This report may not be reproduced other than in full without the prior written approval of the issuing laboratory.
The results included within the report are representative of the samples submitted for analysis.
The analysis was carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland."



TEST CERTIFICATE

Determination of California Bearing Ratio

Tested in Accordance with BS 1377-4: 1990: Clause 7

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



Client: WDE Consulting Ltd
Client Address: 62a Western Road
Tring
Hertfordshire
HP23 4BB
Contact: Michael Emery
Site Name: Wellers Close, Felpham
Site Address: Not Given

Client Reference: 20790
Job Number: 18-74515
Date Sampled: 25/01/2018
Date Received: 30/01/2018
Date Tested: 08/02/2018
Sampled By: Not Given

Test Results:

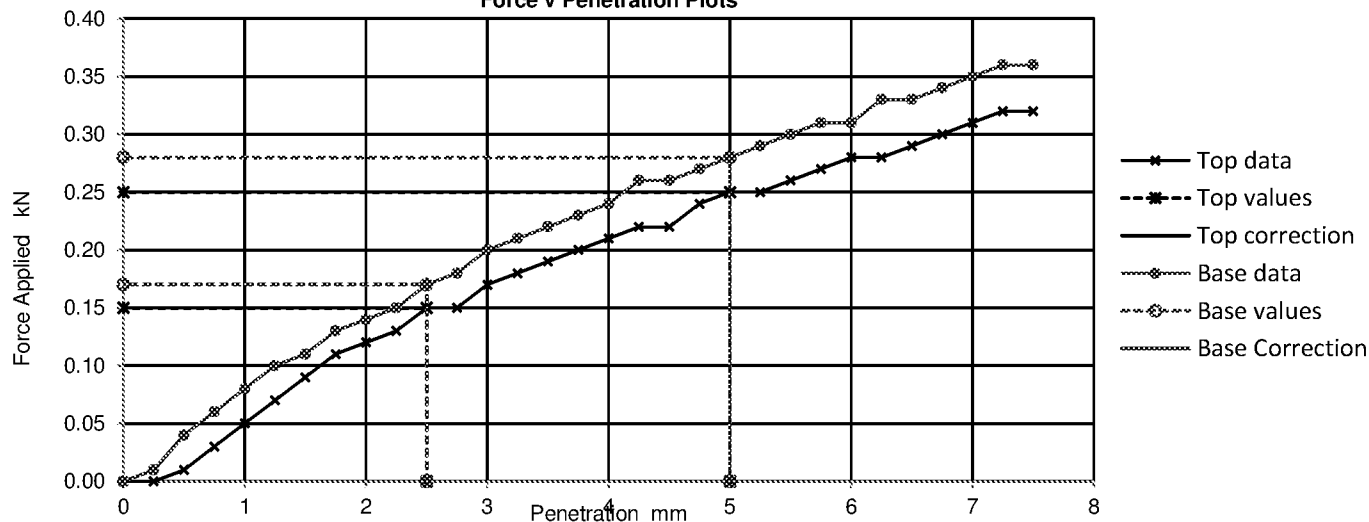
Laboratory Reference: 898786
Hole No.: BH5.1
Sample Reference: Not Given

Depth Top [m]: 0.00
Depth Base [m]: 1.00
Sample Type: C

Specimen Preparation:

Condition	Remoulded	Soaking details	Not soaked
Details	Recompacted with specified standard effort using 2.5kg rammer	Period of soaking	days
		Time to surface	days
Sample Description:	Yellowish brown slightly gravelly CLAY	Amount of swell recorded	mm
Material retained on 20mm sieve removed	0 %	Dry density after soaking	Mg/m3
Initial Specimen details	Bulk density 2.00 Mg/m3	Surcharge applied	8 kg
	Dry density 1.64 Mg/m3		4.9 kPa
	Moisture content 22 %		

Force v Penetration Plots



Results

TOP
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
No	1.1	1.3	1.3	1.3
No	1.3	1.4	1.4	

Moisture Content %
22
23

Remarks:

Test/ Specimen specific remarks:

Approved:

Signed:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Darren Berrill
Geotechnical General Manager

Date Reported: 13/02/2018

for and on behalf of i2 Analytical Ltd

"Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation.
This report may not be reproduced other than in full without the prior written approval of the issuing laboratory.
The results included within the report are representative of the samples submitted for analysis.
The analysis was carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland."

TEST CERTIFICATE

Point Load Strength Index Tests Summary of Results

Tested in Accordance with ISRM : 2007, pages 125-132

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



Client: WDE Consulting Ltd
Client Address: 62a Western Road
Tring
Hertfordshire
HP23 4BB
Contact: Michael Emery
Site Name: Wellers Close, Felpham
Site Address: Not Given

Client Reference: 20790
Job Number: 18-74515
Date Sampled: 25/01/2018
Date Received: 30/01/2018
Date Tested: 06/02/2018
Sampled By: Not Given

Test results

[illegible]

Test Type
D - Diametral, A - Axial, I - Irregular Lump, B - Block
Direction
L - parallel to planes of weakness
P - perpendicular to planes of weakness
U - unknown or random
Dimensions
Dps - Distance between platens (platen separation)
Dps* - at failure (see ISRM note 6)
Lne - Length from platens to nearest free end
W - Width of shortest dimension perpendicular to load, P

Detailed legend for test and dimensions, based on ISRM, is shown above.

Size factor, $F = (De/50)^{0.45}$ for all tests.

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section
Date Reported: 07/02/2018

Signed:

Darren Berrill
Geotechnical General
Manager

for and on behalf of i2 Analytical Ltd

*Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation.
This report may not be reproduced other than in full without the prior written approval of the issuing laboratory.
The results included within the report are representative of the samples submitted for analysis.
The analysis was carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Śląska, Poland."



TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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



Client: WDE Consulting Ltd
Client Address: 62a Western Road
Tring
Hertfordshire
HP23 4BB
Contact: Michael Emery
Site Name: Wellers Close, Felpham
Site Address: Not Given

Client Reference: 20790
Job Number: 18-74515
Date Sampled: 25/01/2018
Date Received: 30/01/2018
Date Tested: 06/02/2018
Sampled By: Not Given

Test Result

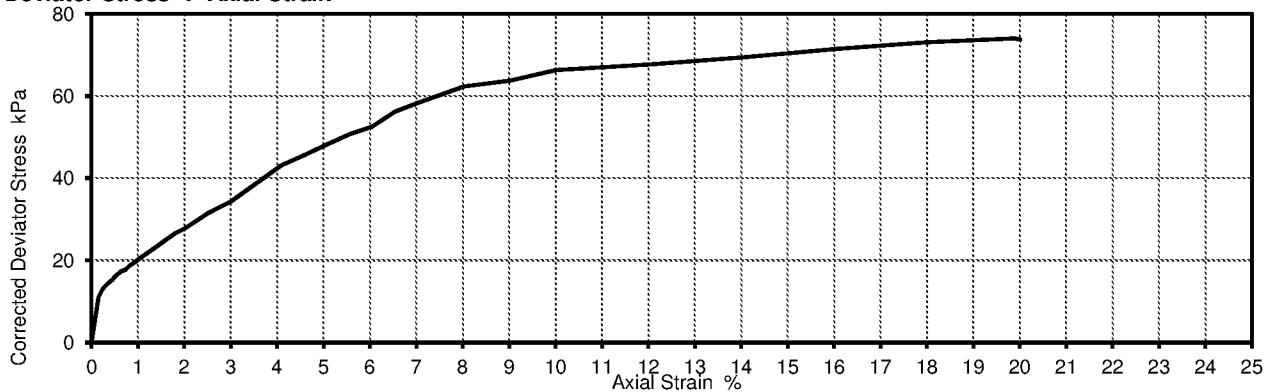
Laboratory Reference: 898782
Hole No.: BH1.3
Sample Reference: Not Given
Sample Description: Brown slightly sandy clayey SILT

