

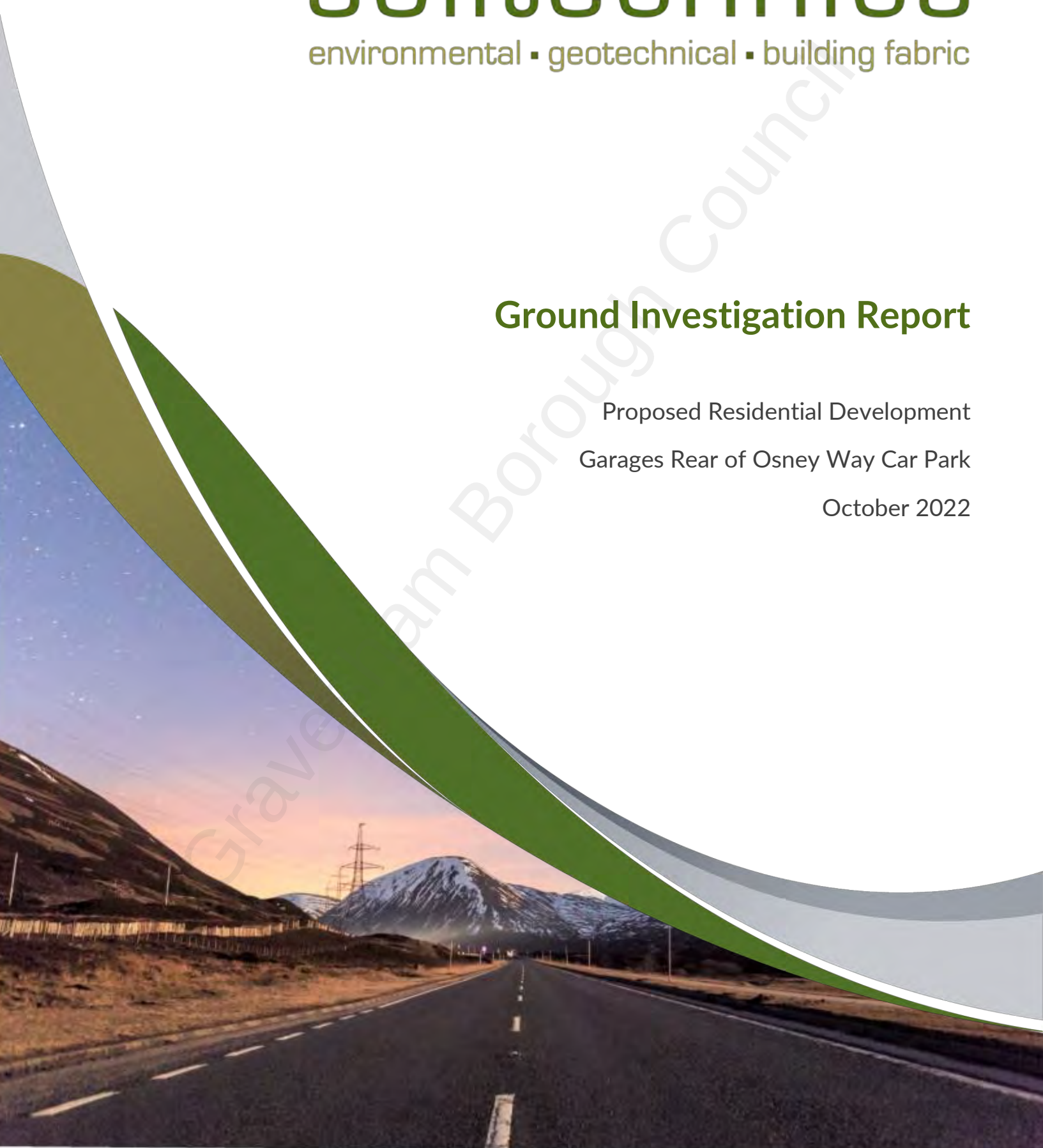
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Ground Investigation Report

Proposed Residential Development
Garages Rear of Osney Way Car Park

October 2022



Project Details

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Issuing office: Soiltechnics Ltd
Cedar Barn, White Lodge, Walgrave, Northampton. NN6 9PY
Tel: 01604 781 877 E-mail: mail@soiltechnics.net

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Drawing Register

Title	Produced by	Date	Reference
Site Location Plan	Soiltechnics Ltd	September 2022	D-STU5768-01
Exploratory hole plan	Soiltechnics Ltd	September 2022	D-STU5768-02
Proposed development plan	Soiltechnics Ltd	September 2022	D-STU5768-03

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1 Introduction

1.1 Scheme Outline

- 1.1.1 The scheme will comprise the construction of three, three-storey houses together with shared access and rear gardens.
- 1.1.2 The report is based on the project proposals and information outlined above; should the scheme change then it will be necessary to review the conclusions and recommendations presented in this report.

1.2 Brief

- 1.2.1 This report has been prepared following instructions received from S&M, on behalf of our mutual Client, Stem Homes Ltd.
- 1.2.2 Soiltechnics undertook a previous investigation at this site in 2021, reported under STT5362-G01, upon which it is understood the Client has reliance. The report provided a geotechnical appraisal but suggested further works. It did not provide an environmental assessment.
- 1.2.3 This overall brief of this investigation is to:
- i) Undertake further investigation to investigate risks of dissolution features.
 - ii) Assess infiltration potential.
 - iii) Support the planning application by assessing the potential risks from contamination at the site.
 - iv) Undertake assessment of soils for disposal to landfill.
- 1.2.4 The objectives of this report are outlined below:
- i) Update previous geotechnical desk study to include pertinent environmental information.
 - ii) Undertake a land contamination Tier 1 preliminary risk assessment.
 - iii) Summarise the intrusive investigation works undertaken in both phases with associated laboratory testing.
 - iv) Update the ground model and geotechnical appraisal for the project if necessary
 - v) Undertake a land contamination Tier 2 generic quantitative risk assessment.
 - vi) Provide a waste characterisation assessment of soils at the site for potential disposal to landfill.

1.3 Definition of Scope

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

Title	Document Reference	Publisher	Investigation Scope
Code of practice for ground investigations	BS 5930: 2015	British Standards Institution	Phase 1: Desk study Phase 2: Preliminary investigation Phase 3: Detailed (design) investigation

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

Table 1-A: Definition of Investigation Scope

2 Desk Study

2.1 Sources of information

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

- An Envirocheck Report and historical map records (from the previous report).
- Mining and Ground Stability Datasheet produced by Envirocheck (from the previous report).
- British Geological Survey (BGS) GeoIndex – Onshore database.
- Ordnance Survey OpenData.
- Environment Agency open-source databases.
- Google mapping services.

2.2 Site Description

2.2.1 The site comprises 14 single domestic garages to the east of Gravesend. The main site is roughly rectangular with a steep single width access road extending northward from the garage, joining Lower Higham Road. The site is covered in hardstanding except for the base of the access track and a small area of scrub vegetation behind the garages. The base of the track is rough gravel and unfinished. North of the site is a public car park that is level with the road and ~0.8m lower than the garages.

2.2.2 An aerial image showing the approximate site boundary is presented below. A Site Plan is provided within Appendix A.



Figure 2-A: Aerial photograph and approximate site boundary

Theme	Feature
Local area land use	The general area is a mix of residential and commercial/retail, with Chalk Parish Hall immediately to the east.
Topography	The topography of the wider area dips north towards the River Thames (~1.25km north), with the site located near the base of the slope.
Buildings, surfacing and other permanent features	Garages and concrete yard. Small strip of rough grass to the south, not accessible during site work.
Vegetation	No significant vegetation is present within the site boundary, although a small strip of rough grass is visible to the south on aerial mapping. No access to this area during site investigation.
On-site / adjacent surface water features	None.
Asbestos containing material (ACM) in buildings	Suspected asbestos roofing to garages, with many broken panels on the floor.
ACMs on site	No suspected ACMs were observed in any soils below the concrete slab.
Potential sources of contamination	No specific visible sources beyond the asbestos panels observed in surface debris.

Table 2-A: Site Description

2.3 Previous Reports

2.3.1 Soiltechnics have previously undertaken the following report in relation to the site.

Author	Document Title	Date & Document Reference	Report Context
Soiltechnics	Ground Investigation Report	June 2021 STT5362-G01	Ground investigation and geotechnical appraisal.

Table 2-B: Summary of previous reports

2.3.2 The report concluded that there was a credible risk of dissolution features onsite and recommended further investigations to refine this risk.

2.4 Site History

2.4.1 The site was originally in the grounds of a school and later a parish hall before being developed into garages circa 1960. There is a building recorded on the historical OS maps at the eastern end of the site between 1936-1954. The site has remained largely unchanged since construction of the garages.

2.4.2 The wider site area has shown a general increase of residential properties since the earliest mapping.

2.5 Anticipated Geology

2.5.1 The recorded geology is tabulated below (extracted from the previous report).

Stratum	Bedrock / superficial	Anticipated thickness (m)	Typical description
Thanet Formation	Bedrock	<8m	Fine sands
White Chalk Subgroup	Bedrock	>40m	Chalk

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

- 2.5.2 The previous investigation found Made Ground to ~0.5m, over suspected Head deposits, with White Chalk Subgroup (Lewes Nodular Chalk) below. The depth to the chalk was variable, hence further investigations recommended.

2.6 Hydrogeology and Groundwater Sensitivity

- 2.6.1 The general hydrogeological profile of the site is provided in the table above.

Stratum	Aquifer Designation	Anticipated Groundwater Depth (m bgl)
Thanet Formation	Secondary A	Unlikely onsite
White Chalk Subgroup	Principal	Unknown

Table 2-D: Preliminary Hydrogeological Model

- 2.6.2 There are no historical boreholes within 250m of the site. Based on the geology and topography, groundwater is likely within the underlying chalk at or around the level of the River Thames (~15m). It is noted that no groundwater was encountered within the top 5m in the previous investigation.
- 2.6.3 The site is not located within a Source Protection Zone and the nearest water abstraction is 1000m from the site.

2.7 Hydrology and Surface Water Sensitivity

- 2.7.1 The nearest surface water feature is 257m northeast of the site and comprises an inland river which appears to drain to either the Thames and Medway Canal (~1km north) or into the River Thames.

2.8 Flood risk

- 2.8.1 The site is not recorded to be in an area at risk of fluvial/tidal or surface water flooding. There is a recorded 'Limited Potential for Groundwater Flooding to Occur'.
- 2.8.2 It should be noted that this information does not constitute a site-specific Flood Risk Assessment and one may be required for the scheme.

2.9 Non-Mining Ground Instability Hazard

- 2.9.1 The Envirocheck Report includes hazard ratings due to natural ground instability, which have been derived by the BGS.
- 2.9.2 Due to chalk having the tendency to exhibit dissolution features, a Mining and Ground Stability Datasheet was also requested during the previous investigation.

2.9.3 These hazards have been summarised in the table below.

Hazard	Hazard Potential	Discussions
Collapsible ground	Low	N/A
Compressible ground	Very low	N/A
Ground dissolution	Very low	Despite the site having a rating of low potential for ground dissolution stability, there are areas of moderate and high risk in close proximity of the site (<250m).
Landslide	Low	N/A
Running sand	Very low	N/A
Shrinking or swelling clay	Low	N/A

Table 2-E: Non-Mining Ground Stability Hazards

2.10 Quarrying and Mining

2.10.1 The site falls outside of a Coal Mining Reporting Area.

2.10.2 There is one BGS mineral site record for chalk, some 909m to the north.

2.11 Landfill and infilled ground

2.11.1 No records of landfill sites, infilled ground or mineral sites are held within 250m of the site.

2.12 Recent industrial activity

2.12.1 There are no regulated facilities or activities in the vicinity of the site under IPPC or LAPPC control, and no registered radioactive substances within 250m.

2.12.2 There are no Contemporary Trade Directory entries associated with the site itself. There are 8 entries within 250m, the closest of which is 144m to the north and recorded as a former air conditioning and refrigeration contractor.

2.13 Radon

2.13.1 The site is in an area where the above ground radon Affected Area status is classed as an Intermediate Probability Radon Area.

3 Tier 1 Preliminary Contamination Risk Assessment

3.1 Objectives

- 3.1.1 The objective of this preliminary risk assessment (PRA) is to determine the suitability of the site for the proposed redevelopment and end users, in terms of the risk from contamination. The assessment comprises the following steps:
- Identify potential contaminant linkages (PCLs) between sources, pathways and receptors.
 - To provide data to assist in the design of potential exploratory and detailed intrusive investigations and to give an early indication of possible remedial requirements, if necessary.

3.2 Evaluation Criteria

- 3.2.1 The following assessment is undertaken within the legislative framework of the planning system. Therefore, the assessment needs to identify if land contamination could pose an unacceptable risk to human health or the environment, within the context of the proposed development site. In the context of the existing site use, as a minimum, land should not be capable of being determined as 'contaminated land' under Part IIA of the Environmental Protection Act 1990.
- 3.2.2 The risk criteria for the proposed development is based on a 'minimal risk' approach, whereas under the existing land use a designation of 'contaminated land' would only apply if there is a significant possibility of significant harm (SPOSH).

3.3 Methodology

- 3.3.1 The objectives listed above are achieved by utilising the information presented within the desk study to develop an initial conceptual site model (iCSM) and identification of potential unacceptable risks. Depending upon the outcome of the Tier 1 assessment, it may be necessary to undertake a Tier 2 generic quantitative risk assessment (GQRA).
- 3.3.2 An iCSM relies upon the identification and assessment of PCLs. A contaminant linkage comprises of three key components:
- Source – a contaminant or pollutant that is in, on or under the land and that has the potential to cause harm or pollution.
 - Pathway – Current and post-development routes by which a receptor is, or could be, affected by a contaminant.
 - Receptor – Something that could be adversely affected by a contaminant, for example a person (current and proposed end users or neighbours), controlled waters and ecosystems.
- 3.3.3 The Tier 1 risk assessment has been produced with reference to the following guidance:
- ['Land contamination risk management'](#) (EA, 2021).
 - BS 10175:2011+A2:2017 'Investigation of potentially contaminated sites – Code of Practice'.
 - CIRIA C552 'Contaminated land risk assessment- a guide to good practice', 2001.
 - BS EN ISO 21365:2020 'Soil quality – Conceptual site models for potentially contaminated sites'
 - BS 8576:2013 'Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOC)'.

3.4 Source Assessment

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

Potential Sources	Contaminant(s) of concern	Detail	Viable source?
On-site sources			
General Made Ground	Various inorganic and organic compounds (hydrocarbons, metals, asbestos)	Unknown activities carried out historically, potentially creating a wide range of contaminants.	Y
Localised hydrocarbon contamination	Total Petroleum Hydrocarbons (TPH)	Potential for localised TPH contamination from spills or leaks associated with automobile storage in garages.	Y
Carbonate rich deposits (chalk)	Permanent ground gases (CO ₂)	Carbonate rich materials can generate carbon dioxide due to natural geochemical and weathering processes. Typically volumes generated are low and do not pose a viable risk for developments.	N
Potential cemented ACMs	Asbestos	Possible ACM roofing damaged and present at surface level.	Y
Radon	Radon	Recorded as a intermediate area, but the desk study information from Envirocheck reports that no radon protection is required.	N
Off-site sources			
None identified			

Table 3-A: Contamination source assessment

3.5 Receptor Assessment

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

Receptor Category	Principal Receptor	Receptor present?	Detail
Human health	Users of the current site	No	Site disused.
	End user of the developed site	Yes	Proposed residential use, with private gardens.
	Construction operatives and other site investigators	Yes	Site to be developed.
	Adjacent site users and off-site members of the public	Yes	Public footpath and residential properties present adjacent to site.
Controlled waters	Surface waters	No	Surface waters are remote from the site.
	Groundwater	Yes	Site overlies Secondary A Aquifer in Thanet Formation and Principal Aquifer within the Chalk.
Sensitive ecosystems and species	Current site	No	Site is not currently within, or proposed to form, a designated environmentally sensitive area (e.g. SSSI, RAMSAR, AONB, SPA, SAC).
	Developed site	No	
Property	Soft landscaping (current)	Yes	Limited grass to the rear (south). Not accessed.
	Soft landscaping (proposed)	Yes	Private gardens proposed.
	Potable infrastructure	Yes	Drinking water infrastructure will be required.

Receptor Category	Principal Receptor	Receptor present?	Detail
	Building materials	Yes*	*Concrete classification assessed under the previous geotechnical investigation so not considered further herein.

Table 3-B: Receptor assessment

3.6 Pathway Assessment

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

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

Table 3-C: Generic pathway assessment

3.6.2 The following table summarises generic pathways for the site which could be viable for the identified controlled water receptors, given our understanding of the hydrogeological model and assuming a range of contaminants in the sub-surface.

Controlled Water Exposure Pathways	Current Setting	Proposed Setting	Mechanism
Site characteristics			
Leaching via infiltration through unsurfaced areas, and surface run-off	✓ (significantly restricted as most of the site is hard surfaced)	✓	Mobilisation
Leaching via infiltration through cracks/joints in hardstanding areas and drainage infrastructure	✓	✓	Mobilisation
Leaching via saturation from groundwater flooding and shallow/perched groundwater bodies	✓	✓	Mobilisation
Infiltration through sustainable drainage systems	✗	✓	Mobilisation
Preferential lateral pathways (e.g. underground services)	✓	✓	Migration
Preferential vertical pathways (e.g. piling, vibro-stone columns)	✗	✗	Migration
Hydrogeological characteristics			

Controlled Water Exposure Pathways	Current Setting	Proposed Setting	Mechanism
Vertical migration through permeable strata into shallow aquifers and perched groundwater bodies	✓	✓	Migration
Vertical migration through permeable strata into sensitive aquifers at depth	✓	✓	Migration
Lateral migration within shallow and perched groundwater bodies into surface waters	✗	✗	Migration

Table 3-D: Generic pathway assessment

3.7 Initial Conceptual Site Model (iCSM)

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

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

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

Table 3-E: iCSM Risk Ratings

Receptor: Proposed end users				
Potential Source	Contaminants of Concern	Pathway	Tier 1 Risk Assessment (probability of harm x consequence)	Discussion
General Made Ground	Various inorganic and organic compounds (hydrocarbons, metals, asbestos)	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Moderate (likely – medium)	Made Ground has an inherent risk of containing elevated levels of inorganic and organic contaminants as well as asbestos. The composition of the Made ground needs to be confirmed to allow a refined risk assessment.
Localised hydrocarbon contamination beneath	Total Petroleum Hydrocarbons (TPH)	Inhalation of vapours	Risk: Low (likely – minor)	No significant staining or odours were observed at surface within the garages or the main yard during the site reconnaissance. The slabs appeared to be consistent without any obviously replaced surfacing, and no significant cracking was observed. Given this, the likelihood of a significant former spill leading to gross contamination of the ground is considered to be low. Refer to Section 8.14 for unexpected contamination commentary.
Potential cemented ACMs	Asbestos	Inhalation of fibres	Risk: Low (unlikely – medium)	The observed suspected ACM comprised cement sheets, albeit some that were broken. They were present atop the concrete surfacing, which was likely in place prior to fitting the roofs. Providing the material is removed from site by a competent contractor, the risks of fibres becoming air bourn or getting into underlying soils is considered low.

Table 3-F: iCSM – Proposed End Users

Receptor: Construction workers				
Potential Source	Contaminants of Concern	Pathway	Tier 1 Risk Assessment (probability of harm x consequence)	Discussion
All contamination sources	Metals, PAHs, TPHs and asbestos	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Low (low – mild)	No gross contamination of high-risk contaminants anticipated (e.g. cyanide, benzene, and vinyl chloride). Standard PPE and hygiene protocols for working on brownfield sites are likely to be sufficient to the mitigate risk. It is stressed that this considers contaminants within the soils onsite providing the demolition is completed correctly . The disposal of the current roofing and surface debris of possible ACM's should be undertaken before demolition works progress, by a competent and skilled contractor. These works may be notifiable and should be undertaken with due diligence.

Table 3-G: iCSM – Acute Exposure to Construction Workers

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

Table 3-H: iCSM – Chronic Exposure to Adjacent Site Users

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

Table 3-I: iCSM – Acute Exposure to Adjacent Site Users

Receptor: Proposed planting				
Potential Source	Contaminants of Concern	Pathway	Tier 1 Risk Assessment (probability of harm x consequence)	Discussion
Contaminants within topsoil and the shallow sub-surface	Metals, pH and inorganics	Direct contact and root uptake	Risk: Negligible (negligible– minor)	No current soil resources are present on site, therefore a suitable growing medium will need to be imported for any proposed landscaping scheme.

Table 3-J: iCSM – Phytotoxic Risk to Proposed Planting Scheme

Receptor: Controlled Waters				
Potential Source	Contaminants of Concern	Pathway	Tier 1 Risk Assessment (probability of harm x consequence)	Discussion
All potential contaminant sources identified	TPH	Leaching and vertical migration (Groundwater)	Risk: Low (low – mild)	As above, the likelihood of significant hydrocarbon contamination beneath the slab is considered to be low.

Table 3-K: iCSM – Controlled Waters Risk

3.7.3 The risk to identified receptors from the proposed developments under the planning regime are assessed under a 'minimal risk' approach. Whereas, the risk to receptors under the current and continued use of the site is dealt with under the regulatory framework of the Part IIA regime, where we consider if there is a reasonable chance of a 'significant potential of significant harm' occurring. This is not equivalent to a due diligence assessment for the continued use of the site to aid in determining potential contaminated land liabilities or land valuations. The table below sets out the risk assessment for maintaining the current site use against Part IIA criteria:

Receptor	Potential Source	Contaminants of Concern	Pathway	Preliminary Assessment: Is their reasonable evidence of SPOSH?	Discussion
Human Health (Current and adjacent site users)	All potential contaminant sources identified above	Various Contaminants	Inhalation, ingestion and contact with soils, dusts and vapours.	No	Whilst potential contamination sources have been identified, Soiltechnics have not encountered any evidence which indicates there could be a significant possibility of significant harm to human health occurring from contamination on site. The site is currently disused and fenced off from adjacent users. Therefore, it is not considered that there is a SPOSH.
Controlled Waters (groundwater)	All potential contaminant sources identified above	Various Contaminants	Mobilisation and migration	No	Whilst potential contamination sources have been identified, Soiltechnics have not encountered any evidence which indicates there could be a significant possibility of significant harm to controlled waters occurring from contamination on site. The site is almost entirely covered in hardstanding, severely limiting any infiltration of water through Made Ground to the underlying aquifers.
Ecosystems	All potential contaminant sources identified above	Various Contaminants	Direct contact and root uptake	No	The site does not fall within a relevant designation for environmentally sensitive land (e.g. SSSI, NRA, Ramsar).
Property	All potential contaminant sources identified above	Various Contaminants	Various pathways	No	Through undertaking the desk study, no evidence of potentially significant harm occurring to property has been identified.

Table 3-L: iCSM – Current Site Risks (Part IIA)

3.8 Preliminary Risk Assessment Conclusions and Recommendations

- 3.8.1 In summary, the PRA has not highlighted any potential contaminant linkages (PCL) which could pose a significant possibility of significant harm under the current land use. In terms of the proposed development scheme, a minimal risk approach applies, and PCLs have been identified which require further consideration.
- 3.8.2 In particular the previous use of the site and potential for Made Ground deposits could give rise to a wide range of contaminants. Further intrusive investigation works are recommended to further refine the assessment and to determine if any remedial measures are necessary.
- 3.8.3 The assessment has concluded that there is no credible PCL associated with permanent ground gases or radon which could affect the site.
- 3.8.4 Overall, each PCL identified as posing a risk of 'Moderate/Low' or higher should be considered as part of an intrusive Tier 2 generic quantitative risk assessment (GQRA). The following table summarises the principal receptors at risk which require further investigation to support the proposed development.

Receptor Category	Principal Receptor	PCL Present Requiring Further Investigation?
Human health	Current site users	No
	Proposed site users (soils, dusts, and vapour)	Yes
	Proposed site users (permanent ground gas)	No
	Proposed site users (radon)	No – No radon protection measures required.
	Adjacent site users and off-site members of the public (during the long-term use of the site)	No
	Adjacent site users and off-site members of the public (during the construction phase)	Possible asbestos fibre release if present in soils. This assessment is for land contamination only and does not consider the risk of fibre release during the structural demolition and surface ACM removal, which is to be addressed by a competent contractor .
	Construction operatives	Yes
Controlled waters	Surface waters	No
	Groundwater	No
Property	Soft landscaping (current)	No
	Soft landscaping (proposed)	Yes
	Potable infrastructure	Yes
	Building materials	This was assessed in the previous report

Table 3-M: Receptors at Risk Under The Proposed Scheme

4 Ground Investigation

4.1 Objectives

4.1.1 The ground investigation scope and location of exploratory holes was determined by Soiltechnics Ltd in consultation with the clients structural and drainage engineers.

4.1.2 The objectives of the fieldwork were to:

- a) Assess the potential for dissolution features onsite
- b) Obtain samples for laboratory testing for contamination assessment
- c) Assess infiltration rates at depths determined by the client's drainage engineer
- d) Facilitate an archaeological trench (by others)

4.2 Fieldwork summary

4.2.1 Fieldwork was undertaken on 14th and 15th July 2022.

4.2.2 A summary of the works completed is set out below, along with the location of the exploratory logs. The exploratory hole location plan is presented within Appendix A.

Exploratory Hole Logs	Method	Qty	Final Depth Range (m bgl)	Comments
Appendix B	Machine-excavated trial pits	4	0.8 – 2.3	For infiltration testing.
Appendix B	Machine excavated trenches	2	1.6 – 1.75	To assess the depth to competent chalk and the potential for the presence of a dissolution feature.

Table 4-A: Summary of fieldwork undertaken

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

4.3 Unexploded Ordnance (UXO)

4.3.1 In the absence of a UXO Risk Assessment in accordance with CIRIA C681, Soiltechnics commissioned a UXO specialist to undertake a preliminary risk review for the purpose of the ground investigation works phase only.

4.3.2 A detailed review commissioned by the client concluded that the UXO risk to the ground investigation works is low within the site boundary for limited excavations and therefore no special precautions were required.

4.4 Sampling

4.4.1 Samples collected for chemical analysis have been taken and handled in accordance with BS ISO 18400-105:2017 "Soil quality — Sampling Part 105: Packaging, transport, storage and preservation of samples".

4.5 In situ testing

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

Tests	Qty	Applicable standard / guidance	Location of Results
Soakaway test	4	BRE 365	Appendix C

Table 4-B: Summary of field testing undertaken

4.6 Investigation Constraints

- 4.6.1 No significant constraints were encountered which limited the design of the scope of works or the undertaking of fieldworks.
- 4.6.2 Depths of infiltration tests in TP03 and TP04 were increased from the original specification to account for the ground conditions and observations at TP01 and TP02.

5 Laboratory testing

5.1 Overview

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

5.2 Geotechnical Testing

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

Qty	Test
4	Intact dry density

Table 5-A: Summary of geotechnical laboratory testing

5.3 Chemical Testing

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

Sample Type	Qty	Testing	Suite Name
Soils	2	Basic Contamination Suite [metals, cyanides, PAHs, phenol]	ST Suite 1
	2	Asbestos screening	-
	1	2 Stage WAC	-

Table 5-B: Summary of chemical laboratory testing

6 Ground Investigation Findings

6.1 Updated Ground Model

- 6.1.1 The exploratory excavations encountered during both phases encountered Made Ground over suspected Head deposits (previously referred to as Thanet Formation), with White Chalk Subgroup below.
- 6.1.2 Made Ground was encountered to a maximum depth of 0.5m and generally comprised concrete over a dense gravelly sand with gravels of flint, brick and concrete. Whole bricks were observed within the trial pit excavations, together with suspected relic foundations in the location of the former building.
- 6.1.3 Suspected Head deposits were encountered generally to ~0.7m, but locally up to 1.6m, as a firm sandy gravelly clay, with gravels of flint and chalk.
- 6.1.4 Lewes Nodular Chalk was encountered below suspected Head/infill deposits. The surface appears to be weathered to between 1.2 – 1.8m, over a more competent gravel (Grade Dc).
- 6.1.5 Grade Dc chalk extended to depths of between 1.65m to 2.7m before further Grade Dm (clay) chalk was encountered.
- 6.1.6 While some deepening of suspected Head/Infill deposits were observed, competent Grade Dc is present in the footprint of the proposed houses at depths of between 1.2m and 1.8m where investigated. The likelihood of significant deepening between the trenches is considered unlikely.

6.2 Groundwater

- 6.2.1 Groundwater was not observed in any of the exploratory holes during either phase of fieldwork.

6.3 Evidence of possible contamination

- 6.3.1 During the ground investigation works, no significant visual or olfactory evidence of chemical contamination was noted. Some anthropogenic materials contained within the Made Ground (brick, concrete), but largely considered to be relatively inert.

6.4 Obstructions and Instability

- 6.4.1 The progress of the ground investigation works was not generally affected by below ground obstructions or instability.
- 6.4.2 No short-term instability was observed in trial pit sides.

7 Geotechnical Discussion

7.1 Overview

- 7.1.1 The ground investigation did not encounter a significant dissolution feature, albeit some undulation in the chalk horizon was noted. The foundation assessment presented in the original report is considered to be suitable.
- 7.1.2 It is recommended that foundations penetrate into the natural Chalk formation by a minimum of 300mm. In addition, it is recommended that foundation excavations extend down to the competent chalk gravel (Grade Dc) to limit the potential for differential settlement. This may result in variable depth foundations, and locally foundation depths in the order of 1.8m can be expected.

7.2 Foundation Assessment

- 7.2.1 The foundation solution assessment from the original report is repeated below for ease of reference.
- 7.2.2 Chalk is not specifically covered in Eurocode 7 or associated documents such as BS8004. Being a rock (or weak rock) the modulus and density of chalk are the driving factors in establishing an allowable bearing capacity of spread foundations limiting settlements to acceptable levels. Chalk has four classification types A to D, with class A to C relating to intact rock, (A being the strongest) and D being the more weathered classification.
- 7.2.3 Based on investigations completed at this site, and with reference to CIRIA C574 “Engineering in Chalk”, foundations will be constructed on chalk deposits, which are conservatively considered to be low density Grade Dc chalk.
- 7.2.4 Again, with reference to C574 the suggested allowable bearing pressure for a grade Dc chalk is 225kN/m². At this stress, the settlement is not anticipated to exceed 10-15mm. Given the potential for thinner deposits of Grade Dc chalk, giving way to Grade Dm at the base of the foundations zone of influence, we recommend that an allowable bearing pressure of 200kN/m² is adopted for foundation design.
- 7.2.5 The above bearing pressure is provided for strip foundations limited to a width of 1.0m, or pads up to say 1.0m x 1.0m, to ensure the zone of influence is largely restricted to the upper Grade Dc chalk. If this upper limit is not sufficient to spread the proposed building loads on a 0.6m wide foundation, further investigation will be necessary to assess the underlying grade Dm chalk to more accurately assess potential settlement.
- 7.2.6 If pads up to 1.5m x 1.5m are required to spread the anticipated load, the above resistance of 200kN/m² can be used but settlement of up to 25mm could be realised. For pads larger than 1.5m square, more detailed assessment will be required. Soiltechnics can assist with this as necessary.

7.3 Floor Slab

- 7.3.1 Given the variation in the near surface soils it is likely that the floor slabs would be founded on variable strata. There would, therefore, be a risk of differential settlement/cracking. Unless the site is stripped to say 0.9m, with a good consistent sub base placed below the concrete, a suspended floor is recommended.

7.4 Drainage

7.4.1 Infiltration testing has been undertaken at the site in accordance with BRE 365: Soakaway Design (2016). The results are presented as Appendix C and summarised below.

7.4.2 It is noted that TP03 extended ~300mm into the Grade Dc chalk, whereas TP04 penetrated by 0.4m with extracted chalk more 'blocky'.

Exploratory hole ID	Stratum tested	Cycle	Infiltration rate (m/s)
TP01	White Chalk Subgroup (Grade Dm)	1	Failed
TP02	White Chalk Subgroup (Grade Dm)	1	Failed
TP03	White Chalk Subgroup (Grade Dc)	1	2.92×10^{-5}
		2	9.88×10^{-6}
		3	Rate has been extrapolated as full cycle not complete. Insufficient infiltration during available test time.
TP04	White Chalk Subgroup (Grade Dc)	1	6.17×10^{-4}
		2	5.39×10^{-4}
		3	6.69×10^{-4}
		4	1.23×10^{-3}

Table 7-A: Summary of infiltration test results undertaken in accordance with BRE 365

7.4.3 Concentrated ingress of water into Chalk can initiate new dissolution features, particularly in low density Chalk. For this reason and following recommendations contained in CIRIA report C574 'Engineering in Chalk', soakaways should be sited away from foundations for structures, roads or railways, as indicated below:

- Where chalk is of low density, or its density is not known, soakaways should be sited at least 10m away from any foundations.
- Where the chalk is of medium density (or higher), the closest part of the soakaway should be at least 5 m away from any foundations.

7.4.4 The boundary for low density and medium density chalk is 1.55Mg/m² intact dry density. While all tested samples were low density, they were close to the medium density boundary (1.53, 1.52, 1.49 and 1.51).

7.4.5 It is recommended that trench type soakaways are adopted to minimise the risk of promoting the formation of dissolution features due to concentrated water ingress.

7.4.6 The Chalk is designated as a principal aquifer. Accordingly, the Environment Agency and Local Authority must be consulted when planning soakaway installations where chalk underlies the site.

8 Tier 2 Generic Quantitative Risk Assessment

8.1 Objectives

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

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

8.2 Fieldwork observations

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

8.2.2 Specifically, it is noted that excavations immediately adjacent to the garages did not encounter any soils with hydrocarbon odours/staining.

8.3 Laboratory Testing Rationale

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

8.4 Generic Assessment Criteria

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

8.4.2 Various GAC sources are used within this report. Key assumptions are made in the derivation of screening values in regard to their use and application, and exposure modelling is based on precautionary national scenarios. This generic approach can result in an overly conservative assessment; therefore, the assessor is required to review the outcome of the GQRA screening in the context of the site specific CSM and identified potential contaminant linkages.

8.4.3 Asbestos does not currently have published GACs which can be used for generic assessment purposes, at this stage we have adopted a present / absent trigger limit.

8.4.4 Specific details regarding the published GAC sources chosen and any parameter refinements made are summarised within Appendix F, along with the order of preference where multiple GAC sources are available. The exposure models adopted are discussed in the relevant sections below.

8.5 Human Health GQRA (soils and vapour)

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

Receptor	Exposure Model	Outcome
All human health receptors	Presence of asbestos	No suspected ACMs observed within soils during fieldworks. No fibres detected through laboratory analysis.
Proposed users	Residential with plant uptake	No exceedances.
Construction operatives	Acute occupational exposure (assumed no PPE worn)	No exceedances.
Adjacent site users and the public	Acute off-site public exposure during construction phase	No asbestos detected.

Table 8-A: Human health GQRA models and outcomes

8.6 Proposed Site Users Risk Assessment (soils and vapour)

- 8.6.1 All reported concentrations of contaminants are below the relevant generic assessment criteria for human health receptors. In addition, the fieldwork observations did not detect areas of suspected contamination which require further assessment, and the overall coverage of the site is considered to have adequately targeted the PCLs identified within the iCSM. Overall, no relevant contaminant linkages have been identified.
- 8.6.2 It is stressed that this assessment is for **land contamination** onsite. The current roofing of the garages is suspected ACM, with some broken panels onsite atop the concrete slab. This should be carefully removed from site before the general demolition progresses to ensure there is no contamination of underlying soils.
- 8.6.3 The ACM material should be removed by a **competent** and **suitably trained** contractor. The works may be notifiable subject to the risk of degradation of the sheeting and the competent contractor will be able to advise further on this.
- 8.6.4 Records of the removal should be kept for presentation to the local authority or other interested parties if requested.

8.7 Construction Workers Risk Assessment

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

8.8 Adjacent Site Users Risk Assessment

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

8.9 Controlled Waters Risk Assessment

- 8.9.1 No significant source of contamination has been identified onsite, and thus the risk of migration to controlled waters is not considered necessary.

8.10 Risks to soft landscaping vegetation

- 8.10.1 To help determine the risk to vegetation from potentially phytotoxic contaminants, we have adopted screening values presented within the British Standard 'Specification for Topsoil' (BS 3882:2015), and the Environment Agency online guidance 'Sewage Sludge in Agriculture: Code of Practice'.
- 8.10.2 While slightly elevated pH levels were detected (8.6 and 8.8 against a guide of 8.5), these are not considered to present a significant risk of harm to vegetation, but it is recommended that suitable planting, reflective of the chalk conditions is selected. It is also envisaged that topsoil/a suitable growing medium will be imported in any case to support new grass and garden areas.

8.11 Water supply pipes

- 8.11.1 We have not carried out a full site investigation as set out in the UK Water Industry Research (UKWIR) document '*Guidance for the selection of Water supply pipes to be used in Brownfield sites*'.
- 8.11.2 In all instances, it is advised to consult the water company for advice to determine if protective pipe is necessary or if further assessment and investigation works are warranted. Irrespective of the assessment made here, water companies may insist on barrier pipe being installed. Once the initial consultation has taken place, we are happy to support you in any further assessments that may be required.
- 8.11.3 That being said, the site is a brownfield site and concentration of PAH's have been detected, albeit below human health guideline values. It is likely that barrier pipe will be required by the local water company.

8.12 Updated Conceptual Site Model (uCSM)

8.12.1 Following on from the discussions above, we have tabulated the updated conceptual site model overleaf.

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

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

Table 8-B: CSM Risk Ratings

Receptor: Proposed end users				
Potential Source	Contaminants of Concern	Pathway	Tier 1 Risk Assessment (probability of harm x consequence)	Discussion
General Made Ground	Various inorganic and organic compounds (hydrocarbons, metals, asbestos)	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Low (likely – minor)	No exceedances
Localised hydrocarbon contamination beneath	Total Petroleum Hydrocarbons (TPH)	Inhalation of vapours	Risk: Low (likely – minor)	No significant staining or odours were observed within the garages or the main yard during the site reconnaissance. The slabs appeared to be consistent without any obviously replaced surfacing, and no significant cracking was observed. Given this, the likelihood of a significant former spill leading to gross contamination is considered to be low. Excavations immediately adjacent did not encounter any odours or staining. Refer to Section 8.14 for unexpected contamination commentary.
Potential cemented ACMs	Asbestos	Inhalation of fibres	Risk: Low (unlikely – medium)	The observed suspected ACM comprised cement sheets, albeit some that were broken. They were present atop the concrete surfacing, which was likely in place prior to fitting the roofs. Providing the material is removed from site by a competent contractor as set out in 8.6, the risks of fibres becoming air bourn or getting into underlying soils is considered low.