Depth Top [m]: 1.00
Depth Base [m]: 1.90
Sample Type: D

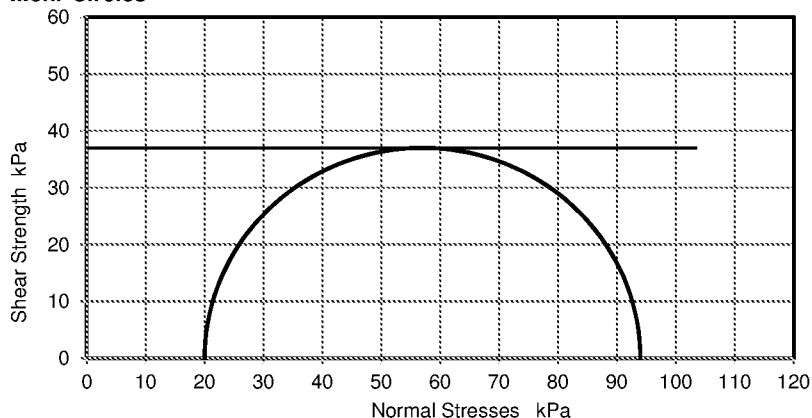
Test Number	1
Length	132.59 mm
Diameter	69.41 mm
Bulk Density	2.17 Mg/m ³
Moisture Content	20 %
Dry Density	1.81 Mg/m ³

Rate of Strain	2.00 %/min
Cell Pressure	20 kPa
Axial Strain at failure	19.9 %
Deviator Stress, $(\sigma_1 - \sigma_3)_f$	74 kPa
Undrained Shear Strength, c_u	37 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Compound
Membrane thickness	0.25 mm

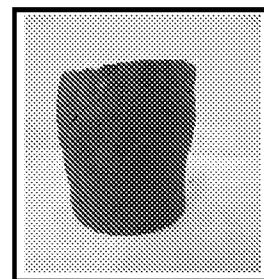
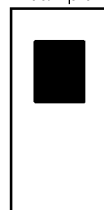
Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Date Reported: 13/02/2018

Signed:

Darren Berrill
Geotechnical General
Manager

for and on behalf of i2 Analytical Ltd

"Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation.
This report may not be reproduced other than in full without the prior written approval of the issuing laboratory.
The results included within the report are representative of the samples submitted for analysis.
The analysis was carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland."



TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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



Client: WDE Consulting Ltd
Client Address: 62a Western Road
Tring
Hertfordshire
HP23 4BB
Contact: Michael Emery
Site Name: Wellers Close, Felpham
Site Address: Not Given

Client Reference: 20790
Job Number: 18-74515
Date Sampled: 25/01/2018
Date Received: 30/01/2018
Date Tested: 06/02/2018
Sampled By: Not Given

Test Result

Laboratory Reference: 898783
Hole No.: BH2.4
Sample Reference: Not Given
Sample Description: Brown slightly gravelly sandy very clayey SILT

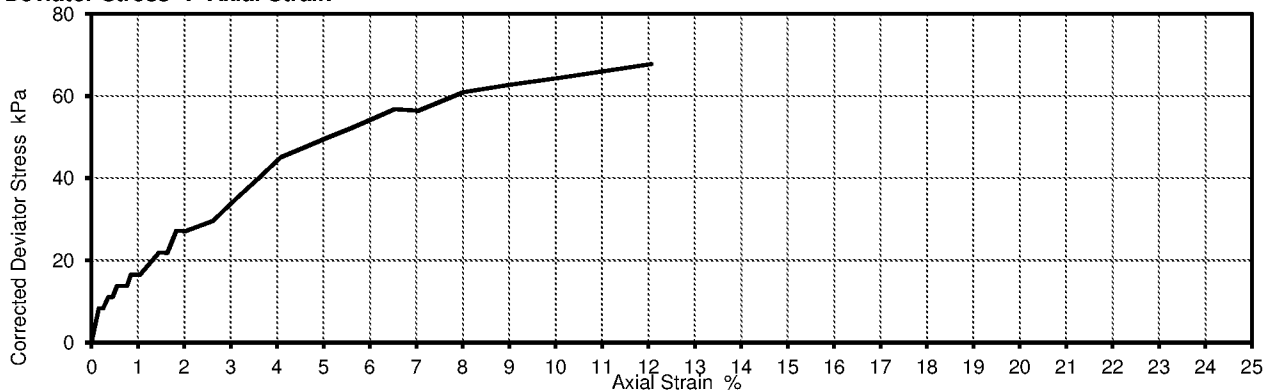
Depth Top [m]: 2.00
Depth Base [m]: 3.00
Sample Type: C

Test Number	1
Length	125.87 mm
Diameter	67.57 mm
Bulk Density	2.17 Mg/m ³
Moisture Content	25 %
Dry Density	1.73 Mg/m ³

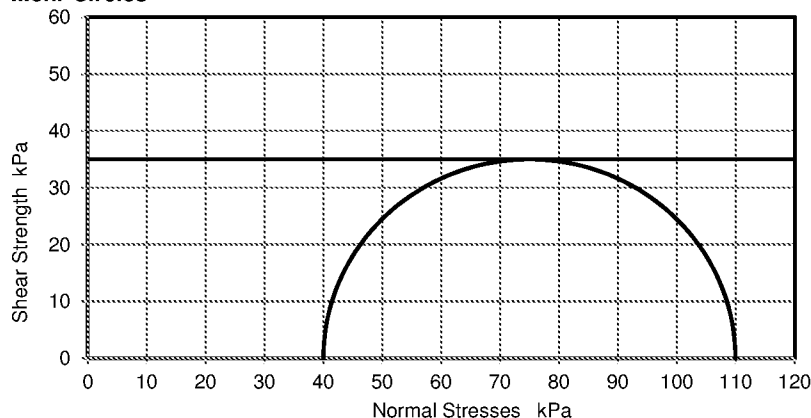
Rate of Strain
Cell Pressure
Axial Strain at failure
Deviator Stress, $(\sigma_1 - \sigma_3)_f$
Undrained Shear Strength, c_u
Mode of Failure
Membrane thickness

2.00	%/min
40	kPa
12.1	%
68	kPa
34	kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Compound	
0.24	mm

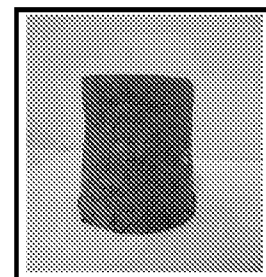
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Date Reported: 13/02/2018

Signed:

Darren Berrill
Geotechnical General
Manager

for and on behalf of i2 Analytical Ltd

"Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation.
This report may not be reproduced other than in full without the prior written approval of the issuing laboratory.
The results included within the report are representative of the samples submitted for analysis.
The analysis was carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland."



TEST CERTIFICATE

Determination of Unconsolidated Undrained Triaxial Compression

Tested in Accordance with BS1377: Part 7: 1990, clause 8, single specimen

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



Client: WDE Consulting Ltd
Client Address: 62a Western Road
Tring
Hertfordshire
HP23 4BB
Contact: Michael Emery
Site Name: Wellers Close, Felpham
Site Address: Not Given

Client Reference: 20790
Job Number: 18-74515
Date Sampled: 25/01/2018
Date Received: 30/01/2018
Date Tested: 06/02/2018
Sampled By: Not Given

Test Result

Laboratory Reference: 898784
Hole No.: BH3.3
Sample Reference: Not Given
Sample Description: Brown slightly gravelly very sandy CLAY

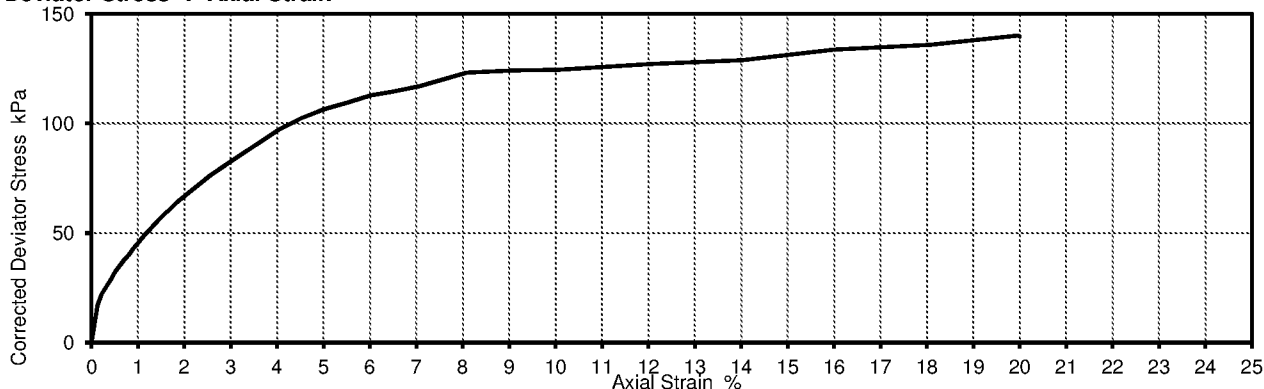
Depth Top [m]: 1.00
Depth Base [m]: 2.00
Sample Type: C

Test Number	1
Length	135.53 mm
Diameter	69.64 mm
Bulk Density	2.09 Mg/m ³
Moisture Content	15 %
Dry Density	1.82 Mg/m ³

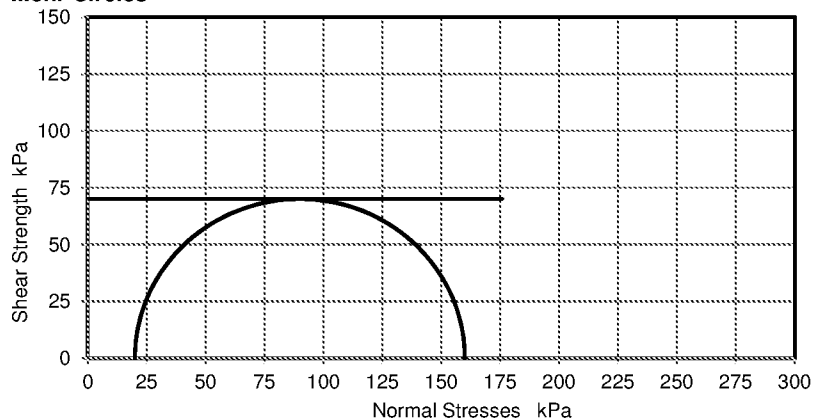
Rate of Strain
Cell Pressure
Axial Strain at failure
Deviator Stress, $(\sigma_1 - \sigma_3)_f$
Undrained Shear Strength, c_u
Mode of Failure
Membrane thickness

2.00	%/min
20	kPa
20.0	%
140	kPa
70	kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Brittle	
0.25	mm

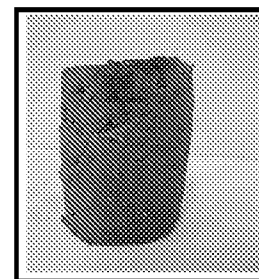
Deviator Stress v Axial Strain



Mohr Circles



Position
within
sample



Notes:

Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks:

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Date Reported: 13/02/2018

Signed:

Darren Berrill
Geotechnical General
Manager

for and on behalf of i2 Analytical Ltd

"Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation.
This report may not be reproduced other than in full without the prior written approval of the issuing laboratory.
The results included within the report are representative of the samples submitted for analysis.
The analysis was carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland."

Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP1

Values calculated using Kleyn & Van Harden (1983) conversion.

CBR Conversion calculation $\log CBR = 2.628 - 1.273 \log(DCP)$

Depth (m)	CBR (%)
0.1	4.89
0.2	7.05
0.3	4.89
0.4	2.92
0.5	1.21
0.6	2.92
0.7	2.92
0.8	2.92
0.9	2.92
1	2.92
1.1	2.92
1.2	2.92
1.3	2.92
1.4	1.21
1.5	2.92
1.6	1.21
1.7	2.92

Depth (m)	CBR (%)
1.8	2.92
1.9	1.21
2	2.92
2.1	4.89
2.2	2.92
2.3	2.92
2.4	1.21
2.5	1.21
2.6	0.00
2.7	1.21
2.8	0.00
2.9	1.21
3	0.00
3.1	1.21
3.2	1.21
3.3	2.92
3.4	1.21

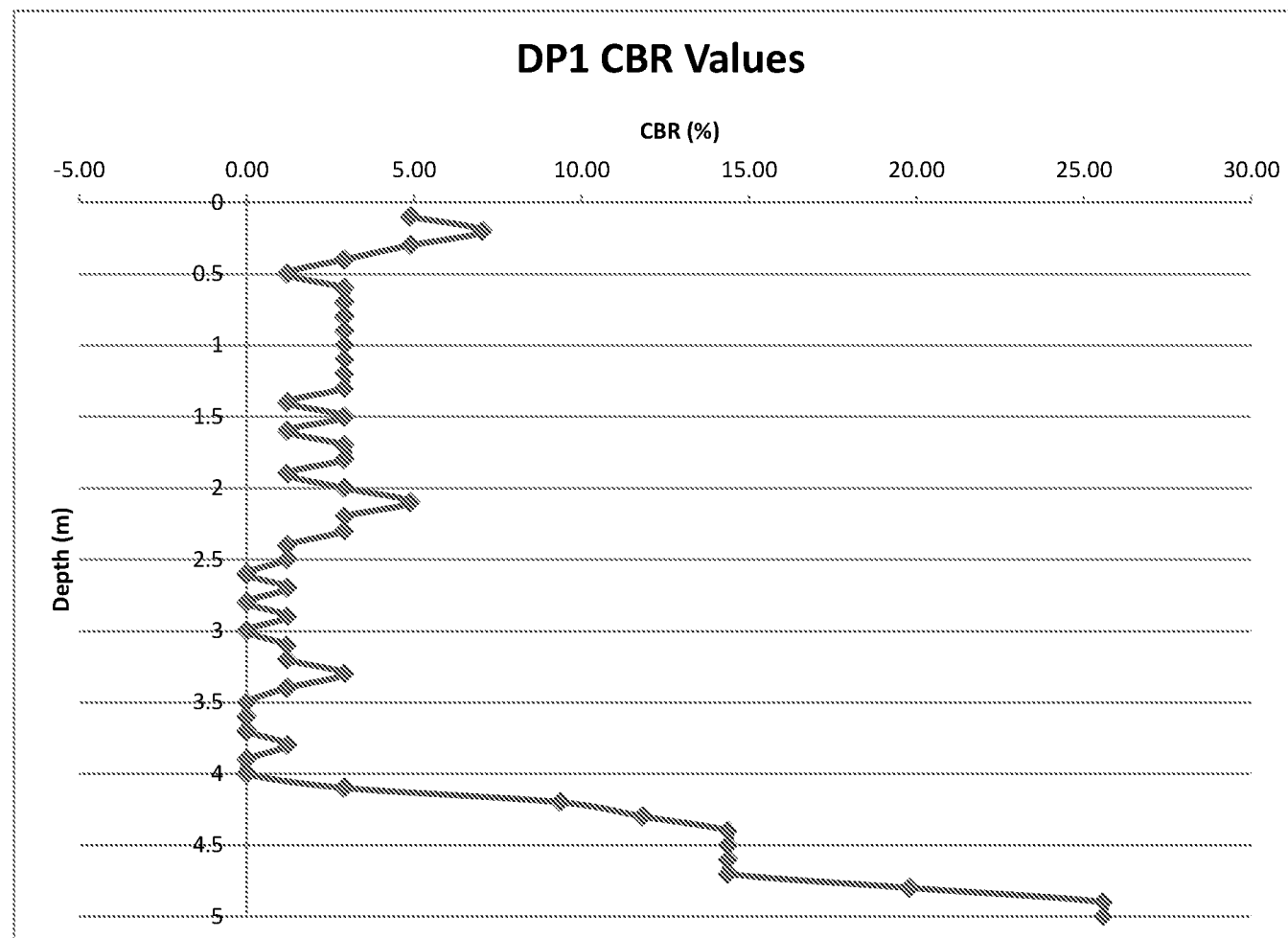
Depth (m)	CBR (%)
3.5	0.00
3.6	0.00
3.7	0.00
3.8	1.21
3.9	0.00
4	0.00
4.1	2.92
4.2	9.37
4.3	11.82
4.4	14.38
4.5	14.38
4.6	14.38
4.7	14.38
4.8	19.80
4.9	25.57
5	25.57

Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP1

Values calculated using Kleyn & Van Harden (1983) conversion.

CBR Conversion Calculation

$$\log \text{CBR} = 2.628 - 1.273 \log(\text{DCP})$$



Graph of CBR Values (%)

DP1 Chart

Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP2

Values calculated using Kleyn & Van Harden (1983) conversion.