Table 8-C: iCSM – Proposed End Users

Receptor: Construction workers				
Potential Source	Contaminants of Concern	Pathway	Tier 1 Risk Assessment (probability of harm x consequence)	Discussion
All contamination sources except asbestos	Metals, PAHs, TPHs	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Low (low – mild)	No gross contamination of high-risk contaminants anticipated (e.g. cyanide, benzene, and vinyl chloride). Standard PPE and hygiene protocols for working on brownfield sites are likely to be sufficient to the mitigate risk.
Asbestos	Fibres	Inhalation	Risk: Low (low – mild)	Providing the suspected ACM material is removed from site by a competent contractor as set out in 8.6, before any further demolition works, the risks of fibres becoming air bourn or getting into underlying soils is considered low.

Table 8-D: iCSM – Acute Exposure to Construction Workers

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

Table 8-E: iCSM – Chronic Exposure to Adjacent Site Users

Receptor: Adjacent site users during the construction phase				
Potential Source	Contaminants of Concern	Pathway	Tier 1 Risk Assessment (probability of harm x consequence)	Discussion
Asbestos fibres and ACMs within the Made Ground	Asbestos	Inhalation of dusts	Risk: Low (unlikely – medium)	No ACM or asbestos fibres detected in soils. The current suspected ACM materials on the garage roofs and on the surface MUST be removed by a competent contractor, adopting appropriate mitigation measures to prevent fibre release.
All other potential contaminant sources	Metals, PAHs, TPH	Ingestion, inhalation and contact with soils, dusts and vapours	Risk: Low (unlikely – medium))	Unlikely to pose a viable risk to off-site receptors.

Table 8-F: iCSM – Acute Exposure to Adjacent Site Users

Receptor: Proposed planting				
Potential Source	Contaminants of Concern	Pathway	Tier 1 Risk Assessment (probability of harm x consequence)	Discussion
Contaminants within topsoil and the shallow sub-surface	Metals, pH and inorganics	Direct contact and root uptake	Risk: Negligible (negligible– minor)	Ground conditions not considered to present a risk of harm to proposed planting. In addition, no current topsoil resources are present on site, therefore a suitable growing medium will need to be imported for any proposed landscaping scheme.

Table 8-G: iCSM – Phytotoxic Risk to Proposed Planting Scheme

8.13 Risk Assessment Conclusions

- 8.13.1 Based on the updated CSM, no potential contaminant linkages have been identified above the low-risk threshold, and therefore there is no requirement for further investigative or remedial works. The site is considered suitable for use.
- 8.13.2 Any topsoil proposed to be imported to the site must be chemically suitable for use. We recommend laboratory testing is made available for inspection prior to its importation to site to confirm its suitability. Whilst the topsoil is not required for remedial purposes, we recommend all records of the soil importation (chemical certificates, purchase records, transport tickets) are retained such that they can be provided to the Local Authority and/or building insurers for inspection as necessary.

8.14 Unexpected and Previously Unencountered Contamination

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

9 Soil and Waste Management

9.1 Sustainability

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

9.2 Waste Hierarchy

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

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

Table 9-A: Waste management hierarchy

9.3 Liability of waste management

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

9.4 Materials Management

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

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

9.5 Waste characterisation governance

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

9.6 Waste populations

- 9.6.1 The brief is to classify potential waste soils for disposal. Classification and assessment of materials/demolition materials is not included.
- 9.6.2 For preliminary assessment purposes, the Made Ground materials across the site have been taken as a single waste population, and natural soils have been classified separately.
- 9.6.3 Notably, there were suspected ACM materials observed above the slab which should be fully removed before the slab/garages are demolished to avoid mixing. Where the slab is currently open, some localised picking and segregation by a competent contractor may be required prior to excavating/disposing of the underlying soils.

9.7 Sampling and testing

- 9.7.1 The hazardous waste classification assessment has been undertaken by adopting the maximum recorded concentration of each compound from samples tested within the identified waste population, as outlined in WM3, Approach D.
- 9.7.2 For the Waste Acceptance Criteria (WAC) assessment, representative composite samples were obtained from the two trial trenches onsite.
- 9.7.3 The rate of testing has been chosen to provide a preliminary waste categorisation only.

9.8 Waste characterisation

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

Potential Waste Population	Hazardous Classification (LoW code)	Landfill Classification	Comments
Made Ground	Non-hazardous (17-05-04)	Inert	Due to the quantities of demolition rubble contained within the Made Ground, screening of the material may produce a viable recyclable aggregate and reduce the overall volume of waste material requiring disposal. Assessment made on the basis that no visible asbestos/ACM contained within the Made Ground.
Made Ground, with visible ACM fragments	Hazardous waste: (17-06-05* and 17-05-03*)	Asbestos waste cell	Possible sporadic and infrequent occurrences of cemented ACMs. Delineation will be feasible by visual inspection by competent specialist. Appropriate segregation will reduce quantity of hazardous waste.
Clean, uncontaminated, natural materials	Non-hazardous (17-05-04)	Inert	Considered non-hazardous and inert without any testing required.

Table 9-B: Waste characterisation summary

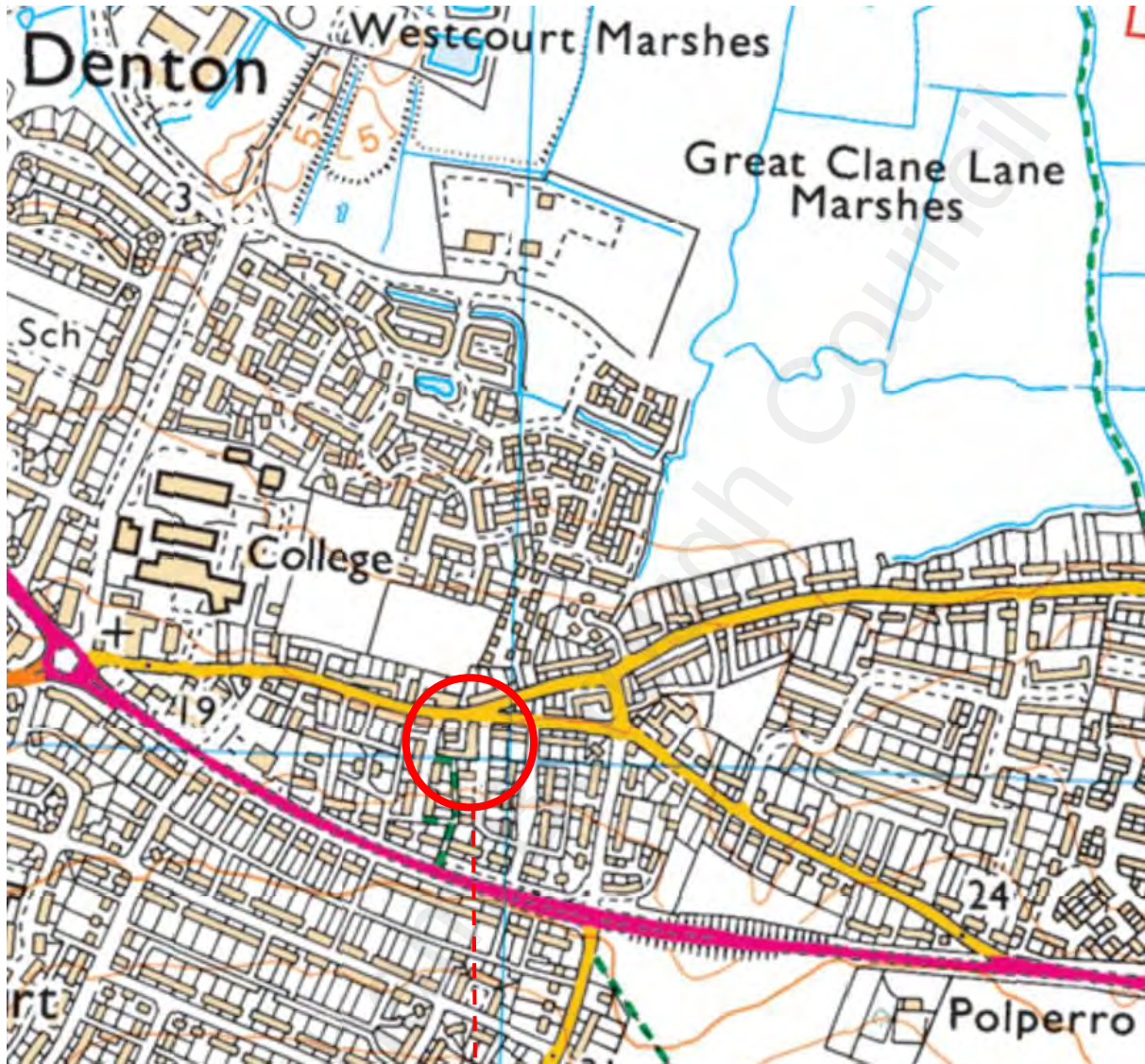
9.9 Application of advice

- 9.9.1 Where assessments have been carried out of soils currently in-situ at the time of investigation and not of stockpiled waste soils, they should be treated as provisional only.
- 9.9.2 There is no obligation on any waste operator to accept our waste characterisation assessments. Landfill operators may consider your waste to fall under a different classification and/or may require additional testing of waste soils prior to acceptance. It is therefore recommended that this report along with the chemical results is provided to the preferred facility to confirm (or otherwise) it can accept the waste.
- 9.9.3 It should be noted that there remains the potential for unexpected or previously unencountered contamination to be encountered. Any such materials intended for waste disposal should be segregated and tested to determine the appropriate classification and disposal route.

10 Recommendations for further works

- 10.1.1 No further works are required to inform the geotechnical or environmental assessments at this stage.
- 10.1.2 However, the Principal Contractor should have a discovery strategy in place in the event of exposing unexpected or previously unencountered contamination. Soiltechnics should be informed at the earliest opportunity to undertake an assessment of the material, and to inform the Local Authority as appropriate.
- 10.1.3 It is also recommended that all records pertaining to, asbestos removal, soil disposal and Topsoil importation are retained such that they can be made available for inspection by the Local Authority or other interested parties upon request.
- 10.1.4 A proposal for the assessment of the suitability of Topsoil imported to site can be provided on request.

Appendix A Drawings



Site location

Title

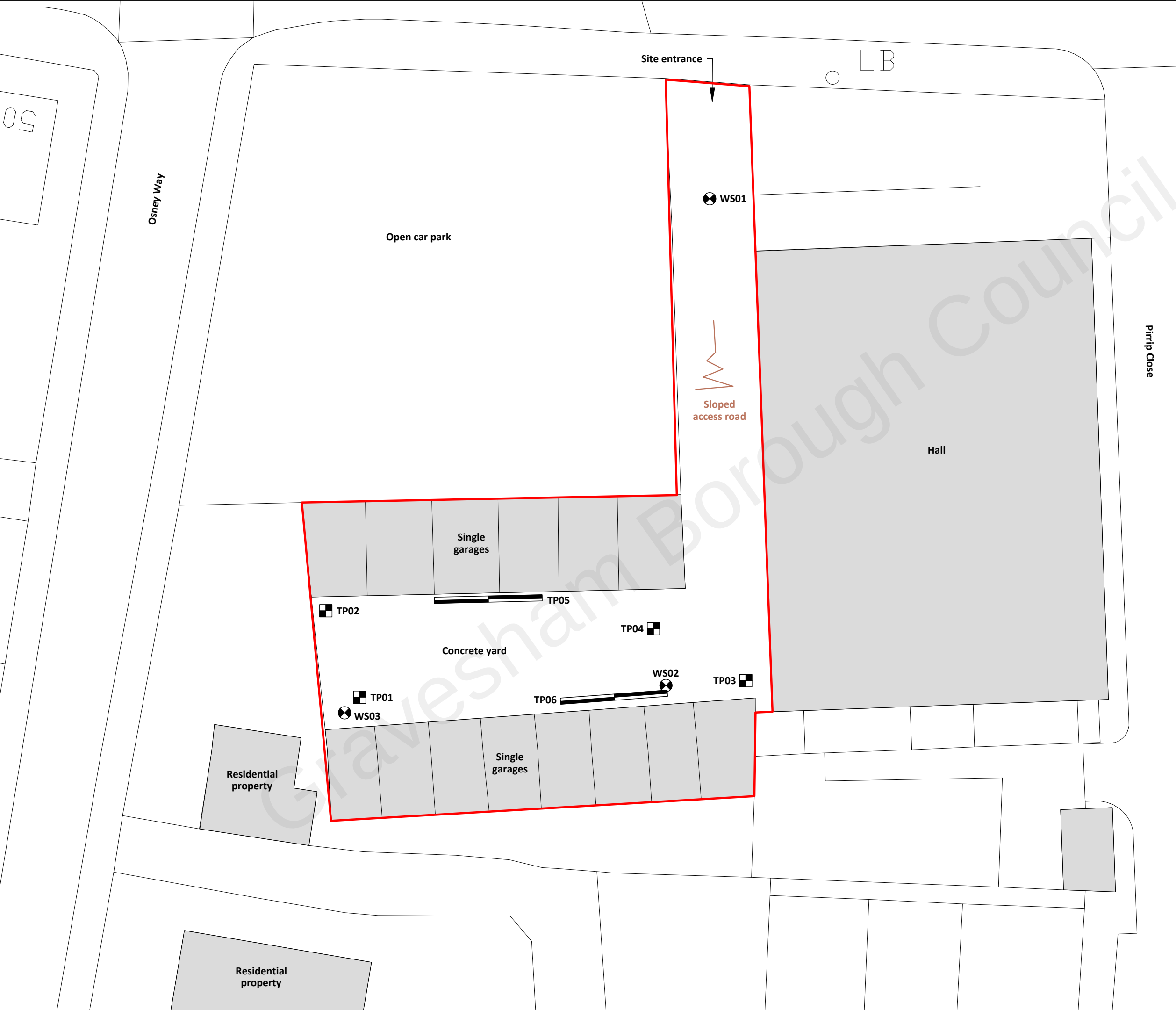
Site location plan

Scale

Not to scale

Drawing number

01



Key

WS

Windowless sampling borehole

TP

Trial pit

TP

Trial trench

Site boundary

- Notes
1. Base drawing provided by Client

2. Exploratory locations are approximate

A	First issue	KD	ID	SD	07.09.2022
REV	DESCRIPTION	PRODUCED	CHECKED	REVIEWED	DATE

soiltechnics

environmental • geotechnical • building fabric

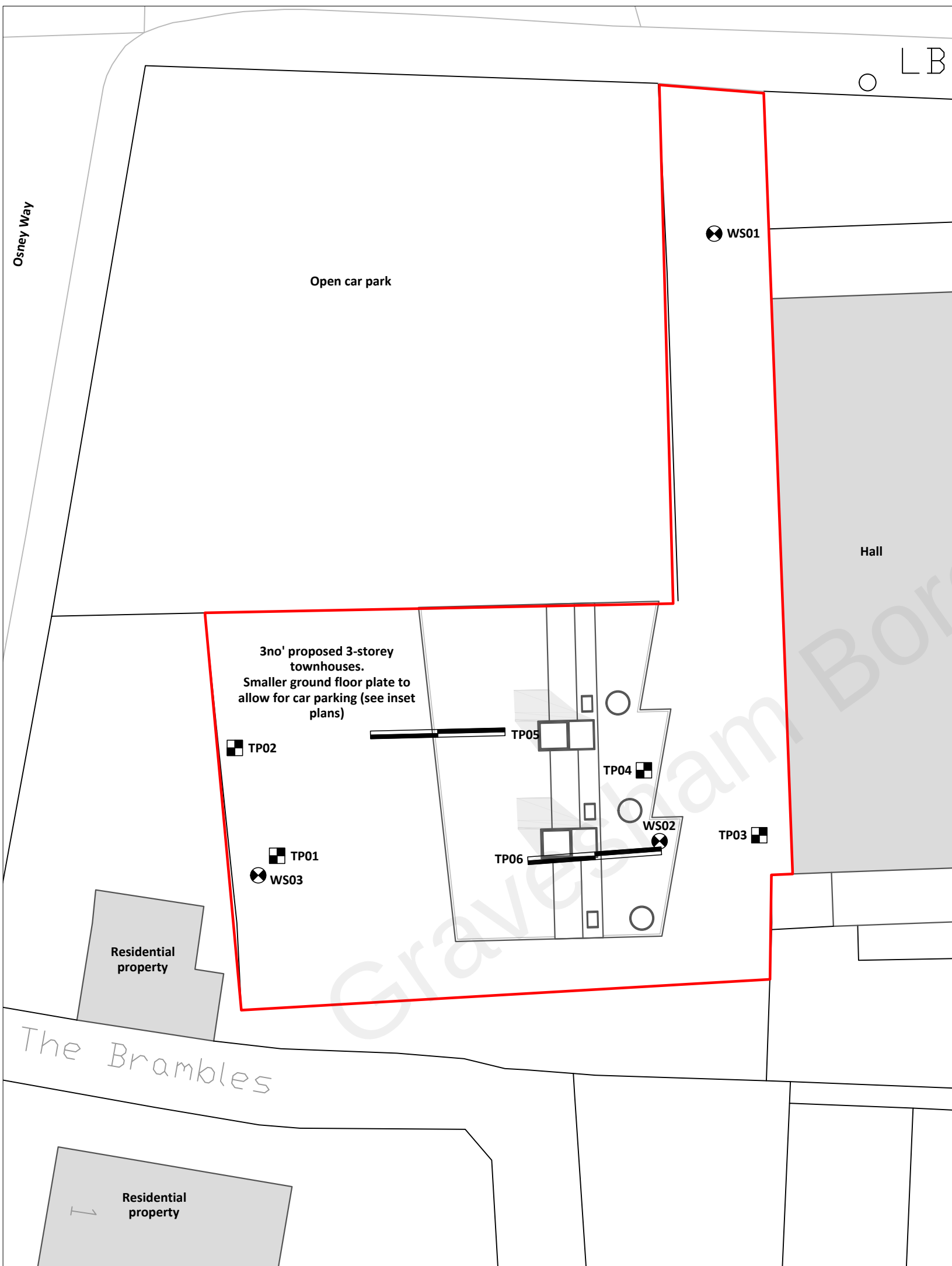
PROJECT

Goldsmith Mews Houses,Gravesham

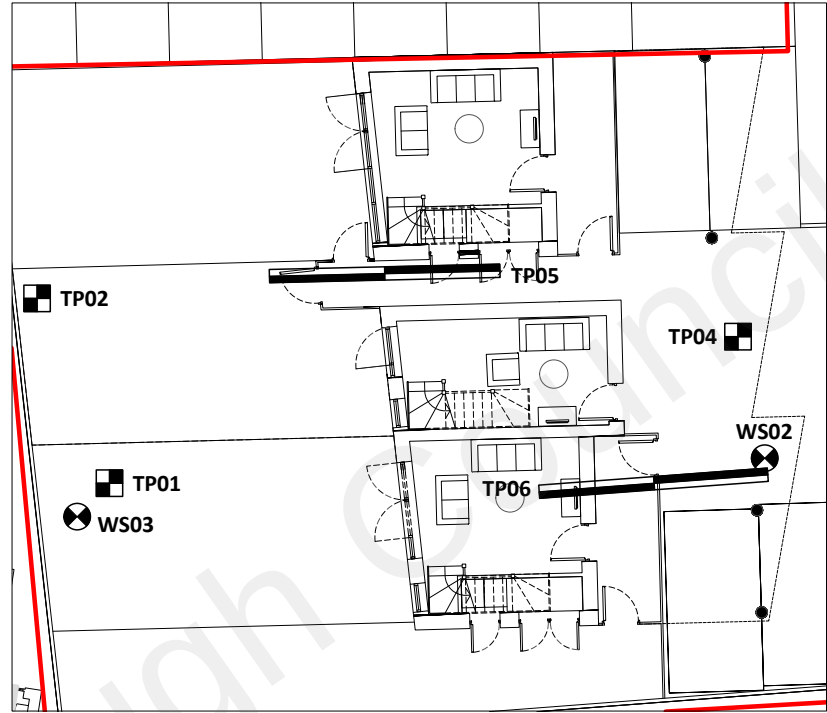
TITLE

Exploratory hole plan (current layout)

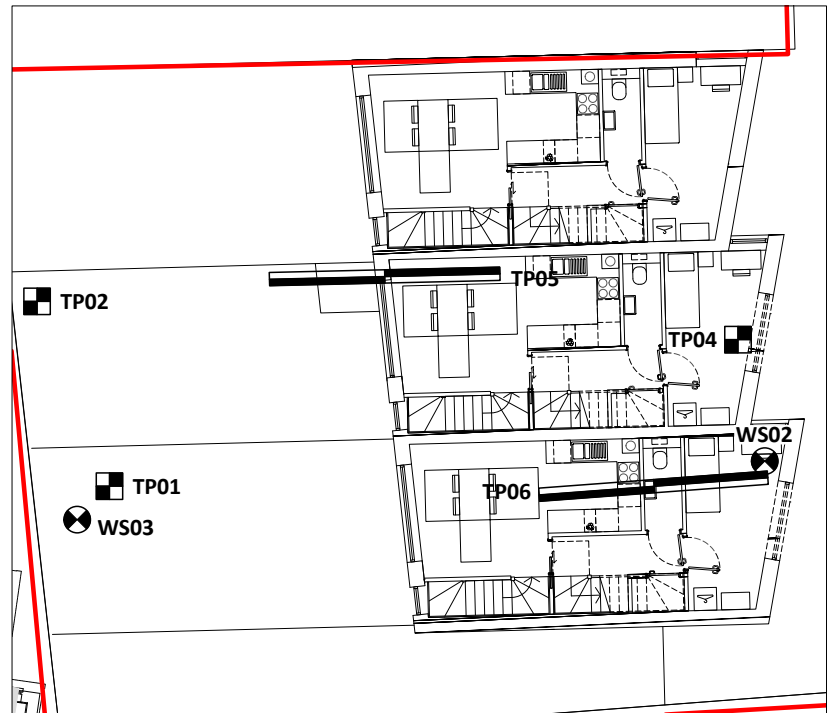
PROJECT NO.	SCALE AT A3	DRAWING NO.
STU5768	1:200	02



Inset - Proposed ground floor level



Inset - Proposed first floor level



Key

- WS Windowless sampling borehole
- TP Trial pit
- TP Trial trench
- Site boundary

Notes

- Base drawing provided by Client
- Exploratory locations are approximate

A	First issue	KD	ID	SD	07.09.2022
REV	DESCRIPTION	PRODUCED	CHECKED	REVIEWED	DATE

soiltechnics
environmental • geotechnical • building fabric

PROJECT
Goldsmith Mews Houses,Gravesham

TITLE
Exploratory hole plan (proposed layout)

PROJECT NO. STU5768	SCALE AT A3 1:200	DRAWING NO. 03
------------------------	----------------------	-------------------

Appendix B Exploratory Hole Logs: Trial Pits

Key to legends

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

Note: Composite soil types are signified by combined symbols.

Key to 'test results' and 'sampling' columns

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

Water observations

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

▼ Water level observed after specified delay in drilling

∇ Water strike

Density

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

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Light grey unreinforced CONCRETE. (MADE GROUND)	0.15						0.30		ES
Firm dark brown sandy gravelly CLAY with cobbles of brick. Gravel is brick, chalk and concrete. (MADE GROUND)	0.55								
Firm slightly gravelly sandy CLAY. Gravel is fine angular chalk. (HEAD)	0.80								
TRIAL PIT TERMINATED AT 0.80m									

Notes Trial pit sides remained upright and stable upon completion. Terminated for targeted infiltration testing. Trial pit terminated at 0.8m depth for targeted infiltration testing.	Title Trial pit record	Dimensions (w x l) 0.70m x 0.50m	Date(s) 14/07/2022
	Method JCB 3CX	Logged by ID	Sheet number Sheet 1 of 1
Groundwater observations No groundwater encountered.	Level (m OD) -	Compiled by JC	Revision 0
	Co-ordinates -	Checked by ID	TP01

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Light grey unreinforced CONCRETE. (MADE GROUND)	0.15								
Firm dark brown sandy gravelly CLAY with cobbles of brick. Gravel is brick, chalk and concrete. (MADE GROUND)	0.55								
Firm slightly gravelly sandy CLAY. Gravel is fine angular chalk. (HEAD)	1.06								
CHALK excavated as structureless firm dark brown mottled cream gravelly CLAY. Gravel is fine angular low density chalk. (WHITE CHALK SUBGROUP - GRADE DM)	1.50								
TRIAL PIT TERMINATED AT 1.50m									

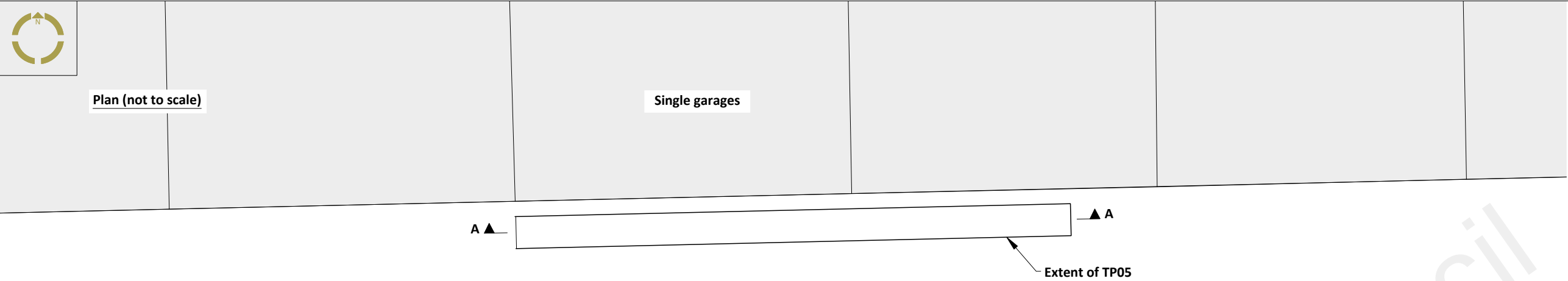
Notes Trial pit sides remained upright and stable upon completion. Trial pit terminated at 1.5m depth for targeted infiltration testing.	Title	Dimensions (w x l)	Date(s)
	Trial pit record	1.20m x 0.50m	14/07/2022
Groundwater observations No groundwater encountered.	Method	Logged by	Sheet number
	JCB 3CX	ID	Sheet 1 of 1
	Level (m OD)	Compiled by	Revision
	-	JC	0
	Co-ordinates	Checked by	TP02
	-	ID	

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Light grey unreinforced CONCRETE. (MADE GROUND)	0.10								
Firm dark brown sandy gravelly CLAY with whole bricks. Gravel is brick and concrete. Mass concrete obstruction 300mm w x 200mm d ran the pit length at 0.3m depth. Suspected relic foundation. (MADE GROUND)	0.50						0.80		D
Firm dark brown mottled cream gravelly CLAY. Gravel is fine angular chalk. (WHITE CHALK SUBGROUP - Grade dm)									
CHALK excavated as structureless dense cream slightly clayey sandy GRAVEL with cobbles of flint. Gravel is coarse angular low density chalk and flint. (WHITE CHALK SUBGROUP - Grade Dc)	1.70						1.90	2.00	D
TRIAL PIT TERMINATED AT 2.06m	2.06								

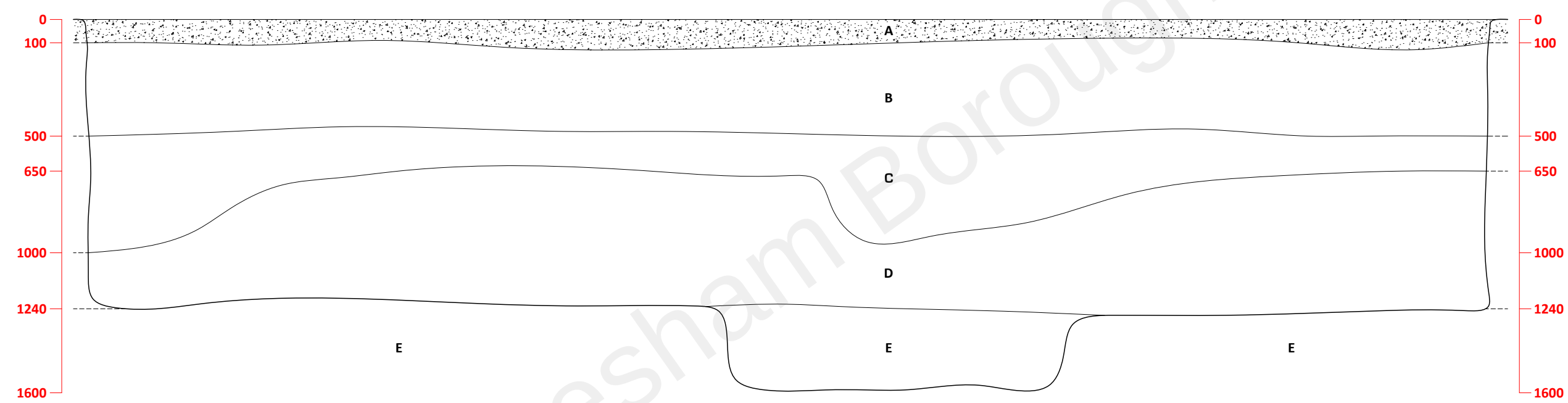
Notes Trial pit sides remained upright and stable upon completion.	Title Trial pit record	Dimensions (w x l) 1.70m x 0.50m	Date(s) 15/07/2022
	Method JCB 3CX	Logged by ID	Sheet number Sheet 1 of 1
Groundwater observations No groundwater encountered.	Level (m OD) -	Compiled by JC	Revision 0
	Co-ordinates -	Checked by ID	TP03

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Light grey unreinforced CONCRETE. (MADE GROUND)	0.10								
Firm dark brown sandy gravelly CLAY with whole bricks. Gravel is brick and concrete. Suspected concrete footing as TP03 observed running perpendicular across the pit. (MADE GROUND)	0.70						1.00	1.20	D
Firm dark brown slightly gravelly CLAY. Gravel is fine to medium flint and chalk. (HEAD)	1.50								
CHALK excavated as structureless firm dark brown mottled cream gravelly CLAY. Gravel is fine angular low density chalk. (WHITE CHALK SUBGROUP - Grade dm)	1.90								
CHALK excavated as structureless dense cream slightly clayey sandy GRAVEL with cobbles of flint. Gravel is coarse angular low density chalk and flint. (WHITE CHALK SUBGROUP - Grade Dc)	2.30								
TRIAL PIT TERMINATED AT 2.30m									

Notes Trial pit sides remained upright and stable upon completion. Terminated for targeted infiltration testing. Trial pit terminated at 2.3m depth for targeted infiltration testing.	Title	Dimensions (w x l)	Date(s)
	Trial pit record	1.70m x 0.50m	15/07/2022
Groundwater observations No groundwater encountered.	Method	Logged by	Sheet number
	JCB 3CX	ID	Sheet 1 of 1
	Level (m OD)	Compiled by	Revision
	-	JC	0
	Co-ordinates	Checked by	TP04
	-	ID	



Section A-A (Scale 1:20)



Key

- A. Light grey unreinforced CONCRETE. (CONCRETE)
- B. Firm dark brown sandy gravelly CLAY with whole bricks. Gravel is brick and concrete. (MADE GROUND)
- C. Firm dark brown slightly gravelly CLAY. Gravel is fine to medium flint and chalk. (HEAD)
- D. Firm slightly gravelly sandy CLAY. Gravel is fine angular chalk. (WHITE CHALK SUBGROUP Grade Dm)
- E. Chalk excavated as dense cream slightly clayey sandy GRAVEL with cobbles of flint. Gravel is coarse angular chalk and flint. (WHITE CHALK SUBGROUP Grade Dc)

— Observed features
- - - Assumed features

 Concrete

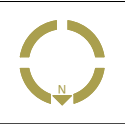
Notes

1. Trial pit sides remained upright and stable.
2. Dimensions shown in millimetres.
3. No groundwater encountered.

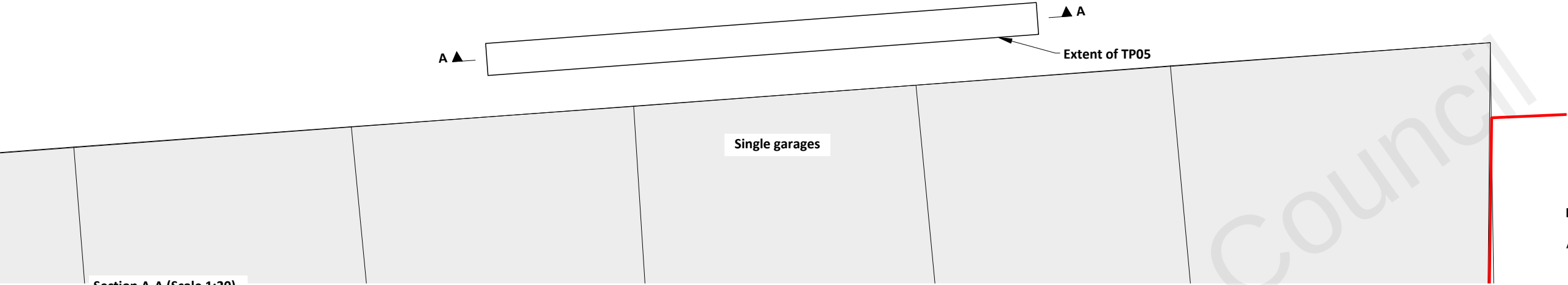
Samples - Disturbed (D) / Environmental (ES)

- Composite sample taken from Made Ground

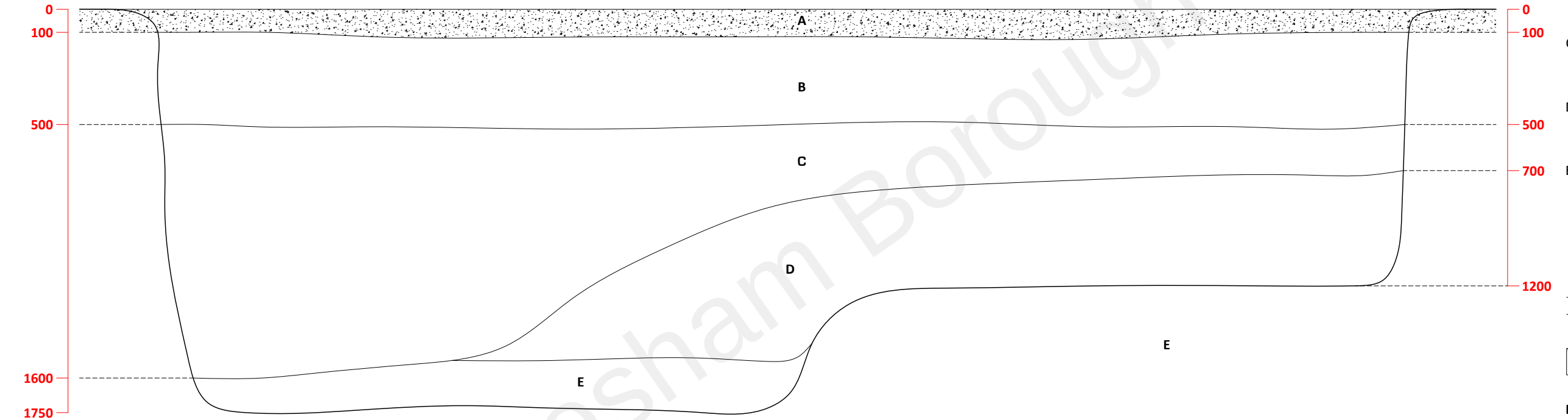
A	First issue	ID	KD	ID	06.09.2022
REV	DESCRIPTION	LOGD	PREP	APPD	DATE
soiltechnics environmental • geotechnical • building fabric					
PROJECT Goldsmith Mews Houses,Gravesham					
TITLE Trial pit record					
EXCAVATION METHOD JCB 3CX				DATE OF WORKS 15.07.2022	
PROJECT NO. STU5768		SCALE AT A3 As shown		LOCATION REFERENCE TP05	



Plan (not to scale)



Section A-A (Scale 1:20)



Key

- A. Light grey unreinforced CONCRETE. (CONCRETE)
- B. Firm dark brown sandy gravelly CLAY with whole bricks. Gravel is brick and concrete. (MADE GROUND)
- C. Firm dark brown slightly gravelly CLAY. Gravel is fine to medium flint and chalk. (HEAD)
- D. Firm slightly gravelly sandy CLAY. Gravel is fine angular chalk. (WHITE CHALK SUBGROUP Grade Dm)
- E. Chalk excavated as dense cream slightly clayey sandy GRAVEL with cobbles of flint. Gravel is coarse angular chalk and flint. (WHITE CHALK SUBGROUP Grade Dc)

- Observed features
- Assumed features



Notes

1. Trial pit sides remained upright and stable.
2. Dimensions shown in millimetres.
3. No groundwater encountered.

Samples - Disturbed (D) / Environmental (ES)

- Composite sample taken from Made Ground

Photographic records



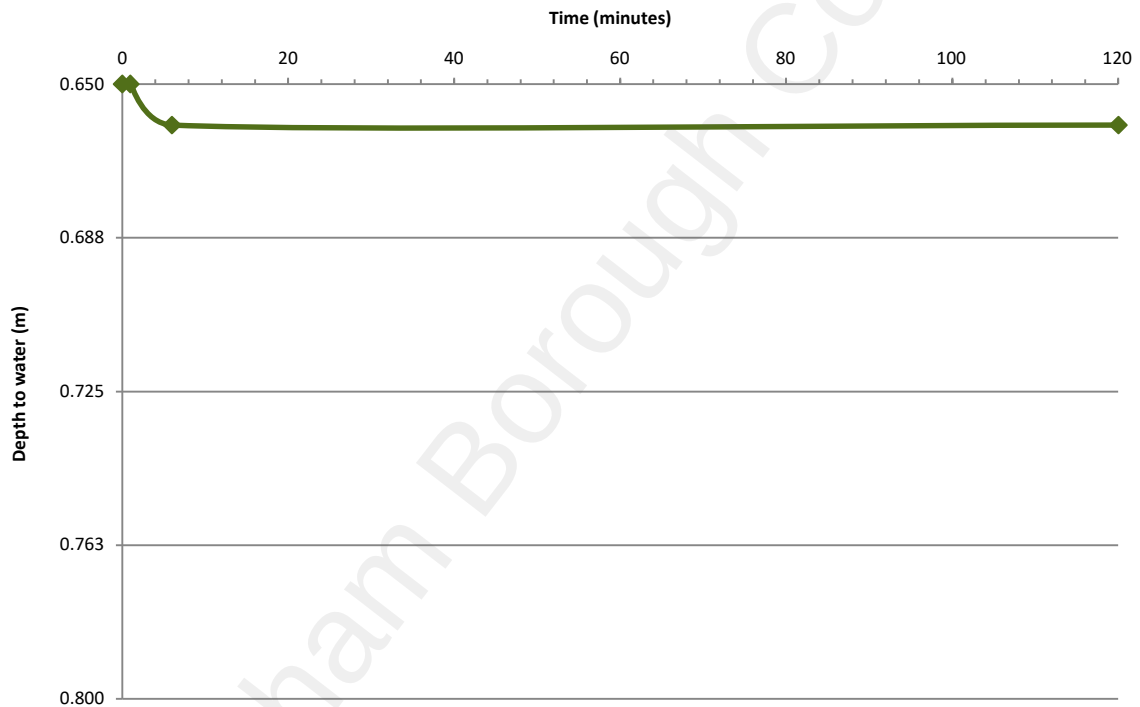
A	First issue	ID	KD	ID	06.09.2022
REV	DESCRIPTION	LOGD	PREP	APPD	DATE
soiltechnics environmental • geotechnical • building fabric					
PROJECT Goldsmith Mews Houses,Gravesham					
TITLE Trial pit record					
EXCAVATION METHOD JCB 3CX			DATE OF WORKS 15.07.2022		
PROJECT NO. STU5768	SCALE AT A3 As shown		LOCATION REFERENCE TP06		

Appendix C In situ Permeability Testing Results

Soil infiltration test (following BRE Digest 365 2016)

Location	Cycle	Test date	Dimensions (m)
TP01	1	14/07/2022	0.70m x 0.50m

Depth at start of test (m)	Groundwater observations (at time of excavation)
0.65	No groundwater encountered.