CBR Conversion calculation $\log CBR = 2.628 - 1.273 \log(DCP)$

Depth (m)	CBR (%)
0.1	4.89
0.2	7.05
0.3	2.92
0.4	4.89
0.5	1.21
0.6	0.00
0.7	1.21
0.8	0.00
0.9	1.21
1	1.21
1.1	1.21
1.2	1.21
1.3	0.00
1.4	1.21
1.5	0.00
1.6	0.00
1.7	0.00

Depth (m)	CBR (%)
1.8	1.21
1.9	0.00
2	1.21
2.1	0.00
2.2	1.21
2.3	0.00
2.4	1.21
2.5	2.92
2.6	4.89
2.7	2.92
2.8	4.89
2.9	4.89
3	4.89
3.1	4.89
3.2	4.89
3.3	2.92
3.4	4.89

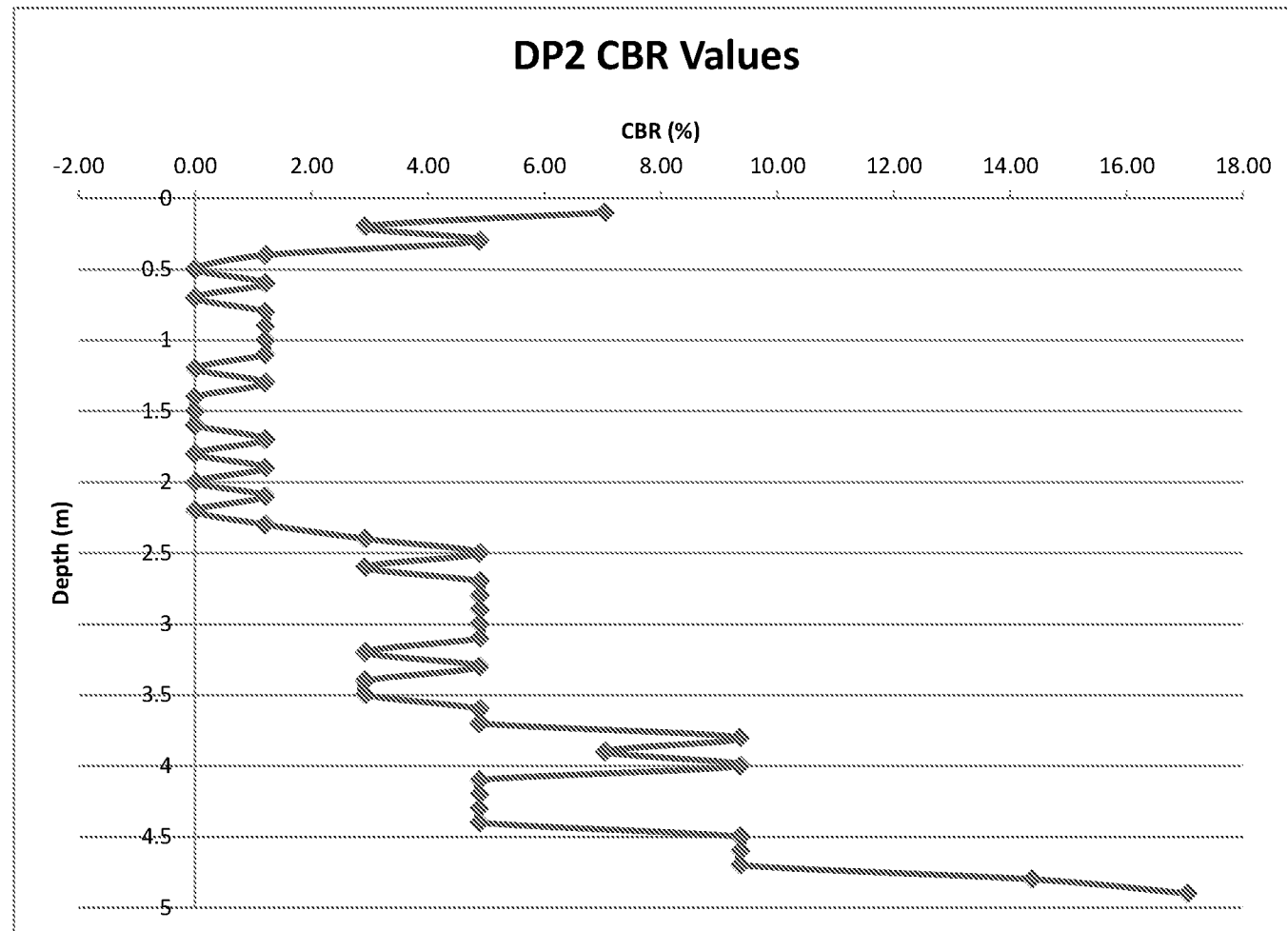
Depth (m)	CBR (%)
3.5	2.92
3.6	2.92
3.7	4.89
3.8	4.89
3.9	9.37
4	7.05
4.1	9.37
4.2	4.89
4.3	4.89
4.4	4.89
4.5	4.89
4.6	9.37
4.7	9.37
4.8	9.37
4.9	14.38
5	17.05

Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP2

Values calculated using Kleyn & Van Harden (1983) conversion.

CBR Conversion Calculation

$$\log CBR = 2.628 - 1.273 \log(DCP)$$



Date of Test	25/01/2018
Completed by	JWF
Site Name	Westwood Close, Emsworth
Hole number	DP3

Values calculated using Kleyn & Van Harden (1983) conversion.

CBR Conversion calculation $\log CBR = 2.628 - 1.273 \log(DCP)$

Depth (m)	CBR (%)
0.1	2.92
0.2	1.21
0.3	1.21
0.4	2.92
0.5	2.92
0.6	1.21
0.7	1.21
0.8	0.00
0.9	1.21
1	1.21
1.1	1.21
1.2	2.92
1.3	0.00
1.4	2.92
1.5	2.92
1.6	1.21
1.7	2.92

Depth (m)	CBR (%)
1.8	4.89
1.9	2.92
2	2.92
2.1	2.92
2.2	2.92
2.3	2.92
2.4	2.92
2.5	1.21
2.6	2.92
2.7	2.92
2.8	2.92
2.9	2.92
3	1.21
3.1	7.05
3.2	7.05
3.3	4.89
3.4	7.05

Depth (m)	CBR (%)
3.5	9.37
3.6	9.37
3.7	9.37
3.8	11.82
3.9	14.38
4	22.65
4.1	22.65
4.2	28.56
4.3	19.80
4.4	25.57
4.5	28.56
4.6	28.56
4.7	37.95
4.8	34.76
4.9	41.20
5	37.95

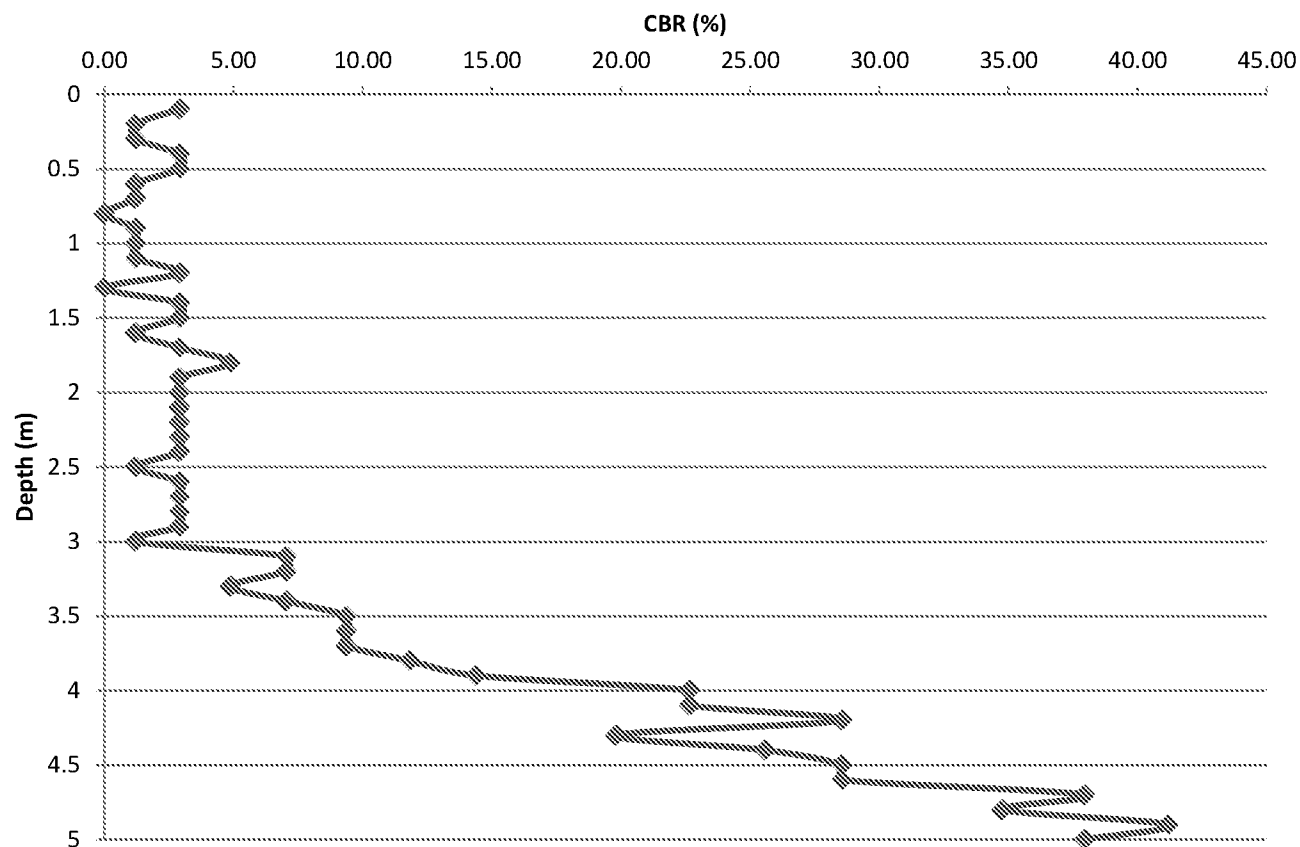
Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP3