Insufficient infiltration over 120 minutes of monitoring therefore unable to calculate soil infiltration rate.

Soil infiltration test (following BRE Digest 365 2016)

Location	Cycle	Test date	Dimensions (m)
TP02	1	14/07/2022	1.20m x 0.50m

Depth at start of test (m)	Groundwater observations (at time of excavation)
1.06	No groundwater encountered.

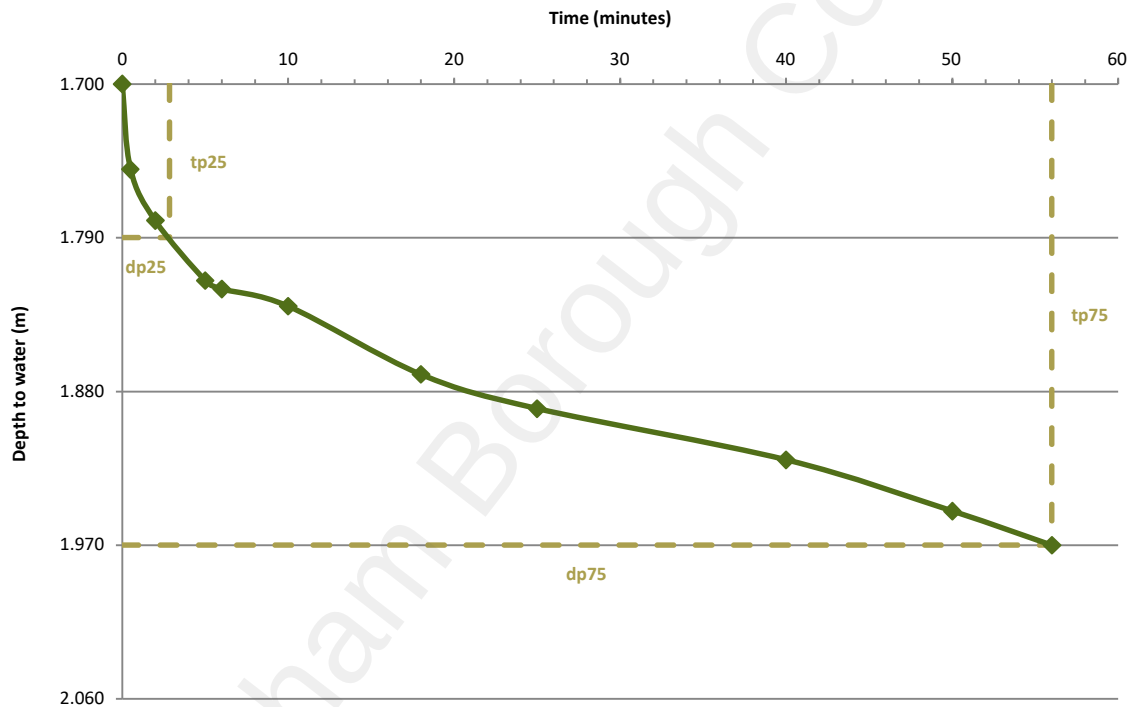


Insufficient infiltration over 120 minutes of monitoring therefore unable to calculate soil infiltration rate.

Soil infiltration test (following BRE Digest 365 2016)

Location	Cycle	Test date	Dimensions (m)
TP03	1	15/07/2022	1.70m x 0.50m

Depth at start of test (m)	Groundwater observations (at time of excavation)
1.7	No groundwater encountered.



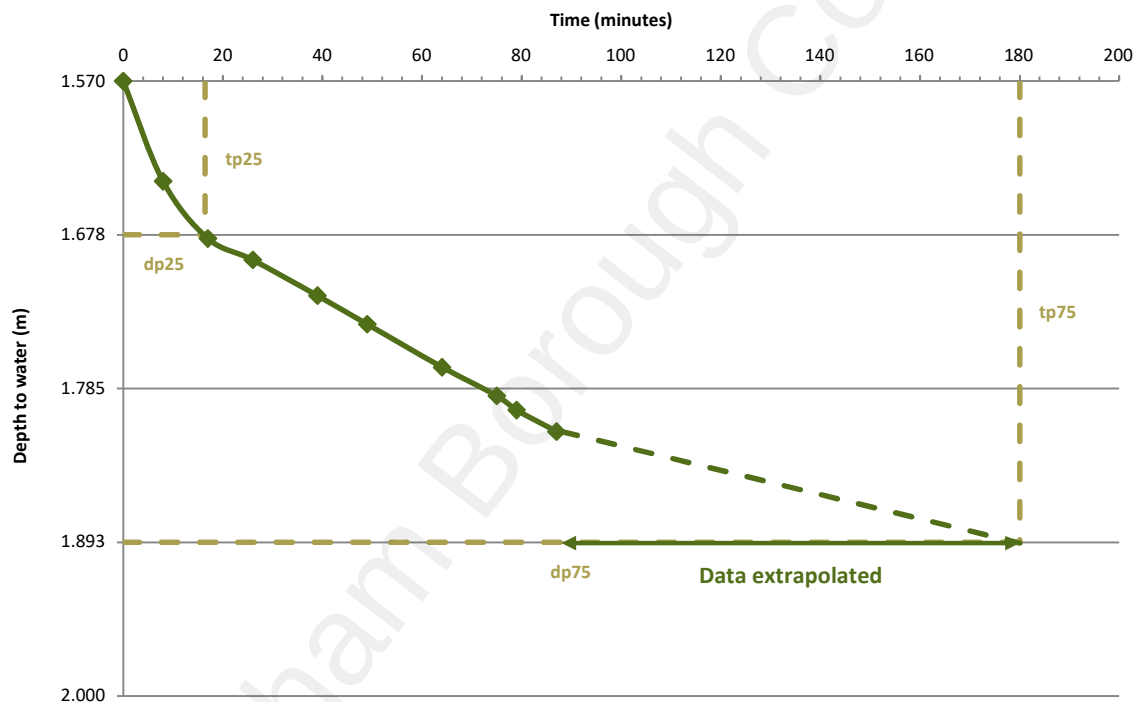
$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

V_{p75-25}		
Effective storage volume of water between 75% (dp75) and 25% (dp25) effective depth	0.153	m ³
a_{p50}		
Internal surface area up to 50% effective depth and including the base	2	m ²
$t_{p75} - t_{p25}$		
Time for the water level to fall from 75% to 25% effective depth	3189	s
f		
Soil infiltration rate	2.92E-05	m/s

Soil infiltration test (following BRE Digest 365 2016)

Location	Cycle	Test date	Dimensions (m)
TP03	2	14/07/2022	1.20m x 0.50m

Depth at start of test (m)	Groundwater observations (at time of excavation)
1.57	No groundwater encountered.



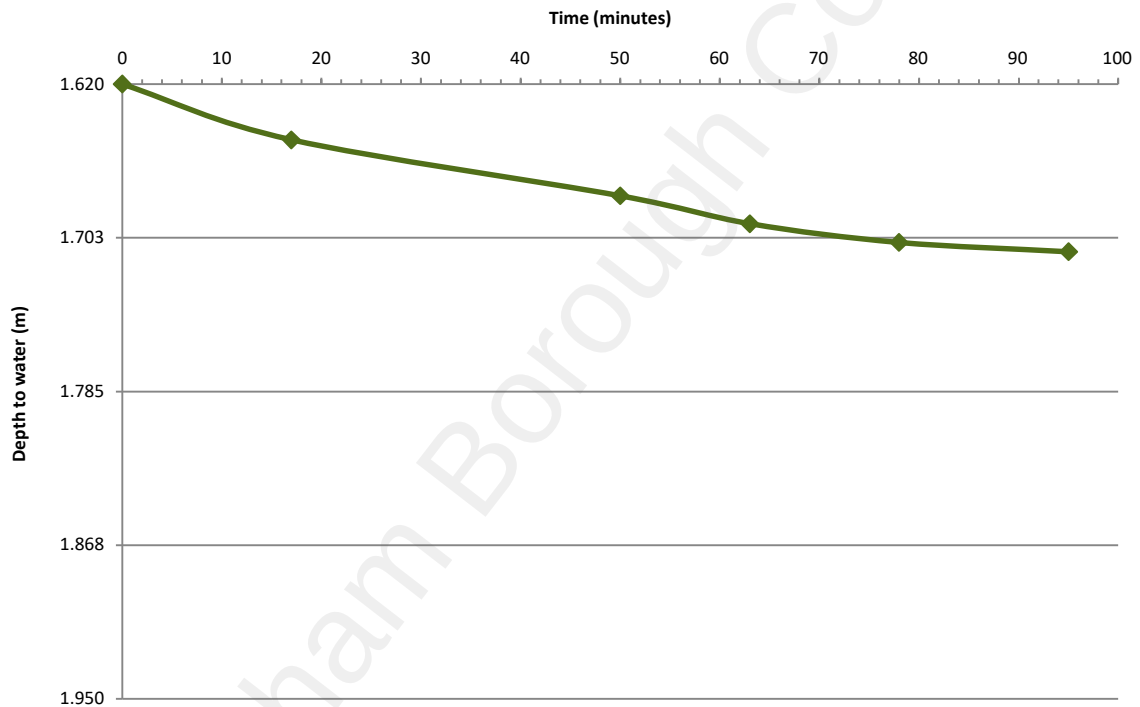
$$f = \frac{V_{p75 - 25}}{a_{p50} \times t_{p75 - 25}}$$

$V_{p75 - 25}$		
Effective storage volume of water between 75% (dp75) and 25% (dp25) effective depth	0.129	m ³
a_{p50}		
Internal surface area up to 50% effective depth and including the base	1	m ²
$t_{p75} - t_{p25}$		
Time for the water level to fall from 75% to 25% effective depth	9814	s
f		
Soil infiltration rate	9.88E-06	m/s

Soil infiltration test (following BRE Digest 365 2016)

Location	Cycle	Test date	Dimensions (m)
TP03	3	14/07/2022	1.20m x 0.50m

Depth at start of test (m)	Groundwater observations (at time of excavation)
1.62	No groundwater encountered.

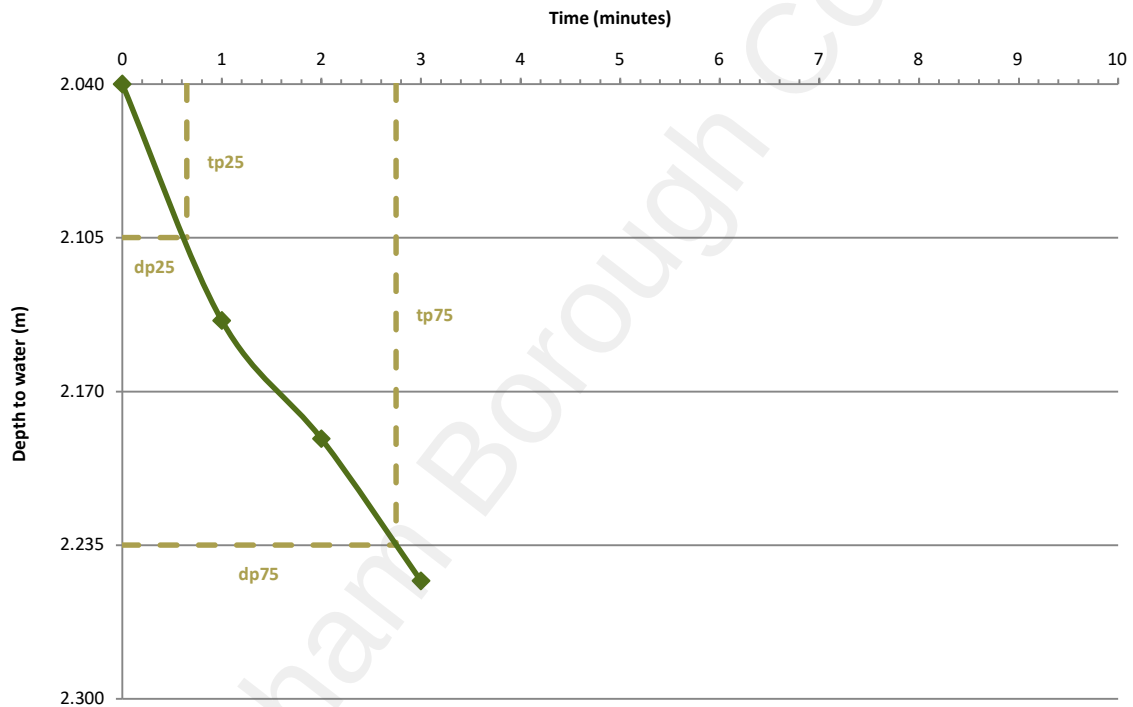


Insufficient infiltration over 95 minutes of monitoring therefore unable to calculate soil infiltration rate.

Soil infiltration test (following BRE Digest 365 2016)

Location	Cycle	Test date	Dimensions (m)
TP04	1	15/07/2022	1.70m x 0.50m

Depth at start of test (m)	Groundwater observations (at time of excavation)
2.04	No groundwater encountered.



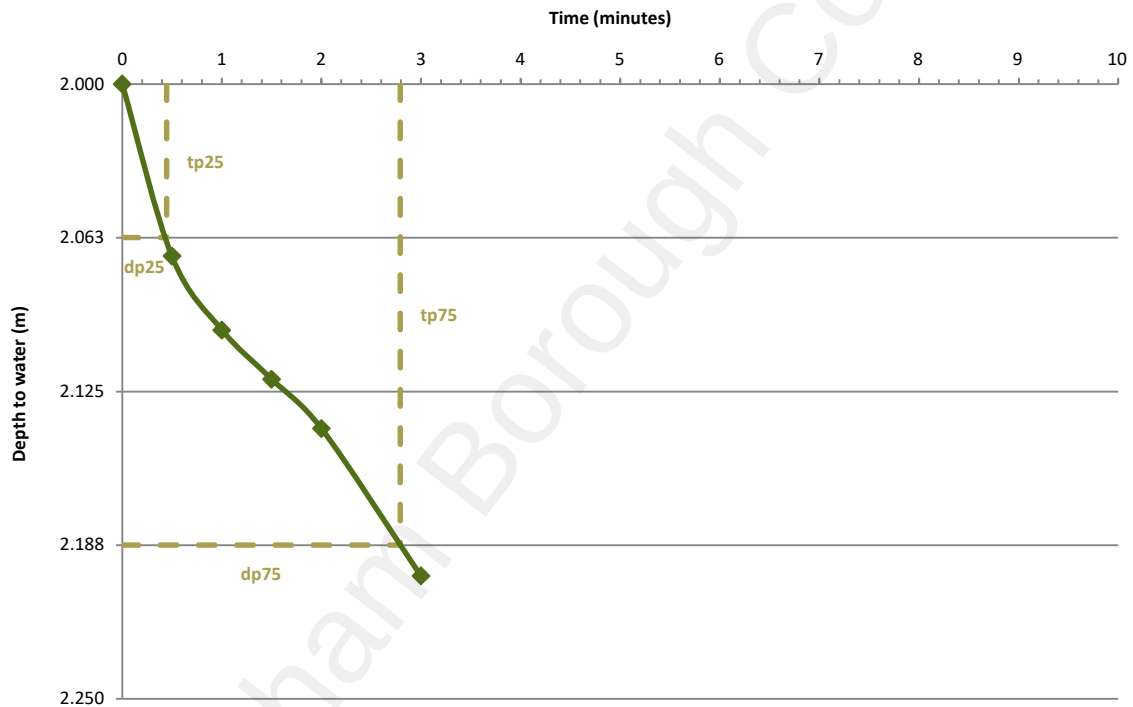
$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

V_{p75-25}		
Effective storage volume of water between 75% (dp75) and 25% (dp25) effective depth	0.1105	m ³
a_{p50}		
Internal surface area up to 50% effective depth and including the base	1	m ²
t_{p75-25}		
Time for the water level to fall from 75% to 25% effective depth	126	s
f		
Soil infiltration rate	6.17E-04	m/s

Soil infiltration test (following BRE Digest 365 2016)

Location	Cycle	Test date	Dimensions (m)
TP04	2	15/07/2022	1.70m x 0.50m

Depth at start of test (m)	Groundwater observations (at time of excavation)
2	No groundwater encountered.



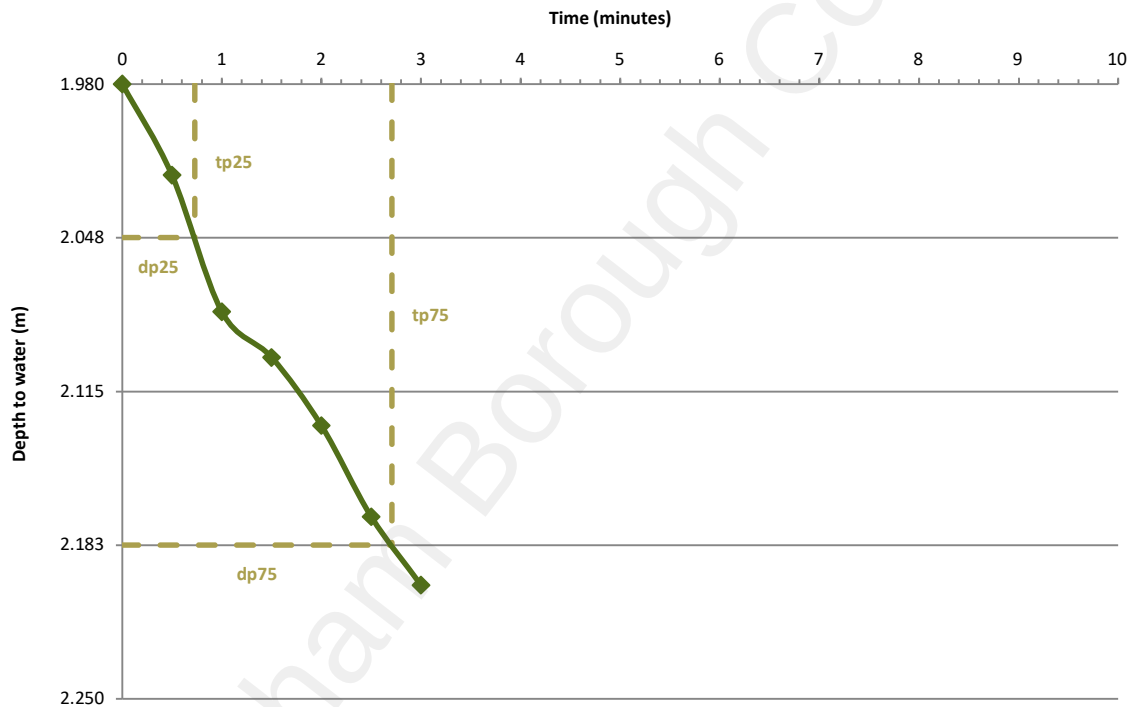
$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

V_{p75-25}	0.10625	m ³
Effective storage volume of water between 75% (dp75) and 25% (dp25) effective depth		
a_{p50}	1	m ²
Internal surface area up to 50% effective depth and including the base		
$t_{p75} - t_{p25}$	141	s
Time for the water level to fall from 75% to 25% effective depth		
f	5.39E-04	m/s
Soil infiltration rate		

Soil infiltration test (following BRE Digest 365 2016)

Location	Cycle	Test date	Dimensions (m)
TP04	3	15/07/2022	1.70m x 0.50m

Depth at start of test (m)	Groundwater observations (at time of excavation)
1.98	No groundwater encountered.



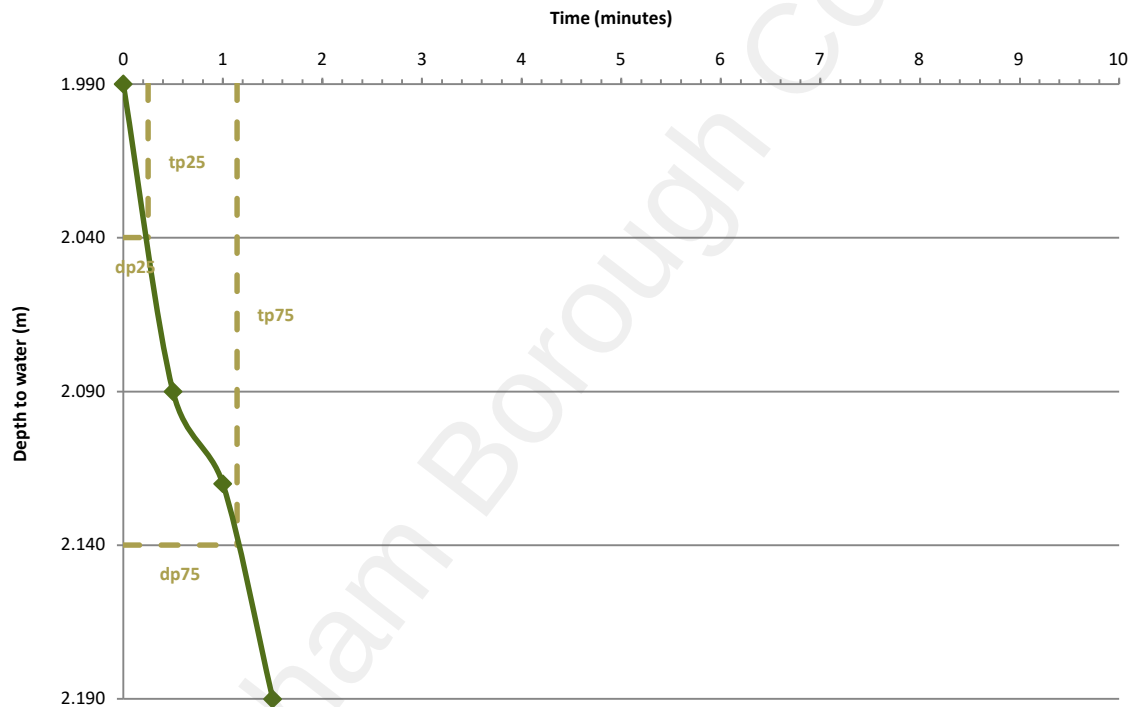
$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

V_{p75-25}		
Effective storage volume of water between 75% (dp75) and 25% (dp25) effective depth	0.11475	m ³
a_{p50}		
Internal surface area up to 50% effective depth and including the base	1	m ²
t_{p75-25}		
Time for the water level to fall from 75% to 25% effective depth	119	s
f		
Soil infiltration rate	6.69E-04	m/s

Soil infiltration test (following BRE Digest 365 2016)

Location	Cycle	Test date	Dimensions (m)
TP04	4	15/07/2022	1.70m x 0.50m

Depth at start of test (m)	Groundwater observations (at time of excavation)
1.99	No groundwater encountered.



$$f = \frac{V_{p75 - 25}}{a_{p50} \times t_{p75 - 25}}$$

$V_{p75 - 25}$		
Effective storage volume of water between 75% (dp75) and 25% (dp25) effective depth	0.085	m ³
a_{p50}		
Internal surface area up to 50% effective depth and including the base	1	m ²
$t_{p75 - 25}$		
Time for the water level to fall from 75% to 25% effective depth	54	s
f		
Soil infiltration rate	1.23E-03	m/s

Appendix D Geotechnical Laboratory Test Results



SUMMARY REPORT

METHOD FOR SATURATION MOISTURE CONTENT OF CHALK

Tested in Accordance with: BS 1377-2: 1990: Clause 3.3

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



Environmental Science

4041

Client: Soiltechnics Limited
Client Address: Cedar Barn, White Lodge,
Walgrave, Northampton,
NN6 9PY
Contact: Lauren Wenham
Site Address: Goldsmith Mews Houses Gravesham

Client Reference: STU5768
Job Number: 22-72469
Date Sampled: 15/07/2022
Date Received: 20/07/2022
Date Tested: 27/07 - 09/08/2022
Sampled By: Not Given

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	SMC	Bulk density	Dry density	MC	Preparation
		Reference	Depth Top	Depth Base	Type							
			m	m				%	Mg/m3	Mg/m3	%	
2356835	TP03A	TP031.902	1.90	2.00	D	White CHALK	Supplied lump of chalk fails to comply with volume requirements as per BS1377:2 Clause 3.3.5.1	28	1.95	1.53	27	
2358658	TP03B	TP031.902	1.90	2.00	D	White CHALK	Supplied lump of chalk fails to comply with volume requirements as per BS1377:2 Clause 3.3.5.1	29	1.94	1.52	28	
2358659	TP03C	TP031.902	1.90	2.00	D	White CHALK	Supplied lump of chalk fails to comply with volume requirements as per BS1377:2 Clause 3.3.5.1	30	1.91	1.49	28	
2358660	TP03D	TP031.902	1.90	2.00	D	White CHALK	Supplied lump of chalk fails to comply with volume requirements as per BS1377:2 Clause 3.3.5.1	29	1.93	1.51	28	

Note: SMC - Saturation Moisture Content; MC - Moisture Content

Comments:

Signed:

Dudzińska Anna

Anna Dudzińska
PL Deputy Head of Reporting Team
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 relate only to the sample(s) submitted for testing.

Appendix E Geoenvironmental Laboratory Test Results



Lauren Wenham
Soiltechnics Ltd
White Lodge
Cedar Barn
Walgrave
NN6 9PY

Derwentside Environmental Testing Services Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 22-06243

Site Reference: Goldsmith Mews Houses, Gravesham

Project / Job Ref: STU5768

Order No: POR013141

Sample Receipt Date: 22/07/2022

Sample Scheduled Date: 22/07/2022

Report Issue Number: 1

Reporting Date: 28/07/2022

Authorised by:

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

For Topsoil and WAC analysis the expanded uncertainty measurement should be considered while evaluating results against compliance values.



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate						
DETS Report No: 22-06243	Date Sampled	15/07/22	15/07/22			
Soiltechnics Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Goldsmith Mews Houses, Gravesham	TP / BH No	CS010.001	CS020.001			
Project / Job Ref: STU5768	Additional Refs	CS01	CS02			
Order No: POR013141	Depth (m)	0.00	0.00			
Reporting Date: 28/07/2022	DETS Sample No	605906	605907			

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected		
pH	pH Units	N/a	MCERTS	8.6	8.8		
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2		
Complex Cyanide	mg/kg	< 2	NONE	< 2	< 2		
Free Cyanide	mg/kg	< 2	NONE	< 2	< 2		
Organic Matter (SOM)	%	< 0.1	MCERTS	3.7	2.8		
Loss on Ignition @ 450°C	%	< 0.01	MCERTS	4.50	4.60		
Arsenic (As)	mg/kg	< 2	MCERTS	8	8		
Beryllium (Be)	mg/kg	< 0.5	MCERTS	0.7	0.7		
W/S Boron	mg/kg	< 1	NONE	< 1	< 1		
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.2	< 0.2		
Chromium (Cr)	mg/kg	< 2	MCERTS	14	17		
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2		
Copper (Cu)	mg/kg	< 4	MCERTS	27	25		
Lead (Pb)	mg/kg	< 3	MCERTS	51	37		
Mercury (Hg)	mg/kg	< 1	MCERTS	1.1	< 1		
Nickel (Ni)	mg/kg	< 3	MCERTS	14	17		
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3		
Vanadium (V)	mg/kg	< 1	MCERTS	24	28		
Zinc (Zn)	mg/kg	< 3	MCERTS	62	74		
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2		

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 22-06243	Date Sampled	15/07/22	15/07/22			
Soiltechnics Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Goldsmith Mews Houses, Gravesham	TP / BH No	CS010.001	CS020.001			
Project / Job Ref: STU5768	Additional Refs	CS01	CS02			
Order No: POR013141	Depth (m)	0.00	0.00			
Reporting Date: 28/07/2022	DETS Sample No	605906	605907			

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	0.17		
Phenanthrene	mg/kg	< 0.1	MCERTS	0.28	2.45		
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.47		
Fluoranthene	mg/kg	< 0.1	MCERTS	0.76	5.48		
Pyrene	mg/kg	< 0.1	MCERTS	0.67	4.25		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.30	2.43		
Chrysene	mg/kg	< 0.1	MCERTS	0.33	2.20		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.32	2.11		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.13	0.76		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.24	1.62		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.18	0.87		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.22		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.16	0.71		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	3.4	23.7		

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3									
DETS Report No: 22-06243		Date Sampled	15/07/22			Landfill Waste Acceptance Criteria Limits			
Soiltechnics Ltd		Time Sampled	None Supplied						
Site Reference: Goldsmith Mews Houses, Gravesham		TP / BH No	CS010.001						
Project / Job Ref: STU5768		Additional Refs	CS01						
Order No: POR013141		Depth (m)	0.00						
Reporting Date: 28/07/2022		DETS Sample No	605906						
Determinand	Unit	MDL							
TOC ^{MU}	%	< 0.1	2.1				3%	5%	6%
Loss on Ignition	%	< 0.01	4.50				--	--	10%
BTEX ^{MU}	mg/kg	< 0.05	< 0.05				6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1				1	--	--
Mineral Oil ^{MU}	mg/kg	< 10	< 10				500	--	--
Total PAH ^{MU}	mg/kg	< 1.7	3.4				100	--	--
pH ^{MU}	pH Units	N/a	8.6				--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	2.3				--	To be evaluated	To be evaluated
Eluate Analysis		2:1 mg/l	8:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)			
Arsenic ^U		0.02	0.01		< 0.2	0.5	2	25	
Barium ^U		< 0.02	< 0.02		< 0.1	20	100	300	
Cadmium ^U		< 0.0005	< 0.0005		< 0.02	0.04	1	5	
Chromium ^U		0.009	< 0.005		< 0.20	0.5	10	70	
Copper ^U		< 0.01	< 0.01		< 0.5	2	50	100	
Mercury ^U		< 0.0005	< 0.0005		< 0.005	0.01	0.2	2	
Molybdenum ^U		0.036	0.008		0.1	0.5	10	30	
Nickel ^U		< 0.007	< 0.007		< 0.2	0.4	10	40	
Lead ^U		< 0.005	< 0.005		< 0.2	0.5	10	50	
Antimony ^U		< 0.005	< 0.005		< 0.05	0.06	0.7	5	
Selenium ^U		< 0.005	< 0.005		< 0.05	0.1	0.5	7	
Zinc ^U		0.026	< 0.005		< 0.2	4	50	200	
Chloride ^U		3	2		23	800	15000	25000	
Fluoride ^U		< 0.5	< 0.5		< 1	10	150	500	
Sulphate ^U		44	6		103	1000	20000	50000	
TDS		110	56		620	4000	60000	100000	
Phenol Index		< 0.01	< 0.01		< 0.5	1	-	-	
DOC		15.9	17.4		172	500	800	1000	
Leach Test Information									
Sample Mass (kg)		0.20							
Dry Matter (%)		86.9							
Moisture (%)		15							
Stage 1									
Volume Eluate L2 (litres)		0.32							
Filtered Eluate VE1 (litres)		0.19							

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion
 Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation
 M Denotes MCERTS accredited test
 U Denotes ISO17025 accredited test



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate - Sample Descriptions	
DETS Report No: 22-06243	
Soiltechnics Ltd	
Site Reference: Goldsmith Mews Houses, Gravesham	
Project / Job Ref: STU5768	
Order No: POR013141	
Reporting Date: 28/07/2022	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
605906	CS010.001	CS01	0.00	13.1	Brown gravelly sand with stones and concrete
605907	CS020.001	CS02	0.00	18.5	Brown sandy clay with stones and brick

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 22-06243

Soiltechnics Ltd

Site Reference: Goldsmith Mews Houses, Gravesham

Project / Job Ref: STU5768

Order No: POR013141

Reporting Date: 28/07/2022

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 22-06243

Soiltechnics Ltd

Site Reference: Goldsmith Mews Houses, Gravesham

Project / Job Ref: STU5768

Order No: POR013141

Reporting Date: 28/07/2022

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazine followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR dete	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered

Parameter	Matrix Type	Suite Reference	Expanded Uncertainty Measurement	Unit
TOC	Soil	BS EN 12457	20.0	%
Loss on Ignition	Soil	BS EN 12457	35.0	%
BTEX	Soil	BS EN 12457	14.0	%
Sum of PCBs	Soil	BS EN 12457	23.0	%
Mineral Oil	Soil	BS EN 12457	9.0	%
Total PAH	Soil	BS EN 12457	11.6	%
pH	Soil	BS EN 12457	0.28	Units
Acid Neutralisation Capacity	Soil	BS EN 12457	18.0	%
Arsenic	Leachate	BS EN 12457	18.7	%
Barium	Leachate	BS EN 12457	11.6	%
Cadmium	Leachate	BS EN 12457	20.3	%
Chromium	Leachate	BS EN 12457	18.3	%
Copper	Leachate	BS EN 12457	24.3	%
Mercury	Leachate	BS EN 12457	23.7	%
Molybdenum	Leachate	BS EN 12457	14.7	%
Nickel	Leachate	BS EN 12457	16.1	%
Lead	Leachate	BS EN 12457	15.7	%
Antimony	Leachate	BS EN 12457	17.9	%
Selenium	Leachate	BS EN 12457	22.0	%
Zinc	Leachate	BS EN 12457	17.4	%
Chloride	Leachate	BS EN 12457	15.3	%
Fluoride	Leachate	BS EN 12457	16.4	%
Sulphate	Leachate	BS EN 12457	20.6	%
TDS	Leachate	BS EN 12457	12.0	%
Phenol Index	Leachate	BS EN 12457	14.0	%
DOC	Leachate	BS EN 12457	10.0	%
Clay Content	Soil	BS 3882: 2015	15.0	%
Silt Content	Soil	BS 3882: 2015	14.0	%
Sand Content	Soil	BS 3882: 2015	13.0	%
Loss on Ignition	Soil	BS 3882: 2015	35.0	%
pH	Soil	BS 3882: 2015	0.14	Units
Carbonate	Soil	BS 3882: 2015	16.0	%
Total Nitrogen	Soil	BS 3882: 2015	12.0	%
Phosphorus (Extractable)	Soil	BS 3882: 2015	24.0	%
Potassium (Extractable)	Soil	BS 3882: 2015	20.0	%
Magnesium (Extractable)	Soil	BS 3882: 2015	26.0	%
Zinc	Soil	BS 3882: 2015	14.9	%
Copper	Soil	BS 3882: 2015	16.0	%
Nickel	Soil	BS 3882: 2015	17.7	%
Available Sodium	Soil	BS 3882: 2015	23.0	%
Available Calcium	Soil	BS 3882: 2015	23.0	%
Electrical Conductivity	Soil	BS 3882: 2015	10.0	%

Appendix F Contamination Assessment Screening

Acute human health risk (soils)

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

Contaminant	Guideline source	Principal pathway	Guideline value (mg/kg)	Max value (mg/kg)	Location	CS01	CS02
					Depth (m)	0.00	0.00
					Date	15/07/22	15/07/22
Inorganics							
Arsenic	AGAC	Oral	7,000	8		8	8
Cadmium	AGAC	Oral	12,000	0.2		0.2	< 0.2
Cyanide - Free	AGAC	Oral & Inhalation	1,400	<LoD		< 2	< 2
Organics							
Phenol	AGAC	**sat.**	**sat.**	<LoD		< 2	< 2

Chronic human health risk (soils)

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

Contaminant	Guideline source	Guideline value (mg/kg)	Max value (mg/kg)	Location	CS01	CS02
				Depth (m)	0.00	0.00
				Date	15/07/22	15/07/22
Inorganics - Metals						
Arsenic	C4SL	37	8		8	8
Beryllium	S4UL	1.7	0.7		0.7	0.7
Boron	S4UL	290	<LoD		<1	<1
Cadmium	C4SL	22	0.2		0.2	<0.2
Chromium (III)	S4UL	910	17		14	17
Chromium (VI)	C4SL	21	<LoD		<2	<2
Copper	S4UL	2400	27		27	25
Cyanide - Free	ATK	34	<LoD		<2	<2
Lead	C4SL	200	51		51	37
Mercury	S4UL	40	1.1		1.1	<1
Nickel	S4UL	130	17		14	17
Selenium	S4UL	250	<LoD		<3	<3
Vanadium	S4UL	410	28		24	28
Zinc	S4UL	3700	74		62	74
Inorganics - Asbestos						
Asbestos Screen		N/A			Not Detected	Not Detected
Inorganics - Soil Parameters						
Organic matter		N/A			3.7	2.8
Organics - PAH & Phenol						
Acenaphthene	S4UL	210	<LoD		<0.1	<0.1
Acenaphthylene	S4UL	170	<LoD		<0.1	<0.1
Anthracene	S4UL	2400	0.47		<0.1	0.47
Benzo(a)anthracene	S4UL	7.2	2.43		0.3	2.43
Benzo(a)pyrene	C4SL	5	1.62		0.24	1.62
Benzo(b)fluoranthene	S4UL	2.6	2.11		0.32	2.11
Benzo(ghi)perylene	S4UL	320	0.71		0.16	0.71
Benzo(k)fluoranthene	S4UL	77	0.76		0.13	0.76
Chrysene	S4UL	15	2.2		0.33	2.2
Dibenz(a,h)anthracene	S4UL	0.24	0.22		<0.1	0.22
Fluoranthene	S4UL	280	5.48		0.76	5.48
Fluorene	S4UL	170	0.17		<0.1	0.17
Indeno(1,2,3-cd)pyrene	S4UL	27	0.87		0.18	0.87
Naphthalene	S4UL	2.3	<LoD		<0.1	<0.1
Phenanthrene	S4UL	95	2.45		0.28	2.45
Phenol	S4UL	120	<LoD		<2	<2
Pyrene	S4UL	620	4.25		0.67	4.25

Chronic human health risk (soils)

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

Contaminant	Guideline source	Guideline value	Max value	Location	CS01	CS02
				Depth (m)	0.00	0.00

Chronic human health risk (soils)

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

Contaminant	Guideline source	Guideline value	Max value	Location	CS01	CS02
				Depth (m)	0.00	0.00

Phytotoxicity

Scenario	
Land use	Grassed lawns

Contaminant	Guideline source	Guideline value (mg/kg)	Max value (mg/kg)	Location	CS01	CS02
				Depth (m)	0.00	0.00
				Date	15/07/22	15/07/22
Soil parameters						
pH	BSI-u	8.5	8.8		8.6	8.8
pH	BSI-l	5.5	8.6		8.6	8.8
Potentially toxic element						
Arsenic	SSIA	50			8	8
Cadmium	SSIA	3	0.2		0.2	< 0.2
Chromium (III)	SSIA	600	17		14	17
Lead	SSIA	300	51		51	37
Mercury	SSIA	1.5	1.1		1.1	< 1
Selenium	SSIA	5	<LoD		< 3	< 3
Potentially toxic element (pH >7.0)						
Copper	SSIA	330	27		27	25
Nickel	SSIA	180	17		14	17
Zinc	SSIA	300	74		62	74

Appendix G Waste Characterisation Analysis

Waste Classification Assessment Summary

Waste population	Made Ground
Hazard assessment	Non-hazardous waste
List of waste code	17-05-04
List of waste description	Soil and stones other than those mentioned in 17-05-03

Hazard property	Assessment
HP1 - Explosive	Not hazardous by HP1
HP2 - Oxidising	Not hazardous by HP2
HP3 - Flammable	Not hazardous by HP3
HP4 - Irritant	Not hazardous by HP4
HP5 - STOT & aspiration toxicity	Not hazardous by HP5
HP6 - Acute toxicity	Not hazardous by HP6
HP7 - Carcinogenic	Not hazardous by HP7
HP8 - Corrosive	Not hazardous by HP8
HP9 - Infectious	Not hazardous by HP9
HP10 - Toxic for reproduction	Not hazardous by HP10
HP11 - Mutagenic	Not hazardous by HP11
HP12 - Release of an acute toxic gas	Not hazardous by HP12
HP13 - Sensitising	Not hazardous by HP13
HP14 - Ecotoxic	Not hazardous by HP14

Waste classification

Overall assessment						Asbestos assessment			Flammability assessment			Hydrocarbon assessment				pH assessment			Oxidising assessment			Ecotoxic assessment																			
Waste population		Made Ground				Query		Value		Assessment		Comment		Assessment		Query		Assessment		Query		Value		Assessment		Comment		Assessment		Equation		Sum		Criteria		Assessment					
Hazard assessment		Non-hazardous waste				Are bulk ACMs visually identifiable?		No		Non-hazardous		The waste is not considered flammable as it is a solid waste without a free draining liquid phase, and the TPH concentration and composition is not considered to present a likely flammable hazard.		Non-hazardous		Has testing been done to characterise the material?		Untested		Are all substances present in the waste known?		No		See pH assessment below		Cr (VI) is the only compound with an oxidising hazard statement (H271). On review, the concentration is considered too low to present a viable oxidising hazard in a waste soil.		Non-hazardous		WM3 Eq. 2		0.00%		25%		Non-hazardous					
List of Waste code		17-05-04				Have free fibres been detected?		No		Non-hazardous						B(a)P : TPH ratio (%)		Not appropriate		pH - Min		8.60		Non-hazardous						pH - Max		8.80		Non-hazardous		WM3 Eq. 3		0.00%		25%	
List of waste description		Soil and stones other than those mentioned in 17-05-03				What is the free fibre concentration (%)?		N/A		Non-hazardous		B(a)P marker assessment		Not appropriate		Qualitative TPH assessment		No evidence of hydrocarbon contamination. Assumed non-hazardous																				WM3 Eq. 4		0.00%	
Is the statistical approach non-parametric method B utilised?		No																																							
Moisture content correction factor		15%																																							

Compound hazard assessments

Hazard Property Description																										Substance specific concentration limits																						
Hazard Property						Irritant			Specific Target Organ Toxicity / Aspiration Toxicity				Acute Toxicity								Carcinogenic		Corrosive		Toxic for reproduction		Mutagenic		Sensitising		Ecotoxic						STOT						Carc.		Repr.			
Hazard Statement						H314	H315 and/or H319		H318		H304	H335	H372	H373	H300	H301	H302	H310	H311	H312	H330	H330	H331	H332	H350	H351	H314	H360	H361	H340	H401	H411	H413	H335 (C+D3)	H372 (Cd)	H373 (Cd)	H373 (Pb&Cd4)	H350 (BaP) (Du,h)	H361 (Pb&Cd4)									
Contaminant	Max. concentration (mg/kg)	Realistic worst case compound	Mass conversion factor	N/A	Hazard Class / Compound concentration (%)	Skin Corr.1A	Skin Irrit.2	Eye Irrit.2	Asp.Tox.1	STOT SE.3	STOT RE.1	STOT RE.2	Acute Tox.2 (Oral)	Acute Tox.3 (Oral)	Acute Tox.4 (Oral)	Acute Tox.1 (Dermal)	Acute Tox.3 (Dermal)	Acute Tox.4 (Dermal)	Acute Tox.1 (Inhal.)	Acute Tox.2 (Inhal)	Acute Tox.3 (Inhal)	Acute Tox.4 (Inhal)	Carc.1A Carc.1B	Carc.2	Skin Corr.1A Skin Corr.1B	Repr.1A Repr.1B	Repr.2	Muta.1A Muta.1B	Muta. 2.	Skin Sensit.1	Resp. Sens. 1	Aquatic Acute.1	Aquatic Chronic.1	Aquatic Chronic.2	Aquatic Chronic.4	STOT SE.3	STOT RE.1	STOT RE.2	STOT RE.2	Carc.1B	Repr.2							
Cyanide - Total	2.0	Salts of hydrogen cyanide, using sodium cyanide	1.88		N/A	0.000							0.000			0.000			0.000												0.000		0.000															
Arsenic	8.0	Nickel diarsenide	1.78	Y	0.001					0.001													0.001								0.001		0.001		0.001													
Arsenic (secondary)	8.0	Arsenic trioxide	1.32	Y	0.001	0.001							0.001												0.001																							
Beryllium	0.7	Beryllium oxide	2.78	Y	0.000		0.000			0.000		0.000		0.000					0.000		0.000				0.000						0.000					0.000												
Cadmium	0.2	Cadmium sulfide	1.29	Y	0.000													0.000						0.000				0.000								0.000												
Cadmium (secondary)	0.2	Cadmium oxide	1.14	Y	0.000														0.000		0.000													0.000		0.000												
Chromium (III)	17.0	Chromium (III) oxide	1.46	Y	0.002		0.002						0.002														0.002						0.002															
Chromium (VI)	2.0	Chromium (VI) trioxide	1.92	N/A	0.000	0.000				See specific assessment	0.000							0.000		0.000				0.000		0.000			0.000	0.000			0.000		0.000								0.000					
Copper	27.0	Copper (I) oxide	1.25	Y	0.003																													0.003		0.003												
Copper (secondary)	27.0	Copper(II) oxide	1.13	Y	0.003			0.003														0.003																										
Lead	51.0	Lead compounds, using lead sulphate	1.46	Y	0.006													0.006					0.006		0.006		0.006		See specific assessment				0.006		0.006					0.006		0.006						
Mercury	1.1	Mercury dichloride	1.35	Y	0.000	0.000				0.000			0.000											0.000				0.000															0.006	0.006				
Nickel	17.0	Nickel carbonate	2.02	Y	0.003		0.003				0.003												0.003																									
Selenium	3.0	Selenium compounds, using selenium dioxide	1.41	Y	0.000							0.000		0.000							0.000																											
Zinc	74.0	Zinc sulphide	1.49	Y	0.009		0.009																									0.009		0.009														
Vanadium	28.0	Vanadium pentoxide	1.79	Y	0.004					0.004	0.004																		0.004		0.004					0.004												
Naphthalene	0.1	Naphthalene	1	N/A	0.000																			0.000											0.000		0.000											
Acenaphthylene	0.1	Acenaphthylene	1	N/A	0.000		0.000				0.000							0.000		0.000																												
Acenaphthene	0.1	Acenaphthene	1	N/A	0.000		0.000																													0.000		0.000										
Fluorene	0.2	Fluorene	1	N/A	0.000		0.000																														0.000		0.000									
Phenanthrene	2.5	Phenanthrene	1	N/A	0.000																																	0.000		0.000								
Anthracene	0.5	Anthracene	1	N/A	0.000		0.000																														0.000		0.000									
Fluoranthene	5.5	Fluoranthene	1	N/A	0.001		0.001																															0.001		0.001								
Pyrene	4.3	Pyrene	1	N/A	0.000		0.000																															0.000		0.000								
Benzo(a)anthracene	2.4	Benzo(a)anthracene	1	N/A	0.000																			0.000																								
Chrysene	2.2	Chrysene	1	N/A	0.000																			0.000						0.000							0.000		0.000									
Benzo(b)fluoranthene	2.1	Benzo(b)fluoranthene	1	N/A	0.000																			0.000														0.000		0.000								
Benzo(k)fluoranthene	0.8	Benzo(k)fluoranthene	1	N/A	0.000																																		0.000		0.000							
Benzo(a)pyrene	1.6	Benzo(a)pyrene	1	N/A	0.000																			See specific assessment				0.000			0.000									0.000		0.000						
Indeno(1,2,3-cd)pyrene	0.9	Indeno(1,2,3-cd)pyrene	1	N/A	0.000																			0.000																								
Dibenzo(a,h)anthracene	0.2	Dibenzo(a,h)anthracene	1	N/A	0.000																			See specific assessment																						0.000		
Benzo(ghi)perylene	0.7	Benzo(ghi)perylene	1	N/A	0.000																																			0.000		0.000						
Total TPH		Untested		#N/A	N/A																																											
Benzene		Benzene	1	N/A																																												
Toluene		Toluene	1	N/A																																												
Ethylbenzene		Ethylbenzene	1	N/A																																												
Xylenes		Xylenes	1	N/A																																												
Note:																																																
					Cut-off value (%)	1%	1%	1%	N/A	N/A	N/A	N/A	0.1%	0.1%	1%	0.1%	0.1%	1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.1%	0.1%	1%	1%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
					Total (or greatest)	0.00%	0.00%	0.00%	0.00%	(0%)	(0%)	(0%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	(0%)	(0.01%)	0.00%	0.00%	(0.01%)	(0%)	(0%)	(0%)	(0.01%)	(0.01%)	0.00%	0.00%	0.00%	0.00%	(0%)	(0%)	(0%)	(0.01%)	(0%)	(0.01%)	(0.01%)	(0.01%)	(0.01%)			
					Hazard threshold	1%	20%	10%	20%	10%																																						

Waste acceptance

Parameter	Inert waste landfill	Stable non-reactive hazardous waste in a non-hazardous landfill cell (SNRHW)	Hazardous waste landfill	Location	CS01	
				Depth (m)	0.00	
				Date	15/07/22	
Parameters determined on the waste						
Total organic carbon	3	5	6		2.1	
Loss on ignition			10		4.5	
BTEX	6				< 0.05	
PCBs (7 congeners)	1				< 0.1	
Mineral oil	500				< 10	
PAH (17 congeners)	100				3.4	
pH		6			8.6	
Acid neutralisation capacity (pH 6)		To be evaluated	To be evaluated			
Acid neutralisation capacity (pH 4)		To be evaluated	To be evaluated			
Limit values (mg kg ⁻¹) for compliance test using BN 12457-3 at L/S 10 l						
Arsenic	0.5	2	25		< 0.2	
Barium	20	100	300		< 0.1	
Cadmium	0.04	1	5		< 0.02	
Chromium (III)	0.5	10	70		< 0.20	
Copper	2	50	100		< 0.5	
Mercury	0.01	0.2	2		< 0.005	
Molybdenum	0.5	10	30		0.1	
Nickel	0.4	10	40		< 0.2	
Lead	0.5	10	50		< 0.2	
Antimony	0.06	0.7	5		< 0.05	
Selenium	0.1	0.5	7		< 0.05	
Zinc	4	50	200		< 0.2	
Chloride	800	15,000	25,000		23	
Fluoride	10	150	500		< 1	
Sulphate	1,000	20,000	50,000		103	
Total dissolved solids	4,000	60,000	100,000		620	
Phenol	1				< 0.5	
Dissolved organic carbon	500	800	1000		172	
Classifications						
Waste classification						Non-hazardous
Landfill type						Inert

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

Appendix H Envirocheck Report

Gravesham Borough Council

Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

299065487_1_1

Customer Reference:

STT5362

National Grid Reference:

566930, 173010

Slice:

A

Site Area (Ha):

0.06

Search Buffer (m):

1000

Site Details:

Lower Higham Road, Gravesend

Client Details:

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

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	20
Hazardous Substances	-
Geological	22
Industrial Land Use	26
Sensitive Land Use	37
Data Currency	38
Data Suppliers	45
Useful Contacts	46

Introduction

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

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Report Version v53.0

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		4	5	1
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control	pg 4				1
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	3
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 5				1
Water Abstractions	pg 5				1 (*23)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 11	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk	pg 11	2	n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 11	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones	pg 11				2
Extreme Flooding from Rivers or Sea without Defences	pg 12		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences	pg 12		Yes	n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 12			11	55

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 20				4
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 20	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 20			1	2
Potentially Infilled Land (Water)	pg 21			1	
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 22	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 22	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 24				1
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 24	Yes		n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 24	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 24		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 24	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 24	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 24	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards				n/a	n/a
Radon Potential - Radon Affected Areas	pg 25	Yes	n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 26		8	26	32
Fuel Station Entries	pg 31			1	
Points of Interest - Commercial Services	pg 31			16	7
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 33			2	12
Points of Interest - Public Infrastructure	pg 35			4	8
Points of Interest - Recreational and Environmental	pg 36			1	5
Gas Pipelines					
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt	pg 37			1	
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas	pg 37		1		1
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 37		2		
Ramsar Sites	pg 37			1	
Sites of Special Scientific Interest	pg 37			1	
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (S)	0	1	566935 173015
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (N)	167	1	566900 173200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	263	1	567100 173250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	266	1	566900 173300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	268	1	567000 173300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	283	1	567050 173300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (E)	305	1	567250 173000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	313	1	566950 173350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (E)	373	1	567300 173150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (NE)	391	1	567300 173200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (E)	411	1	567350 173100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (E)	421	1	567350 173150
1	Discharge Consents Operator: Retirement Care Group Property Type: Undefined Or Other Location: Mullender Court, Chalk Road, Chalk, Gravesend Kent Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P00945 Permit Version: 1 Effective Date: 31st March 1987 Issued Date: 31st March 1987 Revocation Date: 30th January 1995 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Land/Soakaway Receiving Water: Into Land Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m	A13NE (E)	206	2	567150 173040
1	Discharge Consents Operator: Retirement Care Group Property Type: Undefined Or Other Location: Mullender Court, Chalk Road, Chalk, Gravesend Kent Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P00945 Permit Version: 1 Effective Date: 31st March 1987 Issued Date: 31st March 1987 Revocation Date: 30th January 1995 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Land/Soakaway Receiving Water: Into Land Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m	A13NE (E)	226	2	567170 173050

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	Discharge Consents Operator: Retirement Care Group Property Type: Undefined Or Other Location: Mullender Court, Chalk Road, Chalk, Gravesend Kent Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P00945 Permit Version: 1 Effective Date: 31st March 1987 Issued Date: 31st March 1987 Revocation Date: 30th January 1995 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Land/Soakaway Environment: Receiving Water: Into Land Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m	A13NE (E)	237	2	567180 173060
1	Discharge Consents Operator: Retirement Care Group Property Type: Undefined Or Other Location: Mullender Court, Chalk Road, Chalk, Gravesend Kent Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P00945 Permit Version: 1 Effective Date: 31st March 1987 Issued Date: 31st March 1987 Revocation Date: 30th January 1995 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Land/Soakaway Environment: Receiving Water: Into Land Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m	A13NE (E)	246	2	567190 173050
2	Discharge Consents Operator: Shell UK Ltd Property Type: Not Given Location: Land At City Self Serve Chalk, Rochester Road, Chalk, GRAVESEND, Kent, Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: P.4619/K/T/92 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 15th February 1993 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Land/Soakaway Environment: Receiving Water: Not Supplied Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13NW (W)	314	2	566610 173065
3	Discharge Consents Operator: Euro Garages Limited Property Type: SHOP INCL GARDEN CENTRE/RETAIL TRADE(NOT MOTOR VEHICLE) Location: Land At City Self Serve Chalk, Rochester Road, Chalk, Gravesend, Kent Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P04619 Permit Version: 2 Effective Date: 20th December 2012 Issued Date: 20th December 2012 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Land/Soakaway Environment: Receiving Water: Into Land Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A12NE (W)	366	2	566560 173080

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	Discharge Consents Operator: Shell Uk Ltd Property Type: SHOP INCL GARDEN CENTRE/RETAIL TRADE(NOT MOTOR VEHICLE) Location: Land At City Self Serve Chalk, Rochester Road, Chalk, Gravesend, Kent Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: P04619 Permit Version: 1 Effective Date: 15th February 1993 Issued Date: 15th February 1993 Revocation Date: 19th December 2012 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Land/Soakaway Environment: Receiving Water: Into Land Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 10m	A12NE (W)	366	2	566560 173080
3	Discharge Consents Operator: Euro Garages Limited Property Type: SHOP INCL GARDEN CENTRE/RETAIL TRADE(NOT MOTOR VEHICLE) Location: Land At City Self Serve Chalk, Rochester Road, Chalk, Gravesend, Kent Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P04619 Permit Version: 2 Effective Date: 20th December 2012 Issued Date: 20th December 2012 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Land/Soakaway Environment: Receiving Water: Into Land Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A12NE (W)	368	2	566560 173090
3	Discharge Consents Operator: Shell Uk Ltd Property Type: SHOP INCL GARDEN CENTRE/RETAIL TRADE(NOT MOTOR VEHICLE) Location: Land At City Self Serve Chalk, Rochester Road, Chalk, Gravesend, Kent Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: P04619 Permit Version: 1 Effective Date: 15th February 1993 Issued Date: 15th February 1993 Revocation Date: 19th December 2012 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Land/Soakaway Environment: Receiving Water: Into Land Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 10m	A12NE (W)	368	2	566560 173090
4	Discharge Consents Operator: Central Electricity Gen. Board Property Type: SUB-STATION/ELECTRICITY/GAS/AIR CONDITIONING SUPPLY Location: Cable Tunnel At Denton, Gravesend, Kent Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: K02109 Permit Version: 1 Effective Date: 14th November 1967 Issued Date: 14th November 1967 Revocation Date: 1st July 1991 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 10m	A17NE (NW)	973	2	566420 173860

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	Integrated Pollution Prevention And Control Name: Southern Water Services Limited Location: Gravesend Wastewater Treatment Works, Gravesend Wastewater Treatment Works, Dering Way,,, Gravesend, Kent, DA12 2QF Authority: Environment Agency - South East Region, Kent & South London Area Permit Reference: QP3337QC Original Permit Ref: Qp3337qc Effective Date: 22nd May 2019 Status: Effective Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 25A (a) Activity Description: New Medium Combustion Plant Primary Activity: Y	A18NW (N)	925	2	566625 173907
6	Local Authority Pollution Prevention and Controls Name: Shell Chalk Service Station Location: Rochester Road, Chalk, GRAVESEND, Kent, DA12 4TN Authority: Gravesham Borough Council, Environmental Health Department Permit Reference: PP1/98/040 Dated: 30th December 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station Status: Authorised Positional Accuracy: Automatically positioned to the address	A12NE (W)	340	3	566584 173067
	Nearest Surface Water Feature	A13NE (NE)	257	-	567138 173207
7	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Sewage Treatment Works Location: Gravesham Stw Authority: Environment Agency, Southern Region Pollutant: Sewage - Treated Effluent Note: Stream Through Denton Stw Very Poor Incident Date: 4th June 1992 Incident Reference: 92T255 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Water Company STW Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	251	2	566690 172900
8	Pollution Incidents to Controlled Waters Property Type: Transport, Storage, Communications Location: 50 Roehampton Close, GRAVESEND Authority: Environment Agency, Southern Region Pollutant: Organic Chemicals : Mixed / Unidentified / Waste Mineral & Synthetic Oils Note: Not Supplied Incident Date: 7th July 1999 Incident Reference: 3237 Catchment Area: Medway Estuary Receiving Water: Estuary Cause of Incident: Unauthorised Activity : Unconsented Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	858	2	566250 173550
9	Pollution Incidents to Controlled Waters Property Type: Aggregate (Sand/Gravel) Location: Gravesend Water Treatment Works Authority: Environment Agency, Southern Region Pollutant: Sewage Sludge Note: Sludge Lost From Digister To Drainage Ditch Incident Date: 3rd August 1998 Incident Reference: 197260 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leaking Tank Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NW (N)	895	2	566700 173900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	Pollution Incidents to Controlled Waters Property Type: Mixed Agricultural Location: Land Adjacent To , Gravesend Sewage Treatment Works, GRAVESEND Authority: Environment Agency, Southern Region Pollutant: Oils - Unknown Note: Possible Contaminated Land Incident Date: 16th December 1997 Incident Reference: 197043 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	901	2	566550 173850
11	Substantiated Pollution Incident Register Authority: Environment Agency - South East Region, Kent & South London Area Incident Date: 7th May 2004 Incident Reference: 234990 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Contaminated Water: Other Contaminated Water Pollutant: Crude Sewage	A17NE (NW)	894	2	566513 173823
12	Water Abstractions Operator: Southern Water Services Ltd Licence Number: 9/40/01/0508/G Permit Version: 100 Location: Point 1, Borehole At Gravesend Sewage Works In Kent. Authority: Environment Agency, Southern Region Abstraction: Other Industrial/Commercial/Public Services: General Washing/Process Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Boldly Outlined On Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 27th November 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18NW (N)	1000	2	566670 174000
	Water Abstractions Operator: J Clubb Ltd Licence Number: 9/40/01/0498/G Permit Version: 100 Location: Point A, S Drift, Underground Gravel Strata (Thames Ballast) Authority: Environment Agency, Southern Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Shown Coloured Blue On Licence Map. Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A23SE (N)	1083	2	566960 174120
	Water Abstractions Operator: J Clubb Ltd Licence Number: 9/40/01/0498/G Permit Version: 101 Location: Point A, S Drift, Underground Gravel Strata (Thames Ballast) Authority: Environment Agency, Southern Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Formal Variation Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 26th May 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A23SW (N)	1115	2	566925 174152

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: J Clubb Ltd Licence Number: 9/40/01/0498/G Permit Version: 101 Location: Borehole B, Underground Strata River Terrace Gravels Authority: Environment Agency, Southern Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Formal Variation Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 26th May 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A23SW (N)	1115	2	566929 174152
	Water Abstractions Operator: J Clubb Ltd Licence Number: 9/40/01/0498/G Permit Version: 100 Location: Point A, S Drift, Underground Gravel Strata (Thames Ballast) Authority: Environment Agency, Southern Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Shown Coloured Blue On Licence Map. Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A23SW (N)	1115	2	566925 174152
	Water Abstractions Operator: Gravesham Borough Council Licence Number: So/040/0001/001/R01 Permit Version: 1 Location: Denton New Cut-Canal Restoration Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: General Use (Very Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Thames & Medway Canal Restoration Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2015 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A24SW (NE)	1163	2	567468 174076
	Water Abstractions Operator: Gravesham Borough Council Licence Number: So/040/0001/001 Permit Version: 1 Location: Denton New Cut-Canal Restoration Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: General Use (Very Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Thames & Medway Canal Restoration Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 18th December 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A24SW (NE)	1163	2	567468 174076

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150/R01 Permit Version: 1 Location: Point A, Denton New Cut At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: 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 April Authorised End: 31 May Permit Start Date: 1st April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A20NW (NE)	1520	2	568194 173902
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150 Permit Version: 3 Location: Point A, Denton New Cut At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: 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 April Authorised End: 31 May Permit Start Date: 19th September 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A20NW (NE)	1520	2	568194 173902
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150 Permit Version: 3 Location: Point A, Denton New Cut At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: 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 November Authorised End: 31 March Permit Start Date: 19th September 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A20NW (NE)	1520	2	568194 173902
	Water Abstractions Operator: Shaws Laundries Limited Licence Number: 1/141 Permit Version: Not Supplied Location: Whitehill Road, GRAVESEND Authority: Environment Agency, Southern Region Abstraction: Industrial Processing (Miscellaneous) Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 210 Yearly Rate (m3): 33500 Details: Additional Purpose: Industrial Other 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	A6NW (W)	1627	2	565400 172420

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150/R01 Permit Version: 2 Location: Area 1, Ditches At Shorne Marshes Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from any point within an area Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 May Permit Start Date: 11th October 2018 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NW (NE)	1714	2	568022 174370
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150/R01 Permit Version: 2 Location: Area 1, Ditches At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from any point within an area 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: 11th October 2018 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NW (NE)	1714	2	568022 174370
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150/R01 Permit Version: 1 Location: Area 1, Ditches At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from any point within an area 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	A25NW (NE)	1714	2	568022 174370
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150/R01 Permit Version: 1 Location: Area 1, Ditches At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from any point within an area Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 May Permit Start Date: 1st April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NW (NE)	1714	2	568022 174370

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150 Permit Version: 3 Location: Area 1, Ditches At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from any point within an area 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: 19th September 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NW (NE)	1714	2	568022 174370
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150 Permit Version: 3 Location: Area 1, Ditches At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from any point within an area Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 May Permit Start Date: 19th September 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NW (NE)	1714	2	568022 174370
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150 Permit Version: 2 Location: Area 1, Ditches At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from any point within an area Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Boldly Outlined On Licence Map Authorised Start: 01 April Authorised End: 31 May Permit Start Date: 1st May 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NW (NE)	1744	2	568070 174370
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150 Permit Version: 2 Location: Area 1, Ditches At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from any point within an area Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Boldly Outlined On Licence Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 1st May 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NW (NE)	1744	2	568070 174370

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Mr Cj Glover Licence Number: 01/150 Permit Version: 1 Location: Area 1, Ditches At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from any point within an area Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Boldly Outlined On Licence Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 18th October 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NW (NE)	1744	2	568070 174370
	Water Abstractions Operator: Mr Cj Glover Licence Number: 01/150 Permit Version: 1 Location: Area 1, Ditches At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from any point within an area Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Boldly Outlined On Licence Map Authorised Start: 01 April Authorised End: 31 May Permit Start Date: 18th October 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NW (NE)	1744	2	568070 174370
	Water Abstractions Operator: Southern Water Services Ltd Licence Number: 9/40/01/0511/G Permit Version: 100 Location: Boreholes, Adits And Catchpits At Windmill Hill Ps Authority: Environment Agency, Southern Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from any point within an area Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: N/A Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 27th November 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1877	2	565060 173270
	Water Abstractions Operator: Southern Water Services Ltd Licence Number: 1/0511/A/G Permit Version: Not Supplied Location: Windmill Hill Pumping Station Authority: Environment Agency, Southern Region Abstraction: Sand And Gravel Washing Abstraction Type: Not Supplied Source: Pond or Lake Daily Rate (m3): 7000 Yearly Rate (m3): 2562000 Details: Additional Purpose: Public Water Supply 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)	1922	2	565006 173196

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Southern Water Services Ltd Licence Number: 01/026 Permit Version: Not Supplied Location: Windmill Hill Ps, GRAVESEND Authority: Environment Agency, Southern Region Abstraction: Public Water Supply Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 7000 Yearly Rate (m3): 2562000 Details: H5 Chalk; Licence Status: Revoked; Lapsed Or Cancelled 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)	1928	2	565001 173201
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: <300 mm/year Baseflow Index: >70% Superficial Patchiness: <90% Superficial Thickness: 3-10m Superficial Recharge: Low	A13SE (S)	0	4	566935 173015
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: <300 mm/year Baseflow Index: >70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A13SE (S)	0	4	566935 173000
	Groundwater Vulnerability - Soluble Rock Risk Classification: Very Significant Risk - High Possibility	A13SE (S)	0	4	566935 173000
	Groundwater Vulnerability - Soluble Rock Risk Classification: Very Significant Risk - High Possibility	A13SE (S)	0	4	566935 173015
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SE (S)	0	4	566935 173015
	Superficial Aquifer Designations No Data Available				
13	Source Protection Zones Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source.	A7NW (SW)	927	2	566123 172524
14	Source Protection Zones Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone II (Outer Protection Zone): Either 25% of the source area or a 400 day travel time whichever is greater.	A7NW (SW)	927	2	566124 172522

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	A13NE (NE)	246	2	567046 173262
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences Type: Area Benefiting from Flood Defences Boundary Accuracy: As Supplied	A13NE (NE)	246	2	567046 173262
	Flood Water Storage Areas None				
	Flood Defences None				
15	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 105.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 1	A13NE (NE)	258	5	567138 173207
16	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 32.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A13NE (NE)	358	5	567170 173316
17	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 198.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 1	A18SE (N)	372	5	567080 173383
18	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 128.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18SE (N)	383	5	566994 173417
19	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 44.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 1	A18SE (N)	383	5	566994 173417
20	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 450.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 1	A13NE (NE)	385	5	567175 173345
21	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 36.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 1	A18SW (N)	389	5	566917 173426

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 34.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 1	A18SW (N)	389	5	566920 173426
23	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 33.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 1	A18SW (N)	393	5	566880 173426
24	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 22.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 1	A18SW (N)	399	5	566847 173426
25	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 75.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 1	A18SW (N)	474	5	566917 173511
26	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 526.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18SE (NE)	508	5	567225 173460
27	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 439.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A14NW (NE)	519	5	567425 173234
28	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18SW (N)	563	5	566716 173554
29	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 64.4 Watercourse Level: On ground surface Permanent: False Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18SW (N)	576	5	566903 173612
30	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 74.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18SW (N)	595	5	566735 173596

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
31	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 114.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18SW (N)	624	5	566820 173650
32	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 41.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18SE (N)	625	5	567058 173652
33	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: Medway Primacy: 2	A18SE (N)	629	5	567004 173664
34	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 237.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18SE (N)	629	5	567014 173663
35	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18SE (N)	629	5	567014 173663
36	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 315.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A19SW (NE)	639	5	567411 173473
37	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 35.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18SW (N)	640	5	566894 173676
38	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 80.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18SW (N)	647	5	566858 173680
39	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 120.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18SW (N)	652	5	566761 173665

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
40	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 102.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A17SE (NW)	747	5	566558 173679
41	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18NW (NW)	754	5	566620 173721
42	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 48.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18NW (NW)	755	5	566617 173720
43	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 117.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18NW (NW)	758	5	566631 173729
44	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 61.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 1	A14SE (E)	763	5	567669 172758
45	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 126.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 1	A19NW (NE)	777	5	567274 173741
46	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 105.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A19NW (NE)	777	5	567274 173741
47	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 59.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18NW (N)	787	5	566743 173799
48	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 262.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18NW (N)	805	5	566878 173841

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
49	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 531.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A19SE (NE)	810	5	567646 173441
50	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 268.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A19SE (NE)	813	5	567675 173393
51	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 327.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A19NW (NE)	820	5	567379 173733
52	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A19NW (NE)	820	5	567379 173733
53	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 129.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A19SE (NE)	824	5	567662 173442
54	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 255.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A19SE (NE)	824	5	567662 173442
55	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 143.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18NW (N)	831	5	566692 173831
56	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A17NE (NW)	837	5	566479 173736
57	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: Medway Primacy: 2	A17NE (NW)	847	5	566497 173759

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
58	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: Medway Primacy: 2	A18NE (N)	864	5	567070 173892
59	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 333.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18NE (N)	864	5	567070 173892
60	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 146.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A12NW (W)	866	5	566109 173320
61	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: Medway Primacy: 2	A19SE (NE)	885	5	567651 173570
62	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 265.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A19SE (NE)	885	5	567651 173570
63	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A19NW (N)	895	5	567282 173866
64	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 102.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 1	A19NW (NE)	898	5	567292 173865
65	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 18.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A17NE (NW)	902	5	566517 173834
66	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 48.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A17NE (NW)	902	5	566517 173834

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
67	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 36.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A19NW (NE)	902	5	567448 173786
68	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: Medway Primacy: 2	A17NE (NW)	908	5	566499 173831
69	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 89.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A17NE (NW)	911	5	566492 173830
70	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A17NE (NW)	912	5	566560 173867
71	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 121.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A19NW (NE)	918	5	567484 173780
72	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 28.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A17NE (NW)	950	5	566552 173905
73	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 245.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A19NE (NE)	959	5	567645 173693
74	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 107.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A19NE (NE)	959	5	567645 173693
75	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A17NE (NW)	966	5	566520 173908

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
76	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 56.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A17NE (NW)	969	5	566524 173913
77	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 186.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 1	A14NE (E)	976	5	567904 173214
78	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1978.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 1	A14NE (E)	976	5	567904 173214
79	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 615.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 2	A18NE (N)	977	5	567097 174002
80	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Medway Primacy: 1	A19NW (N)	994	5	567308 173962

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
81	Historical Landfill Sites Licence Holder: Gravesham Borough Council Location: Gravesend, Kent Name: The Nest Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHL19325 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert and Household Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 2200/7037 BGS Ref: Not Supplied Other Ref: GR3	A12SE (SW)	513	2	566474 172745
82	Historical Landfill Sites Licence Holder: Gravesham Borough Council Location: Denton, Kent Name: Shamrock Road Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHL19301 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert and Household Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 2200/7028 BGS Ref: Not Supplied Other Ref: GR1	A18SW (N)	569	2	566721 173562
83	Historical Landfill Sites Licence Holder: Not Supplied Location: Gravesend Name: Gregorys Crescent Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHL34042 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Not Supplied Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 2200/7034 BGS Ref: Not Supplied Other Ref: GR16	A7NE (SW)	712	2	566325 172607
84	Historical Landfill Sites Licence Holder: J Clubb Limited Location: Denton, Kent Name: Denton-Comma Oil Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHL19298 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 2200/7030 BGS Ref: Not Supplied Other Ref: GR11	A17NE (NW)	946	2	566546 173897
	Local Authority Landfill Coverage Name: Gravesham Borough Council - Has no landfill data to supply		0	6	566935 173015
	Local Authority Landfill Coverage Name: Kent County Council - Had landfill data but passed it to the relevant environment agency		0	7	566935 173015
85	Potentially Infilled Land (Non-Water) Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1982	A13SW (SW)	326	-	566728 172734

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
86	Potentially Infilled Land (Non-Water) Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1946	A7NE (SW)	596	-	566450 172631
87	Potentially Infilled Land (Non-Water) Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1982	A7NW (W)	905	-	566077 172670
88	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A18SW (NW)	387	-	566777 173388

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: White Chalk Subgroup	A13SE (S)	0	1	566935 173015
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13SE (S)	0	1	566935 173015
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (E)	54	1	567000 173015
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13SE (SE)	122	1	567000 172889
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13SE (SE)	364	1	567241 172786
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A8NE (S)	496	1	566935 172500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 30 - 45 mg/kg	A8NE (S)	501	1	567000 172500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A8NE (S)	511	1	567060 172500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 90 - 120 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A8NE (S)	523	1	567106 172500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A14SW (E)	554	1	567500 173015
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: <15 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A14NE (E)	916	1	567850 173177
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A8SE (S)	959	1	567000 172040
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: <15 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A14NE (E)	987	1	567932 173040

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: <1.8 mg/kg Cadmium: 90 - 120 mg/kg Concentration: <100 mg/kg Lead Concentration: 30 - 45 mg/kg Nickel: <1.8 mg/kg Concentration:	A3NE (S)	999	1	567000 172000
89	BGS Recorded Mineral Sites Site Name: Chalk Chalk Pit Location: Chalk, Gravesend, Kent Source: British Geological Survey, National Geoscience Information Service Reference: 131055 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Cretaceous Geology: White Chalk Subgroup Commodity: Chalk Positional Accuracy: Located by supplier to within 10m	A12SW (W)	909	1	566068 172684
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	566935 173015
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	566935 173015
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	566935 173015
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	238	1	567132 172851
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	566935 173015
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	38	1	566882 173003
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	143	1	566778 172998
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	566935 173015
	Potential for Landslide Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	38	1	566882 173003
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	238	1	567132 172851
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	566935 173015
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	38	1	566882 173003