Values calculated using Kleyn & Van Harden (1983) conversion.

CBR Conversion Calculation

$$\log CBR = 2.628 - 1.273 \log(DCP)$$

DP3 CBR Values



Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP4

Values calculated using Kleyn & Van Harden (1983) conversion.

CBR Conversion calculation $\log CBR = 2.628 - 1.273 \log(DCP)$

Depth (m)	CBR (%)
0.1	1.21
0.2	1.21
0.3	0.00
0.4	1.21
0.5	0.00
0.6	1.21
0.7	1.21
0.8	2.92
0.9	1.21
1	1.21
1.1	2.92
1.2	1.21
1.3	1.21
1.4	2.92
1.5	2.92
1.6	1.21
1.7	1.21

Depth (m)	CBR (%)
1.8	2.92
1.9	2.92
2	1.21
2.1	2.92
2.2	4.89
2.3	2.92
2.4	2.92
2.5	2.92
2.6	2.92
2.7	4.89
2.8	4.89
2.9	4.89
3	4.89
3.1	7.05
3.2	7.05
3.3	7.05
3.4	11.82

Depth (m)	CBR (%)
3.5	17.05
3.6	22.65
3.7	19.80
3.8	22.65
3.9	14.38
4	22.65
4.1	28.56
4.2	22.65
4.3	22.65
4.4	22.65
4.5	25.57
4.6	28.56
4.7	22.65
4.8	34.76
4.9	28.56
5	28.56

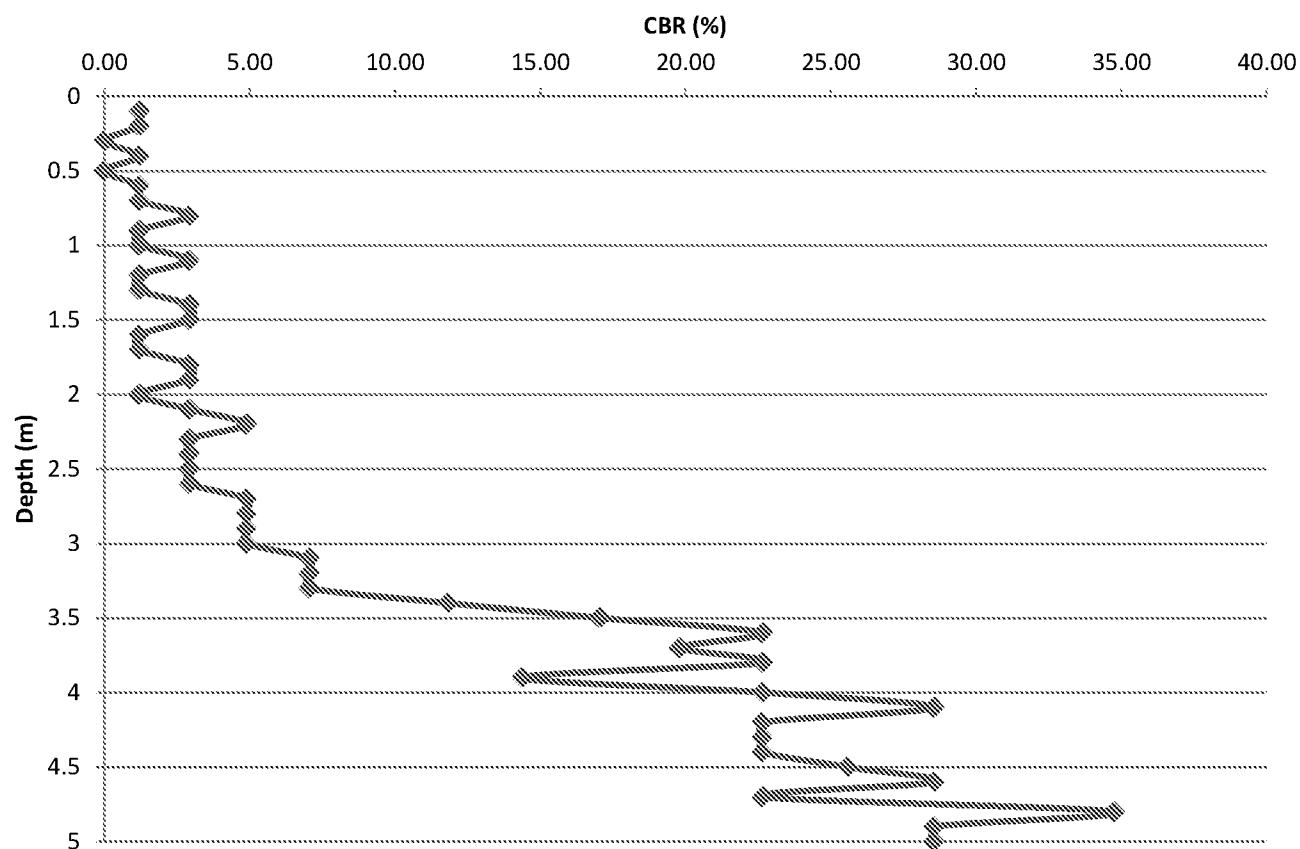
Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP4

Values calculated using Kleyn & Van Harden (1983) conversion.

CBR Conversion Calculation

$$\log CBR = 2.628 - 1.273 \log(DCP)$$

DP4 CBR Values



Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP5

Values calculated using Kleyn & Van Harden (1983) conversion.

CBR Conversion calculation $\log CBR = 2.628 - 1.273 \log(DCP)$

Depth (m)	CBR (%)
0.1	2.92
0.2	4.89
0.3	2.92
0.4	1.21
0.5	0.00
0.6	1.21
0.7	0.00
0.8	1.21
0.9	1.21
1	1.21
1.1	0.00
1.2	1.21
1.3	0.00
1.4	0.00
1.5	1.21
1.6	1.21
1.7	2.92

Depth (m)	CBR (%)
1.8	1.21
1.9	0.00
2	0.00
2.1	2.92
2.2	2.92
2.3	2.92
2.4	4.89
2.5	7.05
2.6	4.89
2.7	4.89
2.8	7.05
2.9	4.89
3	9.37
3.1	7.05
3.2	4.89
3.3	7.05
3.4	7.05