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	238	1	567132 172851
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	566935 173015
	Radon Potential - Radon Affected Areas Affected Area: The property is in an Intermediate probability radon area (1 to 3% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	566935 173015
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	566935 173015

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
90	Contemporary Trade Directory Entries Name: Solar Air Systems Location: 15, Giles Field, Gravesend, Kent, DA12 2RB Classification: Air Conditioning & Refrigeration Contractors Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (N)	144	-	566960 173181
91	Contemporary Trade Directory Entries Name: C G I'S Ltd Location: 8a, Lower Higham Road, Gravesend, DA12 2NG Classification: Electrical Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A13NW (W)	162	-	566760 173040
92	Contemporary Trade Directory Entries Name: Superior Sealants Ltd Location: 332, Rochester Road, Gravesend, Kent, DA12 4TT Classification: Sealant Compounds & Applications Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	163	-	566902 172835
93	Contemporary Trade Directory Entries Name: 1st For Quality Location: 286, Rochester Road, Gravesend, Kent, DA12 4TZ Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (SW)	186	-	566773 172884
93	Contemporary Trade Directory Entries Name: Scuff Doctor Location: 284, Rochester Road, Gravesend, Kent, DA12 4TZ Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (SW)	187	-	566770 172887
93	Contemporary Trade Directory Entries Name: Scuff Doctor Location: 284, Rochester Road, Gravesend, Kent, DA12 4TZ Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (SW)	187	-	566770 172887
94	Contemporary Trade Directory Entries Name: Daniel Dawkins Location: Rochester Road, Gravesend, Kent, DA12 4TN Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address	A13SW (W)	212	-	566708 172994
95	Contemporary Trade Directory Entries Name: Ladybird Cleaning Services Location: 101, Barr Road, Gravesend, Kent, DA12 4DX Classification: Carpet, Curtain & Upholstery Cleaners Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	241	-	566879 172759
96	Contemporary Trade Directory Entries Name: Allens Autos Mobile Services Location: 90, Barr Road, Gravesend, Kent, DA12 4DZ Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	270	-	566828 172743
96	Contemporary Trade Directory Entries Name: Allens Autos Location: 90, Barr Road, Gravesend, Kent, DA12 4DZ Classification: Car Engine Tuning & Diagnostic Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	270	-	566828 172743
96	Contemporary Trade Directory Entries Name: Allensautos Mobile Services Location: 90, Barr Road, Gravesend, Kent, DA12 4DZ Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	270	-	566828 172743
97	Contemporary Trade Directory Entries Name: Shell Chalk Location: Rochester Road, Gravesend, Kent, DA12 4TN Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13NW (W)	318	-	566604 173056

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
97	Contemporary Trade Directory Entries Name: Chalk Service Station Location: Chalk Service Station, 179, Rochester Road, Gravesend, DA12 4TN Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	331	-	566592 173060
97	Contemporary Trade Directory Entries Name: Shell Location: Chalk Service Station, 179, Rochester Road, Gravesend, DA12 4TN Classification: Petrol Filling Stations Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (W)	331	-	566592 173060
97	Contemporary Trade Directory Entries Name: Fivestart Ltd Location: Rochester Rd, Gravesend, Kent, DA12 4TN Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A12NE (W)	354	-	566567 173040
98	Contemporary Trade Directory Entries Name: Kwik-Fit Location: Lower Higham Rd, Gravesend, Kent, DA12 2LY Classification: Tyre Dealers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A12NE (W)	348	-	566580 173090
98	Contemporary Trade Directory Entries Name: Alan Jolliffe Location: Maltins Enterprise Centre, Lower Higham Road, Gravesend, Kent, DA12 2NQ Classification: Joinery Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	369	-	566567 173123
99	Contemporary Trade Directory Entries Name: Greenfields Location: 55, Bourne Road, Gravesend, Kent, DA12 4EA Classification: Cladding Suppliers & Installers Status: Active Positional Accuracy: Automatically positioned to the address	A8NW (S)	357	-	566809 172657
100	Contemporary Trade Directory Entries Name: M S S Catering Equipment Engineers Location: 182, Lower Higham Road, Gravesend, Kent, DA12 2NN Classification: Catering Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	377	-	567302 173159
101	Contemporary Trade Directory Entries Name: Dgr Procurement Services Ltd Location: 25, Damigos Road, Gravesend, Kent, DA12 2LR Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (NW)	424	-	566748 173415
102	Contemporary Trade Directory Entries Name: E M A T Location: 83, Chalk Road, Gravesend, Kent, DA12 4UT Classification: Mechanical Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SW (E)	428	-	567363 172911
103	Contemporary Trade Directory Entries Name: Lion Hardwares Location: 192, Rochester Road, Gravesend, DA12 4TY Classification: Hardware Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	434	-	566487 173049
104	Contemporary Trade Directory Entries Name: Kwik Fit Plus Location: Rochester Road, Gravesend, DA12 4TN Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (W)	450	-	566492 173153

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
104	Contemporary Trade Directory Entries Name: Amc Pest Control Location: 165, Rochester Road, Gravesend, Kent, DA12 2JE Classification: Pest & Vermin Control Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	473	-	566470 173160
105	Contemporary Trade Directory Entries Name: Meat Express Location: 54, Thong Lane, Gravesend, DA12 4LD Classification: Meat - Wholesale Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NE (S)	457	-	566959 172541
106	Contemporary Trade Directory Entries Name: C & C Cleaning Services Location: 20, Maypole Road, Gravesend, DA12 2LP Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (NW)	457	-	566625 173369
107	Contemporary Trade Directory Entries Name: Waller Garages Ltd Location: Old Drive, Maidstone, Kent Classification: Car Breakers & Dismantlers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12NE (W)	491	-	566438 173107
107	Contemporary Trade Directory Entries Name: J T Reborning Ltd Location: Lion Garage, 301, Old Road East, Gravesend, Kent, DA12 1PW Classification: Engine Rebuilding & Reconditioning Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	495	-	566436 173119
107	Contemporary Trade Directory Entries Name: B & H Motors Location: Lion Garage, 301, Old Road East, Gravesend, Kent, DA12 1PW Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	495	-	566436 173119
107	Contemporary Trade Directory Entries Name: Mc Autos Location: Lion Garage, 301, Old Road East, Gravesend, Kent, DA12 1PW Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	495	-	566436 173119
107	Contemporary Trade Directory Entries Name: Lion Test & Tyre Centre Location: Lion Garage, 301, Old Road East, Gravesend, Kent, DA12 1PW Classification: Mot Testing Centres Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (W)	495	-	566436 173119
107	Contemporary Trade Directory Entries Name: J T Reborning Ltd Location: Lion Garage, 301, Old Road East, Gravesend, Kent, DA12 1PW Classification: Car Engine Tuning & Diagnostic Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12NE (W)	495	-	566436 173119
107	Contemporary Trade Directory Entries Name: Waller Garages Ltd Location: Lion Garage, 301, Old Road East, Gravesend, Kent, DA12 1PW Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (W)	495	-	566436 173119
107	Contemporary Trade Directory Entries Name: Lion Garage Location: LION GARAGE, 301, OLD ROAD EAST, GRAVESEND, DA12 1PW Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (W)	496	-	566435 173119
108	Contemporary Trade Directory Entries Name: The Housework Hub Location: 5, ALLINGTON CLOSE, GRAVESEND, DA12 2LS Classification: Cleaning Services - Domestic Status: Active Positional Accuracy: Automatically positioned to the address	A18SW (NW)	541	-	566656 173498

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
109	Contemporary Trade Directory Entries Name: Flowmotive Location: 33, Ingoldsby Road, Gravesend, Kent, DA12 2LF Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (NW)	544	-	566483 173338
110	Contemporary Trade Directory Entries Name: Crystalclear Cleaners Location: 105, Medhurst Gardens, Gravesend, Kent, DA12 4HG Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NW (SW)	560	-	566630 172518
111	Contemporary Trade Directory Entries Name: J Roberts Electrical Ltd Location: 44, Richmond Drive, Gravesend, Kent, DA12 4DJ Classification: Air Conditioning Equipment & Systems Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (SW)	578	-	566422 172705
112	Contemporary Trade Directory Entries Name: Pressed 4 Time Location: 84, Cruden Road, Gravesend, Kent, DA12 4HR Classification: Ironing & Home Laundry Services Status: Active Positional Accuracy: Automatically positioned to the address	A8SW (S)	680	-	566802 172327
113	Contemporary Trade Directory Entries Name: Pressing Matters-Ironing Service Location: 39, Lapis Close, Gravesend, DA12 4UE Classification: Ironing & Home Laundry Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (E)	682	-	567621 173118
114	Contemporary Trade Directory Entries Name: Custom Card Creations Location: 129, Rochester Road, Gravesend, Kent, DA12 2HU Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (NW)	706	-	566296 173345
114	Contemporary Trade Directory Entries Name: Dickinson Moore Location: Flat Above 129-131 Rochester Road, Gravesend, Kent, DA12 2HU Classification: Carpets & Rugs - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (NW)	706	-	566296 173343
114	Contemporary Trade Directory Entries Name: Waste'A'Wayz Location: 117, Rochester Road, Gravesend, Kent, DA12 2HU Classification: Chemical Recycling & Disposal Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	746	-	566267 173375
115	Contemporary Trade Directory Entries Name: Apple Cleaning Ltd Location: 235, Old Road East, Gravesend, Kent, DA12 1PW Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	717	-	566206 173086
116	Contemporary Trade Directory Entries Name: Merry Motors Location: 14, Sutherland Close, Gravesend, Kent, DA12 4XJ Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (E)	781	-	567719 172895
117	Contemporary Trade Directory Entries Name: 42 Square Location: 24, Gerald Road, Gravesend, DA12 2HT Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address	A17SE (NW)	784	-	566281 173468

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
118	Contemporary Trade Directory Entries Name: G P S E Metals Location: Unit 16 Block D, Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Scrap Metal Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NW (N)	786	-	566631 173760
119	Contemporary Trade Directory Entries Name: About Cleaning Location: 78, Rochester Road, Gravesend, DA12 2HZ Classification: Commercial Cleaning Services Status: Active Positional Accuracy: Automatically positioned to the address	A17SW (NW)	795	-	566206 173363
120	Contemporary Trade Directory Entries Name: Apple M G Location: Unit 1 Block A, Lion Business Park, Dering Way, Gravesend, DA12 2DN Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17NE (NW)	809	-	566585 173765
120	Contemporary Trade Directory Entries Name: New Star Door Controls Ltd Location: Unit 2 Block A, Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Hardware Status: Inactive Positional Accuracy: Automatically positioned to the address	A17NE (NW)	814	-	566577 173766
120	Contemporary Trade Directory Entries Name: Metro Mechanical Services Location: Unit 3 Block A, Lion Business Park, Dering Way, Gravesend, DA12 2DN Classification: Pallets, Crates & Packing Cases Status: Inactive Positional Accuracy: Automatically positioned to the address	A17NE (NW)	834	-	566558 173779
120	Contemporary Trade Directory Entries Name: Cleanwise Ltd Location: Unit 7 Block B, Lion Business Park, Dering Way, Gravesend, DA12 2DN Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A17NE (NW)	857	-	566573 173812
121	Contemporary Trade Directory Entries Name: London Used Office Furniture Location: Unit 20 Block D, Lion Business Park, Dering Way, Gravesend, DA12 2DN Classification: Office Furniture & Equipment Status: Active Positional Accuracy: Automatically positioned to the address	A18NW (N)	820	-	566653 173806
121	Contemporary Trade Directory Entries Name: Punjab Autofix Location: Unit 21 Block D, Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NW (N)	826	-	566662 173815
121	Contemporary Trade Directory Entries Name: Automotive Show Room Location: Unit 21 Block D, Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NW (N)	826	-	566662 173815
121	Contemporary Trade Directory Entries Name: Auto 22 Location: Unit 21 Block D, Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Mot Testing Centres Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NW (N)	826	-	566662 173815
121	Contemporary Trade Directory Entries Name: R S Dawe (Servicing Repairs & Sales) Location: Unit 21 Block D, Lion Business Park, Dering Way, Gravesend, DA12 2DN Classification: Car Body Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A18NW (N)	829	-	566659 173817

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
121	Contemporary Trade Directory Entries Name: C S Accident Repair Services Location: Unit 12 Block C, Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NW (N)	864	-	566636 173847
122	Contemporary Trade Directory Entries Name: Allscaff Location: Scaffold Yard Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Scaffolding & Work Platforms Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A18NW (NW)	844	-	566601 173810
122	Contemporary Trade Directory Entries Name: Auto Legend Location: Unit 10 Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Car Dealers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A17NE (NW)	855	-	566590 173818
122	Contemporary Trade Directory Entries Name: Riverview Garage Ltd Location: Unit 13 Block C, Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NW (N)	875	-	566625 173853
123	Contemporary Trade Directory Entries Name: Sunlock Blinds Location: 9, Gerald Road, Gravesend, Kent, DA12 2HT Classification: Blinds, Awnings & Canopies Status: Active Positional Accuracy: Automatically positioned to the address	A17SW (NW)	846	-	566250 173532
124	Contemporary Trade Directory Entries Name: Dust Right Location: 17, Roehampton Close, Gravesend, Kent, DA12 2LA Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	853	-	566278 173575
125	Contemporary Trade Directory Entries Name: B P Garden Maintenance Location: 22, St. Chads Drive, Gravesend, Kent, DA12 4EL Classification: Waste Disposal Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	909	-	566311 172323
126	Contemporary Trade Directory Entries Name: The Power House Computer Centre Location: Church Hall, St. Aidans Way, Gravesend, Kent, DA12 4AG Classification: Electrical Goods Sales, Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NW (SW)	912	-	566110 172581
127	Contemporary Trade Directory Entries Name: All Makes Motors Location: 48, St. Chads Drive, Gravesend, Kent, DA12 4EL Classification: Car Breakers & Dismantlers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	977	-	566343 172209
128	Fuel Station Entries Name: Chalk Service Station Location: Rochester Road, , Gravesend, Kent, DA12 4TN Brand: SHELL Premises Type: Petrol Station Status: Open Positional Accuracy: Manually positioned to the address or location	A13NW (W)	318	-	566604 173056
129	Points of Interest - Commercial Services Name: Allensautos Mobile Services Location: 90 Barr Road, Gravesend, DA12 4DZ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SW (S)	270	8	566828 172743

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
129	Points of Interest - Commercial Services Name: Allens Autos Location: 90 Barr Road, Gravesend, DA12 4DZ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SW (S)	271	8	566827 172742
130	Points of Interest - Commercial Services Name: Chalk Service Station Location: Rochester Road, Gravesend, DA12 4TN Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A13NW (W)	318	8	566604 173056
130	Points of Interest - Commercial Services Name: Car Wash Location: Rochester Road, Gravesend, Kent, DA12 4TN Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A13NW (W)	318	8	566604 173056
131	Points of Interest - Commercial Services Name: Shell Car Wash Location: Chalk Service Station 179, Rochester Road, Gravesend, DA12 4TN Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12NE (W)	331	8	566592 173060
131	Points of Interest - Commercial Services Name: B & H Motor Engineers Location: 200 Rochester Road, Gravesend, DA12 4TY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (W)	408	8	566513 173039
131	Points of Interest - Commercial Services Name: B & H Motor Engineers Location: 200 Rochester Road, Gravesend, DA12 4TY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (W)	408	8	566513 173039
132	Points of Interest - Commercial Services Name: Kwik-Fit Tyre Exhaust Brake Location: Rochester Road, Gravesend, DA12 4TN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (W)	449	8	566495 173160
132	Points of Interest - Commercial Services Name: Kwik-Fit (GB) Limited Location: Rochester Road, Gravesend, DA12 4TN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (W)	449	8	566495 173160
132	Points of Interest - Commercial Services Name: Kwik-Fit (GB) Limited Location: Rochester Road, Gravesend, DA12 4TN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (W)	450	8	566492 173153
132	Points of Interest - Commercial Services Name: Lion Test & Tyre Centre Location: Lion Garage 301, Old Road East, Gravesend, DA12 1PW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (W)	495	8	566436 173119
132	Points of Interest - Commercial Services Name: J T Reborning Ltd Location: Lion Garage 301, Old Road East, Gravesend, DA12 1PW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (W)	495	8	566436 173119
132	Points of Interest - Commercial Services Name: J T Reborning Ltd Location: Lion Garage 301, Old Road East, Gravesend, DA12 1PW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (W)	495	8	566436 173119

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
132	Points of Interest - Commercial Services Name: Lion Test & Tyre Centre Location: Lion Garage 301, Old Road East, Gravesend, DA12 1PW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (W)	496	8	566435 173119
132	Points of Interest - Commercial Services Name: Waller Garages Ltd Location: Lion Garage 301, Old Road East, Gravesend, DA12 1PW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (W)	496	8	566435 173119
132	Points of Interest - Commercial Services Name: Lion Garage Location: Lion Garage 301, Old Road East, Gravesend, DA12 1PW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (W)	496	8	566435 173119
133	Points of Interest - Commercial Services Name: Merry Motors All Enquiries Location: 1 Sutherland Close, Gravesend, DA12 4XJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	752	8	567695 172938
134	Points of Interest - Commercial Services Name: G P S E Ltd Location: Unit 16 Lion Business Park, Dering Way, Gravesend, DA12 2DN Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A18NW (N)	789	8	566628 173762
134	Points of Interest - Commercial Services Name: Auto 22 Location: Unit 21 Block D Lion Business Park, Dering Way, Gravesend, DA12 2DN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NW (N)	825	8	566662 173814
134	Points of Interest - Commercial Services Name: R S Dawe (Servicing Repairs & Sales) Location: Unit 21 Block D Lion Business Park, Dering Way, Gravesend, DA12 2DN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NW (N)	829	8	566659 173817
134	Points of Interest - Commercial Services Name: Riverside MOT Centre Location: Unit 4 Block B Lion Business Park, Dering Way, Gravesend, DA12 2DN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NW (NW)	830	8	566609 173799
134	Points of Interest - Commercial Services Name: Punjab Autofix Location: Unit 9 Block B Lion Business Park, Dering Way, Gravesend, DA12 2DN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NW (NW)	843	8	566599 173809
134	Points of Interest - Commercial Services Name: Riverview Garage Location: Unit 13 Block C Lion Business Park, Dering Way, Gravesend, DA12 2DN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NW (N)	872	8	566622 173849
135	Points of Interest - Manufacturing and Production Name: The Maltings Enterprise Centre Location: DA12 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	345	8	566587 173105
135	Points of Interest - Manufacturing and Production Name: The Maltings Enterprise Centre Location: DA12 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	349	8	566582 173101

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
136	Points of Interest - Manufacturing and Production Name: Industrial Park Location: DA12 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	573	8	566975 173610
137	Points of Interest - Manufacturing and Production Name: Lion Business Park Location: DA12 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	829	8	566569 173779
138	Points of Interest - Manufacturing and Production Name: Tanks Location: DA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	839	8	566854 172160
138	Points of Interest - Manufacturing and Production Name: Tank Location: DA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A8SW (S)	844	8	566848 172155
138	Points of Interest - Manufacturing and Production Name: Tank Location: DA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A8SW (S)	844	8	566854 172155
139	Points of Interest - Manufacturing and Production Name: Tank Location: DA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A17NE (NW)	970	8	566410 173850
139	Points of Interest - Manufacturing and Production Name: Tanks Location: DA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	970	8	566410 173850
139	Points of Interest - Manufacturing and Production Name: Tank Location: DA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A17NE (NW)	978	8	566409 173859
139	Points of Interest - Manufacturing and Production Name: Tanks Location: DA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	978	8	566409 173859
139	Points of Interest - Manufacturing and Production Name: Tank Location: DA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A17NE (NW)	991	8	566388 173860
139	Points of Interest - Manufacturing and Production Name: Tanks Location: DA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A17NE (NW)	991	8	566388 173860
140	Points of Interest - Manufacturing and Production Name: Tank Location: DA12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	976	8	566669 173975

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
141	Points of Interest - Public Infrastructure Name: Shell Chalk Service Station Location: Rochester Road, Chalk, Gravesend, DA12 4TN Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A13NW (W)	318	8	566604 173056
141	Points of Interest - Public Infrastructure Name: Chalk Service Station Location: Rochester Road, Gravesend, DA12 4TN Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A13NW (W)	318	8	566604 173056
141	Points of Interest - Public Infrastructure Name: Shell Location: Chalk Service Station 179, Rochester Road, Gravesend, DA12 4TN Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A13NW (W)	319	8	566603 173055
141	Points of Interest - Public Infrastructure Name: Shell Chalk Location: 179 Rochester Road, Gravesend, DA12 4TN Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NE (W)	340	8	566584 173067
142	Points of Interest - Public Infrastructure Name: Sludge Bed Location: DA12 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	803	8	566818 173831
143	Points of Interest - Public Infrastructure Name: B P Garden Maintenance Location: 22 St. Chads Drive, Gravesend, DA12 4EL Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A7SE (SW)	909	8	566311 172323
144	Points of Interest - Public Infrastructure Name: Sewage Works Location: DA12 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A18NW (N)	920	8	566630 173904
144	Points of Interest - Public Infrastructure Name: Sewage Works Location: DA12 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A18NW (N)	922	8	566629 173906
144	Points of Interest - Public Infrastructure Name: Sewage Works Location: DA12 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A17NE (N)	954	8	566590 173925
144	Points of Interest - Public Infrastructure Name: Sewage Works Location: DA12 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	966	8	566624 173950
145	Points of Interest - Public Infrastructure Name: Sludge Beds Location: DA12 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	921	8	566784 173945
145	Points of Interest - Public Infrastructure Name: Sludge Bed Location: DA12 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	977	8	566799 174004

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
146	Points of Interest - Recreational and Environmental Name: Play Area Location: DA12 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	360	8	567008 173392
147	Points of Interest - Recreational and Environmental Name: Play Area Location: DA12 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NW (SW)	646	8	566664 172404
148	Points of Interest - Recreational and Environmental Name: Play Area Location: DA12 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A17SE (NW)	714	8	566383 173484
149	Points of Interest - Recreational and Environmental Name: Play Area Location: DA12 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	782	8	566913 172214
150	Points of Interest - Recreational and Environmental Name: Play Area Location: DA12 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	799	8	567742 172939
151	Points of Interest - Recreational and Environmental Name: Playground Location: Hampton Crescent, DA12 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A7NW (SW)	866	8	566158 172588

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
152	Areas of Adopted Green Belt Authority: Gravesham Borough Council Plan Name: Gravesham Local Plan - Core Strategy Status: Adopted Plan Date: 30th September 2014	A13SE (SE)	258	10	567103 172793
153	Environmentally Sensitive Areas Name: North Kent Marshes (decommissioned) Multiple Areas: Y Total Area (m2): 32710239.72 Source: Natural England	A13NE (NE)	191	9	567088 173163
154	Environmentally Sensitive Areas Name: North Kent Marshes (decommissioned) Multiple Areas: Y Total Area (m2): 110134.73 Source: Natural England	A18SW (NW)	632	9	566641 173594
155	Nitrate Vulnerable Zones Name: Coastal Streams To Lower Thames Nvz Description: Surface Water Source: Environment Agency, Head Office	A13NE (N)	45	4	566943 173083
156	Nitrate Vulnerable Zones Name: North Kent Description: Groundwater Source: Environment Agency, Head Office	A13NE (NE)	239	4	567127 173192
157	Ramsar Sites Name: Thames Estuary & Marshes Multiple Areas: Y Total Area (m2): 55535895.09 Source: Natural England Reference: UK11069 Designation Date: Not Supplied	A13NE (NE)	389	9	567182 173346
158	Sites of Special Scientific Interest Name: South Thames Estuary And Marshes Multiple Areas: Y Total Area (m2): 52889828.28 Source: Natural England Reference: 1003874 Designation Details: Environmentally Sensitive Area Designation Date: 24th December 1991 Date Type: Notified Designation Details: Local Nature Reserve Designation Date: 24th December 1991 Date Type: Notified Designation Details: Nature Conservation Review Designation Date: 24th December 1991 Date Type: Notified Designation Details: Ramsar Site Designation Date: 24th December 1991 Date Type: Notified Designation Details: RSPB Reserve Designation Date: 24th December 1991 Date Type: Notified Designation Details: Special Protection Area Designation Date: 24th December 1991 Date Type: Notified Designation Details: Site Of Special Scientific Interest Designation Date: 24th December 1991 Date Type: Notified Designation Details: Water Framework Directive (WFD) Designation Date: 24th December 1991 Date Type: Notified	A13NE (NE)	389	9	567182 173346

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Environment Agency - Head Office Thurrock Borough Council - Environmental Health Department Dartford Borough Council - Environmental Health Department Gravesham Borough Council - Public Health Services Medway Council - Environmental Health	June 2020 October 2017 September 2017 September 2017 September 2017	Annually Annually Annual Rolling Update Annual Rolling Update Annual Rolling Update
Discharge Consents Environment Agency - Anglian Region Environment Agency - Southern Region	April 2022 April 2022	Quarterly Quarterly
Enforcement and Prohibition Notices Environment Agency - Anglian Region Environment Agency - Southern Region	March 2013 March 2013	
Integrated Pollution Controls Environment Agency - Anglian Region Environment Agency - Southern Region	January 2009 January 2009	
Integrated Pollution Prevention And Control Environment Agency - Anglian Region Environment Agency - South East Region - Kent & South London Area Environment Agency - Southern Region	April 2022 April 2022 April 2022	Quarterly Quarterly Quarterly
Local Authority Integrated Pollution Prevention And Control Thurrock Borough Council - Environmental Health Department Medway Council - Environmental Health Gravesham Borough Council - Environmental Health Department London Port Health Authority - Environmental Services Dartford Borough Council - Environmental Health Department	February 2015 June 2014 October 2014 October 2014 September 2014	Variable Variable Variable Variable Variable
Local Authority Pollution Prevention and Controls Thurrock Borough Council - Environmental Health Department Medway Council - Environmental Health Gravesham Borough Council - Environmental Health Department London Port Health Authority - Environmental Services Dartford Borough Council - Environmental Health Department	February 2015 June 2014 October 2014 October 2014 September 2014	Not Applicable Not Applicable Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements Thurrock Borough Council - Environmental Health Department Medway Council - Environmental Health Gravesham Borough Council - Environmental Health Department London Port Health Authority - Environmental Services Dartford Borough Council - Environmental Health Department	February 2015 June 2014 October 2014 October 2014 September 2014	Variable Variable Variable Variable Variable
Nearest Surface Water Feature Ordnance Survey	May 2022	
Pollution Incidents to Controlled Waters Environment Agency - Southern Region Environment Agency - Anglian Region	December 1999 September 1999	
Prosecutions Relating to Authorised Processes Environment Agency - Anglian Region Environment Agency - Southern Region	July 2015 July 2015	
Prosecutions Relating to Controlled Waters Environment Agency - Anglian Region Environment Agency - Southern Region	March 2013 March 2013	
Registered Radioactive Substances Environment Agency - Anglian Region Environment Agency - Southern Region	June 2016 June 2016	As notified As notified
River Quality Environment Agency - Head Office	November 2001	Not Applicable

Agency & Hydrological	Version	Update Cycle
River Quality Biology Sampling Points Environment Agency - Head Office	April 2012	
River Quality Chemistry Sampling Points Environment Agency - Head Office	April 2012	
Substantiated Pollution Incident Register Environment Agency - Anglian Region - Eastern Area Environment Agency - South East Region - Kent & South London Area Environment Agency - Southern Region - Kent Area Environment Agency - Southern Region - Kent and East Sussex	April 2022 April 2022 April 2022 April 2022	Quarterly Quarterly Quarterly Quarterly
Water Abstractions Environment Agency - Anglian Region Environment Agency - Southern Region	July 2022 July 2022	Quarterly Quarterly
Water Industry Act Referrals Environment Agency - Anglian Region Environment Agency - Southern Region	October 2017 October 2017	
Groundwater Vulnerability Map Environment Agency - Head Office	June 2018	As notified
Groundwater Vulnerability - Soluble Rock Risk Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	May 2021	Bi-Annually
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	May 2022	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	May 2022	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	May 2022	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	May 2022	Quarterly
Flood Defences Environment Agency - Head Office	May 2022	Quarterly
OS Water Network Lines Ordnance Survey	April 2022	Quarterly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	May 2018	Annually
Surface Water Suitability Environment Agency - Head Office	February 2016	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	As notified

Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	November 2002	As notified
Historical Landfill Sites Environment Agency - Head Office	April 2022	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - Anglian Region Environment Agency - Southern Region	January 2009 January 2009	Not Applicable Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - Anglian Region - Eastern Area Environment Agency - South East Region - Kent & South London Area Environment Agency - Southern Region - Kent Area Environment Agency - Southern Region - Kent and East Sussex	April 2022 April 2022 April 2022 April 2022	Quarterly Quarterly Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - Anglian Region - Eastern Area Environment Agency - South East Region - Kent & South London Area Environment Agency - Southern Region - Kent Area Environment Agency - Southern Region - Kent and East Sussex	April 2022 April 2022 April 2022 April 2022	Quarterly Quarterly Quarterly Quarterly
Local Authority Landfill Coverage Dartford Borough Council - Environmental Health Department Gravesham Borough Council Kent County Council - Waste Management Group Medway Council - Environmental Protection Department Thurrock Borough Council - Environmental Health Department	February 2003 February 2003 February 2003 February 2003 February 2003	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Dartford Borough Council - Environmental Health Department Gravesham Borough Council Kent County Council - Waste Management Group Medway Council - Environmental Protection Department Thurrock Borough Council - Environmental Health Department	October 2018 October 2018 October 2018 October 2018 October 2018	
Potentially Infilled Land (Non-Water) Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water) Landmark Information Group Limited	December 1999	
Registered Landfill Sites Environment Agency - Anglian Region - Eastern Area Environment Agency - Southern Region - Kent Area Environment Agency - Southern Region - Kent and East Sussex	March 2006 March 2006 March 2006	Not Applicable Not Applicable Not Applicable
Registered Waste Transfer Sites Environment Agency - Anglian Region - Eastern Area Environment Agency - Southern Region - Kent Area Environment Agency - Southern Region - Kent and East Sussex	April 2018 April 2018 April 2018	
Registered Waste Treatment or Disposal Sites Environment Agency - Anglian Region - Eastern Area Environment Agency - Southern Region - Kent Area Environment Agency - Southern Region - Kent and East Sussex	June 2015 June 2015 June 2015	

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	January 2022	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements Thurrock Borough Council - Development Control Medway Council London Port Health Authority - Environmental Services Dartford Borough Council Kent County Council Gravesham Borough Council	December 2015 February 2016 January 2008 January 2016 January 2016 October 2015	Variable Variable Annual Rolling Update Variable Variable Variable
Planning Hazardous Substance Consents Thurrock Borough Council - Development Control Medway Council London Port Health Authority - Environmental Services Dartford Borough Council Kent County Council Gravesham Borough Council	December 2015 February 2016 January 2008 January 2016 January 2016 October 2015	Variable Variable Annual Rolling Update Variable Variable Variable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	As notified
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	As notified
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	May 2022	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	April 2022	Quarterly
Fuel Station Entries Catalist Ltd - Experian	June 2022	Quarterly
Gas Pipelines National Grid	October 2021	Bi-Annually
Points of Interest - Commercial Services PointX	June 2022	Quarterly
Points of Interest - Education and Health PointX	June 2022	Quarterly
Points of Interest - Manufacturing and Production PointX	June 2022	Quarterly
Points of Interest - Public Infrastructure PointX	June 2022	Quarterly
Points of Interest - Recreational and Environmental PointX	June 2022	Quarterly
Underground Electrical Cables National Grid	May 2021	Bi-Annually

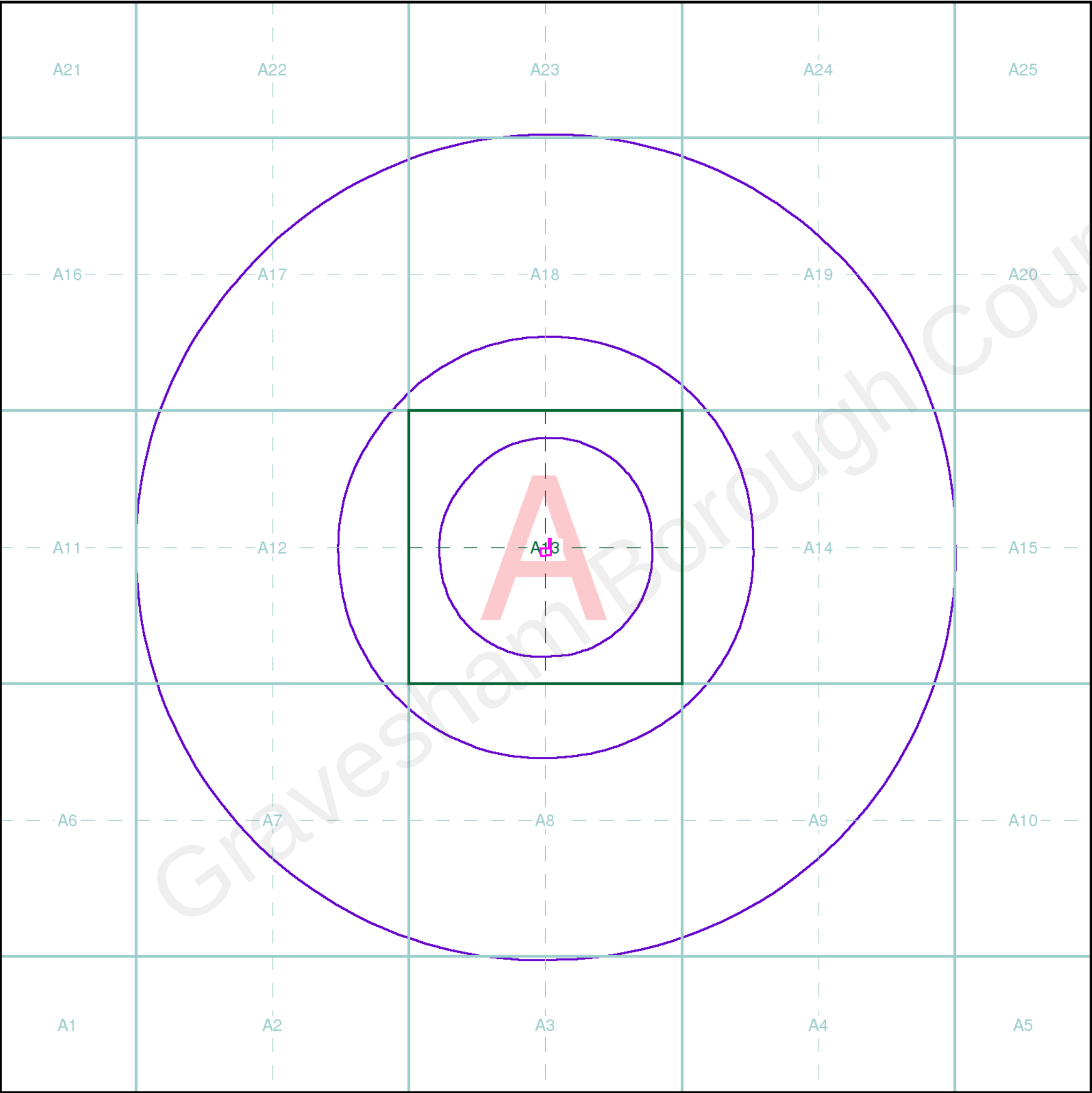
Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural England	February 2021	Bi-Annually
Areas of Adopted Green Belt Dartford Borough Council Gravesham Borough Council Medway Council Thurrock Borough Council - Development Control	October 2020 October 2020 October 2020 October 2020	Quarterly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

A selection of organisations who provide data within this report

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

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	Gravesham Borough Council - Environmental Health Department Civic Centre, 132 Windmill Street, Gravesend, Kent, DA12 1AU	Telephone: 01474 337241 Fax: 01474 337546 Email: glyn.thomson@gravesham.gov.uk Website: www.gravesham.gov.uk
4	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
5	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	Gravesham Borough Council Cygnet House, 132 Windmill Street, Gravesend, Kent, DA12 1AU	Telephone: 01474 564422 Fax: 01474 337546 Website: www.gravesham.gov.uk
7	Kent County Council - Waste Management Group Block H, The Forstal, Beddow Way, Aylesford, Kent, ME20 7BT	Telephone: 01622 605976 Website: www.kent.gov.uk
8	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
9	Natural England County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
10	Gravesham Borough Council Cygnet House, 132 Windmill Street, Gravesend, Kent, DA12 1BQ	Telephone: 01474 564422 Fax: 01474 337546 Website: www.gravesham.gov.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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



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:



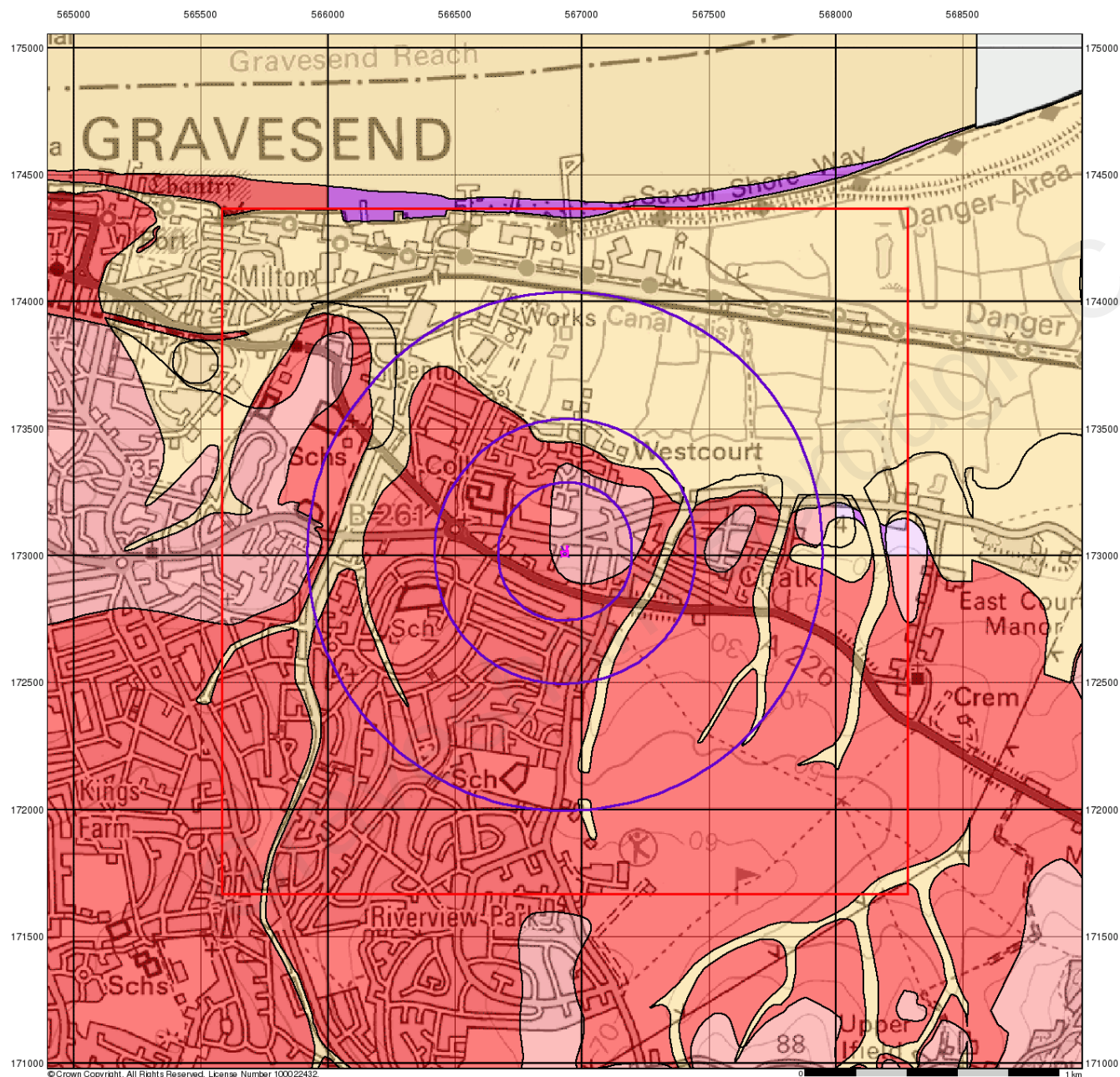
Envirocheck reports are compiled from 136 different sources of data.