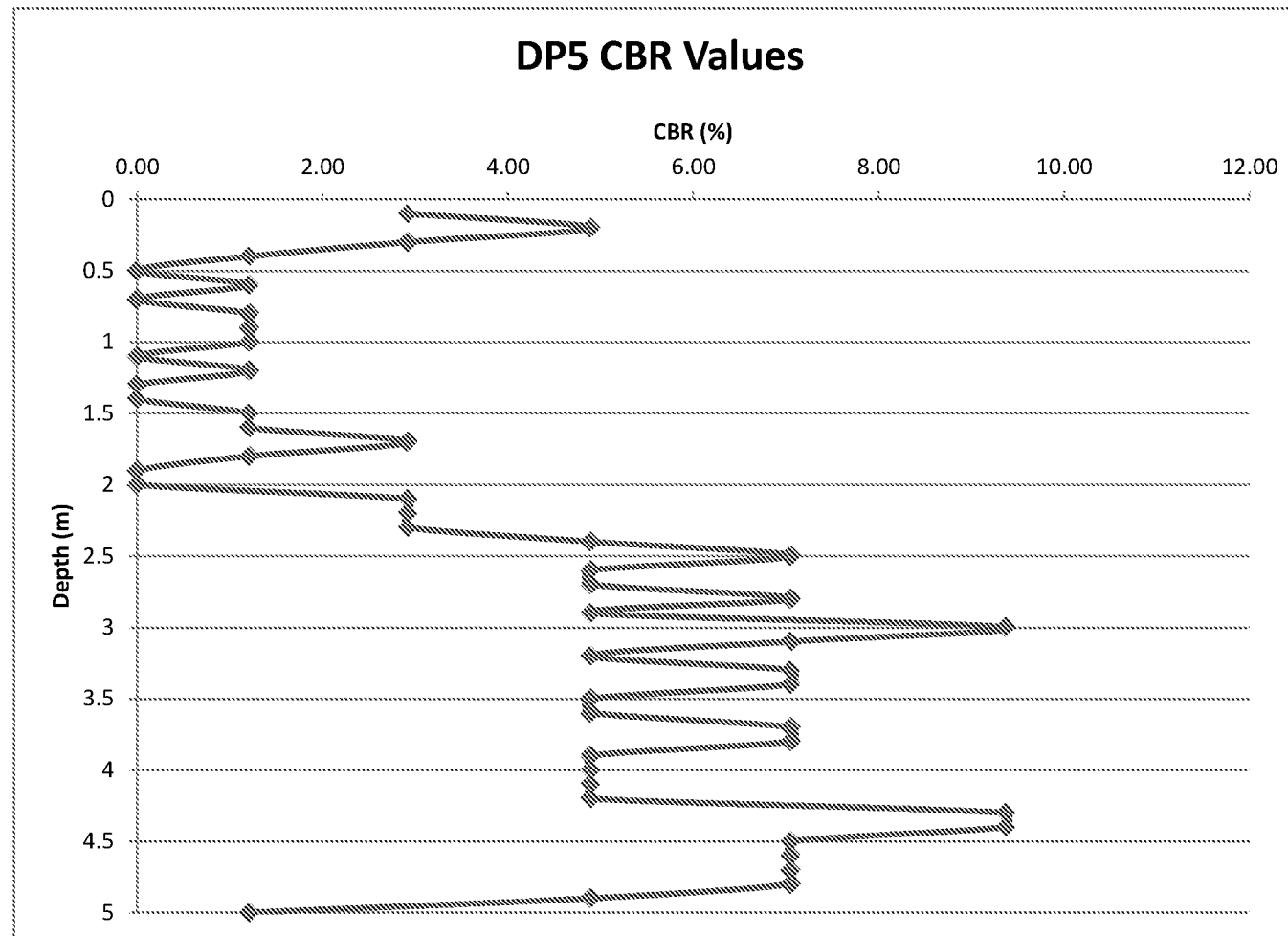
Depth (m)	CBR (%)
3.5	4.89
3.6	4.89
3.7	7.05
3.8	7.05
3.9	4.89
4	4.89
4.1	4.89
4.2	4.89
4.3	9.37
4.4	9.37
4.5	7.05
4.6	7.05
4.7	7.05
4.8	7.05
4.9	4.89
5	1.21

Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP5

Values calculated using Kleyn & Van Harden (1983) conversion.

CBR Conversion Calculation

$$\log CBR = 2.628 - 1.273 \log(DCP)$$



Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP1

Calculation of Cu and Q alt based on Terzaghi and Peck with additional factor of 2 safety

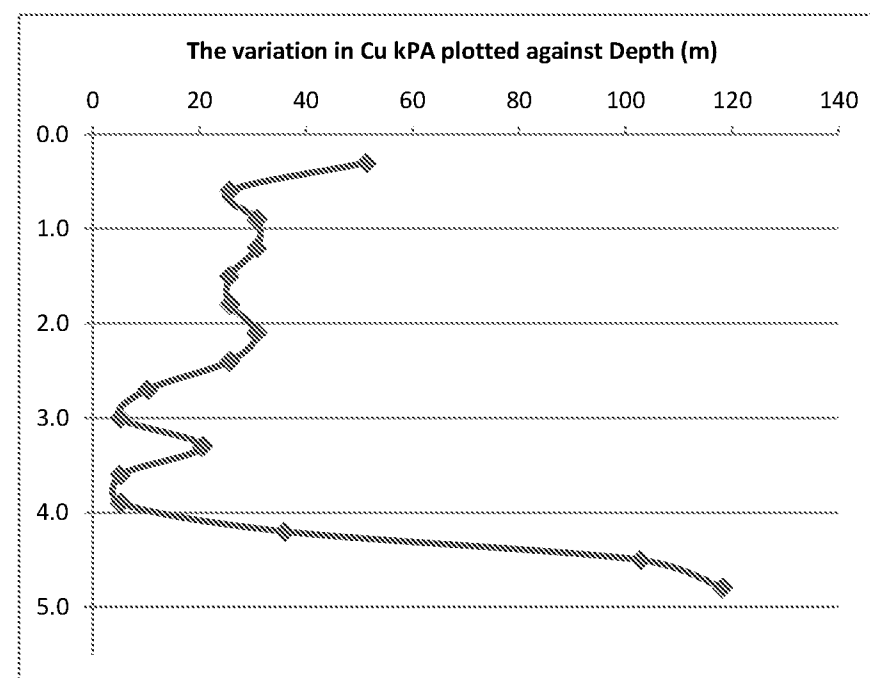
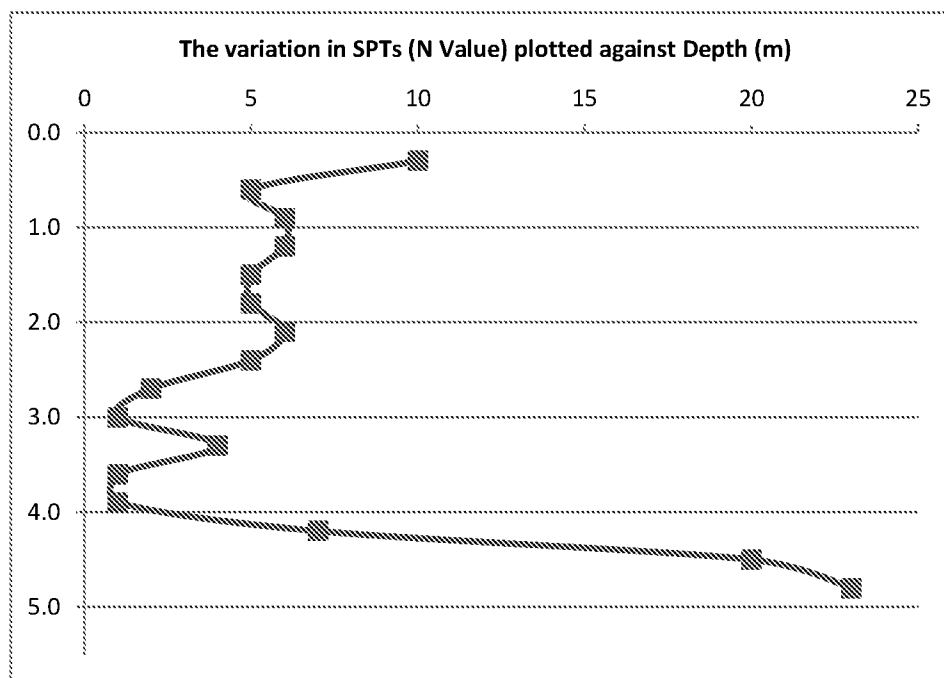
Correlation factor	5.14
--------------------	------