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

Order Details
Order Number: 279078967_1_1
Customer Ref: STT5362
National Grid Reference: 566930, 173010
Site Area (Ha): 0.06
Search Buffer (m): 1000

Site Details
Lower Higham Road, Gravesend

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



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Groundwater Vulnerability

General

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

Agency and Hydrological

Bedrock Aquifers

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

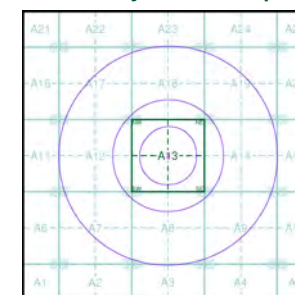
Superficial Aquifers

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

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A

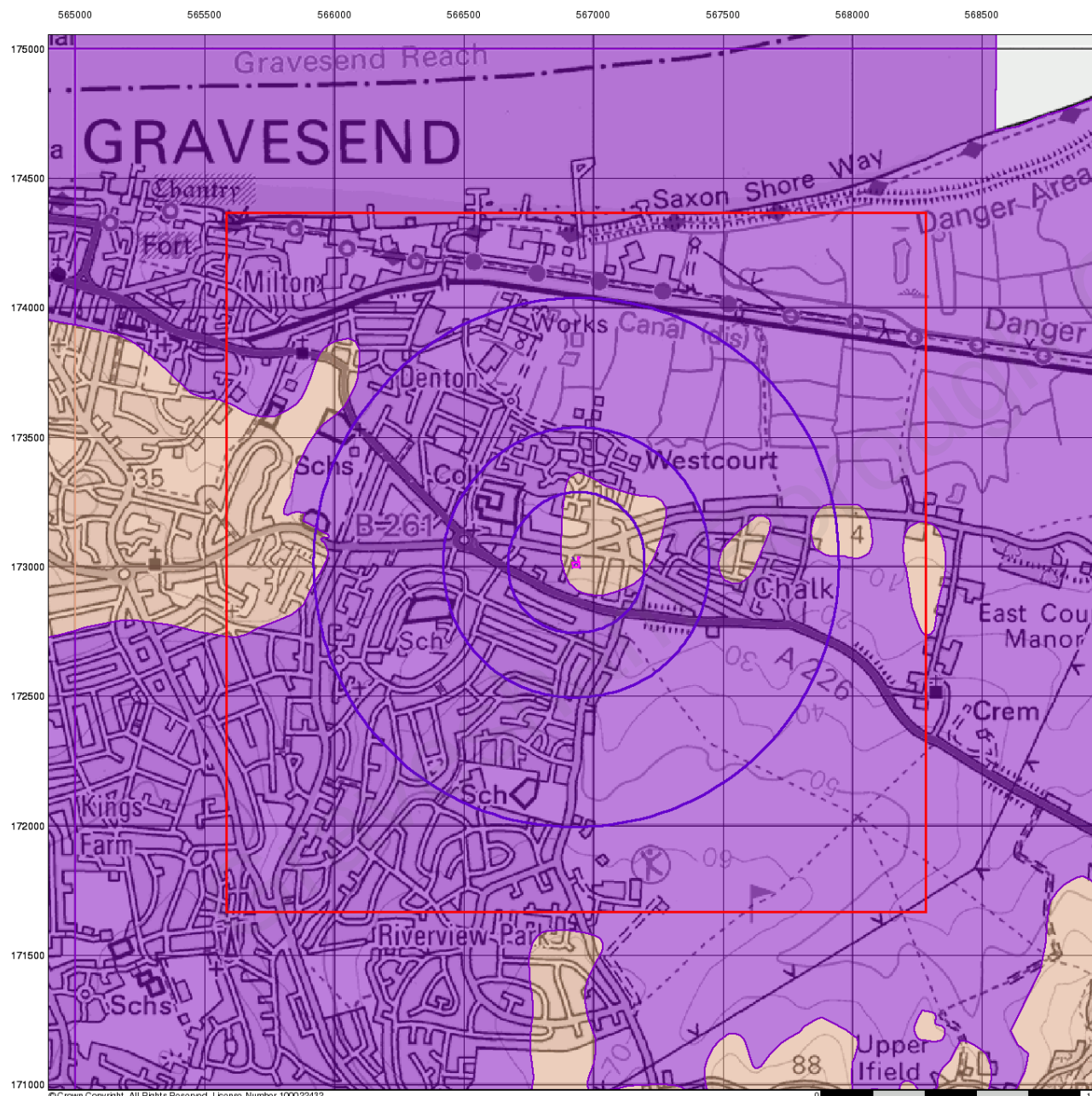


Order Details

Order Number: 299065487_1_1
Customer Ref: STT5362
National Grid Reference: 566930, 173010
Slice: A
Site Area (Ha): 0.06
Search Buffer (m): 1000

Site Details

Lower Higham Road, Gravesend



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0 1 km

Bedrock Aquifer Designation

General

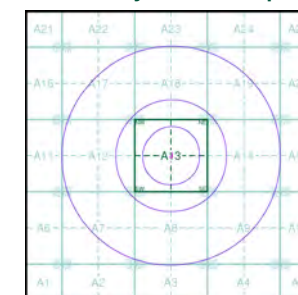
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

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

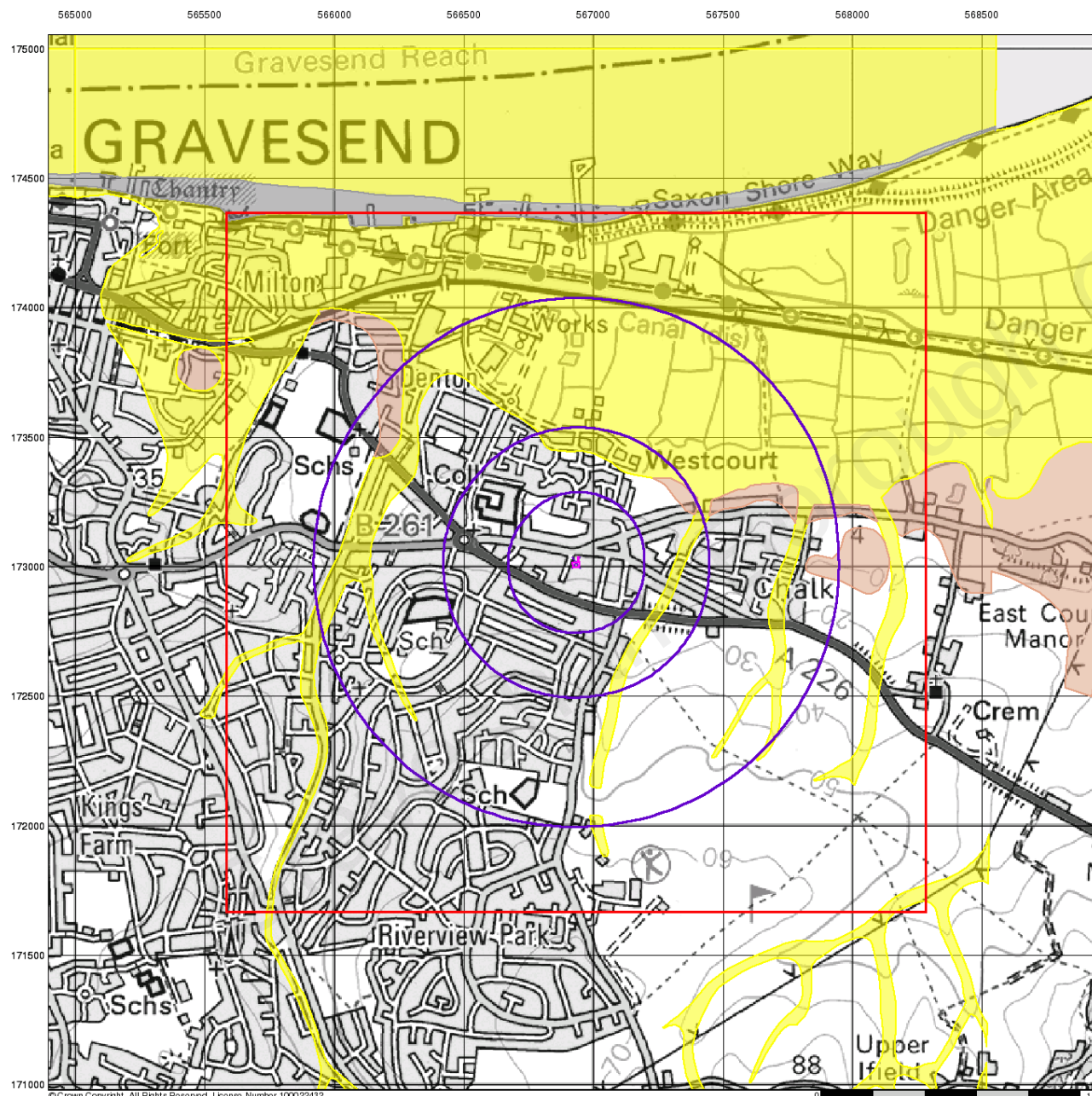


Order Details

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Customer Ref: STT5362
National Grid Reference: 566930, 173010
Slice: A
Site Area (Ha): 0.06
Search Buffer (m): 1000

Site Details

Lower Higham Road, Gravesend



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Superficial Aquifer Designation

General

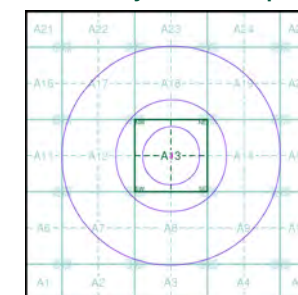
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

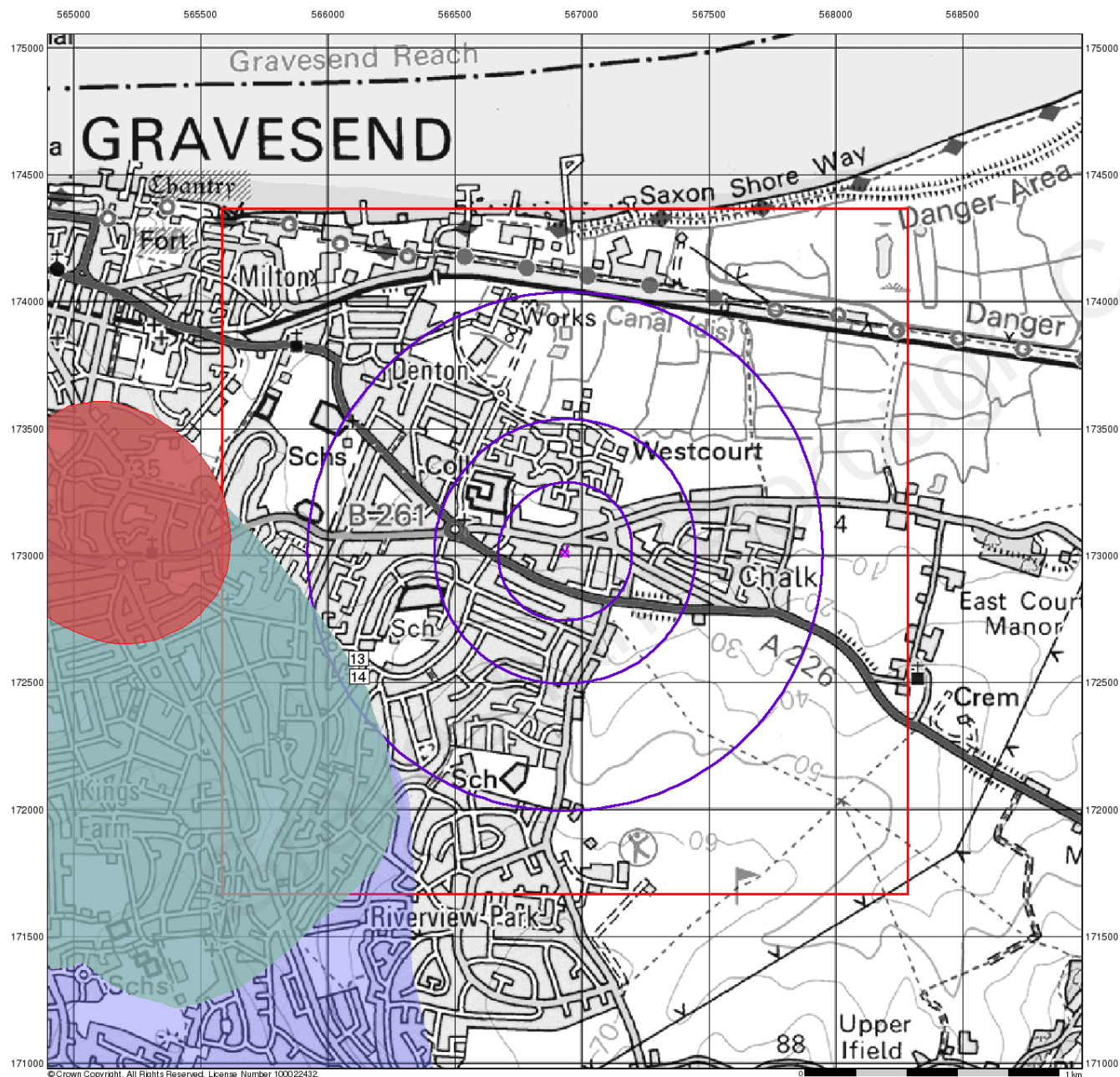
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 Customer Ref: STT5362
 National Grid Reference: 566930, 173010
 Slice: A
 Site Area (Ha): 0.06
 Search Buffer (m): 1000

Site Details

Lower Higham Road, Gravesend

Landmark
 INFORMATION GROUP

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



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Source Protection Zones

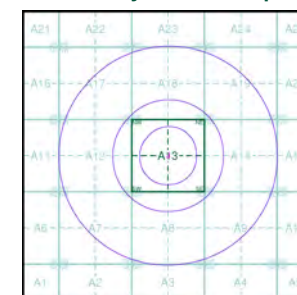
General

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

Agency and Hydrological

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

Site Sensitivity Context Map - Slice A



Order Details

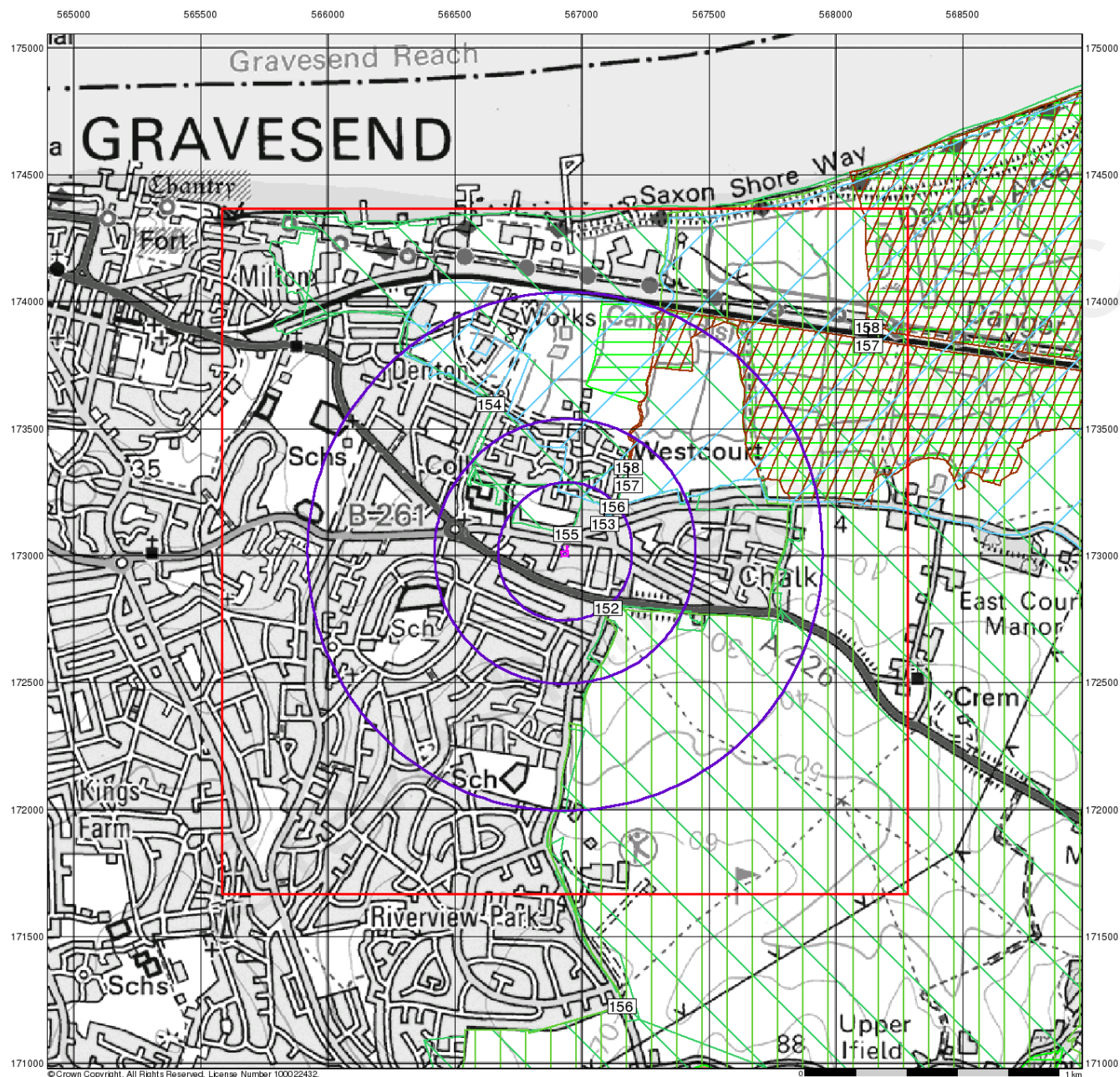
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Customer Ref: STT5362
National Grid Reference: 566930, 173010
Slice: A
Site Area (Ha): 0.06
Search Buffer (m): 1000

Site Details

Lower Higham Road, Gravesend

Landmark
INFORMATION GROUP

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



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Sensitive Land Uses

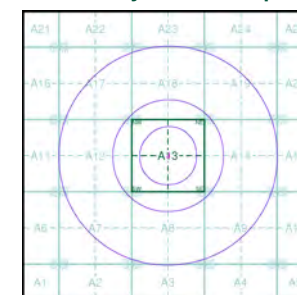
General

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

Sensitive Land Uses

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

Site Sensitivity Context Map - Slice A



Order Details

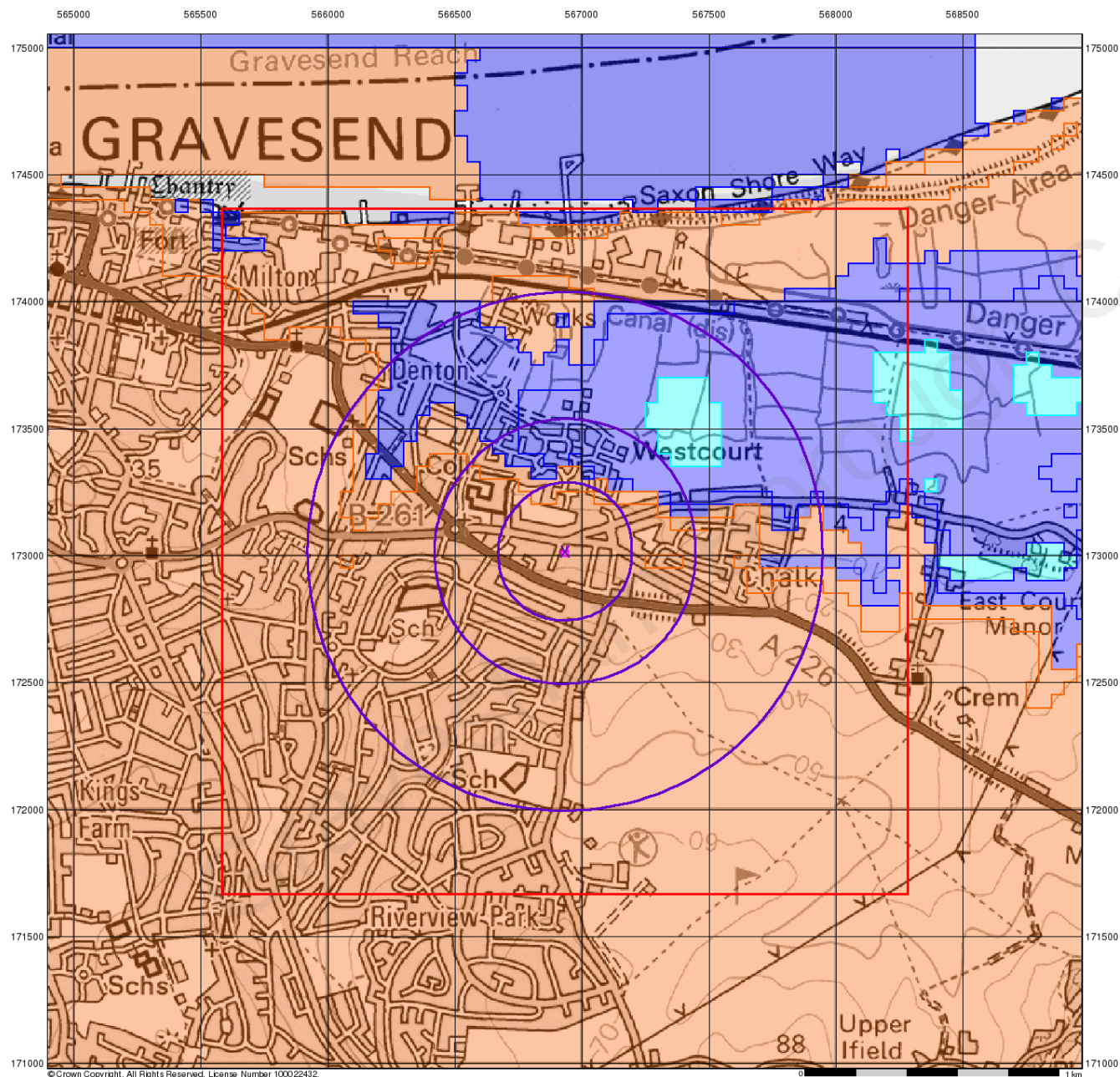
Order Number: 299065487_1_1
 Customer Ref: STT5362
 National Grid Reference: 566930, 173010
 Slice: A
 Site Area (Ha): 0.06
 Search Buffer (m): 1000

Site Details

Lower Higham Road, Gravesend

Landmark
 INFORMATION GROUP

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



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BGS Flood GFS Data

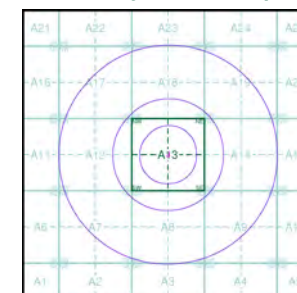
General

- ◇ Specified Site
- Specified Buffer(s)
- X 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: 299065487_1_1
 Customer Ref: STT5362
 National Grid Reference: 566930, 173010
 Slice: A
 Site Area (Ha): 0.06
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Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

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

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand And Peat	Not Supplied - Holocene
	TRD	Tidal River Or Creek Deposits	Clay and Silt	Not Supplied - Holocene
	TPGR	TAPLOW GRAVEL MEMBER	Sand and Gravel	Not Supplied - Wolstonian
	LHGR	Lynch Hill Gravel Member	Sand and Gravel	Not Supplied - Wolstonian
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary
	RTD1	River Terrace Deposits, 1	Sand and Gravel	Not Supplied - Quaternary
	BTFU	Beach and Tidal Flat Deposits (Undifferentiated)	Clay, Silt and Sand	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	HWH	Harwich Formation	Sand and Gravel	Not Supplied - Ypresian
	TAB	Thanet Formation	Sand	Not Supplied - Thanetian
	LMBE	Lambeth Group	Sand, Silt and Clay	Not Supplied - Thanetian
	TAB	Thanet Formation	Sand, Silt and Clay	Not Supplied - Thanetian
	SECK	Seaford Chalk Formation	Chalk	Not Supplied - Coniacian
	LSNCK	Lewes Nodular Chalk Formation, Seaford Chalk Formation and Newhaven Chalk Formation (Undifferentiated)	Chalk	Not Supplied - Turonian

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Geology 1:50,000 Maps

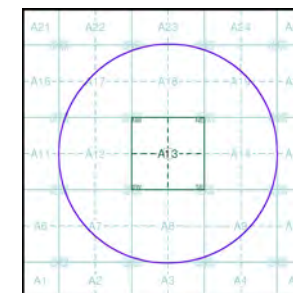
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published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

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

Geology 1:50,000 Maps Coverage

Map ID:	1
Map Sheet No:	271
Map Name:	Dartford
Map Date:	1998
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

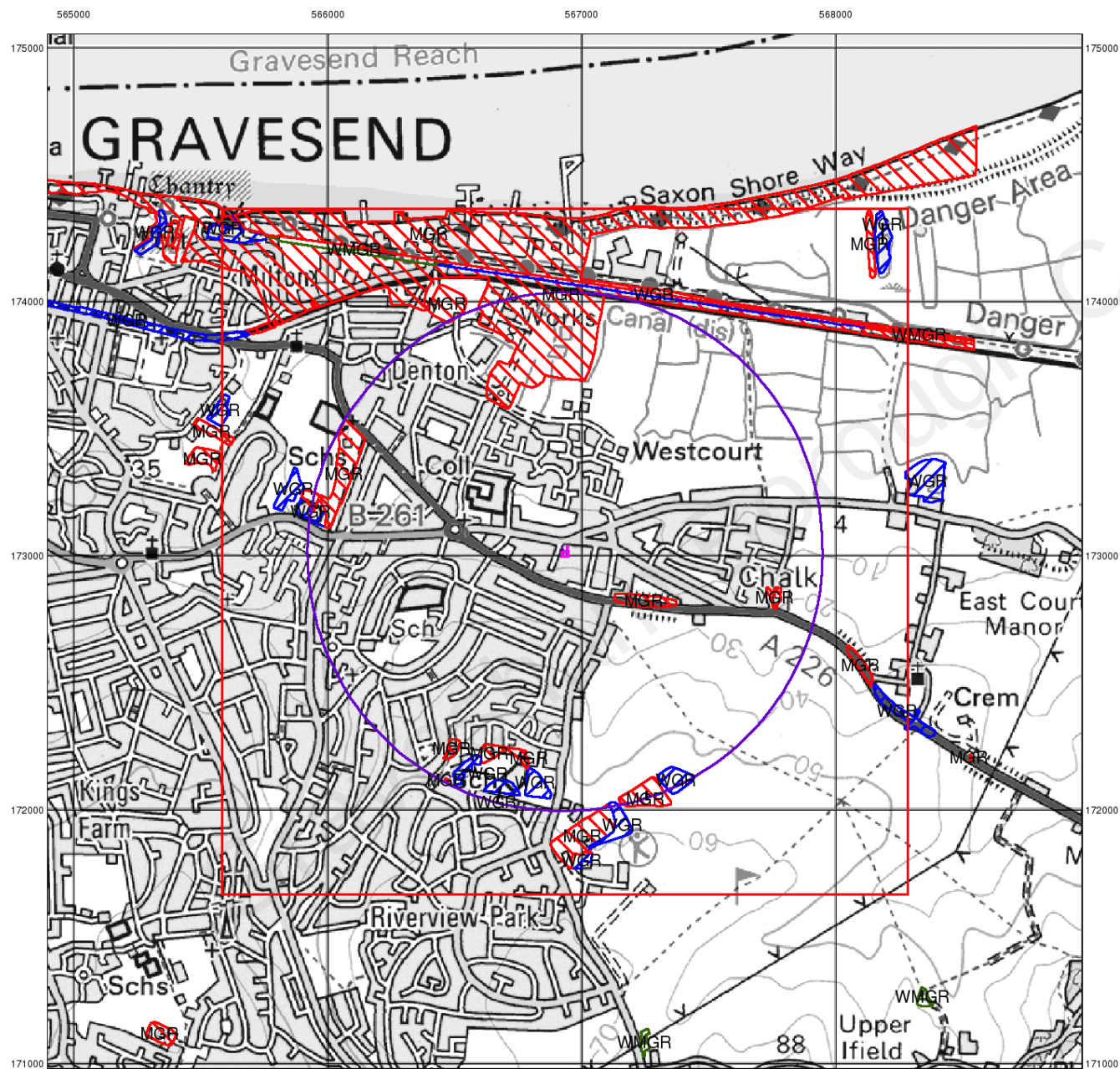


Order Details:

Order Number:	299065487_1_1
Customer Reference:	STT5362
National Grid Reference:	566930, 173010
Slice:	A
Site Area (Ha):	0.06
Search Buffer (m):	1000

Site Details:

Lower Higham Road, Gravesend



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Artificial Ground and Landslip

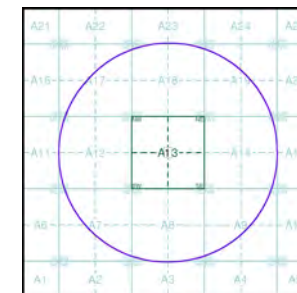
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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

Artificial ground includes:

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

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

Artificial Ground and Landslip Map - Slice A



Order Details:

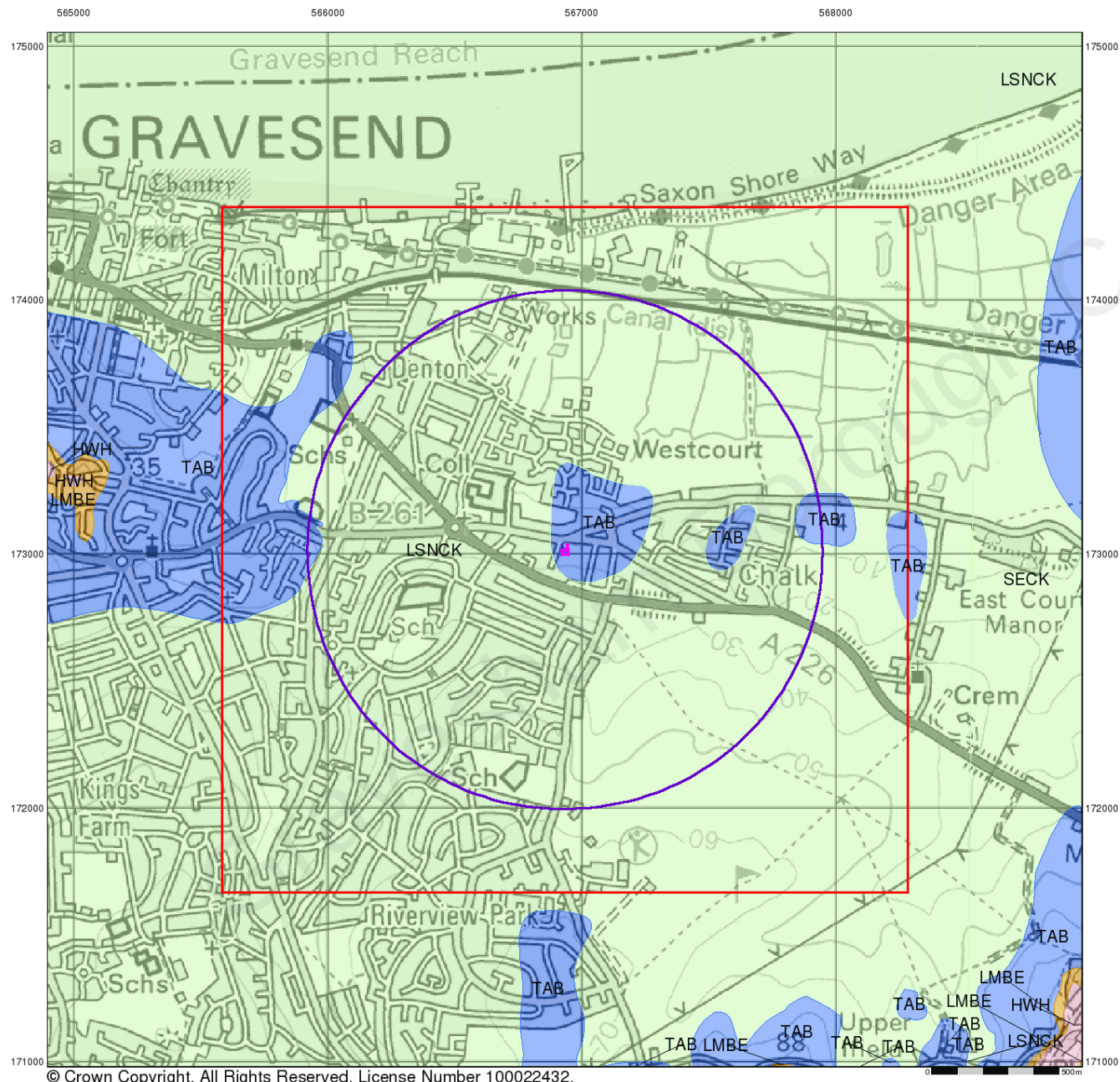
Order Number: 299065487_1_1
 Customer Reference: STT5362
 National Grid Reference: 566930, 173010
 Slice: A
 Site Area (Ha): 0.06
 Search Buffer (m): 1000

Site Details:

Lower Higham Road, Gravesend

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Tel: 0844 844 9952
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Bedrock and Faults

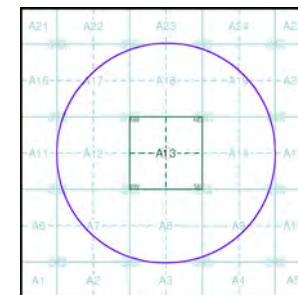
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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

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

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

Bedrock and Faults Map - Slice A



Order Details:

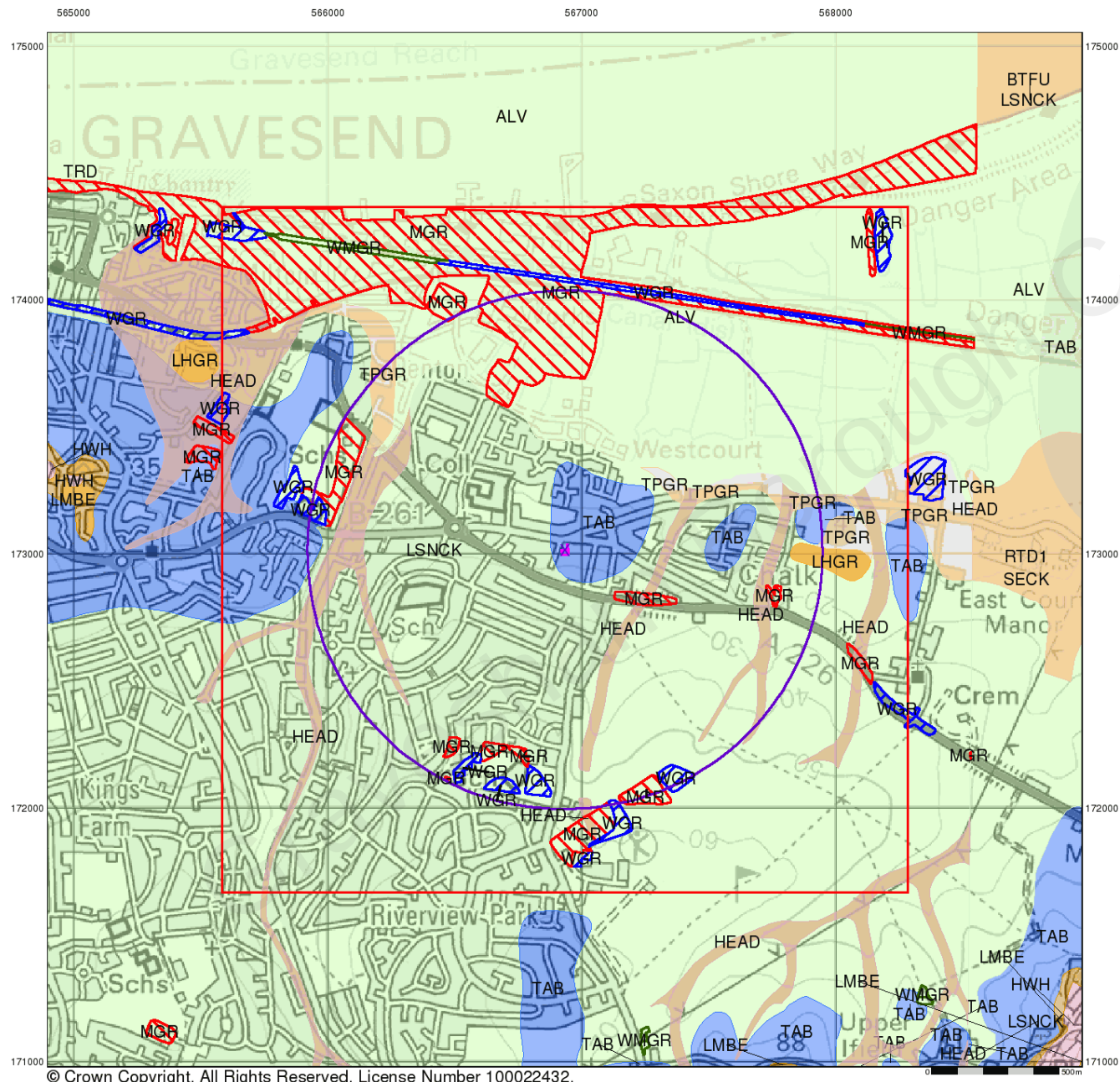
Order Number: 299065487_1_1
 Customer Reference: STT5362
 National Grid Reference: 566930, 173010
 Slice: A
 Site Area (Ha): 0.06
 Search Buffer (m): 1000

Site Details:

Lower Higham Road, Gravesend

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Combined Surface Geology

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

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

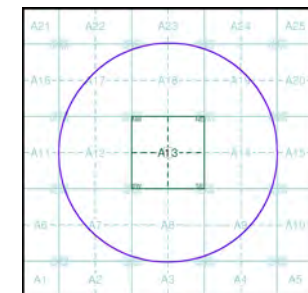
Additional Information

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

Contact

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

Combined Geology Map - Slice A



Order Details:

Order Number: 299065487_1_1
Customer Reference: STT5362
National Grid Reference: 566930, 173010
Slice: A
Site Area (Ha): 0.06
Search Buffer (m): 1000

Site Details:

Lower Higham Road, Gravesend

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INFORMATION GROUP

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Web: www.envirocheck.co.uk

v15.0 28-Jul-2022

Page 5 of 5

Envirocheck[®] Report:

Mining and Ground Stability Datasheet

Order Details:

Order Number:

279078967_1_1

Customer Reference:

STT5362

National Grid Reference:

566930, 173010

Slice:

A

Site Area (Ha):

0.06

Search Buffer (m):

1000

Site Details:

Lower Higham Road, Gravesend

Client Details:

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

Report Section and Details	Page Number
Summary	-
The Summary section provides an overview of the data contained within the report, detailing the number of data set features or the existence of a data set in relation to the buffer selected. For ease of reference, the report is broken down into 4 sections of data; Mining and Natural Cavities Data, Historical Land Use Information (1:2,500), Historical Land Use Information (1:10,000) and Ground Stability Data (1:50,000).	
Mining and Natural Cavities Data	1
The Mining and Natural Cavities Data section features data sets related to the existence of mining areas and their potential hazards; and details of naturally formed cavities. Data sets within this section are not plotted, with the exception of BGS Recorded Mineral Sites and Potential Mining Areas which feature on the Historical Land Use Information (1:10,000) map.	
Historical Land Use Information (1:2,500)	-
The Historical Land Use Information (1:2,500) section contains data captured from analysis carried out by Landmark of 1:1,250 and 1:2,500 scale historical Ordnance Survey mapping, identifying areas where, historically, the land uses were potentially contaminative. For the purpose of this Envirocheck module, only historical data relating to mining and ground stability has been included and plotted on the corresponding Historical Land Use Information (1:2,500) map. This section also includes the Subterranean Features data set, which details various man-made and man-used underground spaces obtained from the Subterranea Britannica society.	
Historical Land Use Information (1:10,000)	2
The Historical Land Use (1:10,000) section covers data captured from the systematic analysis carried out by Landmark of 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th century, identifying potentially contaminative past industrial land uses. For the purpose of this Envirocheck module, only data relating to mining and ground stability has been included and plotted on the accompanying Historical Land Use Information (1:10,000) map.	
Ground Stability Data (1:50,000)	3
The Ground Stability (1:50,000) section includes the BGS Geosure data suite, reporting features to 250m and plotted onto 3 separate maps. Also reported is brine subsidence, brine mining and salt mining data sets, of which Brine Pumping and Salt Mining Related Features are plotted, and subsidence insurance claims and insurance investigations data, which is not plotted.	
Historical Map List	4
The Historical Map List section details the historical mapping that has been analysed for your site, in relation to the Historical Land Use Information sections.	
Data Currency	5
Data Suppliers	6
Useful Contacts	7

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The brine subsidence data relating to the Droitwich area as provided in this report is derived from JPB studies and physical monitoring undertaken annually over more than 35 years. For more detailed interpretation contact enquiries@jpb.co.uk. JPB retain the copyright and intellectual rights to this data and accept no liability for any loss or damage, including in direct or consequential loss, arising from the use of this data.