Depth (m)	SPT N Value	Cu kPa	Q alt kPa
0.3	10	51.4	78.2
0.6	5	25.7	37.8
0.9	6	30.8	46.0
1.2	6	30.8	46.0
1.5	5	25.7	37.8
1.8	5	25.7	37.8
2.1	6	30.8	46.0
2.4	5	25.7	37.8
2.7	2	10.3	12.9
3.0	1	5.1	4.5
3.3	4	20.6	29.5
3.6	1	5.1	4.5
3.9	1	5.1	4.5
4.2	7	36.0	54.1
4.5	20	102.8	155.5
4.8	23	118.2	177.8

Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP1

Calculation of Cu and Q alt based on Terzaghi and Peck with additional factor of 2 safety

Correlation factor	5.14
--------------------	------



Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP2

Calculation of Cu and Q alt based on Terzaghi and Peck with additional factor of 2 safety

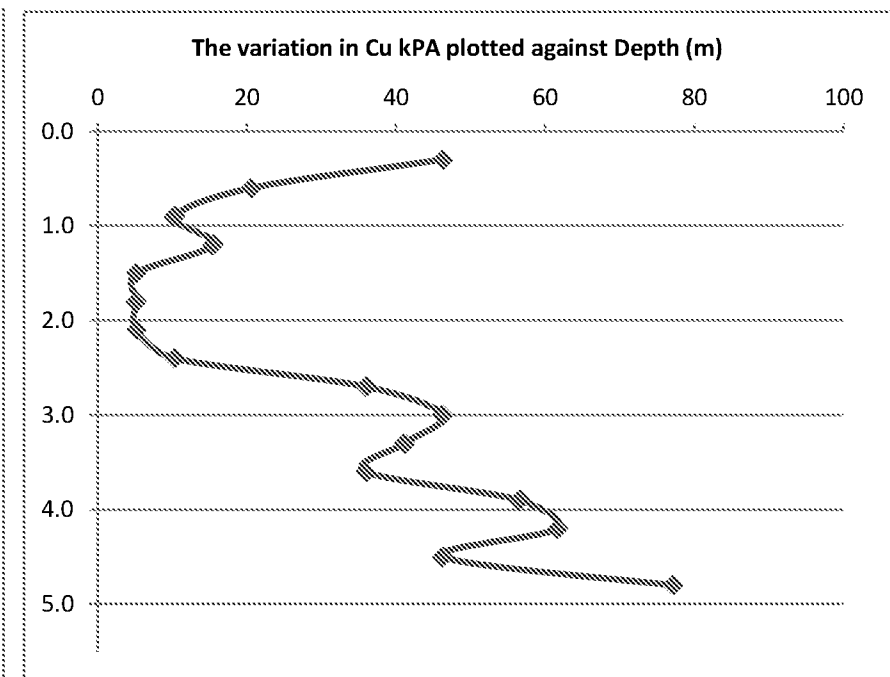
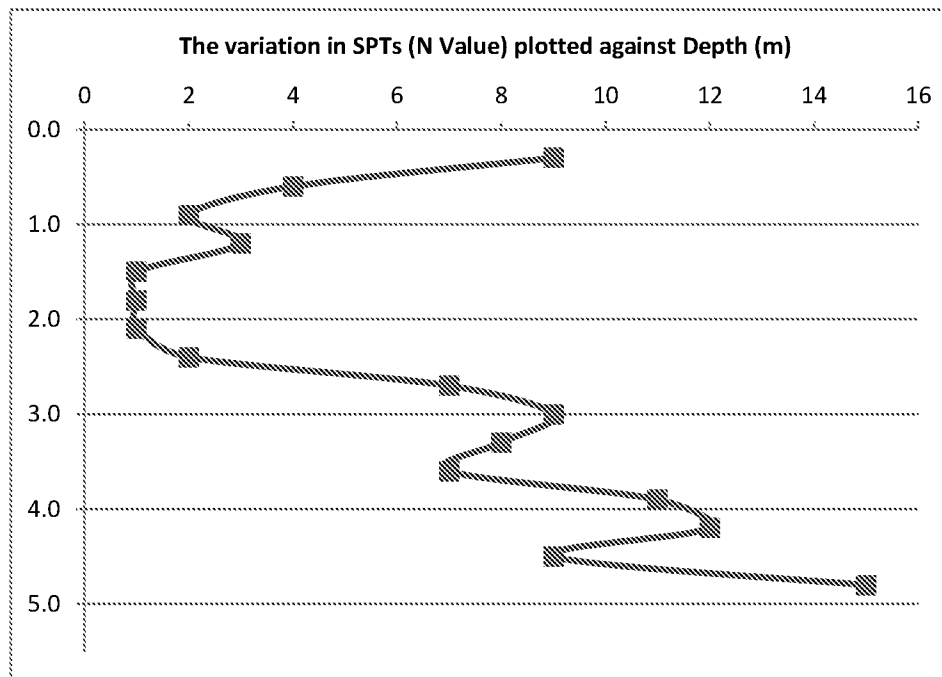
Correlation factor	5.14
--------------------	------

Depth (m)	SPT N Value	Cu kPa	Q alt kPa
0.3	9	46.3	70.2
0.6	4	20.6	29.5
0.9	2	10.3	12.9
1.2	3	15.4	21.3
1.5	1	5.1	4.5
1.8	1	5.1	4.5
2.1	1	5.1	4.5
2.4	2	10.3	12.9
2.7	7	36.0	54.1
3.0	9	46.3	70.2
3.3	8	41.1	62.2
3.6	7	36.0	54.1
3.9	11	56.5	86.2
4.2	12	61.7	94.1
4.5	9	46.3	70.2
4.8	15	77.1	117.5

Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP2

Calculation of Cu and Q alt based on Terzaghi and Peck with additional factor of 2 safety

Correlation factor	5.14
--------------------	------



Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP3

Calculation of Cu and Q alt based on Terzaghi and Peck with additional factor of 2 safety

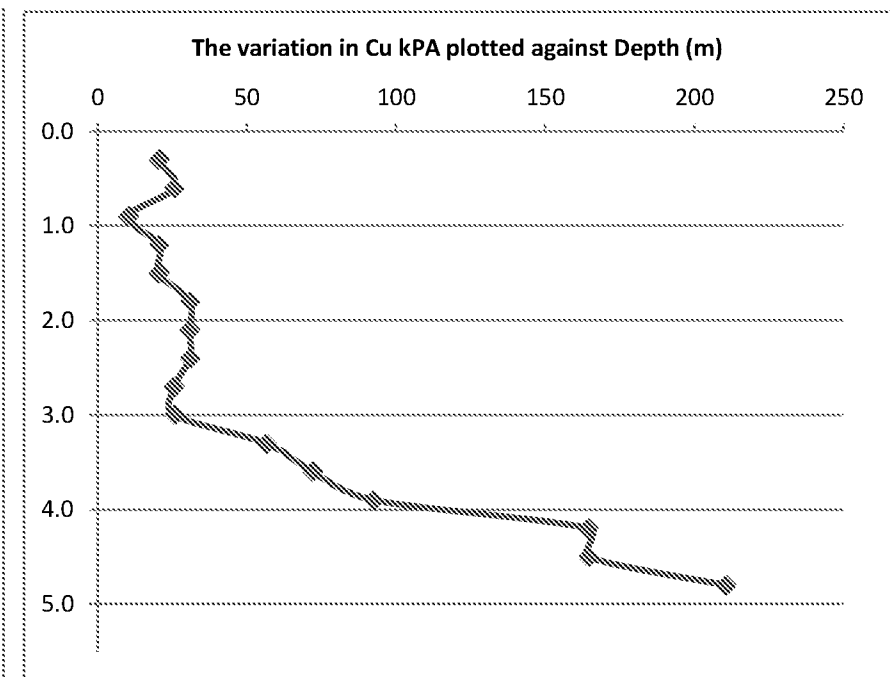
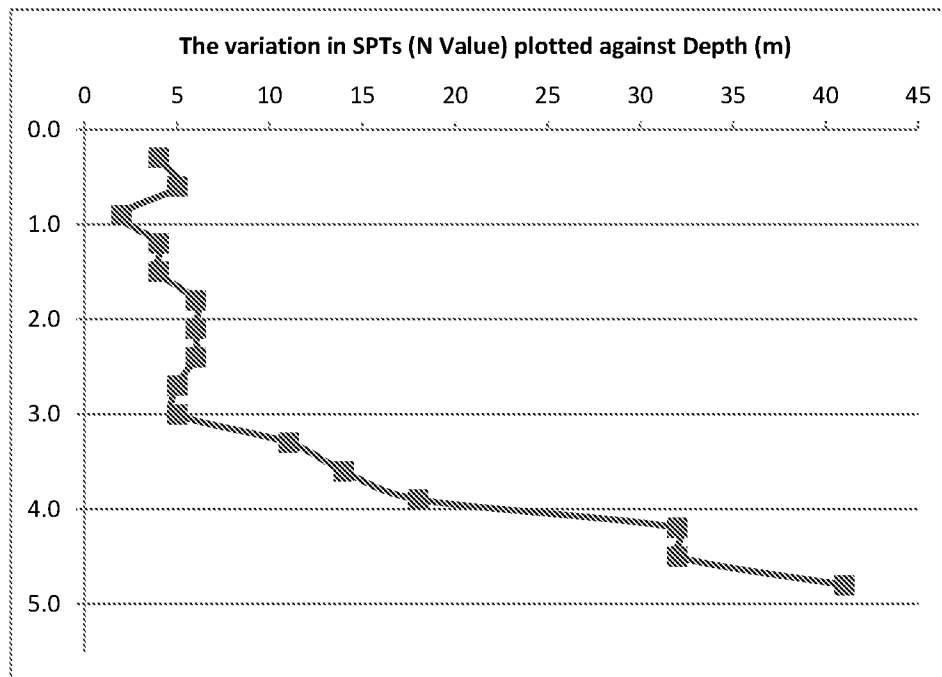
Correlation factor	5.14
--------------------	------