The Mining Instability data 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 supplied Mining Instability data is 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.

Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Mining and Natural Cavities Data					
BGS Recorded Mineral Sites	pg 1				1
Coal Mining Affected Areas			n/a	n/a	n/a
Man Made Mining Cavities					
Mining Instability			n/a	n/a	n/a
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 1	Yes		n/a	n/a
Potential Mining Areas					
Historical Land Use Information (1:2,500)					
Extractive Industries or Potential Excavations from 1855-1909 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1893-1915 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1906-1937 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1924-1949 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1950-1980 (100m)				n/a	n/a
Subterranean Features (100m)				n/a	n/a
Historical Land Use Information (1:10,000)					
Air Shafts					
Disturbed Ground					
General Quarrying					
Heap, unknown constituents					
Mineral Railway					
Mining & quarrying general					
Mining of coal & lignite					
Quarrying of sand & clay, operation of sand & gravel pits	pg 2			1	2
Former Marshes					
Potentially Infilled Land (Non-Water)	pg 2			1	2
Potentially Infilled Land (Water)	pg 2			1	
Ground Stability Data (1:50,000)					
CBSCB Compensation District			n/a	n/a	n/a
Brine Pumping Related Features					
Brine Subsidence Solution Area					
Potential for Collapsible Ground Stability Hazards	pg 3	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 3	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 3	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 3	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 3	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 3	Yes		n/a	n/a
Salt Mining Related Features					

Report Version v53.0

Gravesham Borough Council

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	BGS Recorded Mineral Sites Site Name: Chalk Chalk Pit Location: Chalk, Gravesend, Kent Source: British Geological Survey, National Geoscience Information Service Reference: 131055 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Cretaceous Geology: White Chalk Subgroup Commodity: Chalk Positional Accuracy: Located by supplier to within 10m	A12SW (W)	909	1	566068 172684
	Coal Mining Affected Areas In an area which may not be affected by coal mining				
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	566935 173015

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1909	A13SW (SW)	326	-	566728 172734
3	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1909 - 1946	A7NE (SW)	597	-	566449 172632
4	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1898	A7NW (W)	914	-	566070 172663
5	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1982	A13SW (SW)	326	-	566728 172734
6	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1946	A7NE (SW)	596	-	566450 172631
7	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1982	A7NW (W)	905	-	566077 172670
8	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A18SW (NW)	387	-	566777 173388

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	CBSCB Compensation District The site does not fall within the brine compensation area.				
	Brine Subsidence Solution Area The site does not fall within the brine subsidence solution area.				
9	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	566935 173015
10	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	238	1	567132 172851
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	566935 173015
11	Potential for Ground Dissolution Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	566935 173015
12	Potential for Ground Dissolution Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	37	1	566881 173003
13	Potential for Ground Dissolution Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	143	1	566778 172999
14	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	566935 173015
15	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	238	1	567132 172851
	Potential for Landslide Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	37	1	566881 173003
16	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	566935 173015
17	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	238	1	567132 172851
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	37	1	566881 173003
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	566935 173015

The following mapping has been analysed for Historical Land Use Information (1:2,500):

1:2,500	Mapsheet	Published Date
Kent	010_07	1874
Kent	010_11	1874
Kent	010_12	1882
Kent	010_11	1896
Kent	010_12	1896
Kent	010_07	1897
Kent	010_07	1909
Kent	010_11	1909
Kent	010_12	1909
Kent	010_07	1936
Kent	010_11	1936
Kent	010_12	1936
Ordnance Survey Plan	TQ6772	1963
Ordnance Survey Plan	TQ6773	1964

The following mapping has been analysed for Historical Land Use Information (1:10,000):

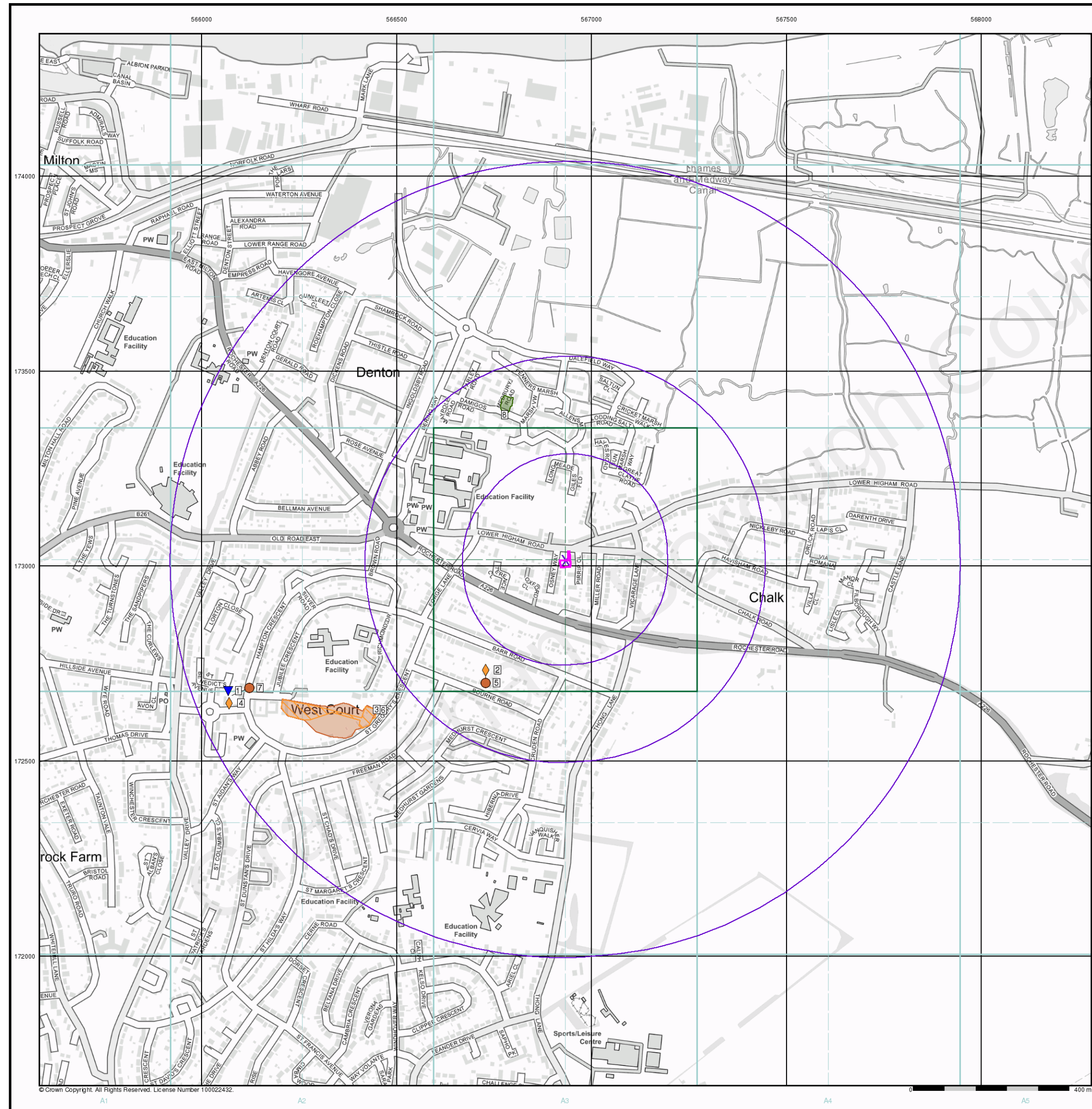
1:10,560	Mapsheet	Published Date
Kent	010_00	1869
Essex	089_00	1872
Kent	010_SE	1898
Kent	010_NE	1899
Essex	089_NW	1899
Kent	010_NE	1909
Kent	010_SE	1909
Essex	095_SE	1923
Essex	096_SW	1923
Kent	010_NE	1938
Essex	095_SE	1938
Kent	010_SE	1946
Ordnance Survey Plan	TQ67SE	1961
1:10,000	Mapsheet	Published Date
Ordnance Survey Plan	TQ67SE	1982

Mining and Cavities Data	Version	Update Cycle
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2020	Bi-Annually
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Man Made Mining Cavities Stantec UK Ltd	November 2020	Bi-Annually
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Natural Cavities Stantec UK Ltd	November 2020	Bi-Annually
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Historical Land Use Information (1:2,500)	Version	Update Cycle
Subterranean Features Landmark Information Group Limited	February 2020	Bi-Annually
Ground Stability Data (1:50,000)	Version	Update Cycle
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Brine Subsidence Solution Area Johnson Poole & Bloomer	December 2020	Annual Rolling Update

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
British Geological Survey	 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
The Coal Authority	
Ove Arup	
Stantec UK Ltd	
Wardell Armstrong	
Johnson Poole & Bloomer	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Ove Arup & Partners Central Square, Forth Street, Newcastle upon Tyne, Tyne and Wear, NE1 3PL	Telephone: 0191 261 6080 Fax: 0191 261 7879
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk



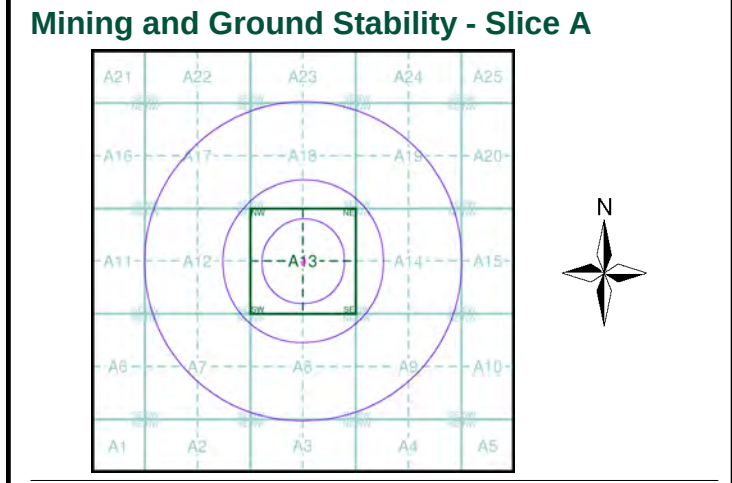
Historical Land Use Information (1:10,000)

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

Potentially Contaminative Industrial Uses (Past Land Uses - Mining)
Air Shafts
Disturbed Ground
General Quarrying
Heap, unknown constituents
Mineral Railway
Mining and Quarrying General
Mining of Coal & Lignite
Quarrying of Sand and Clay, Operation of Sand and Gravel Pits

Historical Land Use
Potentially Infilled Land (Non-Water)
Potentially Infilled Land (Water)
Former Marsh

Mining Data
Potential Mining Area
BGS Recorded Mineral Site

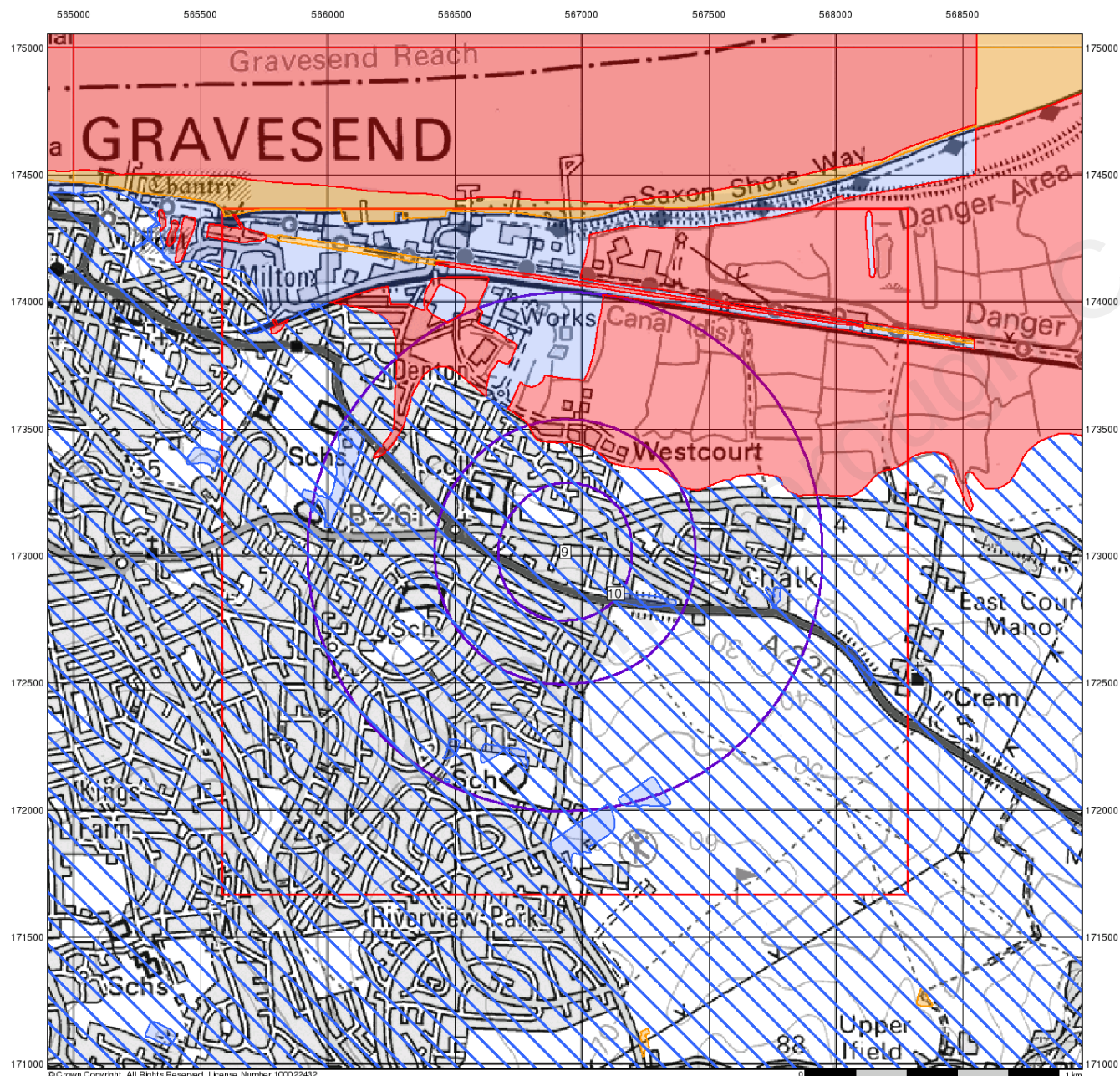


Order Details

Order Number: 279078967_1_1
Customer Ref: STT5362
National Grid Reference: 566930, 173010
Slice: A
Site Area (Ha): 0.06
Search Buffer (m): 1000

Site Details

Lower Higham Road, Gravesend



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Ground Stability Data (1:50,000)

General

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

Potential for Compressible Ground Stability Hazards

- High
- Moderate
- Low
- Very Low

Potential for Collapsible Ground Stability Hazards

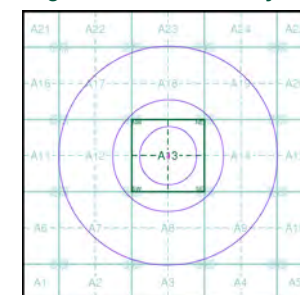
- High
- Moderate
- Low
- Very Low

Brine Pumping and Salt Mining

- Brine Pumping Related Feature
- Salt Mining Related Feature

- Point
- Polygon

Mining and Ground Stability - Slice A



Order Details

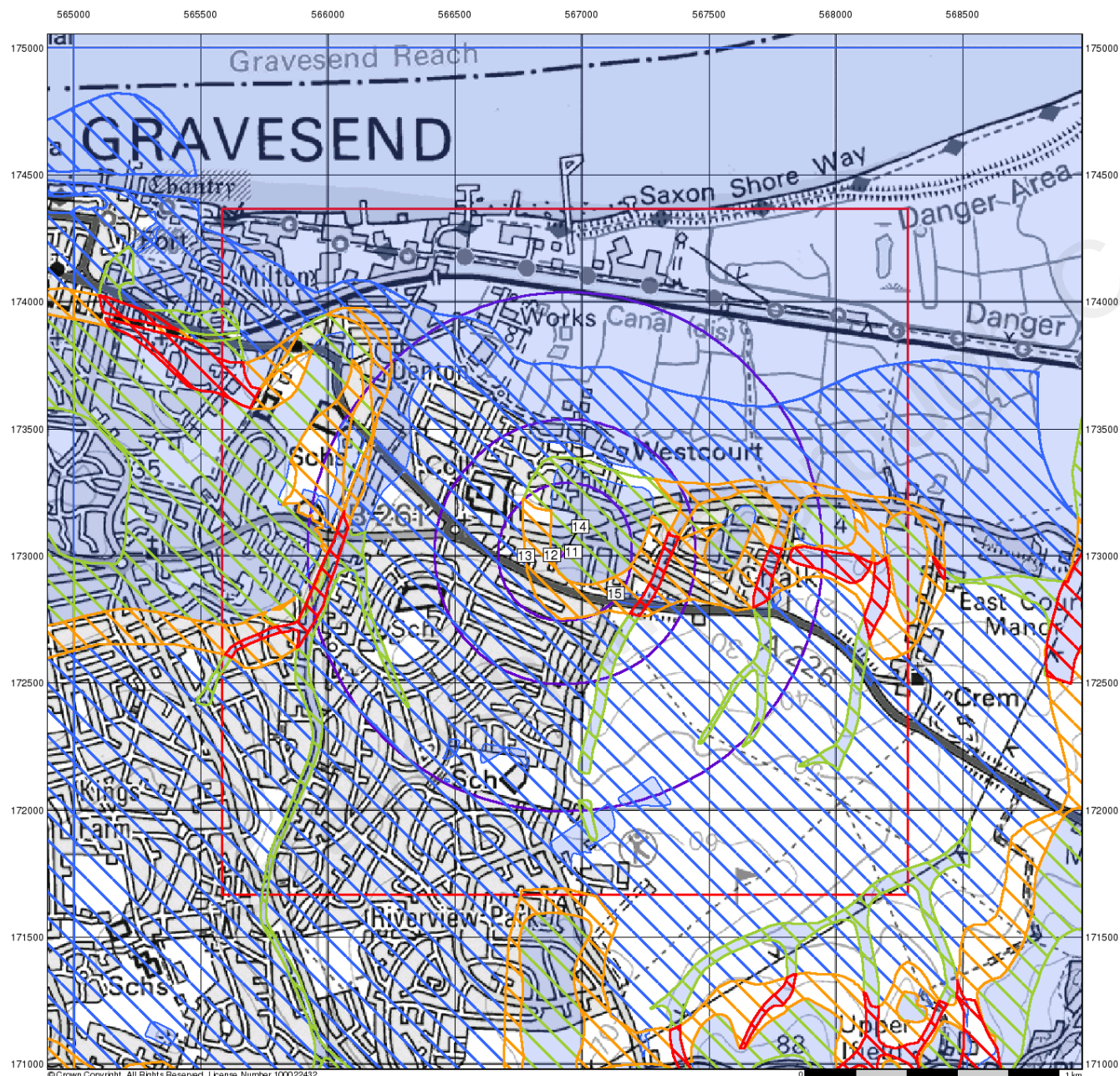
Order Number: 279078967_1_1
 Customer Ref: STT5362
 National Grid Reference: 566930, 173010
 Slice: A
 Site Area (Ha): 0.06
 Search Buffer (m): 1000

Site Details

Lower Higham Road, Gravesend

Landmark
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Ground Stability Data (1:50,000)

General

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

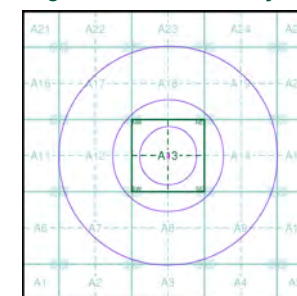
Potential for Landslide Ground Stability Hazards

- High
- Moderate
- Low
- Very Low

Potential for Ground Dissolution Stability Hazards

- ▨ High
- ▨ Moderate
- ▨ Low
- ▨ Very Low

Mining and Ground Stability - Slice A



Order Details

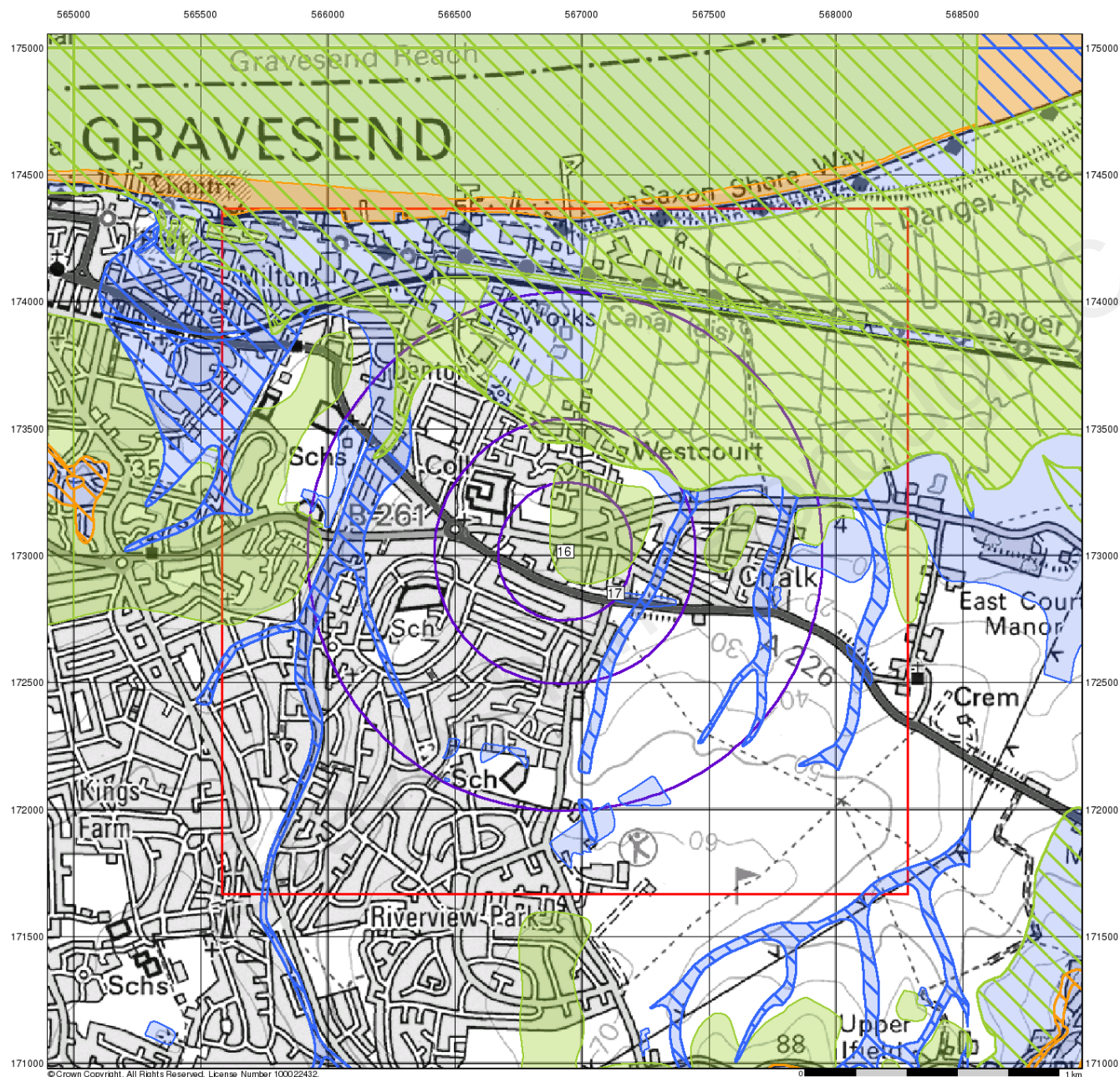
Order Number: 279078967_1_1
 Customer Ref: STT5362
 National Grid Reference: 566930, 173010
 Slice: A
 Site Area (Ha): 0.06
 Search Buffer (m): 1000

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Ground Stability Data (1:50,000)

General

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

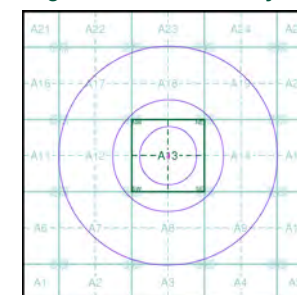
Potential for Running Sand Ground Stability Hazards

- High
- Moderate
- Low
- Very Low

Potential for Shrinking or Swelling Clay Ground Stability Hazards

- High
- Moderate
- Low
- Very Low

Mining and Ground Stability - Slice A



Order Details

Order Number: 279078967_1_1
 Customer Ref: STT5362
 National Grid Reference: 566930, 173010
 Slice: A
 Site Area (Ha): 0.06
 Search Buffer (m): 1000

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566800

566800

567000

567200

Historical Land Use Information (1:2,500)

General

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

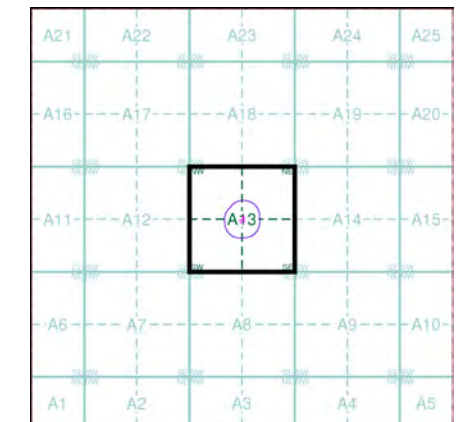
Potentially Contaminative Industrial Uses (Extractive Industries Activity)

	Point	Line	Polygon
Extractive Industries Activity from 1855 - 1909	▲	—	■
Extractive Industries Activity from 1893 - 1915	▲	—	■
Extractive Industries Activity from 1906 - 1937	▲	—	■
Extractive Industries Activity from 1924 - 1949	▲	—	■
Extractive Industries Activity from 1950 - 1980	▲	—	■

Subterranean Features

	Point	Line	Polygon
Subterranean Features	▼	---	■

Mining and Ground Stability - Segment A13

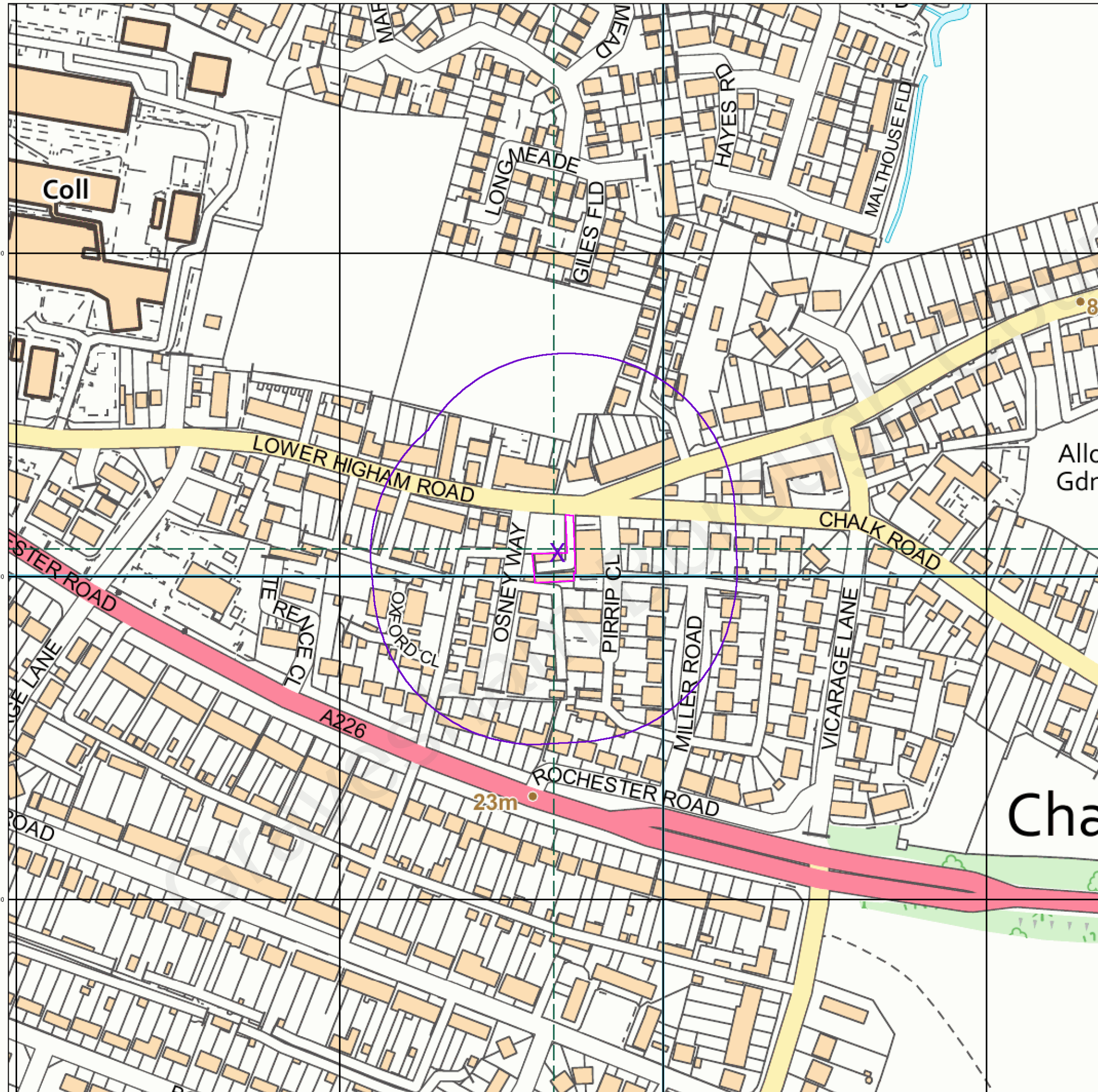


Order Details

Order Number: 279078967_1_1
Customer Ref: STT5362
National Grid Reference: 566930, 173010
Slice: A
Site Area (Ha): 0.06
Plot Buffer (m): 100