Depth (m)	SPT N Value	Cu kPa	Q alt kPa
0.3	4	20.6	29.5
0.6	5	25.7	37.8
0.9	2	10.3	12.9
1.2	4	20.6	29.5
1.5	4	20.6	29.5
1.8	6	30.8	46.0
2.1	6	30.8	46.0
2.4	6	30.8	46.0
2.7	5	25.7	37.8
3.0	5	25.7	37.8
3.3	11	56.5	86.2
3.6	14	72.0	109.7
3.9	18	92.5	140.4
4.2	32	164.5	241.9
4.5	32	164.5	241.9
4.8	41	210.7	302.2

Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP3

Calculation of Cu and Q alt based on Terzaghi and Peck with additional factor of 2 safety

Correlation factor	5.14
--------------------	------



Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP4

Calculation of Cu and Q alt based on Terzaghi and Peck with additional factor of 2 safety

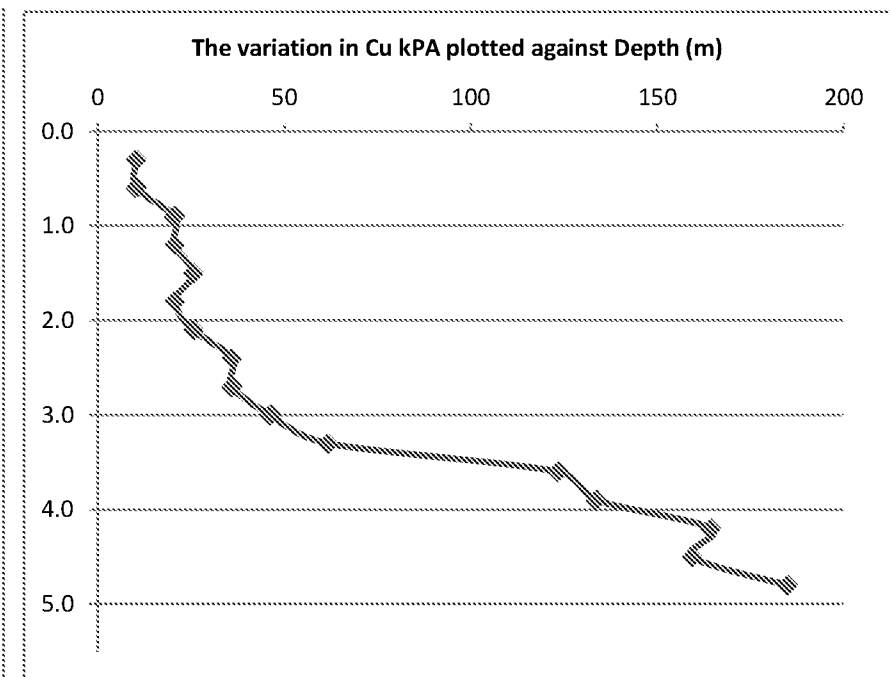
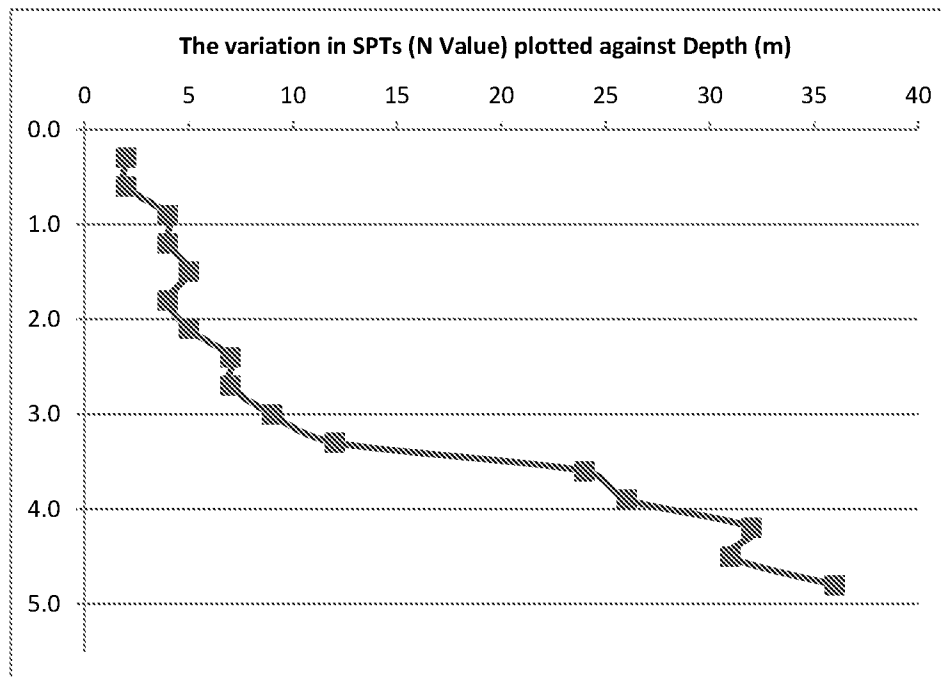
Correlation factor	5.14
--------------------	------

Depth (m)	SPT N Value	Cu kPa	Q alt kPa
0.3	2	10.3	12.9
0.6	2	10.3	12.9
0.9	4	20.6	29.5
1.2	4	20.6	29.5
1.5	5	25.7	37.8
1.8	4	20.6	29.5
2.1	5	25.7	37.8
2.4	7	36.0	54.1
2.7	7	36.0	54.1
3.0	9	46.3	70.2
3.3	12	61.7	94.1
3.6	24	123.4	185.1
3.9	26	133.6	199.6
4.2	32	164.5	241.9
4.5	31	159.3	235.0
4.8	36	185.0	269.2

Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP4

Calculation of Cu and Q alt based on Terzaghi and Peck with additional factor of 2 safety

Correlation factor	5.14
--------------------	------



Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP5

Calculation of Cu and Q alt based on Terzaghi and Peck with additional factor of 2 safety

Correlation factor	5.14
--------------------	------

Depth (m)	SPT N Value	Cu kPa	Q alt kPa
0.3	7	36.0	54.1
0.6	2	10.3	12.9
0.9	2	10.3	12.9
1.2	2	10.3	12.9
1.5	1	5.1	4.5
1.8	4	20.6	29.5
2.1	2	10.3	12.9
2.4	7	36.0	54.1
2.7	10	51.4	78.2
3.0	12	61.7	94.1
3.3	11	56.5	86.2
3.6	10	51.4	78.2
3.9	11	56.5	86.2
4.2	11	56.5	86.2
4.5	14	72.0	109.7
4.8	12	61.7	94.1

Date of Test	25/01/2018
Completed by	ME
Site Name	Wellers Close, Felpham
Hole number	DP5

Calculation of Cu and Q alt based on Terzaghi and Peck with additional factor of 2 safety

Correlation factor	5.14
--------------------	------