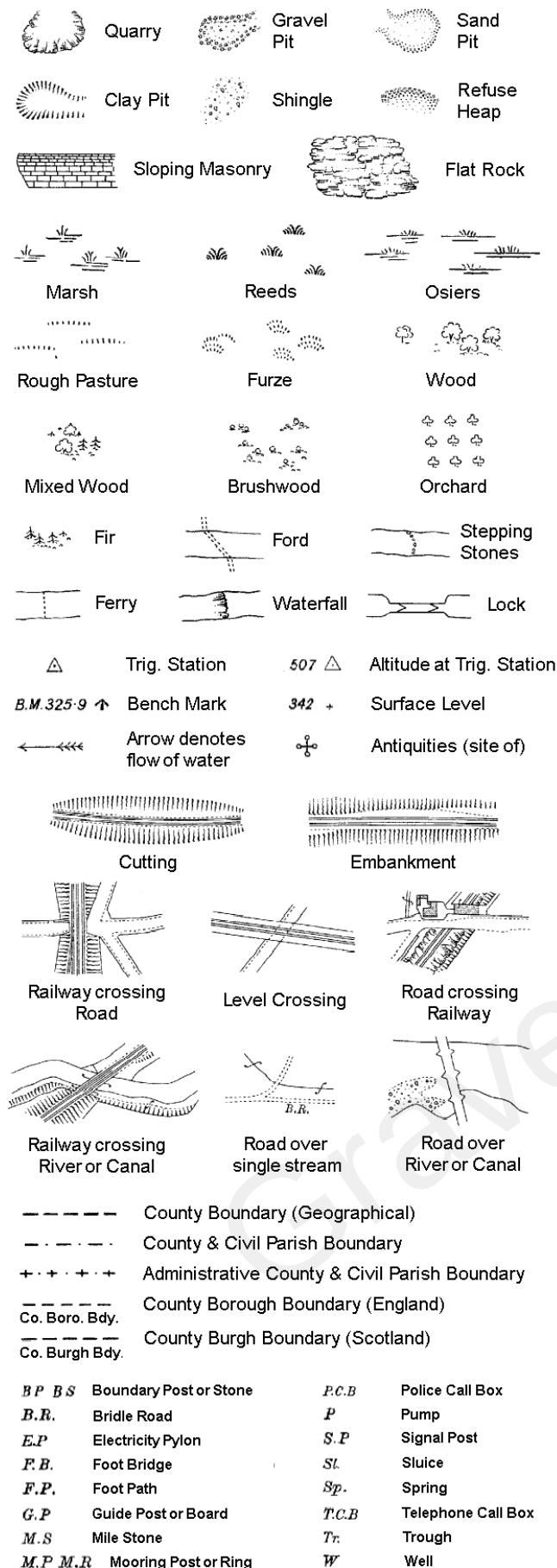
Site Details

Lower Higham Road, Gravesend

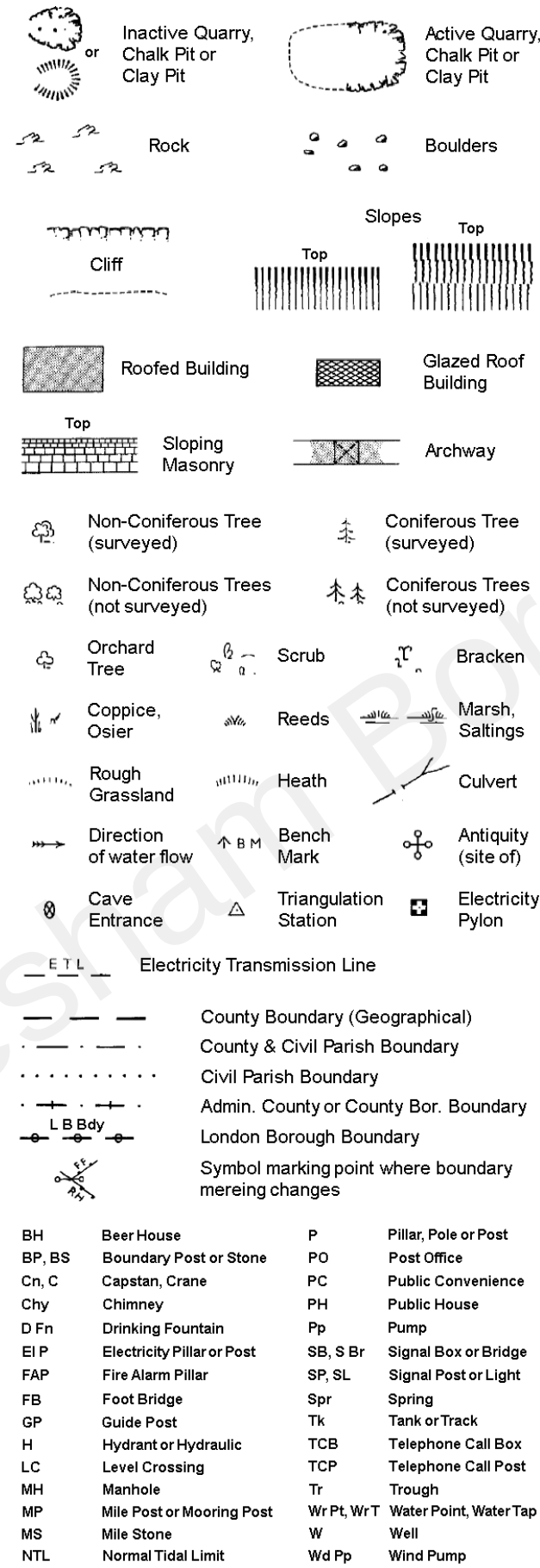


Historical Mapping Legends

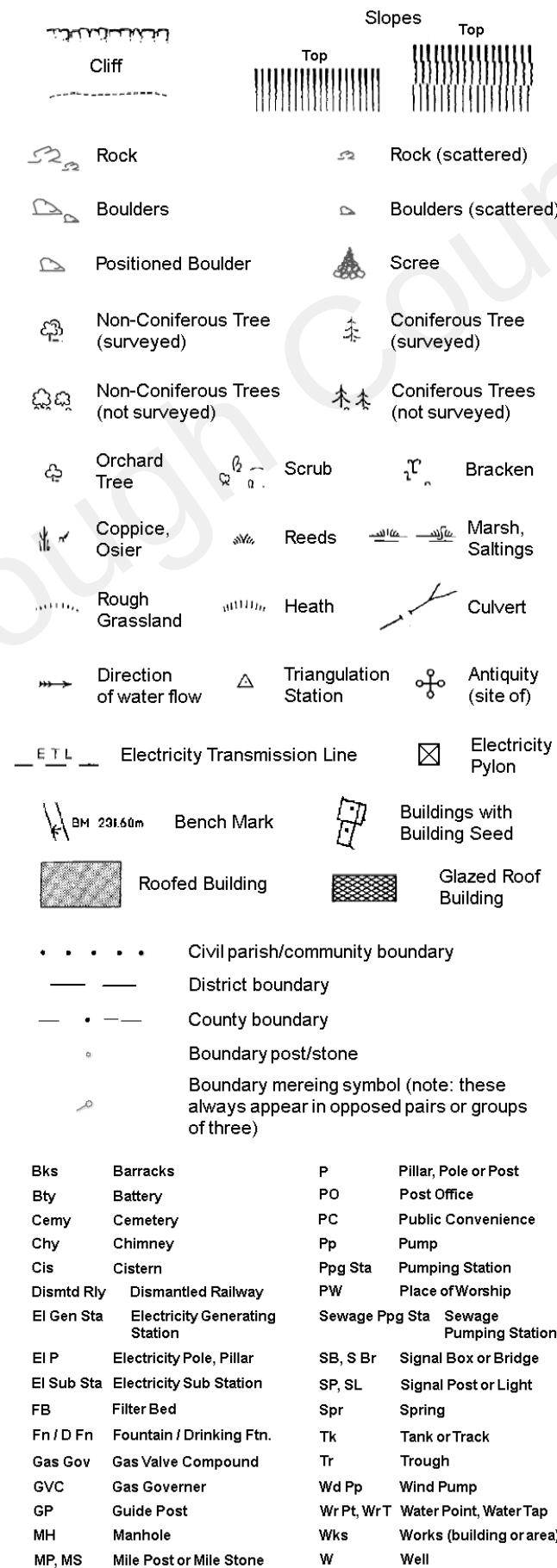
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



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



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



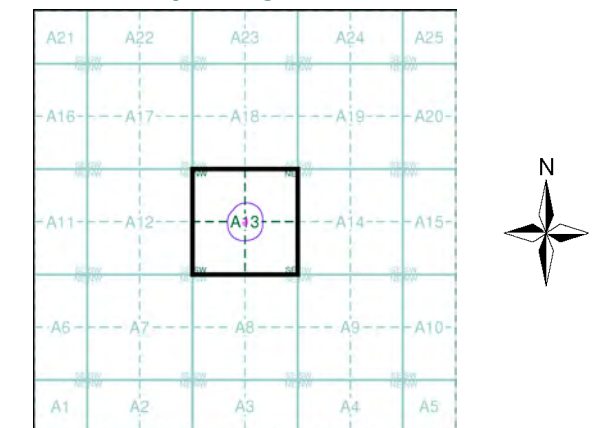
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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Kent	1:2,500	1864 - 1882	2
Kent	1:2,500	1896 - 1897	3
Kent	1:2,500	1908 - 1909	4
Kent	1:2,500	1936 - 1938	5
Ordnance Survey Plan	1:1,250	1954 - 1960	6
Ordnance Survey Plan	1:2,500	1955 - 1964	7
Ordnance Survey Plan	1:1,250	1959 - 1969	8
Ordnance Survey Plan	1:2,500	1963 - 1964	9
Ordnance Survey Plan	1:1,250	1969 - 1975	10
Ordnance Survey Plan	1:2,500	1970	11
Supply of Unpublished Survey Information	1:2,500	1973	12
Additional SIMs	1:1,250	1981 - 1985	13
Additional SIMs	1:1,250	1989	14
Additional SIMs	1:1,250	1991	15
Large-Scale National Grid Data	1:1,250	1993	16
Large-Scale National Grid Data	1:1,250	1993	17
Historical Aerial Photography	1:2,500	1999	18

Historical Map - Segment A13



Order Details

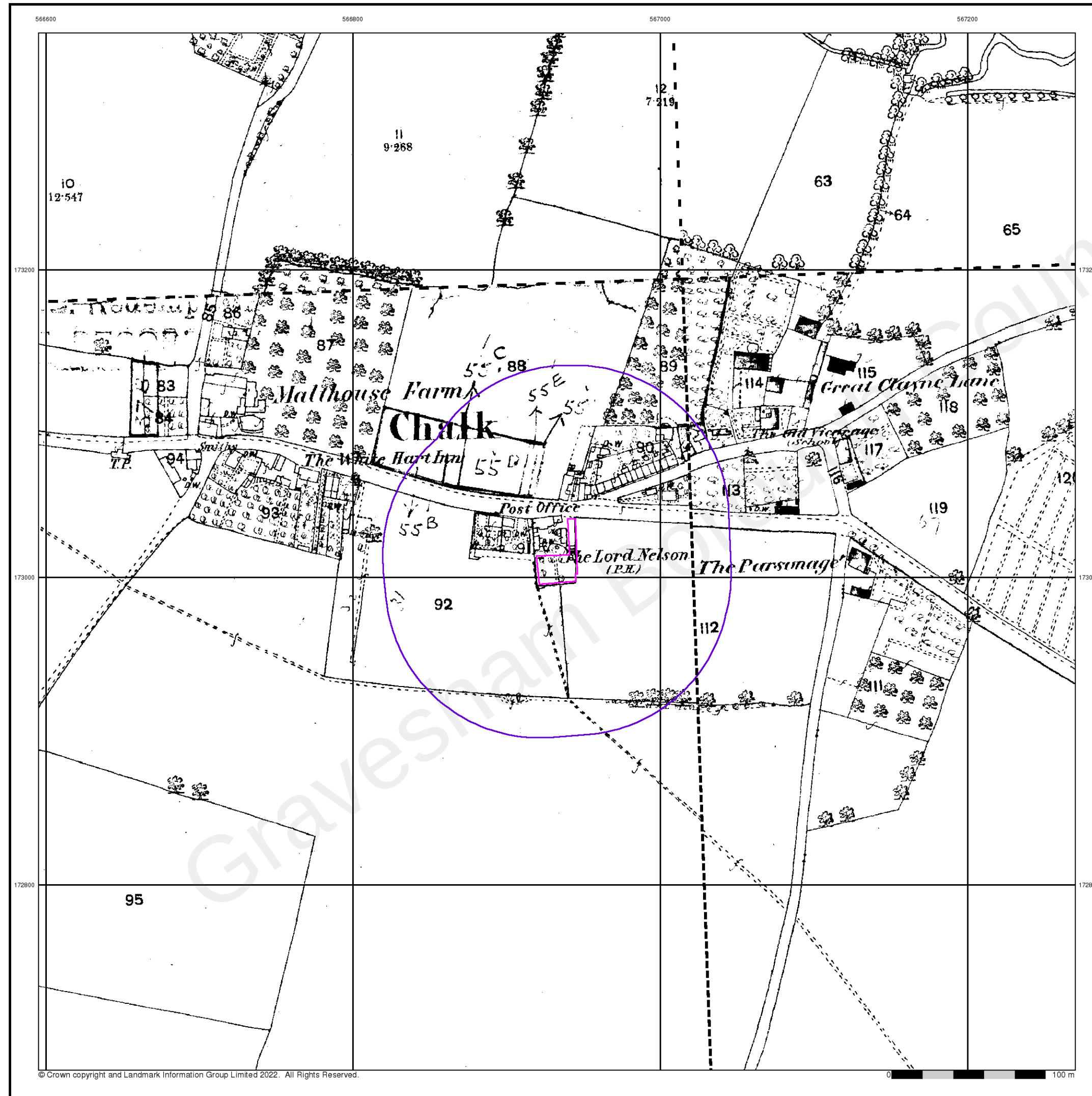
Order Number: 299065487_1_1
Customer Ref: STT5362
National Grid Reference: 566930, 173010
Slice: A
Site Area (Ha): 0.06
Search Buffer (m): 100

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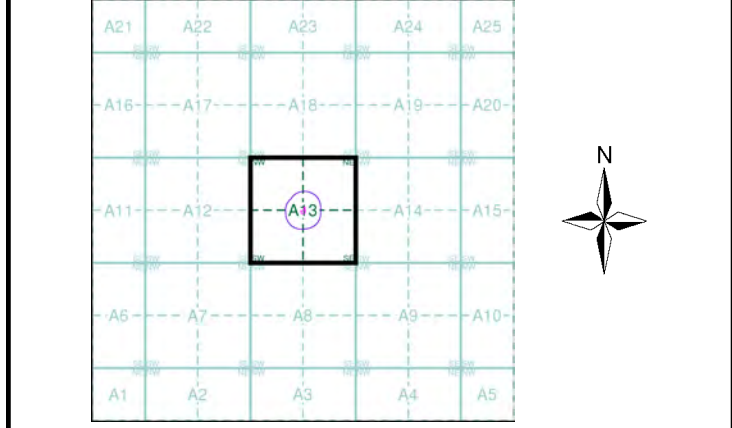
Kent
Published 1864 - 1882
Source map scale - 1:2,500

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)

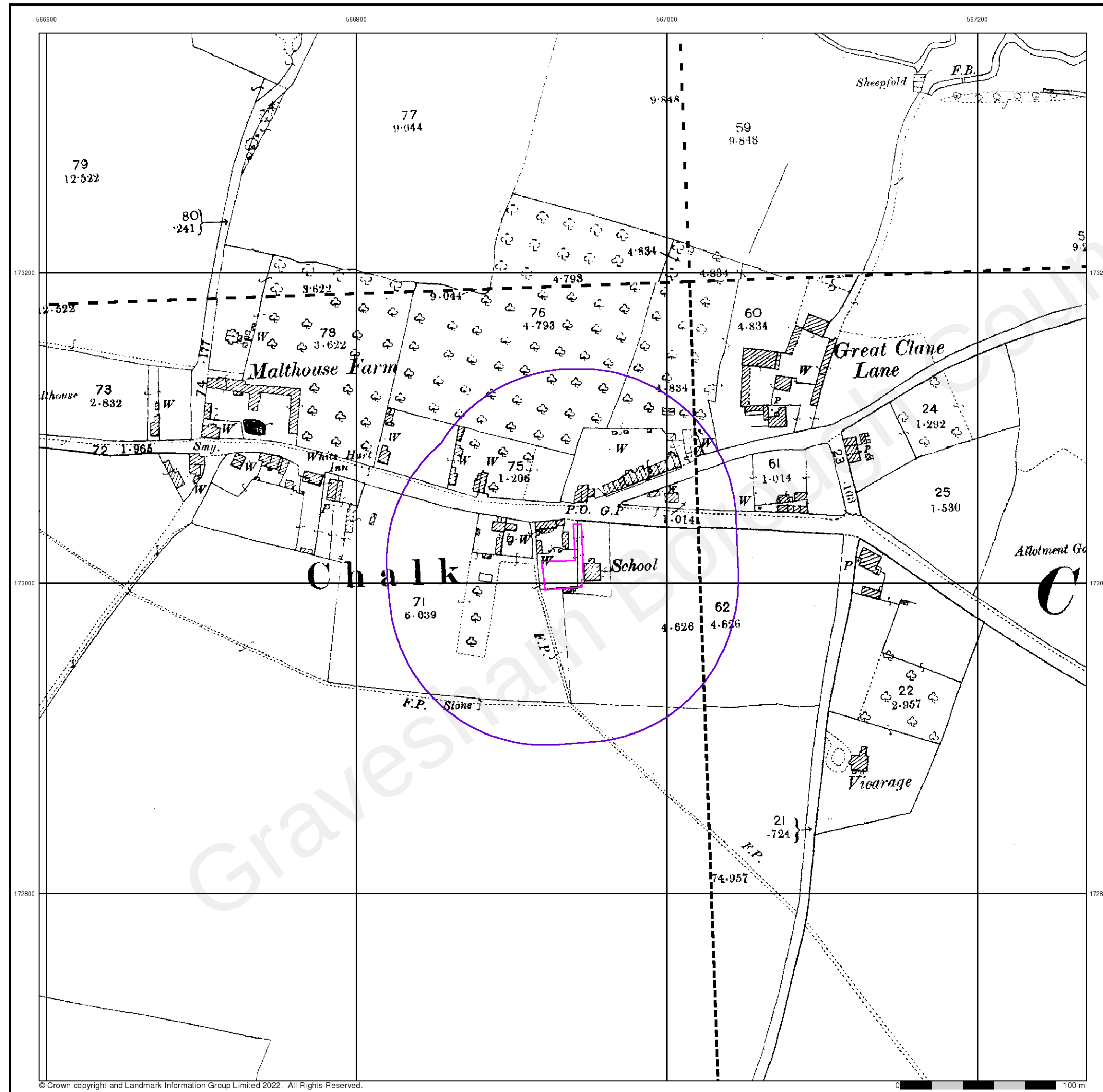
010_07 1874 1:2,500	010_08 1864 1:2,500
010_11 1874 1:2,500	010_12 1882 1:2,500

Historical Map - Segment A13



Order Details
Order Number: 299065487_1_1
Customer Ref: STT5362
National Grid Reference: 566930, 173010
Slice: A
Site Area (Ha): 0.06
Search Buffer (m): 100

Site Details
Lower Higham Road, Gravesend

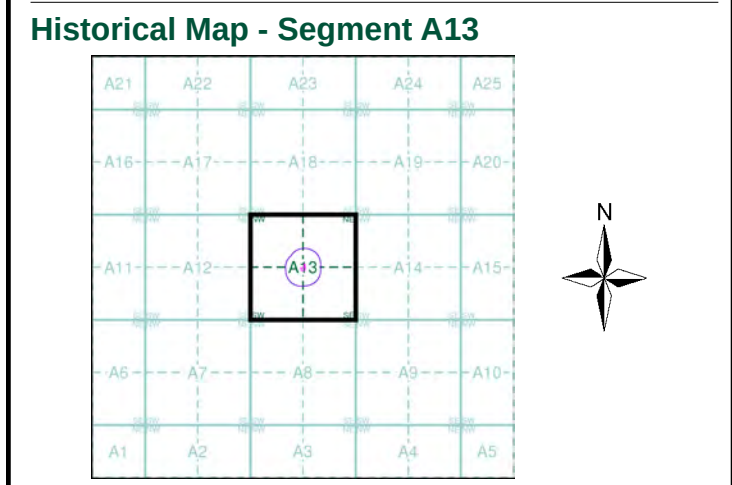


Kent
Published 1896 - 1897
Source map scale - 1:2,500

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

Map Name(s) and Date(s)

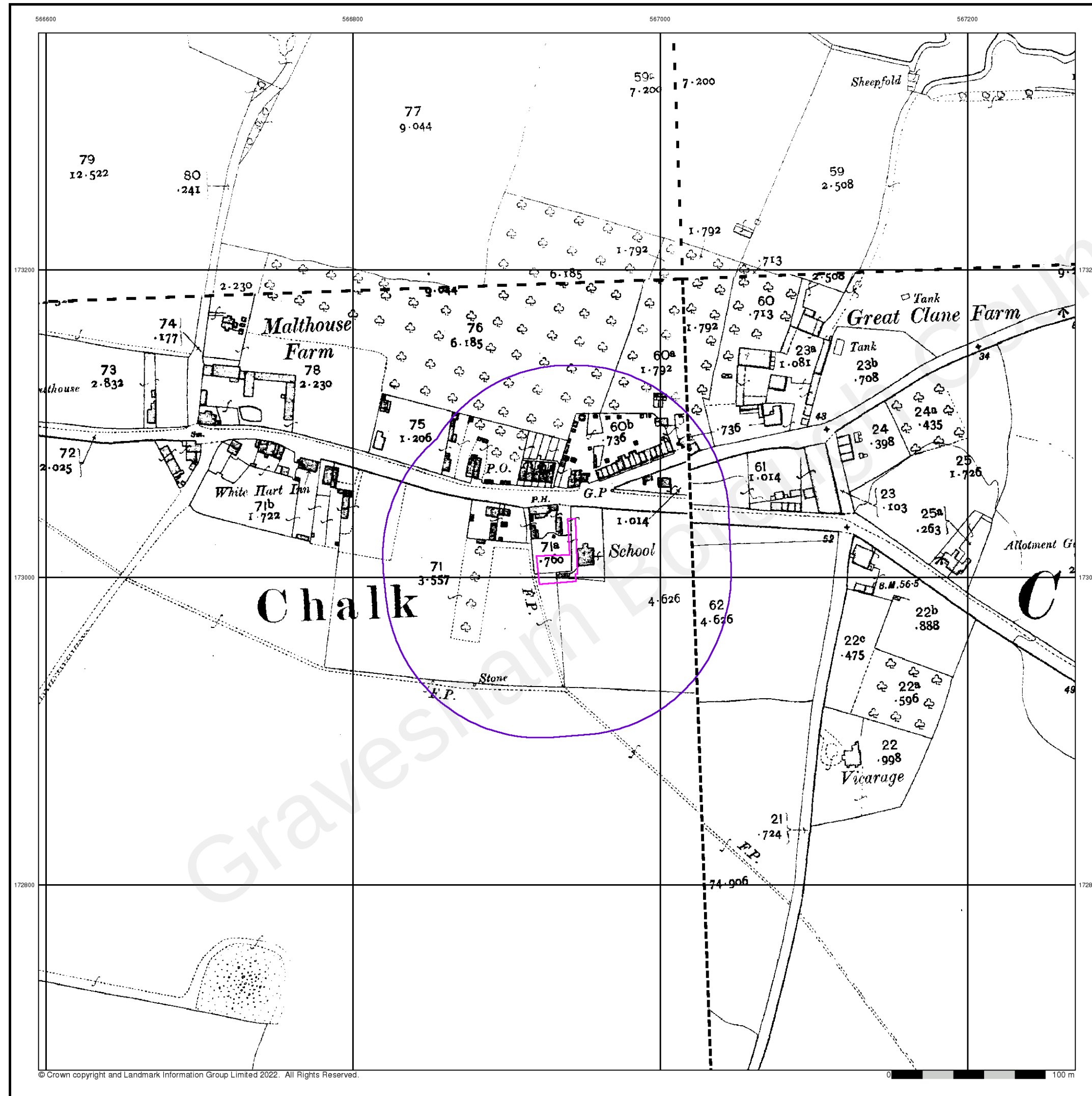
010_07 1897 1:2,500	010_08 1897 1:2,500
010_11 1896 1:2,500	010_12 1896 1:2,500



Order Details

Order Number: 299065487_1_1
Customer Ref: STT5362
National Grid Reference: 566930, 173010
Slice: A
Site Area (Ha): 0.06
Search Buffer (m): 100

Site Details
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Kent

Published 1908 - 1909

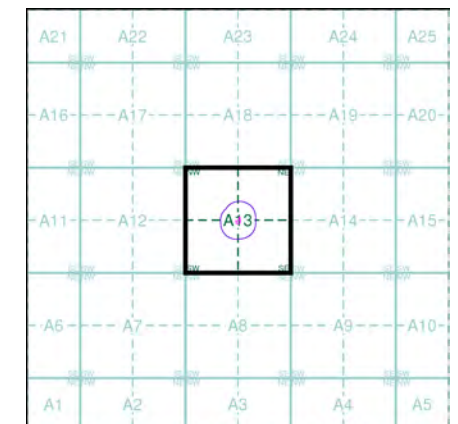
Source map scale - 1:2,500

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)

010_07 1909 1:2,500	010_08 1908 1:2,500
010_11 1909 1:2,500	010_12 1909 1:2,500

Historical Map - Segment A13



Order Details

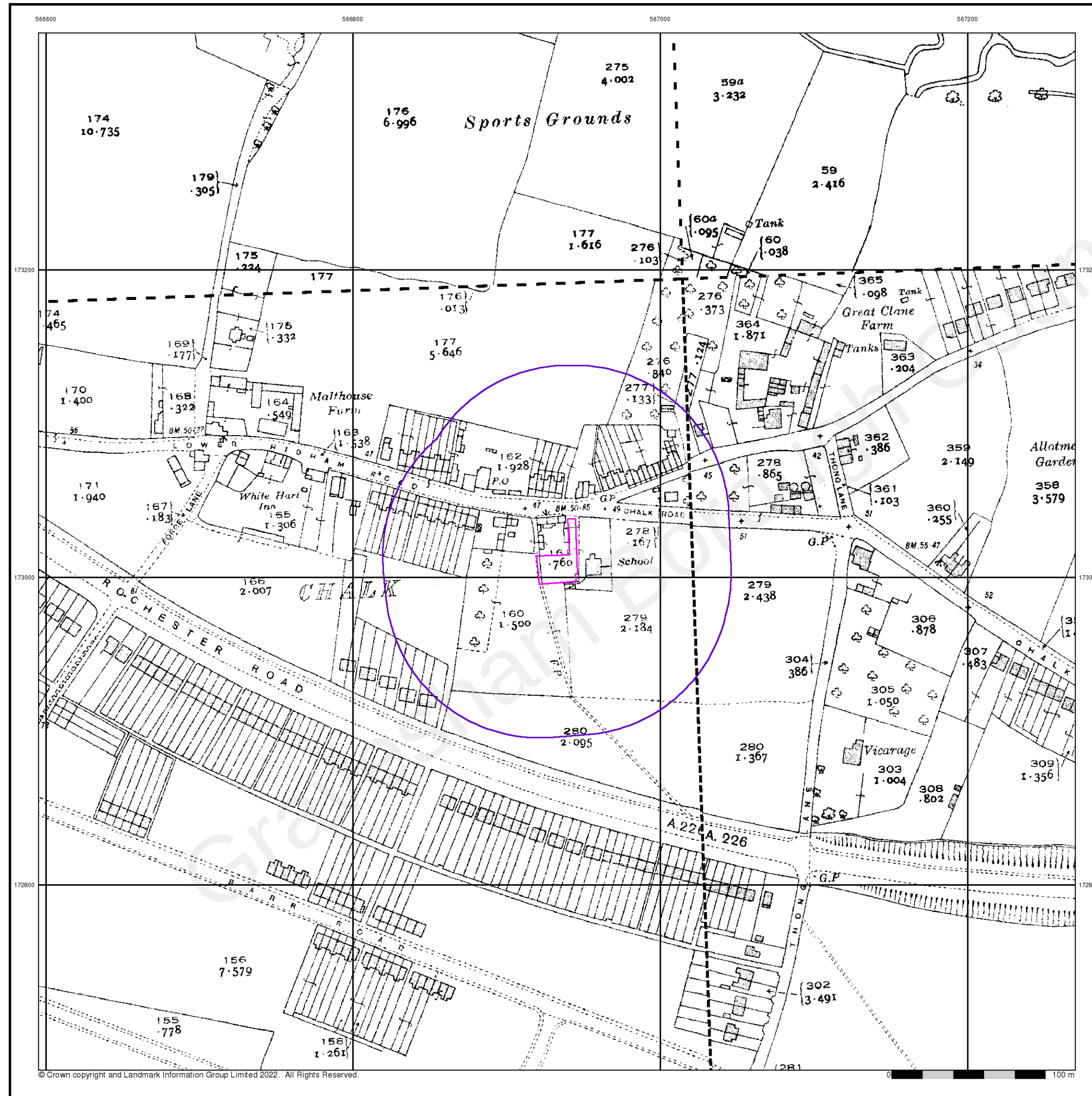
Order Number: 299065487_1_1
Customer Ref: STT5362
National Grid Reference: 566930, 173010
Slice: A
Site Area (Ha): 0.06
Search Buffer (m): 100

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Kent

Published 1936 - 1938

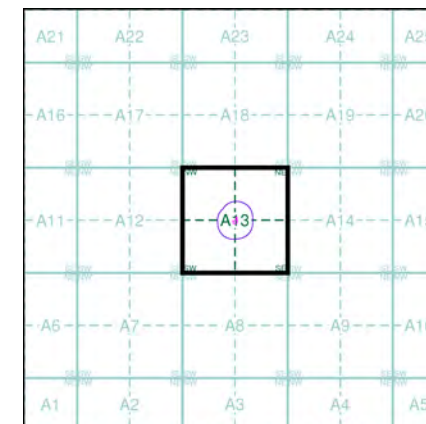
Source map scale - 1:2,500

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)

010_07 1936 1:2,500	010_08 1938 1:2,500
010_11 1936 1:2,500	010_12 1936 1:2,500

Historical Map - Segment A13



Order Details

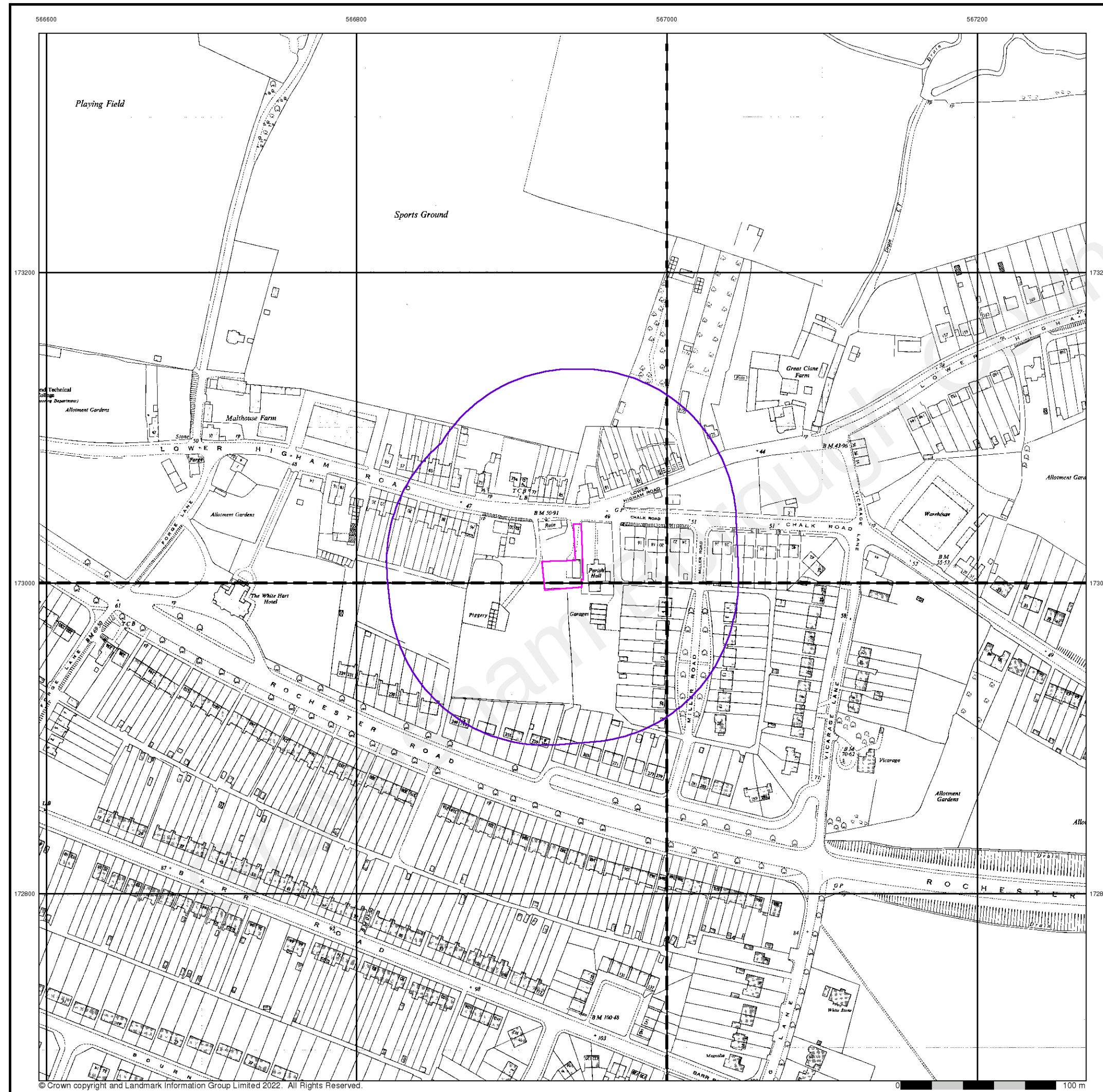
Order Number: 299065487_1_1
Customer Ref: STT5362
National Grid Reference: 566930, 173010
Slice: A
Site Area (Ha): 0.06
Search Buffer (m): 100

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Ordnance Survey Plan

Published 1954 - 1960

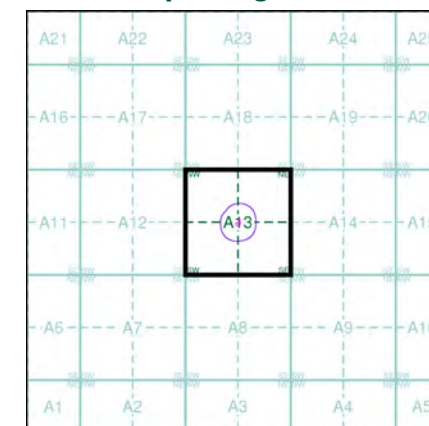
Source map scale - 1:1,250

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)

TQ8673SE	TQ8773SW
1954	1960
1:1,250	1:1,250
TQ8672NE	TQ8772NW
1954	1958
1:1,250	1:1,250

Historical Map - Segment A13

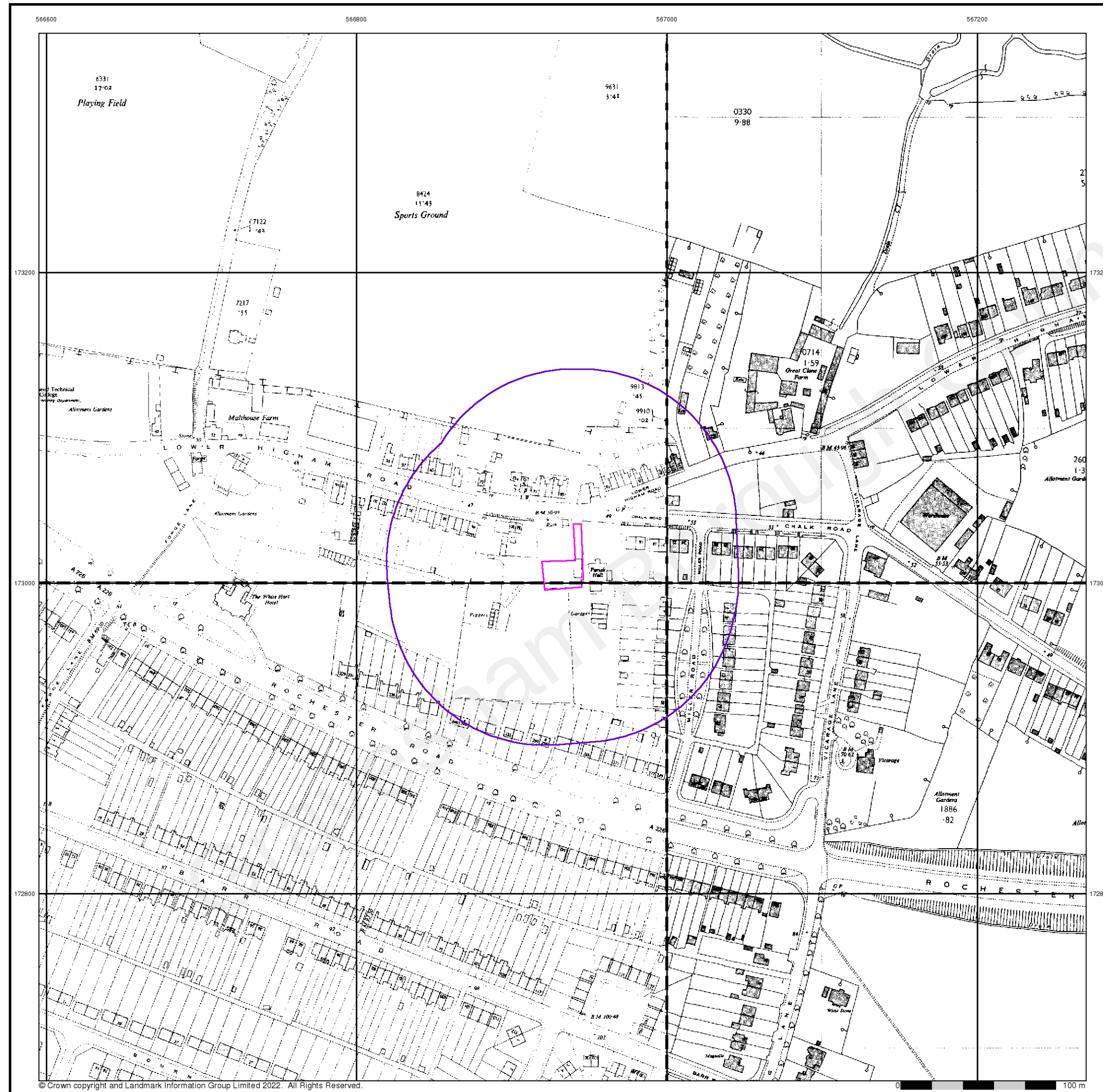


Order Details

Order Number: 299065487_1_1
Customer Ref: STT5362
National Grid Reference: 566930, 173010
Slice: A
Site Area (Ha): 0.06
Search Buffer (m): 100

Site Details

Lower Higham Road, Gravesend



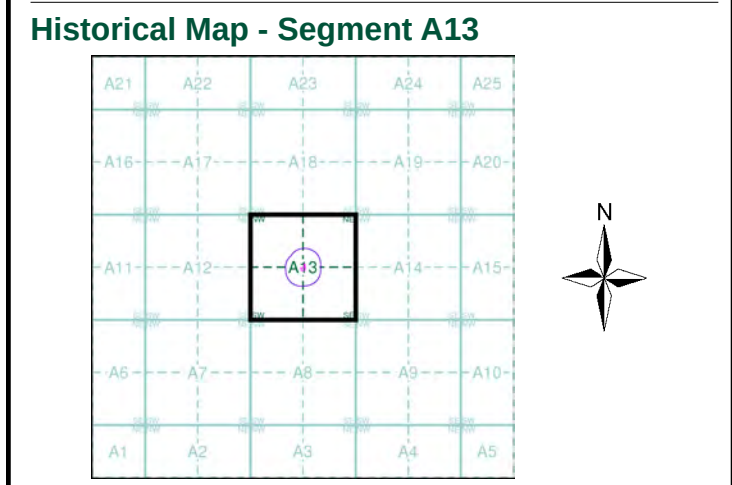
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Ordnance Survey Plan
Published 1955 - 1964
Source map scale - 1:2,500

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)

TQ6673 1955 12,500	TQ6773 1964 12,500
TQ6672 1955 12,500	TQ6772 1963 12,500



Order Details

Order Number: 299065487_1_1
Customer Ref: STT5362
National Grid Reference: 566930, 173010
Slice: A
Site Area (Ha): 0.06
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